

COMMUNICATION ACROSS THE DIVIDE

**An Investigation into the Beliefs and Behaviours of
IS Academics with respect to
the Dissemination of their Work**

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ABSTRACT

The IS field prides itself on its closeness to practice and, in recent years, has found itself under growing pressures from government and business for the improved utilisation of research results. This thesis is concerned with the beliefs and behaviours of IS researchers in UK universities with respect to the dissemination of their results. An underlying assumption of the thesis is the potential interest and relevance of IS research results to those working in organisations, based on the author's experience as an IS practitioner. The work is the first phase of a longer research programme which aims to encourage the empowerment of those engaged in IS activity through improved awareness of, and access to, such results. Both the choice of research issue and the research approach itself were informed by the IS literature, in particular Stakeholder Theory, Multiview 2 and the variety of literature based on the Multiple Perspectives approach to problem solving. A critical stance is taken throughout the work, with an holistic consideration of dissemination within the IS research. The critical perspective is promoted in the thesis through the surfacing of assumptions about the activity of IS research and the influence of its stakeholders. Insights into the area of dissemination are presented from in-depth interviews with IS leaders in UK universities, supported by the findings from a broader survey of the IS academic community. The analysis and discussion of findings explore issues from Resource-Dependence and Ethical Theory within IS research, as well as the role of the researcher and dissemination routes to IS practice. The thesis provides an evaluation of the author's learning during the research project, and the contribution of the work to IS theory and practice.

CHAPTER 1

AN OVERVIEW OF THE THESIS

1.1 INTRODUCTION

The research in this thesis is an exploration into the sharing of research results between the Information Systems (IS) academic and practitioner communities. The research involved a study of IS academic ‘leaders’ within UK universities, investigating their beliefs and behaviours with respect to the dissemination of their work within the broad context of IS research in the mid 1990s. The research issue is addressed in an holistic manner where dissemination is viewed as an aspect of IS research, being influenced by the stakeholders of research and the environment in which it occurs. There is a compelling relevance for this research, both in terms of the immediate knowledge gained about a community and its activities in an area that is highly topical in the wider society, and because of the new insights it provides into IS theory.

The research described in this thesis is based on a critical epistemology, thereby providing the reader with an account of the background, choice-making and research activity of the author. The research and its findings are presented in a form which will enable both a critical review and the opportunity for alternative interpretation by the reader. The theoretical framework for the research includes the perspective of IS research as an IS, utilising a Multiple Perspectives Approach to bring together theory from the literature to underpin both the analysis and interpretation of the research findings in a critical manner. The thesis provides a contribution in drawing on the cumulative body of knowledge in a unique way to generate learning about IS theory from the practice of IS research, and vice versa. The overview presented in this chapter will provide the reader with the structure of the author’s argument and identify the coherence of the thesis as a start point for their detailed reading.

The chapter begins with an overview of the choice of the research issue, providing both the environment in which the relevance and topicality of research issue was identified, as well as the broad context in which the research findings should be interpreted. This is followed by a brief discussion of the literature which formed the intellectual framework for the research. The factors which influenced the chosen research approach are summarised next, and the research activity is introduced. Summarising the research findings in this overview is difficult in the context of a qualitative investigation, therefore Section 1.5 provides the reader with no more than an indication of the nature of the learning explored in detail in Chapters 6 and 7. Finally, the theoretical contributions of the research are summarised, and its relevance to both IS practice and the practice of IS research confirmed.

1.2 THE RESEARCH ISSUE

The area of interest for this research was the dissemination of IS research results, particularly to managers and IS practitioners in organisations, which was an issue of growing relevance during the 1990s in the UK. From the perspective of the author as an IS practitioner, it was considered useful to explore IS research through the metaphor of an IS in an holistic sense. The research focus on both the beliefs and behaviours of IS academics indicated a view of dissemination as an aspect of the whole process of IS research, its stakeholders and environment.

The 1990s were a time of radical change for those working in the UK. Rapid advances in technology were influencing reorganisation and re-engineering in organisations, which were leading to flatter hierarchies and empowered employees, if the rhetoric of management consultants was to be believed. The UK Government maintained a focus on the improved utilisation of academic research in benefiting the economy and initiatives were being set up to encourage links between academia and industry for the dissemination of knowledge. The IS academic community in the UK was establishing formal bodies to bring together its fragmented community and encourage its recognition as a discipline. Competition for research funding was increased throughout higher education by the remove

of the 'binary divide' and changes in allocation policies. In IS itself competitors for funds and for students came from the many reference disciplines underpinning the domain. In a field claiming a closeness to practice, the IS literature urged researchers to consider the relevance of their work to practice through an identification of it as a target audience for results.

This context created a compelling justification for an investigation into the dissemination of IS research, to gain insights which would be useful to both researchers and practitioners. The thesis aims to raise an awareness of dissemination from the perspective of IS theory, in applying the theory itself to the practice of research. The dissemination of IS research, the sharing of knowledge with the broad IS practitioner community and the exploitation of that knowledge to improve the effectiveness of each community, can be seen as an essential aspect of the research process. The use of IS theory to inform the practice of IS research itself, and vice versa, marks the maturity of the both the theory itself and the academics involved in its creation. By analysing IS research as an IS, self-reflection on the part of researchers, it is anticipated that the broader practice of IS in organisations will also be enhanced.

Underpinning the research were a number of assumptions:

Assumption 1 There are research results in IS which are, or would be, of interest to IS practitioners and beneficial to their performance in organisations

This assumption arose from the discovery of a 'treasure trove' of IS literature by the author on her entry into academia which would have enabled both her own reflective practice in organisations and provided her with 'academic' evidence to support her questioning of the mechanistic use of models and methods in certain situations (Schon (1987)). Her selection and interpretation of the literature was unique to her own experiences, other practitioners would identify alternative relevances.

Assumption 2 IS researchers are interested in the dissemination of their research results to IS practice, where this would be relevant

The IS academic literature includes discussion of the field's 'closeness to practice' and urges researchers to consider the relevance of their work to this audience (Kling (1987)). This work is based upon that notion of closeness and individual researcher's agreement with the rhetoric. The research findings address this issue in identifying researchers' target audiences for their work.

Assumption 3 The majority of IS practitioners are not aware of, or do not have access to, much of the IS research carried out in universities – publishing in the 'public domain' via academic journals does not signify availability to those outside the academic community

This is based on the author's personal experience in IS practice and reinforced through subsequent academic observations. During the interviews with IS academic 'leaders', some interesting perceptions were expressed of IS practitioners as a potential audience for research (see Chapter 6).

Assumption 4 There are effective means of communicating between the two communities

Assumption 5 The meanings applied to information disseminated between members of the IS research and IS practitioner communities will be dependent on the experience and background of the individuals involved in the communication process

These assumptions were based upon the author's interest and experience in communication, both as a teacher and IS practitioner, and on the recognition of communication as a social and personal, as well as technical activity.

The background of the author is considered important within this research and her influence

as the major stakeholder of the work is discussed throughout thesis. Her experience was in both the academic and business sectors, and her commitment to the communication of ideas and the empowerment of people to use those ideas to become more effective participants in their personal and professional lives is evidenced in the perspectives taken within this research. The reality of an IS practitioner moving into the academic community to reflect on her experiences in IS practice, becoming aware of a large body of literature in the IS field which would have been of great use to her, and her colleagues, working in organisations, underpins the 'story' of this research.

The research provides a unique perspective in viewing IS research as an information system, bringing together theory from the IS literature, and elsewhere, to study dissemination in the context of the researchers, their research and the IS research environment. A focus on the beliefs and behaviours of IS researchers provides an opportunity to make explicit the social, political and personal influences on the dissemination of information within the definitions and models of an IS. From the author's perspective as an IS practitioner, an outsider to the academic community, the research utilises insights into IS theory and practice in the exploration of the research issue. The perspective of IS research as an IS emphasises the coherence of the work and is evident in the research in a number of ways: through the application of IS theory to IS research; in the use of IS theory to identify the research approach; the application of theory and IS development techniques to inform the data collection and analysis process; and in the contribution to IS theory from the research findings.

1.3 THE THEORETICAL FRAMEWORK

The theory underpinning this research is drawn mainly from the IS literature and is based on the consideration of IS research, itself, as an information system. The work is concerned with the sharing, or making available, of information within an IS. Within this perspective the IS literature brought together as a framework for the research was selected on the basis of its resonance with the author's experience in, and reflections on, IS practice, and

included: Critical Systems Thinking, the Multiple Perspectives Approach of Mitroff and Linstone (1993); its application in the Multiview 2 Model for IS development proposed by Avison et al (1998); and various contributions in the literature to the Technical, Organisational and Personal perspectives.

A broad definition of an IS underpins the work, as a human activity system concerned with the acquisition, processing and use of information (Buckingham et al (1987). The development and use of computer systems is considered to be just one example of an IS. The dissemination, or sharing, of information is an aspect of the IS and should, therefore, be investigated within the broad context of the people involved, the activities and the environment of the IS as a whole. The author's experience in organisations and the arguments in the literature encouraged a critical perspective on the activities and theory of IS, emphasising the importance of an appreciation of the philosophical underpinnings and use of methods in IS and the cultural and social influences on the activities. The critical view appreciates the contribution of the individuals engaged in the IS processes and the importance of effective communication, with the aim of empowerment and the acknowledgement of unequal relationships. Literature and theory which encourages reflection and the consideration of alternatives in IS is discussed in Chapter 3, providing a theoretical framework in which the learning for this research can occur.

Some of the theory identified under the Technical, Organisational and Personal headings, and in the discussion of the Multiview 2 Model, arises directly from IS development. The discussion considers development as a metaphor for research, and acknowledges the value of its partial similarity. The theory is utilised to enable understanding of the research issue through the insights of the author, and the reader, from the findings of the work. Similarities and differences between IS development and research enhance that understanding and the contribution to IS theory more generally. Within the Technical perspective, theory concerning the use and philosophy of methodology is discussed, as well as a focus on the dissemination and outputs of an IS. Organisationally, three analysis approaches are considered for any investigation: Stakeholder Analysis; Ethical Analysis; and Cultural Analysis. Under the Personal perspective the role of the analyst or researcher

as an actor within an IS is noted and issues connected with interaction and communication between individuals.

The definition of an IS as a social process underlines the centrality of the individual actors in an IS and is reflected throughout this thesis, in terms of the author as a determining agent in the choices and insights of this research, with the focus on IS researchers and the stakeholders of IS research, and in the critical approach which enables the reader to engage in the interpretation of the work as a whole. The role of the researcher, their assumptions and perceptions, and the socio-political nature of the research process provide a coherence throughout the work and their explication identify the integrity of the research.

1.4 THE RESEARCH APPROACH AND ACTIVITY

The research approach chosen for the investigation of the research issue involved in-depth interviews with senior IS researchers, supported by a survey of the broader IS academic community in the UK. The choice-making process is considered an important aspect of the research and an analysis of the factors influencing the final selection of the research approach included: the author herself; the research issue; the theoretical framework identified for the work; the chosen target audiences; and the research methods available in IS. In the light of the author's critical epistemology, the thesis provides the reader with an acknowledgement and discussion of her role throughout the choice-making and activity of the research.

The aim of the research was to explore the beliefs and behaviours of IS researchers with respect to dissemination, taking an holistic view of dissemination as part of the IS research process. It was important in choosing the research approach to utilise the author's strengths, in particular her analysis skills from IS practice. In order to best illuminate the research issue, a mainly qualitative approach was required with an emphasis on breadth of opinions and ideas on the phenomenon. The critical perspective of the author was reinforced through the choice of intellectual framework, which suggested an interactive research approach

which aimed to surface assumptions and look for alternatives and conflicts within the situation. From the holistic and multiple perspective nature of the framework a Web Approach to the work was identified, where the context of the researchers, their research and the environment of IS research be investigated to provide insights into the focal area of dissemination (Kling (1987)). The theoretical framework and the research approach for the project were strongly influenced by the background and personal interests of the author, after her study of the research literature in IS. Indeed, it is an assumption of this research that the beliefs and prejudices of the author, as researcher, are an integral part of the research process, and, consequently, of the research findings.

The target audience for the work was identified as being first the participants themselves, including the author. This thesis, and subsequent academic papers and presentations, will be aimed at the wider academic community. The research results will be utilised in future research addressed to an IS practitioner audience. The choice of research approach, therefore, was required to elicit interest in a broad audience, as well as satisfying the requirements of rigour and relevance expected of academic research.

Lastly, the available IS research methods are reviewed in Chapter 4 and the choice of research approach made, utilising an ethnographic approach to interactive, semi-structured interviews with IS academic leaders supported by an electronic questionnaire survey of the wider academic community in UK universities. The strengths and limitations of research approach are discussed in detail within the thesis. The approach aimed to provide more than a survey, or a 'snapshot', of the views of the UK IS academic community in the mid 1990s. The approach was chosen to enable an 'exploration' of the research area and expected to, and indeed did, generate a rich understanding of underlying issues within the theory and practice of IS.

The research activity of data collection began in late 1995 with a pilot study for the interviews and continued throughout 1996. Thirty nine senior IS academics were interviewed altogether, from the UK Committee of IS Professors and others nominated to provide 'alternative' views and perceptions about the research issue. Based on the initial

findings from the interviews, an electronic survey of the broader UK IS academics was piloted and carried out between June and December 1996. The practicalities of the data collection and analysis activities provide lessons in the research activity, as well as insights into the context of the work.

1.5 THE RESEARCH FINDINGS

The richness of the data generated by the qualitative approach is a strength of this research and, within this thesis, the reader is provided with both a structured view of that 'richness' and the author's insights from it. The interpretation of the interview discussions is acknowledged to be a personal act, as was the author's particular approach to, and involvement in those discussions. No other researcher, given the research issue and, indeed, the research approach would have interpreted and presented the findings in quite the same manner. As mentioned in the last section, the aim of the research was to provide a range of beliefs and behaviours of researchers with relation to the dissemination of their work, in the context of the whole research process which includes the researchers themselves and the stakeholders of IS research. The form and presentation of the findings is intended to encourage reflection on the part of researchers into their practice, and to contribute to the theory of IS. The conclusions of this piece of research are a starting point for discussion or action, as well as a learning result for the author.

The Web Approach to the work is reflected in the manner of presentation of the findings, where issues concerning dissemination are drawn out of the broader situation (Kling (1987)). In Chapter 6, findings from the interviews with IS academic 'leaders' are summarised and organised through the headings:

- . Profile of the Leaders
- . Stakeholders of IS Research
- . Profile of Dissemination

The leaders' views on their backgrounds and experiences are presented to underpin their opinions concerning the variety of roles they are asked to fulfil as academics: as learners; educators; researchers; members of an academic community; employees in higher education. Their personal motivations as 'influencers' of the academic or business world are highlighted, alongside their concerns about raising funds for research or the maintenance of research teams. The prioritisation of the various activities and demands of the multiple roles of an academic is explored through the leaders' own statements. The academic community is seen to be powerful and important to the leaders, but sometimes balanced by split loyalties due to their backgrounds and the nature of the field. The reader is invited to explore the rich picture of researchers presented by the leaders, on which are based the author's later insights and interpretations.

A large number of stakeholders for IS research were identified during the interviews with leaders and their perceptions of a number of groups are presented: IS academics, including the leaders' perceptions of what makes a 'good IS researcher' and of other stakeholders' perceptions of academics; funders of IS research; the wide variety of students in IS; managers and IS practitioners in organisations; professional bodies, the media; competitors in IS; and the employers of IS academics. Stakeholders may play a variety of roles in the IS research process, some overlapping, and their influence was seen to be complex. Some of the stakeholders were in powerful relationships with the leaders due to their control of resources for IS research.

In the context of the leaders, their activities and the stakeholders of IS research, a profile of dissemination is presented, including: the choice of target audience; dissemination to multiple audiences; and the main audiences for IS research. Academic and organisational audiences are considered in terms of the leaders' perceptions of them as learners, as well as their dissemination activities. The main target audience of the IS academic community was identified as making high demands in terms of the quantity and form of outputs, as did the need to satisfy the different requirements of business sponsors and collaborators. For some of the leaders the management of their whole research activity was designed to ensure their independence, in order to achieve their personal aims for research. Many achieved

dissemination through personal interactions with their target audiences, utilising research and dissemination methods which enabled this, and identifying the benefits to both parties of such contact. Where specialist skills were required for dissemination to a given audience, these were either acquired, 'expertise' bought in to projects, or the activity avoided, dependent on the perceived necessity or the availability of resources for the activity.

The survey of the broader IS academic community provided data for comparison with the interview findings in order to identify major differences. These were seen in the profile of the two groups, with the predominantly younger community showing less diversity in educational and employment experiences, reflecting the changes in the IS area in terms of course availability and growth during the late 20th century. For the leaders, the edges of the academic and business communities were blurred, which was less evident among the survey group. Together with the greater experience of the leaders, this was reflected in their research and dissemination activities. In general, the balance of behaviours between the groups was different but the range was similar, perhaps the major difference being the leaders' focus on IS through the socio-political, as well as technical, perspective.

In the light of the findings and the theoretical framework for the research, the author identified a number of issues to identify the contribution of the work to the theory and practice of IS. These are explored in Chapter 7 under the titles of:

- . The Role of the IS Researcher
- . Resource-Dependence Relationships with Stakeholders of IS Research
- . The Choice of Target Audience for IS Research as an Ethical Issue
- . Routes to IS Practice

A reflection on the alternative roles for IS researchers included: three perspectives on the paradigmatic view suggested for systems analysts by Avison and Wood-Harper (1990); a consideration of the range of personal motivations identified by the leaders; and a metaphorical analysis of IS research and dissemination. For any individual researcher, their choices and activities in disseminating their research may be seen in the light of this complex variety of alternatives. In raising the awareness of such a rich mixture of personal

options and constraints, the thesis aims to make explicit the importance of the individual actors and encourage reflection about their volition in the choice-making and processes of an IS.

The relationships between researchers and stakeholders of IS research are based upon the resource needs of each and may influence the activities of the research, and in particular the choice of target audience for the dissemination of results. The findings presented in the thesis provide a rich and complex picture of such relationships, in the context of competition for limited resources described in Chapter 2. The heterogeneous nature of the IS academic community means that for any researcher the resource-dependencies and stakeholder relationships will be unique, within the general picture presented here. Their prioritisations and choices will reflect both their individual personal motivations and their need for resources such as research funding, access to business situations and to academic publishing for career progression.

The thesis considers the choice of target audience for IS research as an ethical issue, in the light of definitions of an IS which talk of making information available ‘to those who need it’. The Moral Intensity of the issue is discussed with reference to a variety of potential audiences for results, which considers notions of consequences, social consensus and audience proximity, among others (Jones (1991)). Possible perceptions and assumptions are surfaced from the interview data, and IS practitioners identified as a least-advantaged stakeholder group, with a potential consequence of ‘dwarfing’ of individuals (Seedhouse (1988)).

Finally, in acceptance of the general lack of identification of IS practitioners as a main targeted audience for research, the author explores possible direct and indirect dissemination routes used by IS researchers. Routes via academics, students and managers in sponsoring and collaborating organisations are discussed, identifying the strengths and weaknesses of each through: the mode of dissemination; the gatekeepers and potential access barriers; and the leaders’ perceptions of each audience group and the likelihood of the activity. Serious limitations are noted in connection with indirect dissemination of

research to IS practitioners, particularly in terms of the differences in the experience and intentions of the interim audiences and the practitioner community. The use of specialist mediation is considered, including the mass media, consultants and multi-skilled research teams, and the discussion concludes with a change of emphasis from the ‘burden’ of dissemination on IS researchers to the ‘access’ of information by practitioners.

1.6 THE RESEARCH CONTRIBUTION

The thesis aims to promote interest and further investigation into dissemination, viewing it as an integral aspect of IS research alongside relevance and rigour. This research is identified as inherently interesting to the IS research community in taking them as its subject, and is intended as a catalyst to promote reflection amongst IS researchers into their own practice of research.

The thesis concurs with the emphasis in the literature on the importance of the Multiple Perspectives Approach and the value of Stakeholder Theory in understanding issues within IS. A number of proposals are made by the author from the findings of the research which contribute to IS theory, as follows:

- 1 Choice-making and activity in dissemination can be considered in the light of the many possible roles which could be assumed by the actors within an IS. The role analysis identified in the IS literature can be extended through a consideration of the following:**
 - a broader view of paradigmatic roles from the three perspectives of: the actor’s perceptions of the IS situations in which they engage; their personal underlying epistemologies; and their perceptions of the many stakeholders’ perceptions of them in their IS roles.**
 - the personal motivations of the actor as a complex individual, as a juggler of the multiple activities of the IS, and as a member of both their professional community and their employing institutions.**

- . a metaphorical analysis of the actor's views of an IS and the dissemination of its information**
- 2 Analysis of resource-dependence relationships of the various stakeholders within an IS can provide insights into the choice-making and activity of dissemination of the information to interested audiences. In particular, such analysis can identify potential least-advantaged audiences in a context of scarcity of resources or narrow control of essential resources. The identification of resources should include those relating directly to the actors, as well as those necessary for the activities of the IS.**
- 3 The choice of target audience for dissemination within an IS is an ethical issue and consideration should be given, by the actors in the IS, to the affect on any interested audience of their not being chosen.**
- 4 Actors in an IS need to test out their perceptions of potential audiences for dissemination, or access to information, and their assumptions about indirect dissemination.**

In order to both build on the findings from this thesis and provide a complementary view, the author is undertaking an exploration into the beliefs and behaviours of IS practitioners with respect to their acquisition of knowledge and ideas to benefit their practice of IS. This new research is expected to provide insights into the validity of the assumptions noted by the author in this thesis, as well as the accuracy of the perceptions of IS practice identified by IS academic leaders here. Other suggestions for future research prompted by the findings in this thesis include: comparative studies of the beliefs and behaviours of IS academics with respect to dissemination in contexts which are different to that of the UK in the 1990s; and investigations into resource-dependence relationships in IS development environments.

1.7 CONCLUDING REMARKS

This chapter provided an overview of the research presented in this thesis into the beliefs and behaviours of IS researchers with respect to the dissemination of their work. The research issue was discussed as of compelling relevance in the context of the business and IS academic environments of the 1990s. The influence of the author on the research direction and process has been identified and addressed as an aspect of the critical research approach. Chapter 2 will provide a full description of the background of the research, which should also be read as the context for the research findings as presented in Chapters 6 and 7.

The theoretical framework for the work has been identified in this chapter as being based on the perspective of IS research as an IS. The literature was introduced within a Multiple Perspectives Approach, underpinned by critical systems thinking. Utilising the Multiview 2 model, the literature will be explored in detail in Chapter 3 under the three headings of Technical, Organisational and Personal, bringing together theory from IS and other disciplines to provide a basis for the analysis and interpretation of the research findings.

A critical research approach was presented for the work, through a study of UK IS academics. A number of factors were identified as influencing this choice which will be discussed in Chapter 4. The data collection methods of in-depth interviews and supporting survey have been summarised in this chapter, and discussion of the strengths and limitations of the planning and practice of these activities will be provided in Chapters 4 and 5.

In this overview, the reader is given only an indication of the structure of the findings which will be presented in depth in Chapters 6 and 7. A number of proposals were put forward, by the author, as to the contribution of the research which identify the work as having import for IS theory in terms of: the Role Alternatives for participants in an IS; the broadening of the use of Stakeholder Theory within IS to incorporate the analysis of resource-dependent relationships; the use of Ethical Theory with respect to choice-making

in IS dissemination; and the inclusion of Assumption Surfacing analysis in exploring dissemination within an IS.

In the next chapter, the thesis explores the emergence of the research issue as a relevant and topical area for exploration, by the author, in the context of the business, political and IS academic environments of the 1990s.

CHAPTER 2

DISSEMINATION AS AN IMPORTANT ASPECT OF IS RESEARCH

2.1 INTRODUCTION

The research presented in this thesis considers the sharing of IS research results between the academic community and IS practice in the UK. The research is an exploration of the beliefs and behaviours of researchers with respect to the dissemination of their work. The aim of this chapter is to provide the reader with the context of the research and its influence on the choice of the research issue itself, and to identify the compelling relevance of the work to both the theory of IS and its practice. The IS field prides itself on its closeness to practice and finds itself increasingly in a socio-political context which emphasizes the need to utilise research for the benefit of public and private organizations (Zmud (1998), Benbassat & Zmud (1999), Davenport & Markus (1999), Lee (1999), Lyytinen (1999), Markus (2000)).

The chapter addresses the context of the research in terms of the UK business environment, UK Government Initiatives at the time, and the IS academic community itself. Some of the major concerns and preoccupations of the business world are reviewed first, identifying the 1990s as a time of radical change and disturbance for many people in employment. Initiatives put in place around this time through UK Government and European Union directives indicate the importance of the issue of dissemination in terms of both the value of university research and the increasing competitiveness of world markets. The field of IS and the research community during the 1990s are also considered, including some of the issues which dominated the IS academic literature around that time and the community's attempts to become a more coherent group in the UK.

The choice of the research issue is discussed which includes a summary of the author,

acknowledging the importance of her epistemology and background in IS practice as influencing factors throughout the choice-making of the research. The initial aims for the research and its anticipated contribution are made explicit towards the end of the chapter, alongside some assumptions which underpin the work. As well as providing the background for the choice of the research issue, this chapter should also be read as the context in which the findings of the research can be interpreted (see Chapters 6 and 7).

2.2 THE CONTEXT OF THE RESEARCH

In order to appreciate the reasons for choosing the research issue, it is necessary for the reader to have some knowledge of the context in which the work was carried out. This section starts with a description of the concerns within business and organisations during the 1990s. This is followed by a summary of some of the policies and initiatives which were being introduced by the UK Government during the same period to improve the contribution of higher education to UK organisations and the economy. The final contextual aspect is that of the IS field and researchers, as members of both UK universities and the IS academic community.

2.2.1 The UK Business Environment

For business and organisations in the UK, the 1990s was a time of radical change. The global economy, cyclical world recessions, an intensification of competition and an increasingly sophisticated consumer population led to changes in business. Within the UK mixed economy, mass privatization of public sector organizations brought the influence of the market place into many institutions which had until then been relatively unaffected and stable. Advances in technology had played a large part in organisational reform during the previous 10 years, but were now leading to more radical thinking through management theory such as Business Process Re-engineering (BPR). The powerful position of the trade unions had been greatly reduced under Margaret Thatcher's leadership of the Conservative government during the 1980s, with considerable impact on collective bargaining and work-place democracy at the same

time as other radical changes in work patterns such as the rising numbers of women in the labour force, lowered employment regulations and an increase in temporary jobs (Micklethwaite & Wooldridge (1996)).

New management thinking identified a need to identify outdated assumptions, questioning and replacing them with new ideas in order to meet the challenge of the changing world economy (Mitroff & Linstone (1993), Giddens (1999)). New ways of working, new cultures and values were being discussed and implemented by organisations desperate to survive in an increasingly competitive marketplace. The competitive nature of the world economy since the 1970s had changed dramatically, in terms of increasingly sophisticated and fast moving demands of consumers, competition from nations which developed their economies in a different style and within different cultures from the US and Europe, and the decreasing availability of the world's natural resources. There was a growing concern about 'business ethics' and the notion of co-operation between companies (Hampden-Turner & Trompenaars (1993)).

Advances in technology played a defining part in the changes within organisations, and have continued to do so since then at an ever increasing rate. As we entered the 'information age', an understanding of technology trends and their impacts, and the nature and role of information have had an important part to play in many aspects of business and management (Checkland & Holwell (1994), Galliers (1995))

During this period, business journals, bookshops and the general media were full of the work of management 'gurus' (Drucker (1986,1989), Harvey Jones (1993), Peters (1995), Handy (1991), Moss Canter (1983), as examples). Consultancy firms and business schools were booming. The rhetoric of the gurus was for empowerment of employees through learning organizations, flatter hierarchies, shared visions and changing roles of management (Micklethwait & Wooldridge (1996)). After a period of attempting gradual improvement through Total Quality Management programmes, organisations were introduced to the more radical theory of BPR (Kilman (1985), Aguayo (1990), Davenport & Short (1990), Hammer (1990), Hammer & Champy (1993) amongst others). The underlying philosophy was reverting from the humanistic school to that of scientific management, enabled through IT, even though many

advocates of BPR emphasised the importance of the 'people' factors rather than process or technical issues ((Kilman (1985), Hammer & Champy (1993), Semler (1993), Caulkin (1993), Goss et al (1993), Skinner & Pearson (1993), Bashein et al (1993), Vidgen et al (1994)). Good communication, employee participation and ownership of the process and the creation of a BPR culture within the organisation, were all identified as essential elements by those who had engaged in successful BPR programmes to enable the breaking down of functional barriers utilising technology.

However, in many cases the reality was different than the rhetoric and BPR became a disguise for a period of 'corporate blood-letting', downsizing, rightsizing and, eventually, outsourcing of functions. The decade was a period of considerable anxiety and fear spread, both amongst managers who lost their jobs and those who suffered through disrupted careers and intense performance measures, with many attaching some of the blame for their re-organised lives on the management theorists in providing excuses, or legitimacy, for the use, and abuse, of the 'management fads' by organisations ((Jackson (1993), Micklethwaite & Wooldridge (1996)). In business old names were disappearing through mergers and acquisitions and the borders between industries were being blurred, whilst in the public sector there was an attempt to encourage business practices through initiatives such as the privatisation of utilities, and the devolution of power within the NHS, local government and schools.

In terms of IS practice in organisations during the 1990s, the period was one of a shortage of skills and a growing need for personnel. Anyone could be an IS practitioner in the UK. There was no requirement concerning either qualifications or professional accreditation on any individual engaged in IS work. The British Computer Society (BCS) was the chartered professional body for IS professionals, with the stated aim 'to provide a structure to support IS professionals in developing and maintaining professional skills right through their careers' (BCS (2000)). Its activities included: examinations and accreditation of university courses; professional development monitoring, mentoring and qualifications; an Industry Structure Model which identifies skills and competencies for IS roles in business; and professional information and networking opportunities via publications, and specialist and local groups. Its membership was a small proportion of the numbers engaged in IS roles, however, and it operated without the influence or status of the other engineering

bodies in the UK.

There was debate about the status of IS practitioners, whether as professionals or as technicians, with discussion of codes of conduct being proposed in the IS literature (Walsham (1996), Benyon Davies (1999), Oz (1992)). The importance of a high standard of training and thorough familiarity with the latest techniques, theories and standards, was particularly important in IS because of the rapidly changing nature of the discipline - training could not be seen as taking place in the early part of a career, it had to be part of a lifelong development process. Professionalism implies taking responsibility and accountability for one's work and performing the work to the highest possible standards, achieved through cognitive knowledge, skills of application, a systemic understanding of the discipline, and self-motivated creativity (Quinn et al (1996)). McLuhan & Fiore (1967), in 'The Medium is the Message', took the other view of professionalism when they criticised professionals as specialists, 'experts', who uncritically accept 'the ground rules of the environment'. Amateurism was anti-environmental in that it sought the 'development of the total awareness of the individual' and the critical awareness of those same ground-rules of society.

The definition of an IS practitioner in the literature was generally accepted as incorporating systems developers and IT project and general managers. Business users and managers who were involved in the planning, development and implementation of computer systems could also be considered to have an interest in IS practice, as could the broad range of users of information systems as identified by Mason et al (1995). As technology developed at the end of the 20th century, this wider definition of IS practitioners could incorporate the individuals who use personal systems, whether PC or telecommunications-based. Many people today consider themselves implementers of IT, and therefore of IS.

To sum up, the 1990s were a time of great change and, often, radical upheaval, for organisations in the UK, much of which was driven by developments in information technology. The emphasis was on the empowerment of employees and a changing role for management. Organisations were dependent upon the continuing education of IS practitioners, in a market place where their skills were in short supply and their status

was uncertain.

2.2.2 UK Government Initiatives

In the 1990s, the UK Government enacted a number of policies and initiatives with the intention of improving the benefits to the economy from higher education, in terms of both teaching and research. Initiatives were put in place which sought to increase business awareness of the importance of the research base in the ‘wealth and well-being of the nation’, to improve the diffusion of research and technology across the UK industrial sector, with an emphasis on small and medium sized businesses which were seen as a potential growth area. These initiatives were supported and supplemented at the European Union level by a number of Framework Programmes for research and technology development, which again encouraged the sharing of information and joint projects between universities and industry.

In 1993, the UK Government published the White Paper ‘Realising Our Potential’ (OST (1993)). This was a marker in the changing climate of higher education, attempting to raise public, or at least business, awareness of the importance of science, engineering and technology (SET) to the ‘wealth and well-being of the nation’. The paper was concerned about the diffusion of research and technology transfer between industrial sectors in the UK, between the science and engineering base and industry, particularly to small and medium sized enterprises. A number of initiatives were set up to encourage this diffusion, including LINK, the Teaching Company Scheme, and projects via Training and Enterprise Councils and Chambers of Commerce. Interestingly, the central mission of higher education was identified in the White Paper as ‘the production of a trained workforce’.

Following on from ‘Realising Our Potential’, and deliberations within the EU, came the UK Technology Foresight Programme, its annual report ‘Forward Look’, and other White Papers such as ‘Competitiveness’ and ‘Priorities for the Science Base’, all of which are concerned with bringing together scientists and business people with the aim of harnessing SET to improve the competitiveness of UK business (POST (1993), DTI

(1994), OPSS (1994)). The dialogue which being encouraged, was a two-way process: bringing the benefits of research to business, and setting agendas for research based on the needs or priorities of business. Part of the process was to spread the costs of research in universities to the wider business community.

The Technology Foresight Programme aimed to identify major trends in SET over the following ten to twenty years, which would influence government policy making and business decision making, with a particular view to keeping smaller companies better informed. This was part of the response to the European Union (EU) Fourth Framework Programme for Research and Technological Development, the 1994-8, Fifth Framework being due to start in 1998 (OST (1996), ISI (1998)). The Foresight programme's priorities included the 'nurturing of the knowledge and skills base', especially with respect to teachers of SET, and 'selective support for basic research excellence', particularly in multi-disciplinary settings. One of its findings has been to focus Foresight Sector Panels on the dissemination and implementation of SET research.

The Wolfendale Report, published by the government Office of Science and Technology reviewed the activities of research organisations in raising public awareness of SET (OST (1995)). The report concluded that most universities already recognised an interest in promoting public understanding of SET, some had even set up professional PR or media departments to do this. The overall picture was considered 'encouraging', but the report identified scope for improvement and made proposals which included:

- . the provision of a statement of relevance and a strategy for dissemination of research results within every application for Research Council grants, along with a final report of the activities carried out
- . the provision of training for students and researchers in communication skills, and the establishment of incentives, in the form of appointments and promotions, including a provision within the Research Assessment Exercise (RAE) and Teaching Quality Assessment (TQA) for higher education
- . a formal evaluation exercise of public perceptions of SET by the Office of Science and Technology (OST)

The report stated that there were no resource implications for higher education of its proposals. In general, funding from the government and the EU required the involvement of business partners, working with researchers in the development of technologies, who were then responsible for exploiting these in a commercial manner. Proposals for research requiring funding from these bodies, had to include details of the means to be used for the 'exploitation' of research findings.

Public evaluation of the higher education sector in 1992 resulted in an effective doubling of the number of universities which now found themselves competing for public and private research funding. The public funding was available from two main sources: a number of Research Councils which allocated funding for individual projects on the basis of refereed research proposals; and in the form of a block grant from the Higher Education Funding Councils. This block grant was to be determined every five years through a Research Assessment Exercise (RAE) (RAE (2000)). The RAE aimed to produce a rating of departments and institutions in higher education based on peer assessment of the quality of research. The assessment was to include qualitative and quantitative elements covering the personnel, research income and research outputs of universities, in a cost-effective, neutral and transparent way.

There was, then, a determined focus by the Government on the utilisation of research from universities in the light of the increased competitiveness of business and rapid changes in technology. The role and value of research in universities was to be evaluated and enhanced, within tight financial constraints, and the results of research shared more widely with organisations and companies.

2.2.3 The IS Academic Community

For IS academics in UK universities, the 1990s was a time of introspection about the field and of the creation of formal bodies for the community. The community was fragmented, with individuals working in isolation or in small groups within departments of computer science, management, or the growing number of business schools and it found itself continually in competition for courses and research funding with academics

from other disciplines.

There was much debate about the identity of the IS field, the definition and nature of its discipline, and the desirability, or otherwise, of establishing itself as a separate discipline (Keen (1991), Avison et al (1994), Checkland & Holwell (1994), Gasson (1994), Jones (1994), Merali (1994), Miles (1994), Mingers (1994), Sutton (1994), Wood (1994), Adam & Fitzgerald (1995)). Some of the major benefits identified for the IS community of an IS discipline included: the conference of status on the field; the promotion of good practice; and the provision of opportunities for individual advancement through an enhancement of career prospects (Galliers (1995)).

Its roots in technology and computer studies and its later expansion, or evolution, into organisational, sociological and political issues led IS to become a combination of various, apparently disparate, areas (Kling (1987), Wood (1994)). Definitions of an IS varied from the detailed description of Buckingham et al (1987):

'An Information System is any system which assembles, stores, processes and delivers information relevant to an organisation (or to society), in such a way that information is accessible and useful to those who wish to use it, including managers, staff, clients, and citizens. An Information System is a human activity (social) system which may or may not involve the use of computer systems.'

to statements that the IS field is 'people and organisation led, but IT informed' (Martin (1994)). Three quite different views of information systems have been identified in use across the whole IS community: a sociological view including human communication and power issues; a rational, datalogical view concerned with structures and functions; and a computational view representing mathematical and linguistic issues (Davies & Wood-Harper (1990)). The four areas of information technology (IT), organisational human activity (OHA), application areas (AA) and IS development (ISD) were seen to encompass the field in research terms, to include the social impact of IT and its use to improve business performance (Stowell & West (1994), Wood (1994))

Inevitably, with such a broad scope for the subject, researchers and teachers in IS have had

to draw on many disciplines to underpin their work. Ormerod (1994) listed seventeen such disciplines: organisational behaviour, psychology, sociology, philosophy, systems theory, cybernetics, management theory, political science, organisational development, anthropology, computer science, operational research, economics, educational theory, biology, drama, history. Others have different lists, adding linguistics, semiology, ethics, ergonomics, and mathematics, for example.

This breadth presented its own problems and opportunities: IS academics need to have both an interest in and understanding of a wide range of disciplines; research has to have credibility not just within IS but also within the underlying disciplines involved; in order to achieve a high degree of rigour in a number of different fields it is essential for cross-disciplinary or multi-disciplinary teams to engage in IS research projects; academic publication of research results needs to be available in both IS journals and those of the contributory disciplines; teaching of IS must be undertaken by experts in the appropriate fields, each with knowledge of the IS discipline itself. Stowell and West (1994) defined the education and skills required for IS professionals to include practical and intellectual skills to enable understanding of the holistic nature of situations, technical and non-technical skills for provision and manipulation of data, and knowledge of human decision making and the contexts in which decisions are made. Added to this could be the ability to work effectively in teams and with specialists from other areas. The lists could apply equally to practitioners and academics. Inevitably, IS academics and practitioners will not always be able to achieve such high ideals.

The reliance on many reference disciplines necessitates a multi-disciplinary approach to research. This could be a strength for IS, leading to multi-disciplinary teams doing work that is meaningful, or it could be problematical, as it becomes more difficult for any one person or discipline to competently study any situation (Kling (1987)). The role of the 'expert' is replaced by the need for polymaths or for specialists with the ability to communicate and work with specialists from other areas. The broad scope of the IS discipline put great demands on its community. The background of researchers, the disciplines from which they emerge and their experience in both academic and professional work, will be a factor in the way they approach the study of IS. This could affect their choice of research topic, the interpretations they place on research results and

the importance that is subsequently given to those results by others, within and outside the academic community.

Kuhn's (1977) definition of a scientific community identified it as 'practitioners of a scientific speciality, bound together by common elements in their education and apprenticeship, responsible for the pursuit of a set of shared goals, including the training of their successors'. Such a community is characterised by a fairly good level of internal communication, a common language, and an interest in a common literature from which similar lessons are drawn by community members. The community would generally agree on issues of a professional nature, although sections or members will not hold the same views within such broad agreements. The interests of the IS academic community were spread across the four areas of the IS discipline, identified above, with greater or lesser emphasis being placed on their individual concerns. The models used, and the paradigmatic exemplars employed, had provided the community with its breadth and potential for growth, and also its conflicts, during the past 20 years. From functionalist, mechanical roots, the discipline had expanded and explored many new epistemologies, ontologies and methods in its understanding of its function in society and in the pursuit of knowledge.

IS has been criticised due to its methodological pluralism, fragmented research efforts and competing perspectives (Checkland & Holwell (1994), Jones (1994)). As a field which was still developing and changing, and a self-selecting community, IS had the opportunity to exploit its breadth in becoming more widely relevant and identifying a suitable rigour for itself (Keen (1991)).

Internationally, the IS community included two major research 'groupings': the International Federation for Information Processing (IFIP (2000)) and the Hawaii International Conference on Systems and Science (HICSS (2000)). Keen (1991) suggested that whereas HICSS is a 'showcase of research results', IFIP is more concerned with the nature of observation and the observer, and the philosophical notions of research. He identified a difference of methodological flavour and subject area between the two groups, making no judgement as to whether this was a good or bad thing, but rather a reflection of the implicit assumptions about relevance, although he noted that their debate is often

couched in terms of rigour. ICIS and IFIP represent different conceptions of researching within the same domain of research. They draw on entirely different intellectual traditions, and have different conceptions of relevance and rigour.

The UK Committee of IS Professors was established to gain recognition for IS and, in 1996, the UK Academy for IS (UKAIS) was formed. The Committee was a self-selecting group of senior IS academics which aimed to provide access across the professoriat to enable a representation and identity for IS work in the UK. It provided a focus for influencing government, university administration and the establishment of IS as a discipline within the academic community. The UKAIS was initially set up as a forum for teachers and researchers in IS, many of whom were isolated in small numbers within higher education departments of Management, Computer Science, etc. It established PhD consortia, PhD supervisors workshops, a conference and regional groups. The academy also aimed to be recognised as a powerful voice for the community, speaking to institutions, funders and government policy makers. In the mid-1990s it had a membership in the region of 565 (Galliers (1997)).

Jones (1994) considered these bodies as attempting to define membership of the IS community and as 'apparatuses of power through which unruly bodies may be controlled and proper standards enforced'. He suggested that the proliferation of journals may have hindered rather than helped the achievement of greater cohesion in the field in its attempts to become a recognised discipline.

In addition to the development of IS as a discipline, Mason (1983) identified three other priorities recognised by IS academics: their individual status in the IS community; the education of students; and the relevance of IS research to business. During the 1990s in the UK, relevance was an increasing problem with the fast changing nature of the field, but IS academics were also under pressure as employees due to the affects of the Research Assessment Exercise and the growing scarcity of research funding. Like practitioners, academics as employees worked within social, political and economic constraints and hierarchies. All of these various concerns, which may result in conflicting activities amongst academics, were prioritised by individuals or institutions according to the pressures they were under from their many stakeholders, past, present,

future, internal and external. In order to understand the behaviours of researchers, it was, therefore, essential to identify the stakeholders involved and to consider their influence on the goals of individuals and institutions (Agersnap (1976), Orlans (1976), Perry & Crawford (1976)).

The IS field, therefore, was still developing as a discipline, with its domain covering a broad range of interests and subjects. This created a problem for IS researchers in terms of its agenda and the fragmentary nature of the community, which they were attempting to address through the creation of formal bodies in the UK. Such inward looking concerns added to the more traditional priorities of individual researchers and, perhaps, conflicted with the field's essential need to remain close to practice.

2.3 IDENTIFYING THE RESEARCH ISSUE

The research issue for this thesis is the beliefs and behaviours of IS researchers in UK universities with respect to the dissemination of their research. The research issue arose from the author's consideration of her own learning about IS practice and the context of the business and IS communities, and UK Government focus of the early 1990s. In this section, the author's process of identifying the research issue is presented.

2.3.1 The Relevance of Dissemination

As the previous sections described, the early 1990s was a time of radical change in business and private sector organisations in the UK. The rhetoric was for flatter organisational structures, changed roles for management and the empowerment of employees. Developments in IT and recognition of the importance of information management were underpinning approaches such as BPR, emphasising the growing importance of the role of IS practitioners in the future survival of organisations. Thus, the structure, technology, values and philosophy of an organisation, and individual and corporate behaviour were all being brought together as interrelated ingredients in the success of business performance (Davenport (1994)).

Changing roles in organisations were to reflect the flattened hierarchies, with managers being expected to devolve decision making and focus on communication and enablement of 'front line' employees, who were to play an active role in the setting and achievement of organisational aims through a more flexible and holistic approach to their jobs. Technical, interpersonal and conceptual skills were to be utilised at every level of an organisation and large companies, such as Rover and Unipart, established personal development programmes and 'universities' of their own to encourage learning by all employees (Caulkin (1993)). Armstrong & Kleiner (1996), in a case study of vocational training in the US, concluded that 'if employees are given an opportunity to improve themselves, most will'. A move away from the notion of 'childlike' employees and rational managers, as noted by Herzberg (1966).

Empowered employees, 'reflective practitioners' and 'learning organisations' were the optimistic prospects in both academia and organisations (Argyris (1985), Schon (1987), Senge (1990), De Bono (1993), Kilman (1996)). The personal learning of individuals, and the creation of networks and groups for sharing information and ideas, were the key to survival and the beginnings of the interest in Knowledge Management Systems in IS (Alavi & Leidner (1999) among others). Individual learning for the 'reflective practitioner' incorporated the idea of building on personal schemas and the gradual, and radical, restructuring of those schemas, not as just the acquisition of more information but the ability to produce pertinent results (Senge (1990), Kilman (1996)). Particularly with regard to technological innovation, 'pertinent' relates to the requirements of particular business imperatives and powerful interest groups, and may not be to the benefit of others – true empowerment of the individual is not generally in the interests of such groups (Wajcman (1993)). *'There will always be a healthy tension between 'information' globalisation, which seeks to create meanings that apply to an entire organisation, and information particularism, in which individuals and small groups define information in ways that make sense to them.'* (Davenport (1994)).

However, prerequisites to an empowered workforce include personal self-esteem and self-belief, as well as changed attitudes within management of organisations (Bandler & Grinder (1979), Canfield (1989)). People will not feel able to question or contribute

unless they believe that their view is worthwhile and respected. With respect to IS practitioners, in a learning organisation they would need to be viewed as professionals, not as technicians. It is impossible to change other people, one can only change oneself (Canfield (1989)). If managers wanted to change the performance of their employees, they needed to change their own behaviour. If researchers or academics wanted to increase practitioners awareness of their work, they must change their own ways of disseminating it. If practitioners wanted to improve their performance in IS practice, they must change their own behaviour in discovering sources of information or learning.

At the same time, IS researchers, confused about their academic identity and fragmented across university departments and disciplines, were beginning to form a community, their leaders looking to raise the academic profile of the field in order to build a discipline. This fledgling discipline found itself competing for research funding among a newly enlarged university sector and under pressure from a newly established, government-initiated but peer-controlled, assessment process. Public and private funding sources were becoming more insistent on value for money and utilisable outputs from research, encouraged by UK Government initiatives in the area of dissemination.

There was considerable interest within the IS community, for the research being carried out to be relevant and applicable to IS professionals working in organisations, with concerns expressed that IS researchers may be in danger of mainly talking to themselves and should be more pro-active regarding the communication of research results (Keen (1991), Mumford (1991), Galliers (1995)). Identifying relevance and applicability was not, however, always straightforward, indeed, Galliers suggested that there would appear to be some distance between the agendas of the IS practitioner and research communities. He questioned 'Are practitioners not interested because they do not see our work as relevant to their concerns and actions? Can we make it relevant through the way we present it, in terms of methods?' The first question focusing directly on relevance, the second on appropriate rigour in support of relevance.

Keen (1991) identified that IS managers, consultants and executives wanted to locate relevance in IS research but found the papers published in academic journals had no value for them in practice – '*... they ask about what to read, who to talk to, where to find*

information and so on. Once in a while an IS research article generates a widespread response from one of these groups, even when it is journalistic and weakly grounded. ... There is plenty of demand for IS research. Any work that is seen as relevant will reach its audience quickly and move across academic boundaries. It is frustrating in this context to see how poorly articulated so much IS research work is in terms of relevance.'

In order to ensure the relevance and accessibility of their work, IS researchers need to reflect on the whole of their research activity in publishing their results, choosing their target audience in advance and making clear to that audience the concerns they are addressing, the wider intellectual context of the work, the reasons for their choice of methodology and the environment in which the work was carried out. The contribution of the work to both the audience and the cumulative tradition of research should be described and the dissemination activity should attempt to influence the way the research results are used in practice, utilising a variety of means to reach the audience through its own natural mode of learning (Keen (1991), Mumford (1991)).

2.3.2 Dissemination of IS Research to IS Practitioners

The audience of particular interest in this work was IS practitioners, and the sharing of research which would enable them to pursue their own learning and improve their own performance of IS practice. Many of them would have received some initial IS education or training, some would read the computer press and engage in short training courses during their careers, with very few taking any post-graduate courses in universities. Dissemination, therefore, required some efforts in creative thinking for researchers. Perhaps they were already trying to get through to practitioners but needed to develop their communication skills, or perhaps they viewed practitioners as resistant to their messages and had to find a way to overcome the barriers, which could include the separateness of the two communities or the negative image of the 'product' of research itself.

The aim of dissemination is to enable change through the provision of information. Where the backgrounds or cultures of the researchers and their audience are different, the

dissemination of research is not a straightforward task, there may be a need to write books as well as academic articles to allow for a more 'creative and integrated body of knowledge to evolve within the wider audience' (Keen (1991)). The use of fiction or alternative media may be necessary to reach the vast numbers of people who never read technical or management texts of any kind. An investigation of the means by which practitioners generally gain learning or increased understanding may indicate more profitable ways to share information. Schon's (1987) suggestion of university-based education following some of the approaches used in schools of art, music and dance encompasses the use of coaching and learning by doing, where the lecturers have no 'ready answers'. Use of alternative media calls for a new style of thinking and new skills. Perhaps this is the equivalent, for researchers, of the practitioner's need to keep up-to-date with technology when creating systems in organisations. McLuhan and Fiore (1967) were warning of the folly of trying to 'force the new media to do the work of the old', in the 1960s.

The anticipated growth, in the 1990s, in telecommunications usage and entertainment on demand in the home could create a revolution in terms of the provision of education and knowledge dissemination (Ives and Jarvenpaa (1996)). The private sector may overtake the public sector during the next few decades, as the predominant educational institutions. Assumptions which held in the past about universities and research were in great danger of being overturned through the advances of technology. IS should be in a stronger position than most disciplines to appreciate this about itself. Business as usual was a recipe for failure and an open invitation to non-traditional competition.

The style of academic dissemination, through the use of logical argument, is only one way of communicating and attempting to enable change in people, persistence and passion can also influence people and lower resistance to new ideas (Feyerabend (1975)). The literature on marketing, and propaganda more generally, brings the theory of psychology to bear on notions of influence and change, even in the late 1950s Vance Packard was writing about the use of psychologists in the advertising world (Packard, 1957/81). An interesting and relevant quote shows the similar problems involved: *'One of the most realistic uses of motivation research was shown by the Gardner Advertising Agency of St Louis, which had the counsel of Social Research. It concluded that one of the serious problems of the advertising business is that its job is to appeal successfully to the masses, yet ad*

people themselves are practically never typical of the masses, "and the more successful they become the less typical they are likely to be." A spokesman added that *Social Research helped its people become aware of the real needs and wants of typical people,...*'. Sometimes these problems are overcome by more simplistic notions such as the qualities of the disseminating actor and the sheer repetition of the message.

Many new organisational and IS theories are simply developments of existing theories, which for one reason or another were not widely acknowledged or accepted (for example the underlying theories of BPR are from work by Kilman (1985) and others before him). If the take up of ideas is to improve, it may be valuable for IS researchers need to consider the reasons for the non-acceptance of previous ones, such as: a focus on an easily sold idea, ignoring the philosophical change required; the impact of the metaphorical thinking engendered through the name attached to the new theory; the ability to separate out single aspects of the theory and ignore others, rather than presenting an integrated, non-reductionist model; the application of theory to formal activities when it is the informal, or political, activities that are important in reality;

Dissemination includes both the 'distanciation' of results by researchers and their 'appreciation' by the audience and part of the interpretive act of the audience is a judgement of relevance which relates to the 'attention' of the individuals to the information as well as their motivation to acquire it (Boland (1991), (Jonsson (1991))). Inattention and misinterpretation lead to non-information, which is probably as large a problem for IS practitioners with respect to IS research as is information overload in issues of new technology. Researchers need to give consideration to the individuals involved in IS practice, in the same way as practitioners need to understand their business users, appreciating the possibility of different psychological types and cultural expectations (Mason & Mitroff (1973)). The style and content of their communication, and the language they use affect the picture practitioners will gain about the phenomenon being described (Churchman (1971), Mitroff (1983)). Neither should it be assumed that practitioners hold the same assumptions and beliefs as senior managers, they engage in different activities and have different priorities. The communication is between individuals. Individual communication styles and preferences are many and varied. Communication across a broad spectrum of formats and via a broad range of media will be

required to reach such a heterogeneous audience.

Individual communication styles have been the subject of much work in the field of personal development and self-esteem, where good internal and external communication are seen to be essential factors (Canfield (1989)). Neuro-Linguistic Programming was an area of growing influence, during the 1990s, in improved individual performance, both professionally and personally (Bandler & Grinder (1979)). It was essentially concerned with increased learning by improved awareness and understanding of personal communication techniques.

The notion of trust should not be ignored within social interaction, trust of the communicator and the information communicated (Vickers (1974), Blunden (1985)). People very often do not trust information that comes from those outside their own environment, stating, quite reasonably, that people from outside do not know 'what it is really like here'. Researchers disseminating prescriptive methods and theoretical ideas may face reluctance or rejection from the practitioner community, although such messages may be just the thing for students looking for 'certainties' in the world. Taking another angle on trust, a perception of academics as 'experts' or 'authorities' on particular specialisms may provide the guarantor required by practitioners for acceptance of results. Their trust in such authority arising from the functionalist education system through which most of us have passed. Vickers identified five levels of communication: dialogue - where each party looks to confront fallacies in others and their own argument, joint effort to reach common appreciation; persuasion - of the other to change their view or behaviour, need to understand the other, may be conflict or co-operation; request - which may be dependent on roles, identification with the other; bargaining - which includes shared assumptions, mutual understanding required; and communication by threat - calling for minimal understanding and minimal trust. Understanding and trust increase from threat to dialogue, relying on each party to abide by the rules of the communication. There also needs to be trust in the role and the content to sustain the communication process. Skills and knowledge are required to participate in effective communication: skills in appreciation, knowledge of the subject matter, the other communicating parties and the process of communication itself.

Fromm (quoted in conversation with Evans (1966)) discussing character formation, said that *'...in the process of assimilating the world, man has only a few possibilities. I can get things by receiving them passively; I can get things by taking them by force; I can get things by hoarding them. There is another possibility ... that I can get things by exchanging. And I can get things by producing them. There are no other possibilities, I think it depends primarily upon the nature of the society, the culture, and secondarily upon the character of the parents, as to which of these modes of assimilation will be primary in a person.'* For empowering communication, exchange and involvement in research are options to be seriously considered, and researchers would do well to think on them creatively. We are in a time of change, and creative ideas are needed to enable us to move into a more productive and enterprising dialogue with 'the public', as the government puts it.

2.3.3 Dissemination as an Aspect of the IS Research Process

In attempting to understand any issue it is important not to isolate it, but to view it in its context - dissemination in terms of the IS research process, carried out by individual researchers within the socio-political context of UK universities and the IS academic community, operating in the broader context of the UK and global political and economic context. IS researchers' beliefs and behaviours are likely to be influenced by their personal interests and history, as well as by the context in which they currently operate. This thesis takes this as an assumption and attempts to derive understanding through studying dissemination in context. Argyris (1985) stated that 'The practical problem of communicating scientific knowledge to practitioners in a form they can use is less a cosmetic issue and much more an issue of how we conceive of research designed to produce usable knowledge'. Choices taken throughout the research process could affect the relevance of research and its dissemination. This holistic approach considered the links and relationships which influence dissemination activity and assumed that these would be complex and interrelated. No clear cut answers were expected but it was hoped to uncover insights, understanding and possibly further questions.

Research dissemination is often considered as an 'add-on' to a piece of research, something that occurs when research is completed, however, there are a number of possible models for affecting change via research: R&D and diffusion models; problem solving models; and social interaction models (Roger (1995), Kling & Scacchi (1982), Kaplan (1991)). The roles of researchers and recipients in research can be viewed as more or less active and dissemination as either a one-way or two-way act of communication, in some case with an acknowledgement of the socio-political issues of the process. Non-compliant actors may be seen as 'dysfunctional' or innovation and creative thinking identified as essential components of the research and dissemination activities.

The worlds of academia and business have historically held to be two quite distinct and separate cultures in the UK, however, great changes have taken place during recent years, with people working within commercial and public organisations being more likely now to have had a university education and a greater knowledge of, and access to, such institutions and their work, and academics, particularly in IS, more likely to have some practice experience of their theory. Perhaps the two communities have drawn closer together, if not in an explicit manner, through the individuals who make up their numbers. Perhaps the differences are more perceived than actual, though nonetheless powerful and divisive. Perceptions of difference between, and also within, communities, are important issues with respect to assumptions of relevance and in choices made in dissemination. IS theory has acknowledged the importance of such personal and socio-political awareness in the area of systems development, which could perhaps be extended to IS research (Checkland (1981), Davies & Wood-Harper (1990), Checkland & Scholes (1990), Avison & Wood-Harper (1991), Mitroff & Linstone (1993), Wood-Harper et al (1996)). Implications for the dissemination of research results, however, have yet to be fully investigated or exploited by researchers.

Researchers attempting to disseminate their work need to consider both themselves and practitioners in a critical way, perhaps replacing traditional views of the two cultures in an attempt to acknowledge themselves and their audience as individuals. As Morgan (1993) illustrates so clearly in his book, 'Imaginization':

WE ARE OFTEN TRAPPED BY THE IMAGES WE HOLD OF OURSELVES

to which could be added 'and the images we hold of other people'! (see Figure 2.1).

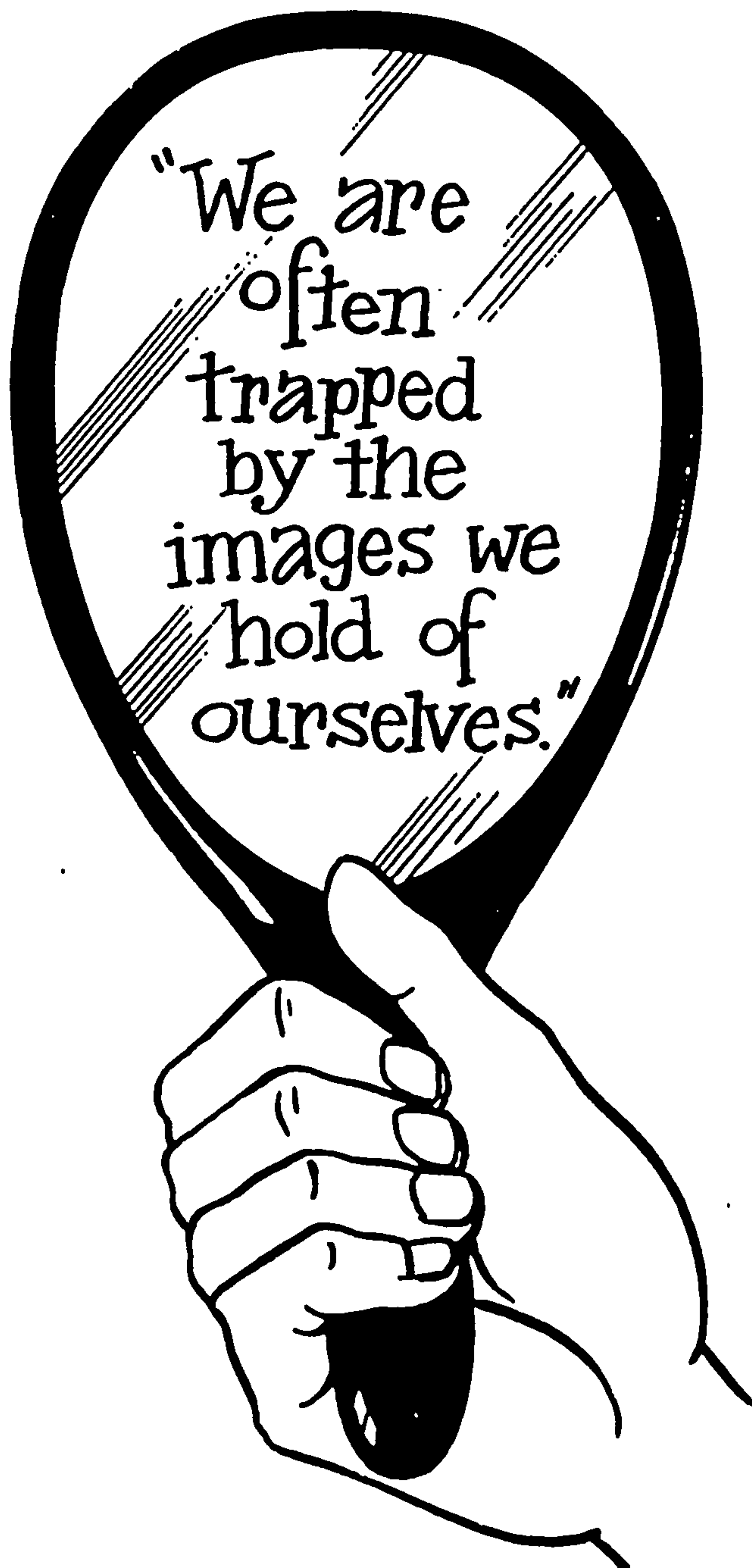


Figure 2.1 – 'We are often trapped by the images we hold of ourselves' from
'Imaginization' (Morgan (1993))

Rather than merely an appreciation of the audience context, Davies and Wood-Harper (1990) proposed that *'If one knowledgeably dominant section of the world is to attempt to transfer aspects of that knowledge to a less dominant section of the world, the hidden biases, and paradigmatic differences of the dominant knowledge must be recognised'*. Habermas' notion of communicative competency relies on an non-coercive environment with both parties having access to information and the ability to assimilate such information (Habermas (1984), White (1988)). Elements of personal self-esteem and respect for the other become essential components in this kind of communication, a genuine desire for learning and change.

Assumptions of rational behaviour, on the part of researchers, ignore the inclusion of emotional reactions within human decision making and the influence of stakeholders. In any research, the choice of research area, methodology, and dissemination will be based on a particular view of reality, a metaphor or picture of the way things are, held by researchers and the funders of their work (Lackoff & Johnson (1980), Mitroff (1983)). The scientific preference for viewing the world in abstract, impersonal terms does not take into consideration the important, and usually very significant role, played by the activities of humans in all activities and events.

Keen (1991) suggested that the identification of a target audience for research and an effective strategy to address them may be a guarantor of relevance, and considered some articles in the Harvard Business Review as exemplars due to their being *'creative, razor-sharp in focus and presentation, and radical in their implications for IS practice. The mode of presentation is their rigour!'* *'IS research work should aim at finding its audience; that in itself will help clarify the issues of relevance and rigour'*. It would seem, therefore, that the choice of target audience may be a crucial factor in the communication of research results to practitioners. If they are never targeted, there is little chance of them acquiring access to the kind of information available in the 'public domain'. Unless they themselves become students or researchers in universities, with the skills, time and motivation to trawl through the mass of journal articles and books produced for the academic audience.

In order to achieve change, it is necessary to focus on many factors at the same time and to identify underlying problems concerned with the environment and its structures, norms and values. *'Instead of asking 'Why isn't the world listening to us?' try 'What can we learn from the world?''* (Clegg (1993)). Mitroff (1983) talked of the growing complexity of the world, which has rendered our old pictures of the world, if not obsolete, then increasingly suspect. In this thesis, the author suggests that it is time for us as academics to look at those pictures and reassess our prejudices and beliefs, and be explicit in taking the concept of practice and practitioners seriously (Lyytinen (1999)). In addition, by clearly identifying the stakeholders which influence our activities we may be able to redefine their importance in terms of the changes that are taking place in our institutions and ways of working. Communication has long been identified as a problem within, and between, organisations, perhaps the time is ripe for an interest in talking to different people in different, more effective, ways. As Sutton (1994) insightfully noted, *'The only way that anything happens in an organisation is when people exchange information'*. As information is our business, we should be out there exchanging it with the best!

In summary, the research issue was to be concerned with the empowerment of IS practitioners and reflection for IS researchers through an investigation of dissemination as an aspect of IS. 'Dissemination' was to be seen as a social interaction between members of the academic and practitioner communities, encompassing the targeting of practice as an audience and all attempts to share research results, whether by direct communication or making them accessible. The need was identified to take an holistic view of dissemination within the research process and to gain understanding of the communities and individuals involved.

2.3.4 The Author

The inclusion of a resume of the author underlies her view that research is not an objective process, but will be influenced by the background and personality of the researcher (Kuhn (1977), (Davis (1991))). The choice of the research issue, the intellectual framework, and the research approach, the decision of the relevance or

otherwise of data, and the drawing of conclusions from the available data, all involve the researcher in making choices and utilising their strengths and skills. The author acknowledges that no-one else would have followed an identical path, nor produced an identical summary of the process, and, therefore, the author of the work must be explicitly present as part of the results of the research.

The author's career began in the 1970s in the discipline of mathematics, perhaps the most positivist of the disciplines, certainly in the manner in which it was taught at that time. This was balanced, somewhat, by 10 years involvement in the teaching and management of mathematics education in secondary schools. Schools where there was, necessarily, an emphasis on people as well as on academic excellence. A desire to learn about the world outside education led to professional training in business systems analysis, and a move from a series of management positions in education into the role of a junior IS practitioner. This provided the author with an opportunity to view the effects of management from the 'other side' - an interesting experience which can be recommended to all managers!

The author then spent seven years working as an analyst, project leader and IT manager within a number of commercial and public sector organisations, using a variety of traditional and structured IS techniques and methodologies. She gained considerable experience in interviewing techniques and analysis, and developed her communication skills in a variety of organisational situations. She was used to dealing on a personal level, both formally and informally, with people in executive positions, with technical and professional people of all types, and with clerks and manual workers. The reality of using learned techniques within a project environment, and the observation of numerous failures and problematic situations, led her to question both the competence of IS professionals and the assumptions behind many of the IS methodologies. A 'questioning' approach to the activities of analysis and project management was often seen as out of place in the highly pressured world of IT departments, though rather less among business professionals. The author was once told that she had a researcher's view of the world rather than that of a practitioner.

Periods of reflection are a part of normal life, whether informally as part of the ongoing

activities of work or home, or more formally as separate, distanced activities during an evaluation process. In business situations, the author noted a general reluctance to allow time for evaluation of IS practice and the consequent difficulty of applying learning from one experience to the next. She took the opportunity, therefore, with the support of a grant from the EPSRC, to join the academic community at the Salford University IS Doctoral School as a mature PhD student. Many issues came to mind immediately as research topics from her experience in IS practice, among them: Why do the theories learnt during professional IS training or education not appear to enable one to produce 'good' work in the 'real world' of IS practice?; Why do the philosophies behind IS and management theories often become lost when methods or methodologies are taken up in practice?; How can we learn to manage IS projects in more effective ways?; and What is it that a 'good' systems analyst, or designer, actually does?

The first year of the Doctoral School encouraged a broad reading and critique of papers published in the IS field. Many of the concerns the author had noted as a practitioner were being investigated by the IS community, and she discovered a wealth of interesting ideas which related directly to her experiences in systems analysis and IS management. There were articles questioning the use of IS development methodologies, discussing the philosophies underpinning such methodologies, suggesting that the practice of IS was more than a technical activity, taking place as it did in a socio-political environment and carried out by individuals who faced alternatives in the roles they might play as developers. Some of the IS academic literature may relate well to an individual's experiences or reflections on practice, some may cause them to critically examine their views of organizational situations and the choices and alternatives available to developers (Axtell et al (1995, Hirschheim & Newman (1991), Orlikowski (1993), Walsham (1993b), Wastell (1996) for example). The literature should be a rich resource for reflective practice (Boland (1991), Lee (1999)). Yet, in many overworked and often highly stressful IT departments, practitioners were unaware of this work. Developers, in practice, continue to struggle with techniques and methods without the support of the research results which could give them stronger grounds for questioning such activity. Analysts and project leaders need the backing of academics in order to query the dicta of senior managers in charge of standards or methods within a large organisation. Their own insights and experience may not always be enough to make a stand against the

power of such accepted theory.

By the end of her first year in academia, the author realised that although she had been totally unaware of the research in universities, it was published and did question the theory which was accepted in many organisations. The new findings did get through to students on university courses, though little of it appeared to get through to the rest of the world. Information technologies were changing rapidly and such 'news' was provided within the practitioner trade press. Training courses for practitioners and managers enabled them to learn new techniques and skills, and consultants were perhaps transferring new ideas about philosophies behind systems development or problem solving into the higher management levels of companies.

There were many ways of disseminating research results, but there were also many analysts working in ignorance of new ideas and questions. Could there be more widespread methods to disseminate information using the mass media of television or radio, the non-specialist press, via novels, poetry or drama? Ways which could address the paradigm shift from a functionalist view of knowledge, which is evident within parts of the academic community but not so apparent elsewhere? As an educationalist and IS practitioner, communication and empowerment were two fundamental concerns of the author and her interest now was in enabling practitioners through the improved, and more widespread, sharing of information about IS research.

2.4 THE RESEARCH ISSUE

The research project presented in this is an investigation into the beliefs and behaviours of IS academics in UK universities with respect to the dissemination of their work. The research takes an holistic view of dissemination as an aspect of IS research, including: the researchers, their backgrounds and perceptions of IS, research and dissemination; the activities of research and the influence of the stakeholders of IS research; and dissemination as an interaction with target audiences.

In making this choice of research issue the author made a number of assumptions, which

may or may not be valid, but about which she needed to be aware throughout the research activity:

Assumption 1 There are research results in IS which are, or would be, of interest to IS practitioners and beneficial to their performance in organisations

Assumption 2 IS researchers are interested in the dissemination of their research results to IS practice, where this would be relevant

Assumption 3 The majority of IS practitioners are not aware of, or do not have access to, much of the IS research carried out in universities – publishing in the ‘public domain’ via academic journals does not signify availability to those outside the academic community

Assumption 4 There are effective means of communicating between the two communities

Assumption 5 The meanings applied to information disseminated between members of the IS research and IS practitioner communities will be dependent on the experience and background of the individuals involved in the communication process

Limiting the research to the UK enabled the author to work within a boundary already established within the IS academic community. As was noted earlier, the UK Committee of IS Professors had already been set up and the UKAIS was in an embryonic form at the time of the research planning, and the UK Government was involved in setting up initiatives to assist its national organisations and businesses.

Research into the practice of dissemination, particularly where it was underpinned by IS theory and practice, filled a gap in the field, where the focus is generally on the data collection and analysis aspects of both IS research and development. In addressing the beliefs as well as behaviours of IS academics, the research attempted to broaden the view described by quantitative surveys of publications, etc. and build on the literature which considered the more holistic, socio-political models of IS. As the view of a practitioner looking in on the academic community, it complements the case studies of IS practice carried out by academics.

Having identified the research issue, the author considered three target audiences for the

research: herself as both an IS practitioner reflecting on the nature of IS theory and practice, and as a novice researcher; the IS academic community, as the subjects of the research, and the broader community of researchers; and the IS practitioner community via dissemination and the utilisation of the findings in future research with IS practice. The process of dissemination of the research to the IS academic community would begin with the interactions during the main part of the research activity and continue through the traditional activities of debate at seminars, and conferences, and through publications.

The research aimed to provide insight and understanding, and to encourage debate and reflection into IS theory and the practice of IS research, from the perspective of an IS practitioner looking in on the IS academic community. As such, it should be viewed as a contribution to the sociology of knowledge, as a relativist study of a relativist activity, making explicit its choices, techniques and findings to allow the reader to make a critical reading of the work ((Potter (1988), Woolgar (1988)). The author anticipated making no claims for the universality of her study of IS researchers, but noted that her work was informed by the need to search for understanding in an holistic manner, aware of the constraints placed upon her by her background, skills and resources. By identifying this work as exploratory research, the author anticipated that what she *'intends to be the essence of the study is what others consider the necessary background work in order to begin'* (Trauth & O'Connor (1991)).

In carrying out this work, the author acknowledged her lack of experience in academic research, but anticipated bringing skills and knowledge she had gained from IS practice. The research was to be a learning process, about both the research issue and the practice of doing research. In one sense these were limitations of the work, in another they were strengths. Certainly, any other researcher choosing to investigate the area of dissemination would have done so in a different way, with a different starting point. This researcher presents her approach to the reader, providing an honest description and evaluation of the process.

The aims of this research were to gain insights into the practice of IS research which would be useful to researchers and practitioners, through raising an awareness of

dissemination from the perspective of IS theory, and to gain insights into that theory itself. It is important for researchers to know that their work is being utilised, in both theory and practice, and that there is a continual interchange as ideas are tested out in a variety of situations. From the perspective of practice, IS research should be a valuable resource and this thesis aims to encourage communication and debate about making results accessible. The work involved an IS practitioner looking in on research, bringing together theory which aided her own reflections on her experience of IS practice and utilising IS theory to examine the practice of IS research.

2.5 CONCLUDING REMARKS

The research issue is identified in this chapter as an exploration of the beliefs and behaviours of IS academics in UK universities with respect to the dissemination of their research, with a particular interest in the IS practitioner audience. The context of the research has been presented with respect to the business world of the 1990s, the policies and initiatives of the UK Government to enhance the contribution of higher education to the UK economy, and the state of the IS discipline at the time.

The 1990s was seen to be a time of upheaval and radical change in business, which was beginning to filter through into public sector organisations in the UK. Government policy during this time attempted to enhance the position of UK companies by encouraging the sharing of knowledge and expertise between universities and other organisations. For IS academics, there was a need to establish their field as a discipline, unite their fragmented community and, at the same time, keep pace with the ever increasing developments in information technology and maintain a close relationship with practice. The chapter identified the compelling relevance of the research with its focus on dissemination of IS research at this time.

The issue of dissemination as an aspect of IS research was discussed in the chapter and the author's initial expectations of the direction of the work were raised. A number of assumptions are identified which underpin the work, which reflect the influence of the author's background as an IS practitioner and her interest in the communication of IS

research as a valuable resource for practice.

In the following chapter, the choice of the theoretical framework for the research is presented. The framework builds on the ideas generated in this chapter with respect to the research issue, through the author's reading of the IS literature based on the perspective of IS research as an IS. It also incorporates theory, within the same perspective, which was identified during the analysis phase of the research.

CHAPTER 3

CONCEPTUALISING IS RESEARCH THROUGH THE THEORY OF IS

3.1 INTRODUCTION

The research presented in this thesis considers the sharing of IS research results between the academic community and IS practice in the UK. It involves an investigation into the IS research community in UK universities, an exploration of the beliefs and behaviours of researchers with respect to the dissemination of their work. Chapter 2 established the broad context of the research in the UK during the 1990s by considering the changes taking place within the business world, the policies and initiatives being established by the UK Government with respect to the role of higher education in sharing knowledge with organisations, and the IS field and the situation of the IS academic community in the UK. The aim of this chapter is to present the author's choice of theoretical framework to support the research, which will enable the reader to evaluate the subsequent choices, activities and findings provided in the thesis.

The chapter reviews the literature which influenced the author throughout the work and aims to locate the research within the cumulative body of work in the IS field. The theoretical framework was chosen as a means of enabling learning about the research issue by providing a context and model through which the research findings could be interpreted. Because of the nature of the framework, it also provided a framework in which the analysis of the research data could be carried out. The choice of theory in the framework was based in the perspective of IS research as an information system, taking the definition of an IS, as discussed in Chapter 2, as a socio-political as well as technical system. Dissemination was perceived as an aspect of IS research, to be understood in the context of the stakeholders and the environment of research. Influenced by the author's background in IS practice, the

thesis was underpinned by an assumption that the theory of IS and the practice of IS development can be utilised to assist in learning about IS research.

The nature of the IS field is such that it overlaps with numerous other disciplines and the literature from areas such as organisational theory, ethics, communication theory and psychology was explored to provide depth and support to the IS literature. In attempting to appreciate such a range of subjects, the author acknowledges the limitations of her awareness and understanding in these areas at the outset, but emphasises the strengths of such an approach in providing a meaningful study of the research issue. The thesis provides an application of IS theory in the context of the practice of IS research, as complementary to the more usual context of IS development. The work brings together a variety of theories from the IS literature in a unique way, with the aim of both building on the ideas and utilising them in support of this investigation.

The chapter begins with a discussion of the philosophical underpinnings of IS theory and the critical systems thinking which influenced the research. The Multiple Perspectives Approach is then presented through the Multiview 2 Model with respect to IS development, with ideas from the literature supporting the three perspectives of Technical, Organisational and Personal. Within the Technical perspective, the choice and use of IS development methodologies is discussed, as well as issues relating to dissemination and the outputs of development. From the Organisational perspective, three analyses are considered: Stakeholder; Ethical and Cultural analysis. The role of the analyst and their communication interactions are the subjects of the Personal perspective. Lastly, the framework is discussed with respect to the research issue of dissemination, from the perspective of IS research as an information system.

3.2 SYSTEMS THINKING

In the light of her experiences and reflections in IS development activity, the author began this investigation with two important questions: 'Is it possible to learn about IS research

from IS theory?'; and 'Can IS practice inform IS research?' In order to answer these, it was important to have some understanding of the field of IS and its philosophical underpinnings.

The origins and development of systems thinking have been well documented in the IS literature by Ackoff (1980), Checkland (1981) and Jackson (1990a,1992), among others. It's origins in the 1930s were based on the notion of equilibrium, seeing business situations as co-operative systems where the inculcation of a common purpose was important. In organisational theory the emphasis was on motivation and inducement of employees through improved communication across hierarchies. During the 1960s and 1970s, General Systems Theory was developed, continuing the emphasis on equilibrium through the metaphor of the organisation as an 'organism'. In the 1970s, as the systems movement grew, empirical work within Contingency Theory led to the idea that systems, and their sub-systems, are affected by constraints imposed by the context in which they exist. The empirically-based Socio-Technical Theory looked to the joint optimisation of social, technical and economic dimensions in pursuing primary tasks in organisations, by integration with the environment. This included ensuring motivation of the workforce by understanding and enabling job satisfaction, mainly through industrial democracy and job redesign. Identification of the workers with the purposes of the organisation was to be ensured through greater individual involvement in both the work and the decision making processes.

Ackoff (1980) noted that the socio-technical revolution in organisational theory, took place in the light of a paradigm shift from the Machine Age to the Systems Age. Systems became 'the new organising concept in science'. The emphasis changed from closed or analytic (reductionist) thinking, to a complementary state of this plus open or synthetic (holistic) thinking. In terms of individuals and social organisations, teleological views were dominant. The systems revolution was as much to do with the development of technology, in particular computers, as with social changes taking place in the UK during the same period. The Industrial Revolution was concerned with the mechanisation of physical work requiring an understanding of physical processes, where behaviour was explained by cause-

effect theory. The Systems Revolution was concerned with the mechanisation of mental work, requiring an understanding of mental processes, where behaviour was explained by either what produced it or by what it was intended to produce.

Systems thinking assumes that the sum of the functioning parts is seldom equal to the functioning of the whole (Ackoff (1980)). It attempted to address some of the shortcomings identified within traditional scientific thinking, namely: the necessity of coping with complexity in problem situations; the issue of where to set boundaries in scientific reductionism; and theory building across the physical and social sciences (Checkland (1981)). Adding an holistic view to the traditional scientific approach of reductionism led to problems with other aspects of the traditional scientific approach, particularly notions of repeatability, refutability and the hierarchy of disciplines. In turn, critics argued that the equilibrium-based theory was in danger of reifying organisations and having a definite managerial bias, through its inability, or lack of will, to explain conflicts and underlying assumptions within the basic power structures of organisations and their environment (Jackson (1990a)).

Within the literature on IS development, systems thinking has been used to explain and question the approaches used in IS practice within organisations. Systems thinking can be categorised by the three philosophies of hard, soft and critical systems thinking. Traditionally, IS development approaches have been underpinned by hard systems ideas, with an emphasis was on a systematic approach to problem solving and the creation of efficient computer systems given the constraints and specifications of the technology available. Problems and goals were defined elsewhere, their assumptions not questioned, as the technologists attempted the elimination of all human issues from their practice and theory.

Hard systems thinking embraces the definition of systems in terms of inputs, outputs, boundaries, environment, activities and objectives. It results in a functionalist definition and use of methodologies such as Operational Research, Systems Engineering, Systems Analysis and System Dynamics (Flood & Jackson (1991)). The assumptions underlying

this view include the belief that systems exist in the real world and can be ‘engineered’, whether mechanical or human. This view necessitates predefined system objectives, a systematic approach, optimised solutions, accuracy, completeness and non-redundancy. The purpose of a hard systems approach is to facilitate management control in an efficient manner, towards achieving a known and defined end (Flynn (1992)).

For an inexperienced IS practitioner, hard systems approaches provide concrete techniques and rules to learn and use, something to hold on to in the midst of, what are often, very complex practical situations. For more experienced practitioners, the variety of models and methods based on such thinking might be used flexibly to enhance a practitioners activity, offering alternative ideas that could be tried out, or highlight omissions in their current practice.

The assumptions of hard systems thinking neglect to address issues inherent in any organised human activity, such as the influence of external information, changes occurring within the organisation as a whole which impact the development or use of the IS, the capabilities of the analyst and the social politics of the situation. Soft systems thinking contrasts with hard systems thinking in taking an interpretive, phenomenological approach to understanding situations. The methodologies used in IS include Social Systems Design, Strategic Assumption Surfacing and Testing, Interactive Planning and Soft Systems Methodology (SSM) (Jackson (1988), Flood & Jackson (1991), Jackson (1990b), Checkland (1988), Ackoff (1980), Mitroff & Linstone (1993)). Hard systems thinking views both people and situations in terms of the machine metaphor, whereas in soft systems thinking a range of metaphors hold sway, such as culture, organism, coalition and brain (Flood & Jackson (1991)). Practitioners of soft approaches engage in an enquiring process with both logical and cultural aspects, a system of learning which is seen as processes of continuous debate and change aimed at improving the particular situation in ways that seem sensible to those concerned.

Methodologies within soft systems thinking include debate and interaction with stakeholders, explicitly investigating assumptions by, and about them, stressing the

importance of the individual, their values, and their active role in shaping their own realities through engagement and understanding of the holistic situation and the many inter-relationships which exist (Ackoff (1980), Senge (1990), Mitroff & Linstone (1993)). In terms of IS practice, the systems thinker is someone who takes responsibility for the success of the whole process, being part of the interactive feedback process, not standing apart from it. Implementation and dissemination are integral parts of the development process. Senge (1990) recognised three basic elements within systems thinking: reinforcing feedback, for good or bad; balancing feedback to keep the process aligned with the system's goals or objectives; and a recognition of delay between change in activity and changed outcomes. Since systems thinking is circular, every feedback is both cause and effect, influencing and being influenced by the process itself.

Checkland's (1981, 1988) Soft Systems Methodology (SSM) provides a 'coherent and intellectual framework as an epistemology which can be used to try to understand and intervene usefully in the rich and surprising flux of everyday situations'. The methodology is based on the assumption that it is never possible to describe real world purposeful activity once and for all, we can only describe a range of interpretations which are relevant to debating the real world processes and structures. The role of the observer in understanding or perceiving organisational complexity is stressed, and any description of human activity must always include an account of the observer and the point of view from which the description is made. Alongside the logical, rational task-based approach used in hard systems methodologies, SSM introduces a cultural, socio-political aspect, reflecting that the best logical (or technical) solution or outcome, can only be put into practice given the acceptance by people affected, and the feasibility of implementation within the particular social and political situation.

SSM provides the IS practitioner with some powerful ideas which have no place in hard approaches: for example, the explicit identification of the different people or roles involved in IS development situation; and the possibility of alternative transformations or world views within the situation, emphasised in the CATWOE definitions (Checkland (1981)). The notion of any transaction being understood within different *weltanschauung's* makes

one consciously look for perspectives or interpretations of activities, socially constructed meanings which are assumed but often not made explicit or openly discussed. Another issue arising from SSM is the nature of the output from an analysis or investigation - with an emphasis on change and actions rather than on endings and conclusions. The author's experience concurs with the importance placed on user ownership and participation in any change process, the emphasis on 'experienced-based knowledge' where participants engage in purposeful action in relation to their experience of the situation in which they find themselves and the knowledge that that experience yields (Checkland & Scholes (1990)). The cycle of learning and change starts and ends with the people involved in the situation, sometimes enabled by a catalyst, with their purposeful action aimed at improvement in the situation.

One criticism of soft systems approaches is their managerial bias, through the emphasis on the achievement of a synthesis, or at least an accommodation, of a multiplicity of views (Jackson (1990b)). There is no explicit guidance for practitioners to deal with issues such as conflict and differential power resources. Many of the techniques involved require considerable expertise on the part of the analyst, particularly in terms of personal, social and communication skills. There is an implicit assumption of seniority in the status of the analyst, which may satisfy those in management consultancy positions (which includes academics acting as consultants or researchers), but loses credibility in the majority of IS situations where it is not managers who engage in the practice of IS. Failures in IS development arise, perhaps, due to the inability of the feedback systems to deal with the conflicts which occur between the goals and objectives of organisations, or individuals, and the operation of effective processes.

Hard and soft systems thinking both assume harmony and concord. Critical, or dialectic, systems thinking assumes discord. It is based on the idea that the world is always changing and we cannot understand it unless we understand what change is and why it takes place (Dahlbom & Mathiassen (1993)). The claim of critical thinking is that we must think in terms of contradiction in order to understand, explain and control change. The perspective of critical theorists is based on emancipation through an active process of individual and

collective self-determination, people living through self-knowledge and an understanding of the social condition. Critical systems thinking is sceptical about top-down change, seeing emancipation as an ongoing active resistance to socially unnecessary restrictions to enable critical self-reflection on the work situation rather than a gift bestowed upon employees by senior management. The emphasis is on critical self-reflection and self-transformation, not piece-meal social reengineering by senior managers. Hard systems thinking is seen to be concerned with the increased productive capacity of employees in order to safeguarding the interests of shareholders, and soft approaches are viewed as having similar aims although including that of freeing employees from unnecessarily alienating forms of work. (Alvesson & Willmott (1992)).

Within critical systems thinking, the IS practitioner is expected to demonstrate a critical awareness of the philosophical underpinnings and use of systems development methodologies and techniques, and appreciate the social and cultural influences on their use at any time (Jackson (1992), Walsham (1993a)). This raises a number of important issues in practice: the need for practitioners to have a critical awareness of the purpose of the system; the need for autonomy on the part of the practitioner; and the identification of the 'right' client and the responsibility of serving them. In IS development, there are often problems in fulfilling these requirements, with practitioners having little opportunity to influence early decisions, constraints on their activities in terms of resources and approach, for both the development and implementation. The role of the practitioner depends on their operating as a 'professional', embracing the whole activity in a critical manner and recognise the potentially coercive nature of their work.

One important, often under-appreciated concept, within critical systems thinking is that of 'participative debate' (Keys & Jackson (1985)). In order for such debate to occur, all those affected by any change must be involved in the debate. This raises the issues of Habermas' notion of the 'communicative competence' of those involved, which highlights potential problems generated by inequalities of information, power or status (Habermas (1984)). Communicative competence is necessarily a co-operative process, where there is an a priori interest in the individuals involved understanding, and reflecting on, each other's utterances

(Lechte (1994)). The difficulty of such communication should not be understated since it will often be the case that such individuals will be operating within different cultures, having different value systems and socially shared meanings of signs, or operating at different levels of abstraction (Schramm & Porter (1982)).

There is some disagreement in the literature as to the legitimacy of each category of systems thinking, with some identifying a place for all types within the field (Checkland (1981), Jackson (1988, 1990a), Flood & Jackson (1991), Avison et al (1998)). In the next section, IS development is considered as an holistic process which explicitly rejects hard systems thinking and encourages the IS practitioner towards the awareness of a critical view.

3.3 A MULTIPLE PERSPECTIVES APPROACH IN IS DEVELOPMENT

The Multiple Perspectives Approach in IS explicitly identifies the importance of the three perspectives of Technical, Organisational and Personal in gaining a broad view of, what are deemed necessarily complex situations (Mitroff & Linstone (1993)). The approach rejects the assumptions inherent in ‘old thinking’ that a problem can always be clearly defined and that there is a single ‘best’ solution, and acknowledges that the analyst (or specialist) may bring their own narrow and pre-defined models of reality to the problem situation in a reductionist manner. The approach is based on an holistic view, anticipating that every element of a problem situation is strongly inseparable from every other element, and promotes thinking across traditional academic disciplines.

The Multiview 2 Model brings the Multiple Perspectives Approach into a methodology for IS development, see Figure 3.1 (Avison et al (1998)). The model was developed through a process of action research, building on the traditional methodologies in IS through the identification of separate cultural and technical streams which are deemed to operate in tandem, towards a notion that the practitioner should be aware of the three perspectives of the context which inform each other throughout the project. It also enables the practitioner

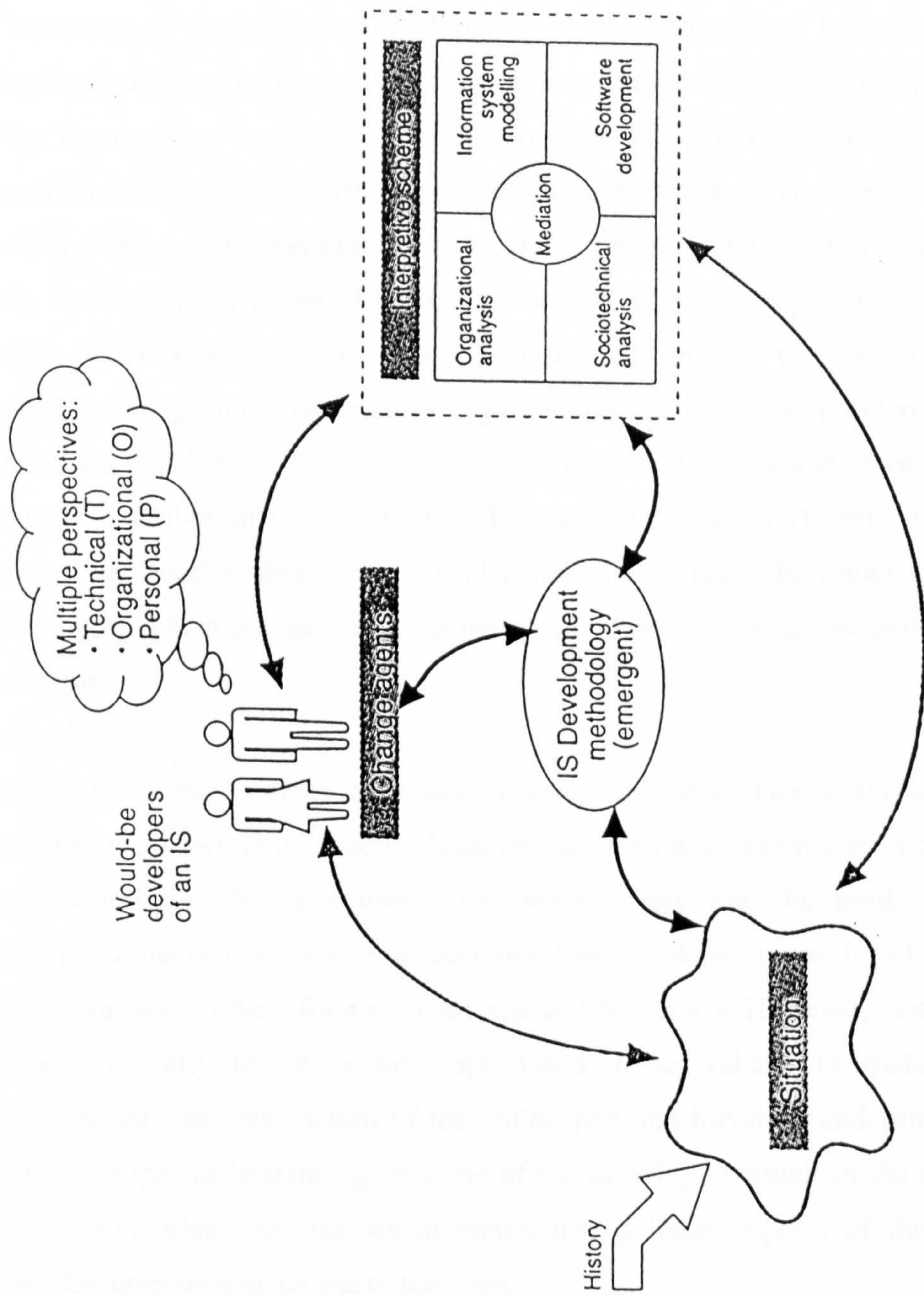


Figure 3.1 - The Multiview 2 Model for IS Development (Avison et al (1998))

to include the more critical aspects of systems thinking into their development role, through the emphasis on individuals as developers and stakeholders, and the need to surface assumptions with regard to the participants, their aims and the processes in which they engage.

One advantage of the Multiview 2 Model, from the viewpoint of both the student of IS development and the experienced practitioner, is its presentation of the holistic nature of the activity. In providing the multiple perspectives, the model is useful to the developer in a practical sense through identifying and making explicit the decisive elements of the context on which they need to concentrate in order for the project to achieve success (Wilson (1984), Remenyi & Williams (1996)). For the author, it was important to find academic literature which supported this view of IS development, in the light of her own IS education, training and experience in organisations. In her view, problems arose within organisations which tended to promote technical methodologies and ignore, or minimise, the human contribution to the process. The work by Wastell (1996) on the 'fetish of technique' and methodology as a 'social defence' highlights the limitations of most IS methodologies which are used in a narrow sense within the social and political context of organisations.

For an IS practitioner, Multiview 2 makes it 'acceptable', indeed necessary, to make explicit the non-technical factors in systems development, both at a personal level and in dealings with managers and business users. The methodology may be used in a technical, functionalistic manner, to be seen as no more than a toolbox approach to IS development, but the opportunity is there for a more holistic and deeper use. However, as with all models, it is not sufficiently detailed to be simply taken at face value, and needs to be used in conjunction with an appreciation of the philosophy and literature underpinning it, which provides a deeper understanding of some of the meanings implicit in the analyses of the analysts intervention role, the social values and political aspects of the situation, the stakeholder interests and the use of methods.

The three perspectives are incorporated in the Multiview 2 Model to encourage a broad

view of the development activity, but they should also be recognised as interrelating in a multiplicity of ways. The discussions that follow in the next three sections identify some of the IS literature the author deems to be of relevance to the technical, organisational and personal perspectives, and shows the overlapping nature and complexity of the issues.

3.3.1 Technical Perspective

Traditionally IS development has been seen to be predominantly a rational, technical affair. With the emergence of softer and more critical thinking, the literature from Computer Science has been critiqued and supplemented by a more socio-political body of work. In this section, the discussion concerns a critical view of the choice of methodologies, dissemination, or implementation, as an aspect of the whole IS development process, and a view of the interpretation of the outputs of projects.

3.3.1.1 Methodologies

The IS practitioner is faced with a plethora of choices for methodologies, techniques and tools, covering analysis, design and coding of systems. In the IS literature, it is noted that the practitioner's choice of method may depend on the situation under study and the prevailing culture within the organisations, on the skills and capabilities of the developers, and on the underlying philosophy of the methods themselves (Flood & Jackson (1991), Avison & Wood-Harper (1991), Walsham (1993b)). The latter causes a change of focus from the notion of the choice of methodology being contingent on the problem situation, to an awareness of the methodologies themselves and the influence they have over the development process, bringing yet another level of complexity to the activity of IS development. Taking a critical interpretation of Flood and Jackson's (1991) System of Systems Methodologies provides the IS practitioner with an awareness of the soci-political process of choice-making in IS, and the purpose to which a methodology may be put within a given social context (Jackson (1990b)). It aims to encourage creative thinking by IS

practitioners, and academics, acknowledging the complementarism of methodologies, each derived from different philosophical positions. Through a critical approach, it raises awareness of the scientific bias inherent in many tradition approaches and the affects of the social or political climates on the popularity of methodologies. Crucially, underpinning such theory is the promotion of human well-being and emancipation in the organisational context through awareness and engagement in the process of IS development (Flood & Jackson (1991)).

Kendall and Kendall (1992) noted that not only organisations, but also IS development methodologies have underlying metaphors which describe them. They suggested that analysts may improve their chances of success if they employ methodologies with metaphors which 'fit' into those of the organisation. Recognising that analysts are not able or experienced enough to attempt to change the predominant metaphor of any organisation, they should at least be aware of such metaphors and the paradoxes arising from them. A question not addressed is whether there are metaphors which will most enable success in IS development, regardless of the organisation. It may be interesting to investigate the metaphors held by analysts who are very successful, whether they match those of the organisations in which they work, and whether they are affected by the methodologies used.

Do analysts have their own internal metaphors which dictate their abilities in IS development? Are these constant or are they changed according to the situation or method used? One criticism of the critical approach is that it assumes a degree of experience and maturity in analysts, as well as a knowledge of a broad range of approaches. The list of personal characteristics and skills necessary to be an analyst grows longer every day, the ability to interpret and apply understanding of metaphors being yet another. The task of the analyst looks like becoming more impossible for other than the 'best' or most experienced people.

3.3.1.2 Dissemination

Dissemination as an aspect of the IS development process is evidenced in the IS literature

through work on issues such as user involvement, end-user computing and technology transfer, some of which draws upon the wider literature for related issues such as the diffusion of innovations, change management and communication theory. Within IS practice, the problems of implementation, acceptance and use of systems encouraged the introduction of a variety of different development approaches such as incremental delivery, prototyping, rapid applications development and joint applications development. The involvement of business users throughout the development process and the provision of interim deliverables were seen to provide the most likely possibility of 'success' in projects, with evaluation studies of notable 'failures' providing support for such approaches (Waterson et al (1995), as an example). The complementary approaches of 'specialist service' and 'self-service' to the use of technology and development has led to a body of literature in end-user computing, outsourcing and technology transfer, which identifies the affects of the continual changes in hardware, software and applications in IT in minimising the knowledge acquisition burden on users(Attewell (1992) for example). The literature includes both a traditional focus on influence and information flows as well as a more recent focus on organisational learning and knowledge management

The emphasis on user involvement recognises the dissemination aspect of the IS as an integral aspect of the whole activity, as a 'social interaction' process engaging the developers and the system users in the development process. This active exchange and learning process is seen as more productive than the traditional view of a one-way communication from the developers to the users. Change is acknowledged as being a complex evolutionary process, heavily influenced by communication between the participants within the context of the organisational situation (Kaplan (1991)). The thinking reflects the literature in diffusion theory, which cites strategies for change such as research and development, problem solving, social interaction, action research and planned change approaches (Glaser et al (1983) for a summary). Reflecting on 100 years of writing and research into diffusion, Katz (1999) suggested that there was little real theory in the area, even though much work has been carried out. He suggested the issue was problematic, partly because of its lack of a disciplinary home, but also due to the complexity of the interactions within the social and cultural contexts in which the adopters of an innovation

were embedded. In recognising the process as a social interaction, it may be important to appreciate that the complexity applies to the context of the providers as well as the adopters.

Katz reported that empirical work suggests that, even in the light of the huge growth in the mass media, the importance of the primary relationships between the individuals involved has not diminished, with them being the 'custodians of the social norms and networks of information and influence'. This encourages the notion of communication being seen as a cultural activity, founded in ritual and being time-based, as opposed to the more traditional metaphorical perspective of communication as transportation (Fromm (1961), Lasswell (1969), Schramm & Porter (1982), Boland (1991), Buttle (1994), Svenkerud (1995)). Acceptance of change or new ideas is enhanced where the burden on the adopter is minimised, or the cost of non-adoption is high. Conversation is seen to be the key to imitation or to influence, a two-sided exchange where the new ideas need to relate to information already in the potential adopter's mind, implying a relative ease with which the new idea will fit with old ones (Katz (1999) reference to Tarde's early work). The burden to the adopter is reduced through such compatibility, encouraged by proximity in the social and value systems of the participants and an acceptable media of exchange (Heller (1984)).

The general rules of innovation adoption include variations on the S-shaped curve (exponential in the adoption of mass communication tools (Markus (1987)), the trickle-down affect from higher to lower status and the need for peer reinforcement by the adopter prior to adoption (Katz (1999)). Key determinant of change include the necessity for the change to be considered worthwhile, the willingness of the individuals to engage in the change after being realistically informed of the issues, and the social and cultural climate in which it is introduced. It is also essential for any resistance to change to be acknowledged and addressed (Glaser et al (1983)). The aim of any dissemination process, from the intention of raising awareness of information to a detailed exchange of understanding, and the size of the potential audience, who may be key innovators or a large fragmented group, will necessarily influence the approach utilised (Miles and Huberman (1994)).

Both dissemination of, and access to, information and knowledge may be subject to ‘gate-keepers’ (Mason et al (1995)). Gate-keeping can involve: censorship and decisions to publish, or withhold, materials; the provision, or denial, of access to individuals or groups of people; and the style, form or language of materials which may block communication of the content or meaning, including the distortion of information through summarisation or compression. Access may be needed to potential audiences may be a consideration in dissemination and for information seekers access is needed to the systems, and retrieval logic, of data stores.

IS approaches such as SSM assume a whole philosophy of social interaction, with the methodology explicitly being a continuous process of learning, debate and action by all participants in the change process (Checkland (1981)). Dissemination is an integral, and inseparable, aspect of the activity. Through the Multiple Perspectives Approach, practitioners are encouraged to appreciate the personal and organisational aspects throughout the IS development, possibly encouraging user involvement and participation, and hence, dissemination within the process. The aims of the social interaction approach may be concerned with encouraging the basic acceptance of given solutions or the identification of a feasible solution, which might be seen as a form of management propaganda, or there could be a more critical engagement which aims to provide participants with knowledge which is useful to them in reflecting on their work in a broader sense (Schon (1987)).

3.3.1.3 Outputs

The success of IS development relies on the value and usefulness of the outputs of development to the business users in an organisation. Boland (1991) proposed that researchers should draw on the hermeneutic tradition to understand how users read, interpret and use systems. Practitioners are already aware systems are used in ways which were not planned by the designers, but which are considered meaningful in the context of the business situation. In making their own interpretations, users ‘appropriate’ the meaning

and purpose of the systems for themselves as active participants, bringing their own personalities, experience and motivations to the development process. The term hermeneutics is derived from the Greek word meaning interpretation or theory of interpretation (Dahlbom & Mathiassen (1993)). Interpretation of texts, actions or situations in the hermeneutic tradition typically go beyond the event itself to the intention of the author. Hekman (1986) argues that hermeneutics is not one of the many useful methods for the social sciences but is an examination of the fundamental nature of human understanding. Critical theorists share the hermeneutic interest in historical processes, but they take a very different view of those processes, seeing in them conflict rather than harmony, contradictions and power struggles rather than earnest attempts at mutual understanding (Dahlbom and Mathiassen (1993)).

Misunderstanding occurs naturally in texts, actions or situations because of the cultural, social, personal or temporal differences which separate the author from the interpreter, and the hermeneutic task is to explain how the 'horizon of interpreter and interpreted are fused' (Gadamer (1976)). Such an approach forces interpreters to examine the prejudices which inform their interpretive stance. As Boland (1991) stated, 'Viewing information system as hermeneutic process opens a new set of research concerns. From a hermeneutic view, attention would shift from how well an information system represented a situation to how well it enabled the reader to appropriate possibilities for being within the situation and themselves. ... Attention would shift from the information system as a device for data output to the information system as an environment for acting out interpretations - a space for actively appropriating meaning about our situations and ourselves.'

3.3.2 Organisational Perspective

SSM introduced the notion of information systems which needed to be systemically desirable and culturally feasible which opened up the idea of a 'cultural stream' within the IS development process (Checkland & Scholes (1990)). In the Multiview 2 Model socio-political analyses are identified to inform the intervention. In this section three analyses are

considered, bringing in theory from other disciplines to support the IS literature: Stakeholder; Ethical; and Cultural analysis.

3.3.2.1 Stakeholder Analysis

Stakeholders can be defined as any interest groups, parties, actors, claimants and institutions, both internal and external to an organisation, that exert a hold on it (Mitroff (1983)). That is parties who either affect or are affected by an organisations actions, behaviours and policies. Since stakeholders do not generally share the same definition of an organisations 'problems', neither do they share the same 'solutions'. One of the issues with regard to stakeholder analyses is that different groups will often disagree over just who are stakeholders, and will subsequently find that they hold different assumptions about those stakeholders and their relative importance to the organisation. Each stakeholder has resources, purposes and motivations of its own which will affect its impact on the organisation, as well as extrinsic properties which arise from interactions between stakeholders. Mitroff suggests that the culture of an organisation is the result of the interaction of the behaviour of all its stakeholders from the beginning of its history to the present time. Therefore, any strategy for change must be based on the properties and behaviours of the stakeholders, the network of relationships that bind each stakeholder to the organisation and the organisation's power to change relevant relationships.

It must be remembered here that stakeholders are not just social groups, but also psychological individuals, each having purposes of their own, both in co-operation and competition with the situation under investigation (Mitroff (1983)). Their influence may be individual or any combination within or across the stakeholder groups. Any stakeholder analysis must be carried out with the acknowledgement that it enables relationships to be identified, but will by no means be perfectly understood (Pfeffer & Salancik (1978)).

Mitroff's Stakeholder Model included Internal 'Ego-State' stakeholders, as well as External 'Distant' stakeholders, and External 'Archetypal' stakeholders. The notion of Archetypal

stakeholders encourages consideration of the contradictions inherent in the symbolic images of character types people hold deep within their minds in comparison with the reality they experience. In IS practice, there is a continual striving to understand a complex world in ways that are rational and orderly, even when the subject of our investigations comprises groups of people within organisational settings. However, as Mitroff noted, contradiction is one of the essential properties of people, groups, organisations and institutions, and enables the practitioner to develop insights into the situations they study.

The incorporation of Stakeholder Theory into the IS literature has enabled a richer approach to the understanding of the impact of the organisational context on the process of IS development, from the work of Mason and Mitroff (1973) in considering alternatives within the early IS models, through the Actor, Owner and Customer variables identified in SSM (Checkland (1981)), to the Stakeholder Analysis of Mitroff and Linstone (1993).

There is additionally an extensive literature within Organisational Control on Stakeholder Theory, since the work of March and Simon (1967) on the understanding and management of an organisation's relationships with its stakeholders. The emphasis was initially on the motivation and management of internal stakeholders, based on the notion of an organisation as a coalition of parties contributing to the resources and support necessary to its survival. Coalition members were seen to engage in exchanges, out of which emerged power differentials (Emerson (1962), Blau (1964)). A criticism of this early work was that it viewed individuals as 'bounded' within organisations, rather than recognising their work as just one aspect of their lives. Later work considered behaviours, instead of the individuals themselves, with the structural elements of organisations emerging as a critical issue (Allport (1962), Weick (1969), Kahn et al (1964), Katz and Kahn (1978)).

The influence of the external environment on the behaviour of organisations became the subject of increasing levels of research from the late 1970s onwards: the entire system of interconnected individuals and organisations who are related to one another and to the focal organisation through the organisation's transactions; sets of individuals and organisations with whom the organisation deals directly; and the 'enacted' environment – the perception

of the environment and its representation within the organisation (Pfeffer & Salancik (1978)). The influence of the environment on an organisation is, therefore, founded on complex interconnections and relationships, underpinned by the perceptions of the individuals within the organisation who attend to, and interpret, that environment. Inattention, incorrect perceptions of the importance or potency of stakeholder groups, or the misreading of demands or criteria defined by the environment could lead to problems for the organisation. Such issues may compound difficulties encountered through an organisation's commitment to past activities, or the impossibility of reconciling conflicting demands.

An aspect of Stakeholder Theory which has not been incorporated into the IS literature is the work on resource-dependence relationships between stakeholders. Pfeffer and Salancik (1978) proposed a means of assessing resource-dependence in order to monitor external demands on an organisation, which included identifying critical resources and activities that could affect their supply, the ownership of those resources and the impact the organisation can have on any of these factors. A resource is identified as anything an actor perceives as valuable, which could include finance, access to people or media, personal advancement or credibility. Dependence is a state in which one actor relies on the actions of another to achieve particular outcomes. Frooman (1999) encouraged organisations to look more directly at the influence strategies used by stakeholders, based on the resource relationship and who held the balance of power within those relationships. Power may be viewed as an attribute of the relationship rather than of the stakeholder group or organisation itself, a structurally determined potential for obtaining a favoured pay-off in relations where interests may be opposed, structural because the nature of the relationship depends on who has the power (Mitchell et al (1997), Willer et al (1997), Frooman (1999)).

Resource-dependence is said to exist where one actor is supplying another with a resource that is noted by: concentration of the resources amongst few suppliers; controllability of the resources by the suppliers; non-mobility of the actors; and non-substitutability of the resource. Or where the relative magnitude of the exchange causes it to be essential or the resource is sufficiently critical to the using actor. Frooman proposed two strategies for

resource control: a withholding strategy in determining whether the organisation gets the resource; and a usage strategy in determining whether the organisation can use the resource in the way that it wants.

The strategic significance of stakeholders for organisations was identified in the work of Freeman (1984) and Goodpaster (1991), which focuses on coalitions, empathy and awareness, and on the ethical aspects of Stakeholder Analysis. The crucial factors an organisation should identify when analysing stakeholders are the socially constructed variables of power, legitimacy and urgency, which vary over time and of which the stakeholders themselves may be unaware (Mitchell et al (1997)).

Such complexity is hinted at in a first reading of IS methodologies such as SSM, Multiview 2 and in the Multiple Perspective Approach, but underlines the need for IS practitioners to have access to such literature and for the high level of expertise required to carry out the methodologies in practice. Mitroff and Linstone (1993) provide some guidelines for identifying a wide range of stakeholders, which include pointers towards their inter-relationships and the perceptions one may hold about certain groups or individuals. Case studies have identified stakeholder influence on the process and acceptance of computer systems, often noting structural or political influences as causes for the failure of development projects (Orlikowski & Gash (1994), Waterson et al (1995), Wastell (1996) as examples).

3.3.2.2 Ethical Analysis

An ethical analysis is not explicitly included in the Multiview 2 Model (Avison et al (1998)) but ethical issues have begun to appear in the IS, and business, literature during the 1990s. Ethical theories have been summarised in the IS literature and no attempt is made to replicate that here (De Marco & Fox (1986), Mason et al (1995), Wood-Harper et al (1996) amongst others). The various theories differently emphasise the decision-making agents themselves, their actions, the consequences of actions or the notion of justice. Awareness of

ethical principles provides the IS practitioner with a possibility of alternatives in understanding values and judgements within their cultural and factual investigations, encouraging them to accept responsibility for their personal moral reasoning.

Some of the IS literature has focused on the professionalism of IS practice, attempting to determine codes of conduct (Mason et al (1995), Walsham (1996), Benyon-Davies (1999) among others). Other literature has considered the practitioners ethical behaviour with respect to the stakeholders of an IS in a more holistic and interpretive manner, such as Wood-Harper et al's (1996) proposal of the need to analyse the practitioners' perceptions of stakeholders' views within a development project via an Ethical Conflict Web, implying there may be ethical conflicts between different stakeholders. The ethics of sharing information opens up the notion of information justice within the theory of IS, questioning assumptions about access to information and the rights of stakeholders (Mason et al (1995)). An ethical analysis of SSM by Atkinson (1989) identified potential moral issues within the research process, regarding the choice of agenda, engagement, methodology, and analysis decisions. With dissemination an integral aspect of SSM, the work implicitly expresses a need for the choice of audience to be an ethical issue.

Given a possible variety of paradigmatic roles, Walsham (1993b) urges systems developers to view themselves as moral agents, involved in self-examination in terms of their values and motivations, calling for more research into practitioners' perceptions of their ethical role. For IS academics the same could be encouraged, indeed the notion of mature individuals engaged in a deliberation process based on a broad understanding of theory and maturity fits the author's perceptions of the intellectual process of research. The major obstacles to clear moral reasoning were identified by Seedhouse (1988) as: bad faith, that it is essential to have personal integrity and to maintain ones awareness of personal choice; and inappropriate cost-benefit analyses, recognising that the choice of measures and their application are political activities. Much of ethical theory is agent focussed, considering notions such as moral responsibility and codes of conduct, for example, where the focus is on the agent's awareness of their role, their character and on their belief in the importance of their actions. Walsham's message was that even small changes in an individual analyst's

beliefs and behaviours could cumulatively lead to wider change.

Another perspective of ethical behaviour is that of the 'issue' or action itself, where a 'moral issue' can be defined as one where the activity will have consequences for stakeholders and where it involves a choice on the part of the actors or decision makers (Jones (1991)). Ethical thinking is required whenever an individual's behaviour might materially affect a stakeholders ability to achieve their goals. An individual is considered a moral agent even if they do not recognise that a moral issue is at stake (Jones (1991), Walsham (1993)). Jones (1991) identified the notion of the moral intensity of an issue, which affects both its salience as a moral issue and the volition of the agent. An issue which has a high moral intensity becomes vivid to the decision maker and leads them to an awareness of personal choices. One with a low moral intensity leads to inattention on the part of the decision maker and encourages a feeling of lack of choice – particularly in a situation of limited resources. Since people tend to underestimate their own volition (Fiske and Taylor (1984)), any issue without high moral intensity is likely to be ignored, since moral reasoning requires time and effort on the part of the decision maker. The requirement for belief in individual volition as well as attention to the moral nature of the decision making process may also illuminate why moral decision making may not always be seen as appropriate in organisational situations.

There are a number of possible models which enable ethical decision making and action (Goodpaster's (1991) PASCAL approach, the Ethical Grid expounded in Seedhouse (1988) and the Issue Contingency Model synthesised by Jones (1991) as examples). However, the individual's awareness of themselves as a moral agent and the activity as a moral issue are crucial starting points for ethical behaviour if they are to employ a moral framework for their decision making rather than some other, such as an economic one (Seedhouse (1988), Jones (1991)). If the agent is not aware of a moral dimension in a situation, then the theory of ethical decision making is irrelevant.

Ethical theory falls into three different camps: that focussing on the meaning of 'good'; another considering the consequences of actions (teleological) or the duties of an individual

(deontological); and the third on the processes of deliberation. Determining what is 'good' in any situation may be quite difficult, and the process of weighing up alternatives requires considerable effort in connection with, what are often, an individual's perceptions rather than any 'objective' data. It is, however, easier to determine what may be 'harmful', or what limits people – what Seedhouse (1988) terms 'dwarfing'. Utilitarian ethics has been criticised for its harshness or brutality in not considering the potentially 'immoral' outcomes for some stakeholders, ignoring issues of justice and the rights of individuals or groups, potentially creating an 'underclass group' that is comparatively powerless (John Rawls (1971), Seedhouse (1988), Goodpaster (1991), Mason et al (1995)). Seedhouse's (1988) use of the Ethical Grid encourages reflection on any issue across the broad range of ethical theory, considering the environment, the outcomes, the agent's notion of 'doing good' and the core concerns of equity and autonomy – underpinned by the essential consideration against 'dwarfing'. Within a critical approach to ethical thinking, it is important to consider multiple perspectives and to address what is not being done and who does not benefit, as well as what is being done and who is benefiting. Providing safeguards for stakeholder groups may, of course, still leave individual members of any group excluded.

The importance of ethical decision making is often raised after a crisis, when people are forced to recognise an issue as an ethical one in hindsight and use that awareness to ensure the problem does not occur again (Mitroff & Linstone (1993), Mason et al (1995)). Ethical thinking uncovers latent ethical issues to enable decision making which considers both ethical behaviour and ethical consequences. There are often no right answers and there may be conflicts between the individual's perception of a situation and those of other stakeholders which may be difficult, or even impossible, to resolve. The decision to act ethically may bring one into conflict with the social institution, situation or dominant value system in operation and this may generate problems for the individual themselves.

The activity of ethical decision making encourages the moral agent to examine their position with respect to possible 'rewards' and 'punishments' for their choices (Goodpaster (1991), Mason et al (1995), Vidgen et al (1994)). To whom the analyst, or the researcher, is

ultimately responsible may be problematic, since situations have ethical implications and agents have multiple ethical perspectives and the agent may be seen to be acting in trust for all stakeholders, regardless of any possible retaliation – the ‘Stakeholder Paradox’. Potential conflicts may arise between the individual’s personal measures of success (of promotion, satisfaction, say), the organisational demands (of targets and growth) and the wider societal values (improvement to quality of life). In commercial organisations, managers are deemed to have a ‘categorical imperative’ not to lie or cheat in addition to any fiduciary obligations to shareholders, their conscience being a logical extension of the conscience of shareholders (Goodpaster (1991)).

Within critical IS research, an explicit ethical analysis may help to identify potentially ethical situations and choices within the research process and the proposal of ideas for change or improvement. Through an informed understanding of ethical theory and tools, incorporating systematic examination of issues for their affects on stakeholders, reasoned consideration can be brought to bear over self-interest, habit or impulsive action, with an awareness of the possibility of choices being identified as altruistic when the underlying motivation really satisfies a more strategic (or cynical) interest (Mason et al (1995), Spedding & Wood-Harper (1993)).

3.3.2.3 Cultural Analysis

Organisational theory provides the IS developer with insights into the possible cultures in an organisation, which may be interpreted through the metaphors which define them (Morgan (1986)). The classical management theories of Weber, Fayol and Taylor, for instance, were based on a view of organisations as machines, where the management process involved planning, organisation, command, control and co-ordination. Many of the ideas were developed from engineering and military principles, including the specialisation and division of labour, centralised authority and the use of line management as the means of communication and decision making throughout the organisation. Human Relations Theory grew as a reaction to traditional theory, with Maslow, Herzberg, McGregor,

amongst others, moving the emphasis onto group behaviour, motivation and leadership. The need for meaningful jobs, autonomy and recognition for individuals became important issues. The idea that employees were a valuable resource who could contribute in rich and varied ways to the organisation was promoted, although in recent years this has come to be seen to be used as a meaningless cliché rolled out by senior managers. The organism metaphor was used to understand organisations within this theory, a view which led on to von Bertalanffy's General Systems Theory.

Ackoff (1980) called the development, from a Machine Age to a Systems Age, the Socio-technical Revolution, the mechanisation of mental work, as compared with the mechanisation of physical work brought about by the Industrial Revolution preceding it. Having sought for the 'best' theory, Contingency Theory provided an umbrella for the socio-technical and systems theories, with the view to organisations adapting theories to their own circumstances and environments.

The various theories do not necessarily provide a 'progression' for organisations, since examples could be found today of all the different types of structure and management philosophies, which would be argued as valid and effective. Rhetorically, there is a move toward employee empowerment, as the trend in the academic literature has been towards a more critical, humanist view of organisations. Whether empowerment in hierarchical institutions is any more than a phenomena in the language of writers and practitioners of empowerment is open to question. Empowerment is generally considered to include an individual being encouraged to challenge their own, their peers', and their 'superior's' preconceptions, to question orthodoxy, and to develop their own opinions (Dispenza (1996)). Illich (1971) alluded to a hierarchy of empowerment, whereby senior managers have earned the right to question knowledge content and management methods, earned it through their acceptance and perpetuation of the social order. He suggested that 'perhaps we are producing or facilitating a 'more empowered' elite who can proceed to manage a 'less empowered' majority'. Paradoxically, 'more empowered' in this case may therefore mean that this power is used to perpetuate and legitimate the conditions necessary for inequality rather than to undermine them.

The use of images and metaphors is discussed in the IS literature, as a means of exploring or encouraging creative thinking about cultures and behaviours in organisations in a personally meaningful way (Lakoff & Johnson (1980), Morgan (1980), Kendall & Kendall (1992)). Since no single metaphor can capture the complexity of the original reality, a number of different ones should be considered, the strongest being those which only display partial similarities with the situation. The use of metaphors is a means of partially understanding and experiencing one situation in terms of another, enabling the surfacing of hidden assumptions which may be widely held and never questioned. Since people utilise these methods in their own everyday lives, the use of metaphors and images can be a non-threatening way to bring personal and group assumptions about the reality of formal situations out into the open (Morgan (1993)). *‘Most of our metaphors have evolved in our culture over a long period, but many are imposed on us by people in power - political leaders, business leaders, advertisers, the media, etc. In a culture where the myth of objectivism is very much alive and truth is always absolute truth, the people who get to impose their metaphors on the culture get to define what we consider to be true - absolutely and objectively true.’* (Lakoff & Johnson (1980)) (the author’s bold italics)

Any cultural analysis should include the culture of the IS developers as well as that of the users and the organisation as a whole. Discussions in the IS literature about ‘myths’ and ‘guiding metaphors’, or fantasies, supported by systems developers encourage self-reflection by practitioners (Newman (1989), Boland (1987)). These gain power through their simplistic formulation and unquestioned ‘common sense’. Hirschheim and Newman (1991) found the Battle metaphor strong among systems developers and users, where survival was deemed to be an issue in IS projects. They concluded that IS practitioners would benefit from a focus on ‘myth, magic and metaphor’, from a recognition of itself as a social process rather than the largely technical activity of ‘rational’ techniques such as dataflow diagrams, structured walkthroughs, etc. Myths provide explanations, reconcile contradictions and help resolve dilemmas. They tend to be communicated via stories, symbolic meaning which ‘provides the emotional comfort that is needed in coping with a precarious and often terrifying world’ (Mitroff (1983)). Myths are utilised to maintain the

position of institutions, with new institutions establishing new myths to support their new values (Herzberg (1966)).

For the IS practitioner, an awareness of organisational theory and models, and the use of metaphorical analysis is an aid in the appreciation of the context of a development project. In order to be useful as an development tool, such an analysis needs to be explicit and some means obtained to enable the conflicts and contradictions to be aired and addressed. This is alluded to within Multiview 2 but no process is provided to enable such activity.

3.3.3 Personal Perspective

IS development is carried out by people in interaction with each other, and the outputs of the process are interpreted and used by people. Consideration of such individuals, their aims, motivations and capabilities, as well as their choices and responsibilities, must be an aspect of an IS. In this section, the IS literature concerning the 'role of the analyst' is discussed followed by a brief look at communication issues.

3.3.3.1 Role of the Analyst

An IS practitioner is a stakeholder in their own information system. They have internal stakeholders which include: their personality; personal goals; the negative states that they try to avoid; the barriers that restrict their movements; and the path they must follow to achieve their goals (Mitroff (1983)). Their behaviours reflect their internal beliefs and motivations. Attempts to classify personality types are many and varied, and may be focussed around the ways in which individuals recognise things as 'data', how they take that data in from the outside world, and how they make decisions based on that data (Jung quoted in Read et al (1971), Robbins(1986) for examples). For the IS practitioner, analysis of themselves and their business collaborators is generally an issue of personal awareness and interpersonal skills, an implicit aspect of systems development. The Multiview 2 Model

encourages the explicit use of such analysis, most practically in connection with an individual technical or personal skills. In practice, however, even this limited analysis may not be an open process to the system users, particularly when proficiency is being determined in a fast moving technical area, or there is a shortage of expertise.

One aspect of the IS practitioner as stakeholder which has been explored in the IS literature is the role of the analyst. Avison and Wood-Harper (1990) identified four sets of roles, ideals and metaphors for the analyst's intervention in a development situation, using Burrell and Morgan's (1979) paradigmatic framework. Within the Functionalist paradigm the analyst was viewed as a 'technical expert'; in the Interpretivist as a 'facilitator'; as an 'agent for social progress' in the Radical Structuralist view; and as a 'change catalyst' in the Radical Humanist. The implication of the model was that a sufficiently experienced analyst could take a different perspective depending upon the context of the problem situation in which they were involved. Walsham (1993b) also discussed the idea of viewing the analyst within the paradigmatic framework, in particular as a 'moral agent', an emancipator or social therapist. In this role, the analyst is viewed as someone who must engage in self-examination, in terms of their values and motivations. He noted that many analysts preferred to be seen as technologist and did not want to be involved in the business or political areas, and stated that there needed to be more research into analysts perceptions of their ethical role

Dahlbom and Mathiassen (1993) proposed an alternative way of viewing the role of systems developers, considering, as metaphors, possible philosophical assumptions about ISs. Again there were four categories: a positivist view of IS, emphasising the functional and mechanistic aspects of the technology and process of ISD, where efficiency was the main goal; an hermeneutic view with the understanding of people and their behaviours as the 'text' not the technology; the consideration of power and personal empowerment through the use of technology of the critical theorist view; and a structuralist approach where there is a recognition that change is limited by the structures and culture of the organisation and its environment. They viewed the 'expert' role of the analyst as someone who is working for the management, aiming for harmony, and the 'political agent' role as

someone who is more concerned with the user of the IS, seeing issues other than efficiency as important. Perhaps the analyst as 'power broker', within an imbalanced power-situation.

For the author, the interesting aspect of this literature is not just in the actual possibilities identified by the various researchers but in the awareness of such choice and variety - whether this is applied in a contingent way or to gain insights into personal motivations and social agendas. The theoretical discussions take a view of analysts as people who are flexible and adaptable, analysts as people who want to understand themselves and their situation. The work provides analysts with a broader view of their environments and the conflicts and contradictions which may apply there. There may be some assumption about the willingness and ability of practitioners to address these issue and to take responsibility for the outcomes of their behaviours. Several case studies in the literature identify the 'lack' of confidence developers often feel within their organisations, particularly with respect to the use of IS methodologies and tools (Orlikowski (1993), Wastell (1996)). Indeed, Wastell found that 'methodology, far from being a rational tool to facilitate systems development, in practice often functions as an elaborate device for avoiding the painful challenges posed by IS projects', with organisational behaviour within IS development as concerned with anxiety reduction and as 'social defence'. There is much more to be learnt about the affect of the personal characteristics of the analyst, the political and social factors within the organisation, and the nature of the project in order to appreciate the possible influence of such a model.

IS practitioners, in order to function in a purposeful way, need an awareness of the complexity of the situation within which they operate: the implications of the choice of methodology; its underlying assumptions and limitations; the social and political context in which they are working; their personal experience, values and motivations. In the light of great public concern with systems development failures, practitioners require as much awareness and understanding of the theoretical issues to enhance the practical experience as possible. The issues discussed within the IS academic community need to be discussed widely in the IS practitioner community also.

3.3.3.2 Communication

From the perspective of IS development as a process of social interaction, it is important to consider issues of interpersonal communication. Communication is an activity participated in by two or more individuals. The effectiveness of the communication process is influenced not only by their membership of different cultures or communities, but also by psychological differences between the individuals. The complexity of the communication process is illustrated by statistics such as only 7% of human communication occurs through the words used, the rest being made up of physical expression and social relations and 65% of the social meaning of a situation in a two-person communication is carried non-verbally (Birdwhistell (1970), Robbins (1986), Canfield (1989)). Communication acts are information-processing acts, they are acts of the whole person. One communicates with the whole body and draws upon all resources in interpreting the information received. Communication is affected by the receiver's field of experience, the physical relationship between the sender and the receiver, their personal learning strategies, the situational context, role expectations and social norms.

Boland's (1991) concept of the distancing of knowledge and its appropriation by the potential audience, and Lasswell's (1969) 'exposure' aphorism

'Who Says what In which channel

To whom With what effect?

with the 'uses and gratifications' counterbalance –

'Who Uses what content Under what circumstances

For what purposes And with what effects?'

endorse the notion that communication occurs within a relationship between two people who are mutually interested in some particular 'information signs' (Schramm & Porter (1982), Buttle (1994)). The roles within the relationship are determined by the purpose of the communication. Issues of power and perception of the 'other' are bound into such a relationship. Each person brings to the relationship their past experiences and influences, through which they attempt to interpret the signals that come to them within the

communication process.

There appears to be consensus in the literature that the key variables effective communication are as follows:

- . the good communicator must have credibility, trustworthiness, likability, and similarity to the listener
- . an effective message must have emotional as well as logical appeal to the audience, being simple and clear with a strong action element
- . explicit conclusions must appear in the message, unless one of the purposes is that the audience draw its own
- . the communication directly deals with any opposition arguments that will inevitably arise
- . the message is a communication between two people, in order to generate cognitive dissonance in the individual
- . practical involvement in role playing to see both sides of an argument is effective because of the individual's need to reduce the cognitive dissonance which is established

(Hovland referenced in Schramm & Porter (1982))

From a range of possible communication styles, there appears to have been a strong preference within IS development for management and instructional communication, styles which may relate to the dominant modes of practitioners and the formal organisational environments in which they work, possibly a choice based on the principle of 'least effort for the greatest reward' (Mason & Mitroff (1973), Schramm & Porter (1982)). The choice of communication style may depend on the communication skills of the developers or the habits they have learned, rather than on the more considered selection of styles to match their audiences. It is hoped that the encouragement of interactions by participants throughout the development process through a critical, multiple perspective approach to IS will enhance the communication skills of practitioners and cause them to address more of the variables identified above.

3.4 THE THEORETICAL FRAMEWORK FOR THE RESEARCH

The IS literature discussed above provided the author, retrospectively, with insights into her own experiences in the practice of IS development and of IS theory more generally. Having access to a broad range of research literature, and to the researchers and scholars in IS, enabled her to reflect productively on her experiences and thinking. The literature cited in this chapter provided no easy answers to the issues of IS practice, no quick fixes. What it did provide were reflections and interpretations of practice and discussion of the meaning and use of methodologies, sometimes contradicting the author's understandings, but which expanded the author's repertoire of responses to the situations she might encounter in her future practice of IS (Schon (1987)). No answers were given to the problems the author had encountered in organisations, but by enabling her ability to think divergently and by formalising, and thus making acceptable, multiple alternatives and socio-political interpretations, she now had a deeper understanding of the phenomena she had experienced.

In choosing an intellectual framework for this research, the author was trying to identify a 'way of looking' at the research issue through which her learning could be structured. In viewing IS research as an IS and dissemination as an aspect within such an IS, the Multiple Perspectives Approach utilising a Multiview 2 Model provided such a theoretical framework for the present study. It provided a structure in which an holistic approach to understanding the beliefs and behaviours of IS researchers with respect to dissemination could be carried out. The framework includes an explicit acknowledgement of technical, organisational and personal issues, and their interaction, within IS research, thereby rejecting a hard systems approach to the study.

The literature in IS and IS development provides a point of departure for an investigation of IS research. Its applicability to research, and the transfer of knowledge and skills from practice, were immediately apparent to the author. The research project itself can be seen as investigations within the sociology of knowledge, exploring ways in which cultural and

historical factors shape, and by implication warp, the thoughts and actions of human beings (Heckman (1986)). For this research, in order to understand the nature of effective dissemination of IS results, it was considered valuable to consider researchers' own practice of the theory of IS, through the multiple perspectives applied to IS practice.

In identifying the culture and stakeholders of IS research, insights may be generated which provide greater understanding of the underlying aims and influences of such work. It is incumbent on IS researchers, as well as on IS practitioners, to attempt to identify such influences if they consider themselves professionals and take a critical approach to their work. Within IS research, the practical activity of research would appear to be more open to critical inspection than in IS development, due to the requirements of the community for publications which include such detail. This is due in part to the needs of commercial confidentiality, and to the general lack of project evaluation that is carried out within IS development situations in organisations. IS researchers need to be aware of the complexity of the situation within which they operate; the implications of their choice of methodology; the underlying assumptions and limitations of methodologies; the social and political context in which they are working; and their personal experiences, values and motivations. The issues discussed within IS theory, and practice, need to be discussed widely with respect to IS research in the research community.

3.5 CONCLUDING REMARKS

In this chapter, the author has presented her thinking and evaluation of the literature in her choice of theoretical framework for this research into the beliefs and behaviours of IS researchers with respect to dissemination of their work. The choice of framework has been made in the light of the author's learning from the literature about her own experiences in IS practice, and is based on the assumption that both IS theory and the practice of IS development may assist in the learning about IS research, and vice versa. The literature presented in this chapter reflects the perspective of IS research as an information system, with dissemination an aspect of the IS.

The philosophy underpinning the framework is identified as that of critical systems thinking, embracing socio-political as well as technical considerations of an IS, the need to explore the context and conflicts of an IS through a questioning approach to the issues, and the fundamental aim of emancipation of individuals through the processes and outputs of the IS. The framework follows the Multiple Perspectives Approach and utilises the Multiview 2 model for interpreting IS research. The three perspectives of Technical, Organisational and Personal are explored through the IS literature in terms of general IS theory and IS development, and the author has drawn together literature from a variety of sources in order to enable learning from the research findings which builds on the cumulative work in the field.

Within the Technical perspective, the issues raised include the use of methodologies, and the nature and dissemination of outputs from IS development. Under the Organisational heading, the three analyses are explored from the literature, namely Stakeholder, Ethical and Cultural analyses. Finally, within the Personal perspective, the literature on the role of the IS analyst is discussed, along with some theory on personal communication.

In the next two chapters, the research approach is presented. Chapter 4 provides the reader with an appreciation of the influences and choice-making in determining the research approach, leading into the planning of the interviews and survey which comprise the study. The coherence and integrity of the research will be identified by the reader as the critical nature of the research, which has been identified in this chapter, is reinforced in Chapter 4 in the choice of research approach, and the theoretical framework discussed in this chapter is evidenced in the analysis activity described in Chapter 5.

CHAPTER 4

THE RESEARCH APPROACH

4.1 INTRODUCTION

The research presented in this thesis concerns the sharing of IS research results between the academic community and IS practice in the UK, and is an exploration of the beliefs and behaviours of IS researchers with respect to the dissemination of their work. The preceding chapters established the broad context of the two communities in the UK during the 1990s, and the theoretical framework for the research.

The research issue was identified, in Chapter 2, as having a broad relevance within an environment of radical change in organisations mainly driven by the fast changing nature of IT, a focus by the UK Government on increasing the utilisation of academic research by organisations, and an evolving IS academic community and field aiming to maintain a 'closeness to practice'. The theoretical framework for the research was based upon the perspective of IS research as an IS, where dissemination was considered as an aspect of research. In Chapter 3, this perspective was explored through a discussion of IS theory and practice, within a critical systems view. The Multiview 2 model was utilised to provide a framework for the literature across the three perspectives of Technical, Organisational and Personal through which learning about the research issue could be gained.

This chapter will provide a discussion of the author's choice-making and planning concerning the research approach and activity. The aim of the chapter is to provide the reader with as much evidence as possible to convince them of the rigour behind the research activity, and to enable the research findings to be interpreted in the context of the research itself. Practical aspects of the research activity are presented in Chapter 5, which includes the planning and risk analysis as well as a detailed analysis of the research method as it occurred in the field. Together, the two chapters attempt to be an honest review of the

use of a methodology in practice, part of the reflexive process of research where the author investigates her own experience of the methodology of her research (Jayaratna (1994)).

The chapter begins with a discussion of the need to identify a research approach and the various factors which affect that choice in a particular project. Each of these factors is then discussed in turn to identify the underlying research epistemology of the author, the type of data required to illuminate the chosen research area within the context of the framework for the work, and the possible research methods which could be utilised from within the IS field to establish a credible piece of research for the intended target audiences. The chosen research approach is described, with a detailed discussion of the two components of in-depth interviews with IS academic leaders and a supporting survey, including the strengths and limitations of the approach.

4.2 FACTORS AFFECTING THE CHOICE OF RESEARCH APPROACH

The research approach is more than just method, it is an identification of the philosophy underpinning the work and reflects the 'spirit' of the research. Research is very much a matter of personal style and, especially for a new researcher, it is important to address the range of choices available in IS and not just to adopt the particular approach of the researcher's host institution (Galliers (1991)). Options include the research methods in use within the IS field, the underlying epistemology of the researcher and their aims in the work, as well as the types of data which will provide the richest learning about the research issue within the theoretical framework of the research. Both the author and the reader need to be convinced of the appropriateness of the research approach and that it builds on the cumulative tradition within the IS field. The rigour and the relevance of the research may be determined within this process of choice-making, which will affect the results of the research and, subsequently, their credibility to the target audiences (Keen (1991), Trauth & O'Connor (1991)).

Within this chapter, these options are discussed in the context of the project but it is

emphasised that the categorisations used necessarily establish artificial boundaries, attempting to describe ideal types rather than the complexity, and messiness, of reality. The discussions acknowledge the usefulness of such categorisation, however, in enabling the author to reflect on the context of the research and present her thinking to the reader to establish some common understanding of the process of her choice-making.

The choice of research approach should consider all aspects of the research situation which may have an affect. Checkland's (1991) framework of factors was adapted as shown in Figure 4.1 to incorporate the underlying epistemology of the researcher and the affect of identifying the target audiences in advance of the project. The resulting factors which were to be considered were as follows:

- . the Researcher
- . the Research Issue
- . the Theoretical Framework supporting the research
- . the Target Audiences for the results
- . the Research Methods available in IS

The research approach needs to reflect the researcher's epistemology and personal style, providing a comfortable vehicle for their skills and aims in carrying out the research in order to effectively address the research issue. The researcher should both enjoy the research activity and be able to maximise their learning and understanding of the process. The chosen approach must provide the richest form of data for learning about the research issue and supporting intellectual framework, employing the methods or techniques available within the field. The research methods in IS can be used flexibly within the underlying philosophy of the research in a manner that is compatible with the research strengths of the researcher (Keen (1991)).

The research is, itself, a reflexive activity, a process of action research where the author is investigating her own experience of the methodology of her research. As an IS practitioner, the author had engaged in reflection of her development work, however, the process was rarely a formal one. For example, the intellectual framework the author was

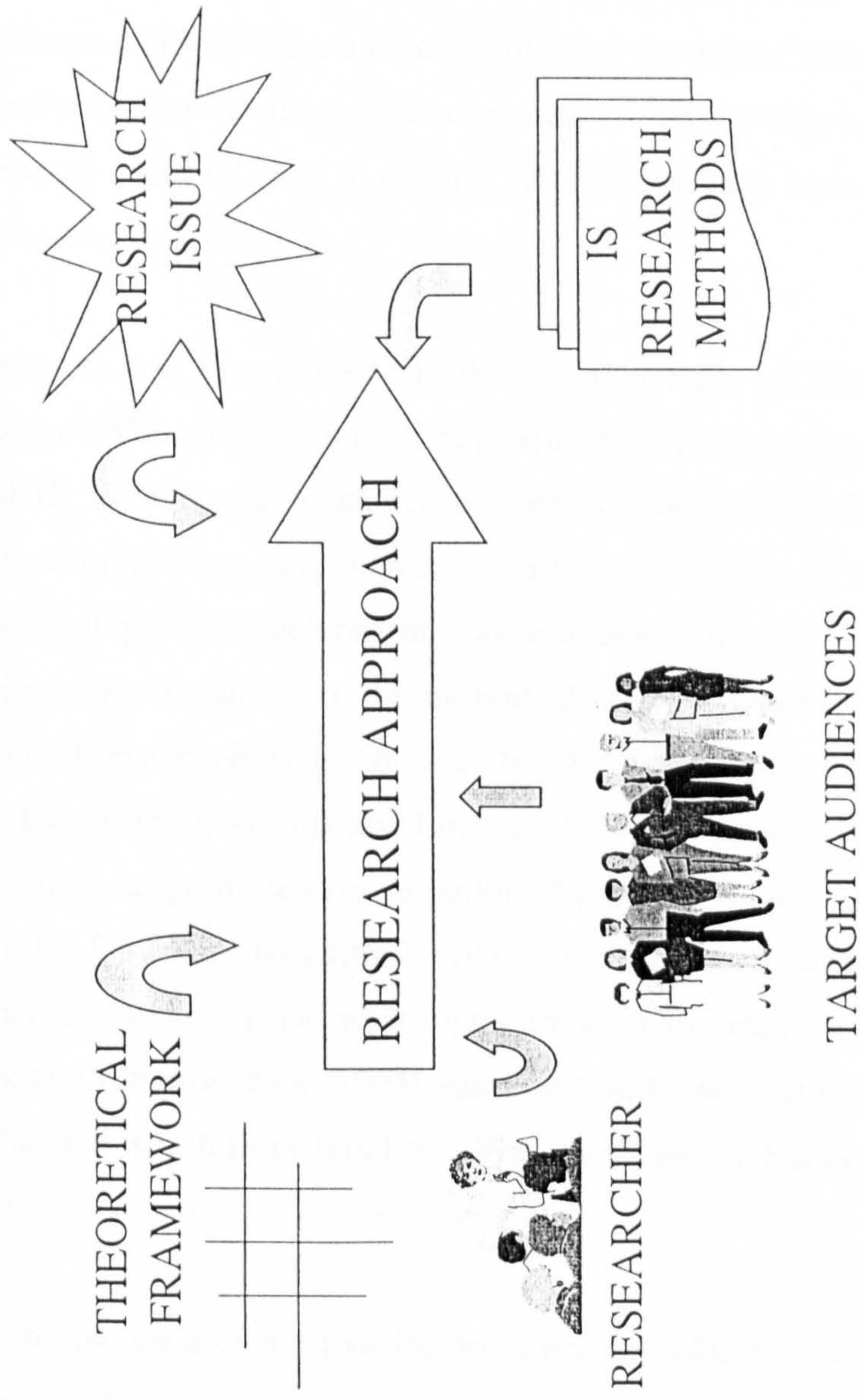


Figure 4.1 - Factors Affecting the Choice of Research Approach
(adapted from Checkland (1991))

using in investigating business situations was never formally identified and evaluated, although to operate successfully within subsequent development situations, it was necessary to have had such a framework and, however informally, to have evaluated it in the light of each practical experience. The writing of this thesis was a major difference in the author's learning behaviour, and introduced the rigour of academic research into her more intuitive experience of IS development, concentrating the author's thinking toward an in-depth analysis and reflection of the process of research – an activity which encourages more enduring personal learning and a sharing of that learning across the academic community.

Although IS developers are encouraged in the IS literature to become 'reflective practitioners' (Schon (1987)) the differences between research and practice need to be considered, particularly with regard to choice of methodology and evaluation. There is some useful literature in the area of choice, considering the role of the analyst, the philosophical underpinnings of development methodologies and the use of multiple perspectives in projects, but the ability of the individual IS practitioner to 'choose' within the context of organisational projects is not usually addressed (Avison & Wood-Harper (1990), Flood & Jackson (1991), Mitroff and Linstone (1993), Walsham (1993)). Analysts and project leaders may engage in choices regarding the detail of projects, such as those identified in the work of Mason and Mitroff (1973), but the more fundamental choices issues of development methodology and philosophy are often dictated by the organisation and its historical context (Orlikowski's (1993) study of CASE tool introduction is a good example of this). The area is rich in material for IS research on the issues involved in the use of methodologies.

In the sections that follow, each of the five factors, identified above, which influence the choice of research approach are discussed in detail for this particular research. The reader is referred back to Chapters 2 and 3 for more detail of the researcher, the research issue and the theoretical framework, all of which will be summarised briefly in this chapter.

4.2.1 The Researcher

The choice of approach for a particular piece of research will be affected by the underlying epistemology of the researcher. Their assumptions about knowledge and how to ‘learn’ about the world and the way it operates will identify what, to them, constitutes ‘valid’ research (Hirschheim & Klein (1992), Myers (1997)).

4.2.1.1 Possible Research Philosophies

Three broad philosophies of research approaches are generally discussed in the IS literature, namely positivist, interpretivist and critical (Jonsson (1991), Orlikowski & Baroudi (1991), Wood-Harper (1992), Myers (1997), Klein & Myers (1999)). The distinctions between the three are not always clear cut, and it is possible to accommodate several approaches within a single study. It may be possible to adapt the research methods used in IS within each of these categories, although Flood and Jackson’s (1991) work on IS development methodologies should lead us to be aware of the dominant philosophy underlying a particular method and its impact on the research process.

The positivist approach has its roots in the natural sciences and is based on the assumption that the phenomenon under study is identifiable and tangible, and that stable and unidirectional cause-effect relationships exist within the world, which can be identified and tested. The researcher assumes the role of neutral observer, avoiding any influence on the subject under study, providing factual, empirical observations. The core objective of the detached researcher is to discover universal laws or principles, with the purpose of predicting future behaviours. The research methods include hypothesis testing and using representative samples of given populations to draw inferences about the phenomenon. The positivist approach assumes the notion of freedom from researcher bias and prejudice, that the inquiry is value- and context-free. Where this approach is utilised in investigating human behaviour, it assumes such behaviour to be rational, intentional and guided by some maximising objective. (Jonsson (1991), Orlikowski & Baroudi (1991), Wood-Harper

(1992), Klein & Myers (1999)).

Critics of this approach, such as Hans Gadamer, assert that researcher prejudice is a necessary component of understanding, and that recognising and reflecting on that prejudice in terms of the historical context of the research enables the researcher to deal with the practical problems of interpretation of their findings (Gadamer (1976), Heckman (1986)). Others question the applicability of the approach to the study of human activities, where the phenomenon may be complex and not clearly divisible into component parts, and where the researcher's interaction with the situation will impact on the subjects of the study.

The interpretivist philosophy, in contrast, assumes that their reality is produced, and reproduced, by human beings through their behaviours and interactions with others. People perceive the world and act on their subjective interpretations of that perception. The interpretive researcher aims to access reality through social constructions such as the language and shared meanings of the people engaged in the situation under study, attempting to understand the phenomenon through the meanings that people assign to it. The focus is on the complexity of the situation as it emerges, looking to understand the context and how it influences the phenomenon, rather than the investigation of pre-determined variables. The approach has an hermeneutic and phenomenological basis where the researcher's learning is cyclical and takes place throughout the research process. (Boland (1987, 1991), Jonsson (1991), Orlikowski & Baroudi (1991), Wood-Harper (1992), Walsham (1993b), Kaplan & Maxwell (1994), Klein & Myers (1999))

The experience and skills of the researcher are emphasised within this approach, in particular their ability to identify personal biases and assumptions throughout the research process (Beer (1990), Galliers (1991)). The researcher uses their preconceptions in order to guide the investigation, interacts with the human subjects of the inquiry thereby altering perceptions of both parties, and interpret their findings based on their personal perceptions of the data they collect (Walsham (1995)). The findings are acknowledged as being value-loaded, rather than the value-free assumptions in positivist thinking, reflecting the researcher's own position. This is a fundamental aspect of interpretivist work, a factor to be

understood and incorporated into the research itself not a limitation to be overcome (Suchman (1995)).

Many argue in the literature that there should be more interpretivist research in IS, stating that it is better suited to the area than is positivist research which has dominated the field (Orlikowski (1991) Jonsson (1991), Wood-Harper (1992), Wastell (1993), Walsham (1995)). IS research is becoming more accepting of the need to adopt techniques which consider the historical and contextual aspects of IS, which could be beneficial in opening up the dialogue and understanding between IS researchers and practitioners.

Within critical thinking, the third classification of underlying research epistemologies, a criticism of the interpretive approach is its tendency to harmonise the world. The critical approach views reality in terms of its historical influences and the affects of power relationships. Such research aims to provide a social critique, surfacing restricting and alienating conditions in a particular situation through a focus on opposites, conflicts and contradictions. It seeks to be emancipatory by raising awareness of restrictive influences and the social, cultural and political domination that constrains people's ability to change. The assumption is that people can consciously act to change their social conditions and realise their potential. (Alvesson & Wilmott (1992), Hirschheim & Klein (1994), Klein & Myers (1999)).

The critical researcher is required to reflect on the presuppositions that enter into the search for knowledge, making transparent to themselves, and their readers, the normative content of their research designs and subjecting their work to critical inspection. Critical research recognises that the research process itself is subject to ethical, political, metaphysical and ideological influences, and needs to be read within the societal, and organisational, climate in which it is carried out. The research methods used within a critical approach should be selected with an awareness of their social consequences, aiming seek to maximise the potential of all those involved. (Ulrich referenced in Jackson (1990b))

Some of the thinking behind the categorisation of research epistemologies has been

reflected in the IS literature with respect to the use of methodologies in IS development. Early work by Mason and Mitroff (1973) identified the need for reflection by developers to recognise the possible differences between themselves and their business users. Later work by Avison and Wood-Harper (1991) utilised the paradigmatic framework to consider the philosophical assumptions of the analyst (Burrell & Morgan's (1979), Hirschheim & Klein (1989)). The paradigmatic view provides a frame of reference, or commonality of perspectives, which enables the developers to plan and carry out their work. The emphasis taken was that the developers could choose the role to take, as was appropriate to the given organisational setting. In research terms, the emphasis is less concerned with the constraints imposed by the research environment and more on the researcher's personal epistemology.

4.2.1.2 Identifying the Researcher's Epistemology

The author came to this research with a rich experience in both education and employment (an overview of the author's background was provided in Chapter 2). The factors of her background which were most significant in forming her epistemological view were her personal experiences of learning through interaction with students and with business users during IS development, her insights into the social, cultural and political aspects of organisations gained from multiple roles within a variety of situations, and her personal objectives in undertaking the research.

At various stages of her career, the author had addressed paradigmatic conflicts in her thinking: in the reality of teaching within the strongly functionalist subject area of mathematics; in the 'messiness' of systems analysis within the complex social situation of any organisation; and in the necessity to conform to the different cultures pertaining in different organisations. Her experience led her to acknowledge her own personal *weltanschauung* as being a strong commitment to respect for the individual and their capacity to learn and to contribute creatively to their environment.

Throughout her analysis experience, she found that creative ideas for change already exist

in any problem situation. The need she perceived was for these ideas to be elicited, coordinated and communicated to those with the power to direct or influence change, which may include the originators of the ideas themselves. Where these ideas were in conflict with the aims, or hierarchy, of the organisation there were often attempts to suppress them, usually resulting in a deterioration of the success of any development project and of the capabilities of the people involved to develop their own or the organisations potential. In a research environment, however, the possibility exists to investigate phenomena where conflicts exist and to surface assumptions and enable individual's to voice their opinions freely (if anonymously).

The researcher's epistemology, therefore, was considered to be critical. In order to produce a 'valid' piece of research, she has attempted to make her choice-making as transparent as possible to the reader and to address the research with the aim of promoting awareness and debate of the research issue amongst those engaged within it. In the process of her own learning, she has tried to surface assumption and perceptions of the academic community to encourage them to reflect on their own practice of IS research. The essential elements from this critical approach for the research methods used were: to learn from the people in the situation; through open and honest discussion, having got past the formal barriers; and to question accepted realities.

One wary note concludes this section, which is about the difficulties of self-awareness and the delusions under which we mostly function.

4.2.2 The Research Issue

The choice of research approach needs to provide the richest possible data for learning about the research issue, which is understanding the beliefs and behaviours of IS academics in the UK concerning the dissemination of their work (see Chapter 2). In order to determine the type of data which could best inform the author about the research issue it was first necessary to identify the possibilities available. Data is usually classified within the

literature as quantitative or qualitative, and any research project may utilise either or both within a variety of research methods and for a variety of purposes.

The use of quantitative data originated from the natural sciences and the study of natural phenomena. The data is derived through measurement and observation of pre-defined dependent and independent variables, and analysed through statistical techniques, providing summaries and indicators of statistical significance of results. Methods utilising such data may attempt to understand the 'purpose' behind the phenomenon through a study of its 'behaviour', or ignore such purpose altogether. In contrast, qualitative data comprises records of interviews, conversations or impressions of situations and is beneficial in investigating social and cultural phenomena (Lee (1991), Orlikowski (1991), Myers (1997)). In attempting to understand situations involving people and the social context in which they live or work, the researcher is advantaged in being able to ask for explanations or just to listen to them describing the phenomena. Quantifying textual data may cause the researcher to lose the understanding evident in that rich data (Kaplan & Maxwell (1994)).

In this project, the research issue to understand the beliefs and behaviours of IS researchers in the UK concerning the dissemination of their work. The emphasis on 'understanding' and beliefs' implied that it was important that the author should engage in dialogue with the community members in some depth, which in turn suggested the likely predominance of qualitative data in the work. The author's experience in IS practice led her to want to investigate the reasons people gave for their behaviours. In doing IS development, one discovers that people often perform activities because of historical precedence or because of assumptions they hold (untested) about other peoples' needs or expectations of them. Many activities are influenced by group thinking and are due to the constraints of hierarchies and functional divisions within organisations. Business Process Reengineering attempted to directly address such behaviour and thinking (Kilman (1985), Hammer & Champy (1993), Skinner & Pearson (1993)). It was considered important for the author to gain access to the community and to gain an understanding of the social context of that community and such political issues that existed with respect to the hierarchy and power groupings. Indeed, Beer (1990) was convinced of the need to bring together the views of

stakeholders, and the importance of the identification of 'intentions' or 'ideals' of organisations rather than attempting the difficult task of describing the reality as it exists.

The second important aspect of the research issue was the need to have a view of dissemination 'across' the IS academic community. The aim was to identify a broad range of views in order to gain a general understanding of the area. This breadth would need to be balanced by depth to establish more than a superficial view. The most likely research approach would be, therefore, to identify a 'sample' of the community for an in-depth study, where that sample could offer a cross-community view.

The aim of the research was to gain insight and understanding into the research issue, and not to engage in any activity which would be considered to be characterised by repeatability, reductionism, refutability, or which would result in 'objective', generalisable observations (Galliers (1991)). Since the research focus is on human activity in a particular historical and cultural context, it was noted in advance that there would be problems with the prediction of future events based on any observations made during the research. A more reasonable aim was to raise awareness of the issue through dissemination of the results to encourage self-reflection within the community.

4.2.3 The Research Framework

The theoretical framework for the research has been set out in Chapter 3 of this document and is based upon the perspective of IS research as an information system. Within such a view, the dissemination of research is a small aspect of the IS which should be studied in the full context of IS research and its stakeholders. Utilising the Multiview 2 Model, which incorporates the theory of Multiple Perspectives and Stakeholder Analysis, encouraged an holistic approach to the research which would encompass cultural, political and personal issues as well as the technical activities of IS research. The soft systems philosophy also underpinned the framework, with the author aiming to develop an understanding of the issues through engagement with the community, developing her findings through an

analysis process and returning to the community to encourage discussion and self-reflection about the issues which may result in actions for change.

The framework encouraged an holistic approach to the research following the Web Approach in learning about the focal area of dissemination through an investigation of the broader context of IS research and its stakeholders (Kling (1987)). The influence of the framework reinforced the need for predominantly qualitative data, within either a critical or interpretive philosophy, supporting the epistemological view of the author. It must be noted, however, that in such a project the author's influence is dominant through her choice of research issue and framework. She was grateful for the freedom to identify so many aspects of the project, and achieve the learning which this enabled.

4.2.4 The Target Audience

The identification of a target audience affects the choice of research approach, it also is important in guaranteeing the relevance of the research and the researcher should have, in advance, a clear conception of the target audience they wish to influence (Keen (1991)). Having identified the audience, the rigour of the research comes in selecting a research approach which aims to influence 'action' within that audience: through a pluralistic intellectual framework; the collection of evidence and the presentation of results in a persuasive manner suited to the audience. In other words, the work must have a 'purposive identity' in influencing action by a target audience.

For this project the author identified a number of different target audiences: those members of the IS academic community involved in the project; the IS academic community more generally; the author herself; and the IS practitioner audience. This broad range of audience implied that great care should be taken to make the research widely credible. This wide range of audiences forced the author to consider her work in terms, not just of its rigour and relevance, but also with respect to the credibility it needed to achieve to the community under investigation.

Firstly, there needed to be credible interactions with members of the IS academic community within the data collection activity and in dissemination. These people needed to be engaged in a dialogue about their situation and the author's interpretation of her findings. The process necessarily included learning both for the author and the other participants. The author's background experience in IS and her initial year within the Salford Doctoral School would provide her with both the skills and initial knowledge required to achieve a credible dialogue. Her intention was to promote her involvement as an investigation by an 'outsider', an IS practitioner looking in on the academic community. She made no claims to be 'representative' of practice, indeed the fact that she was engaged in academic research via the PhD process was evidence that she was not a typical practitioner, since the numbers who engage in such activity are very small. She was, however, someone whose view of IS development was predominantly through experience in practical situations rather than as an observer or casual 'intruder' into practice.

With respect to the wider academic audience, the research approach must be sufficiently robust to survive scrutiny and to provide some unique contribution to the IS field. This reinforced the need for reflection by the author, as a new researcher, and maximised her learning about research. The main constraints imposed by the PhD requirements, as identified by the author at the outset of the work, were the necessity to complete the work within a fixed time period, to largely work alone, and to work with fairly limited finances. Another researcher working under different circumstances may have identified quite different constraints.

Having identified the influence on the research approach by the first two target audiences, the only additional affect of the wider IS academic audience was considered to be the need for the research approach to lead to credible findings which would provide evidence of an understanding of the issues within the community and which were relevant to their own practices of IS research, thereby encouraging self-reflection for individual researchers. The author's epistemological stance and her skills from her previous careers would encourage dissemination approaches which included dialogue and continual input and learning.

Credibility could be achieved through the use of a research method which was accepted within the community and through the engagement of research subjects who were well respected by the community.

The author's own learning was identified as an important aspect of the research (Keen (1991)). The research issue was identified because of her experiences in practice and the author aimed to utilise her learning to improve her own research and, in future research, to put that learning to use in IS practice. The author's learning would benefit most from a research approach which involved close engagement with the research situation through open interactions with the research subjects, where the exchanges were of a critical nature with the intention of surfacing assumptions and perceptions of the subjects. The research approach would need to allow the author to play an active part in questioning the assumptions of the academic community from a practitioner perspective. The author's epistemology has been discussed in an earlier section and underpins the whole thesis.

Finally, the identification of an IS practitioner audience for the research reinforced the need for a research approach which provided in-depth knowledge of the research issue. Some of the academic community believe that IS practitioners want 'quick fixes' and 'easy answers' (see the findings presented in Chapter 6), but for those who are reflective the most interesting and useful results are the 'real world' stories and insights which can be related to their own experiences (Schon (87)). The author's background in IS practice may add credibility to the work for others in that community, especially if the work is of a critical nature. Future research will utilise the findings from this work and incorporate their dissemination into its own research process.

4.2.5 The Research Methods Available in IS

In making a selection of a research method, it is important for the researcher to be critically aware of the assumptions underlying each method and any implications this may have for its use in practice. This echoes the suggestions of Flood and Jackson (1991) in discussing of

their System of Systems Methodologies for IS development. The practical use of IS research methods can be flexible and may reflect the research approach adopted by the researcher and their personal skills in carrying out the research. The important factor is whether use of the particular method in that particular instance provides a good understanding of the research area under investigation. A method may be used rigorously in a number of different ways.

There is a large amount of literature describing and categorising research methods used in IS, the aim here is not to review it all but to provide an indication of the options and issues involved in selecting an appropriate method for the research. The IS field has been dominated by the use of positivist approaches utilising such research methods as surveys, experiments, but there has been encouragement in the literature for researchers to use case studies, ethnography and action research. The applicability of such approaches to the areas under study in IS argues itself for a broader range of approaches and a move away from an ‘unthinking’ acceptance of traditional methods (Galliers (1991), Walsham (1995)). Since this research was started in the mid-1990s, there has been much written to encourage researchers to consider the use of interpretive and qualitative work, indicating exemplars for such approaches to provide criteria for judging such research (Markus & Lee (1999), Klein & Myers (1999), Walsham & Sahay (1999)).

It is interesting to reflect on the work by Wastell (1996) here into the notion of ‘methodology as social defence’ within the IS development context. From case studies in organisations, it was noted that both IS practitioners and managers used the structure and rigidity of formal IS development methods as a defence against their own responsibilities or lack of control within projects, hiding behind their adherence to the rules and techniques of such methods in the face of failure or crisis situations, using the methodology to reduce their anxiety. Perhaps the situation of methodology as ‘social defence’ is slightly different in IS research, but there may be some security in the well-established and accepted methods of the positivist approach and the statistical analysis of quantitative data. People know what to expect and how to judge the process and outputs of such methodologies. Those working in interpretive and critical research become aware of the risks in terms of the outcome of

the research, and of the ability of the researcher to actually carry it out and present the findings effectively. Certainly, the author was occasionally intimidated by the loneliness of her critical philosophy and overwhelmed by the quantity of qualitative data and the complexity of the analysis required to turn it into something presentable and useful.

Table 4.1 provides a general taxonomy of research methods in IS, with an indication of some of the issues identified by the IS research community (Keen (1984), Benbasat (1989), Mason (1989), Zmud et al (1989), Pettigrew (1990), Kraemer & Dutton (1991), Mason & Cox (1991), Davies (1992), Kaplan & Maxwell (1994), Boland (1991), Baskerville & Wood-Harper (1996), Trauth & O'Connor (1991), Checkland (1991), Jonsson (1991), Wood-Harper (1992), Galliers (1991,1993), Yin (1989)).

4.3 THE CHOSEN RESEARCH APPROACH

From the discussion of the five factors affecting the choice of research approach it was possible to identify the determining issues and to select an appropriate way forward for the project. Having identified the affect of the underlying epistemology of the researcher, the needs of the research issue and the chose research framework, and the research methods available within IS, several possibilities for a research approach were identified.

The approach needed to satisfy the following:

- . the critical epistemology of the author
- . provide predominantly qualitative data to provide rich material for an understanding of the beliefs as well as behaviours of IS researchers, alongside a broader view across the whole community
- . address the focal issue of dissemination in the holistic context of IS research through a Web approach due to the nature of the research framework
- . provide a rigorous approach to data collection and analysis, a credible view of the IS research community, and be relevant to the practice of IS researchers
- . utilise research methods currently available, and acceptable, within the IS field

Research Methods in IS	
Method	Strengths and Weaknesses
Conceptual Study	Theorem - proof approach, based on experience and broad range of literature, resulting in normative writings. Detachment from 'real world' interactions can lead to rejection by non-academic audience, unless results are evaluated in practical situations. Useful as a reflective phase, to enable creative thinking about a research issue based on a synthesis of ideas from other areas.
Mathematical Modelling	Forecasting and futures research carried out in an artificial setting. A catalyst for debate amongst researchers and subjects, leading to changed behaviour. Having identified current practice and created a conceptual theory, this approach could be used to model ideas which could be later tried out by experimentation.
Laboratory Experiments	Testing theorems or building theories under controlled conditions in artificial settings. Can include simulations and game playing. Internal validity difficult to assess, particularly with human subjects. Results must be seen in the light of the deliberate manipulation of the situation and it's lack of 'reality'. Students could be subjects who are easily accessible for such experiments. Really only useful as a precursor to field experiments.
Field Experiments	Often used to follow on from lab experiments, with similar issues. Longitudinal studies provide a balance with the lack of real control over variables, and result in a holistic view of a situation. Access into organisations can be a problem. Necessary to test out models identified in earlier phases of a research programme.
Surveys	Most widely used IS research method. Choice of the supporting theoretical framework and the survey population must be made clear and acknowledged in any results. Supports quantitative and qualitative analyses, although usually only providing a 'snapshot' view or understanding, at a particular point in time. Usually undertaken via questionnaires or structured interviews, from which inferences can be made. Low response rates or unexpected response types can invalidate the results. Not well suited to capturing the nuances and subtle patterns of human behaviour that often form the core of qualitative research.
Case Studies, Ethnography	Requires a thorough record of the researcher's entry into the situation, their background, first impressions, and cultural integration. Makes no claims for generalisability and results in 'stories' as well as quantitative data analyses. The data collection is made via a number of different techniques and triangulation used for verification. Retrospective case studies provide insights into practice, but are limited in terms of beliefs and expectations. On their own, there are questions of choice of case to study, access and generalisability. Period of time in the field is a crucial factor, with ethnography requiring longer periods. Could be viewed as a form of cultural description with the purpose of illustrating or testing a particular model or theory
Phenomenological Research, Hermeneutics	Analysis of texts and conversations, employing the use of metaphors and cultural vocabularies. Both quantitative and qualitative techniques used for analysis. The assumptions and vocabularies of the researcher need to be made explicit, and the texts are open for further or alternative analysis by the audience. The results of the research can be viewed as text also, and allow for alternative interpretations by the audience.
Action Research	Learning on the part of researcher and subjects is inherent in the approach, and must be documented thoroughly. Danger of researcher losing control over the theoretical framework as the research progresses, due to the nature of their involvement in the project or organisation. Results may in the form of 'stories' of lessons learned, which may or may not be generalisable. The researcher needs to be capable of both monitoring their commitment to the predefined intellectual framework and operating in a complex social situation where they are continually learning and adapting to circumstances. The cycle of activity and reflection is a very important factor in enabling the researcher and the theory to benefit from the 'real world' situation.

Table 4.1 – A General Taxonomy of Research Methods in IS

In the light of the other criteria, the author decided to adopt a method for data collection which would comprise an in-depth qualitative approach with a small sample, supported by a quantitative questionnaire of the broader IS academic community. Such an approach offered the opportunity to bring together the two aspects of the investigation under a single 'umbrella' methodology, enabling the author to utilise techniques from the survey approach to generate a 'broad' view of the research issue alongside those from case study and ethnography to provide 'depth of understanding' through 'rich' qualitative data and analysis.

This research approach would provide the rich data required to generate findings which would provide insights into the theoretical framework and encourage debate amongst the IS academic community itself. The critical, in-depth approach would also allow the author to operate with a regard for the interviewees as human beings and not a 'subjects', carrying out her investigation 'among' them rather than 'on them' (Wolcott (1990)). It was anticipated that the thesis would present a picture of a complex situation, a picture uniquely drawn by this author at this time – reflecting the critical nature of the work. Other researchers, even with similar personal influences, would provide a different picture, one unique to themselves and their interpretation of the discussions they would have had.

The intended interview group was the UK Committee of IS Professors, a self-selecting body already in existence within the IS community. The interviews were planned to be semi-structured, focusing on the research issue within the broader context of IS research and the researchers themselves. The questionnaire survey would utilise insights gained from the interviews, with the aim of identifying any significant differences between the sample group and the wider IS academic community in the UK. Since the IS academic community is generally self-selecting and fragmented across university departments, the questionnaire population would be identified from departments of IS, computing and management utilising university internet directories.

It is important to note that the research would have benefited from a greater emphasis on the ethnographic aspects, providing a 'true' outsider view of the phenomenon. The author regretted that she had not identified this earlier in her period at the Salford Doctoral School.

For the first year in academia, the School's emphasis was on a broad study of the IS literature which provided a sound basis for future research. For this particular project, it would have been useful for the author to have kept a detailed diary of her feelings and observations of the IS community and academic life, after years of experience in IS practice. Had this been carried out, this research could have been progressed as an ethnographic study and the research activity would have followed a different path, perhaps. As it was her observations were bound to be distorted by memory, the experience of the Doctoral School and the lecturing work she carried out during that first year. The period acted as an induction into that culture, enabling her, therefore, to attempt the rest of the project with an intelligent awareness of the climate, norms and values of the culture, the observer as participant. It was, however, deemed important though for the research to support the fundamental principle in ethnographic work of the author's need to be critically aware of her prejudices, making them explicit in the process, and presentation, of her learning about the cultural differences she encounter through the investigation. As Orlikowski and Baroudi (1991) suggested, this is not unlike the behaviour of IS practitioners who have to 'traverse a variety of sub-cultures' within organisations.

The final issue to identify at this stage was that of the dissemination of results within this research approach, which was considered to be both part of the research process and an end-on activity (Kaplan (1991)). The interactive interviews with IS 'leaders' would provide the first means of dissemination and the use of ideas and information gained during those interviews to create the form and content of the questionnaire would allow for some dissemination to the wider IS academic community. This thesis produced as part of the PhD assessment, and the generation of academic papers and their presentation at seminars would also provide information and an opportunity for debate within the community.

In order to disseminate relevant information to IS practitioners outside the academic community, there will be an attempt to publish, in the general or computer press, a summary of the issues which may be of interest. The author proposes to carry out seminars within commercial organisations, to disseminate research which may be appropriate to

practitioners, possibly as an aspect of future research, for example, to talk with project teams or departments engaging in the promotion of standards or IS methods within companies.

In the next sections, the two aspects of the research approach are described in some detail: the approach to planning the interviews and the choice of IS academic 'leaders' as the sample group; and the supporting questionnaire survey of the wider population of the IS academic community in the UK. Following this there is a more general discussion of the strengths and weaknesses of the approach.

4.3.1 The Interviews

4.3.1.1 The Nature of the Interviews

Survey interviews generally aim to collect standard information from each respondent and, consequently are highly structured in both format and style. At the other extreme of the conversational continuum, in ethnographic studies interviewers provide a minimum of questioning and direction enabling the respondent to provide their own account of any situation or event. The ethnographic interview is used by the researcher as both a source of data and as a topic for the research in itself. Their emphasis is upon the authenticity of the respondents contribution and of the researcher's interpretation of the interview situation, rather than the survey researcher's attempts to ensure objectivity and data consistency. A number of possible alternative styles of interviewing fall between these two approaches. (Trauth & O'Connor (1991))

A survey using highly structured interviews would have provided little more than quantitative evidence, based on some initial hypothesis of what was to be found. The author's objective was not to dictate interpretation. She aimed to enable this situation by a careful personal introduction, emphasising her background as an IS practitioner and her seniority in her various careers, thereby emphasising her intention to engage in the discussion as an equal

with the interviewees. She also provided the interviewees with a model of dissemination, to be used as a means of providing a basic structure for the interviews, with a stated intention of following the discussion in whatever direction appeared to be relevant in developing her understanding of their beliefs and behaviours (see Appendix B).

Both parties to an interview are necessarily and unavoidably active, with each being actively involved in meaning-making work through their communication during the encounter (Holstein & Gubrium (1995)). All interviews are reality-constructing, meaning making occasions, whether recognised or not. It would be necessary, in the interviews, to provide an environment conducive to the production of the range and complexity of meanings that address relevant issues, and not be confined by predetermined agendas, for the author to acknowledge her own, and the respondents', constitutive contributions and consciously and conscientiously incorporate them into the production and analysis of the interview data.

The great advantage of investigating a research issue concerning people is the possibility of asking them to talk about their situation and to explain their actions and circumstances. It is essential for the researcher to also acknowledge the limitations of such an approach. Metaphorically, an interview could be considered as a communicative activity, as a drama, or as an occasion for narrative production (Holstein & Gubrium (1995)). In the give-and-take of the interview the participants could be seen as engaging in an improvised performance, taking on roles, topics and formats which seem relevant or even just related to their mod of the moment. Viewed as an occasion for narrative production, the interviewee could be seen as a story teller, improvising and reacting to the challenges provided in the interview situation. The researcher engages in such activities themselves, utilising the tools of conversational exchange to maximise the benefits they aim to achieve within the interview situation, whether for survey, ethnographic or other purposes. (Indeed, the author was reminded of this on a number of occasions during the research, particularly when the roles and agendas of the respondents diverged from the norm, which itself may have been simple a drama, too.)

Another issue to be considered by the researcher in interview situations is the respondents ability to articulate their ideas about the reality of their situation. One of the major difficulties in simply asking people to describe their activities, noted by the author within IS development environment, is the need to break free of 'formative contexts' by both the interviewer and respondent to get to the underlying activities and constraints within any situation. Formative contexts are defined as 'the set of institutional arrangements and cognitive imageries that inform, loosely but inexorably, the actors reasoning and practice in organisations' (Ciborra & Lanzara (1989)). Formative context has both an organisational and cognitive dimension - constituting a background condition for actions, reinforcing constraints, giving direction and meaning and setting the range of opportunities for undertaking action. Actors are usually unaware of the formative contexts that inform their practical and argumentative routines, they tend to take them for granted, except in the case of major breakdowns. In order to break through these formative contexts, it is necessary to surface conflicts and inconsistencies, to explore deviations from routines, experiment with alternative images and arrangements and to support self and institutional questioning. The author's experience is that underlying issues and contexts emerge over the course of an investigation through discussion of a variety of connected issues, in particular, through discussion of similar topics with a number of different people and by attempting to create turbulence in order to see what lay behind accepted statements. This approach also satisfied the critical epistemology of the work by surface assumptions and challenge the respondents' notions from the perspective of an outsider (Dahlbom & Mathiassen (1993))

The cyclical, or reflexive, process of learning throughout the research activity is part of the hermeneutic process, described in Chapter 3. In trying to understand the beliefs and behaviours of IS researchers, the author considered that she should not totally predetermine the content of the interviews to the extent of precluding unexpected issues arising. Given the complexity of the research issue and the exploratory nature of the research, issues raised by a respondent in one interview could influence the direction of later questions, allowing for development of the author's learning throughout the data collection process (Gadamer (1976), Heckman (1986), Trauth & O'Connor (1991)).

The output of the interview process would be a 'picture' or 'story' of the respondents and their activity of IS research, focusing in on their beliefs and behaviours with respect to the dissemination of their work. The process intended to encourage reflection and debate on the issues by the author and the interview respondents as an act of analysis and dissemination. The formal mode of analysis would include a process of sifting and filtering of the qualitative data, utilising the research's theoretical framework, into a format which would provide insights and understanding of the research issue to both the author and the reader (Holstein & Gubrium (1995)). Such a process had often been used by the author in IS development, against the framework of particular business processes. The intention would be to identify the breadth of ideas put forward, contradictions and informative issues raised by respondents.

As mentioned earlier, the critical approach relies heavily on the ability of the researcher to carry out the practical research activities. In order to create 'turbulence' within the interview situations, it is necessary for the researcher to be able to handle the interactions with tact and care, and establish honest and thoughtful relationships with those involved. In order to obtain honest and open answers to the author's questions about researchers beliefs and behaviours, it was important that she was able to talk informally with people and have the opportunity to build up trust (Trauth & O'Connor (1991)). With structured interviews there can be consistency in responses, however, with semi-structured, open-ended interviews there might be the opportunity to explore specific aspects of the community's culture according to the inclinations of the interviewee.

The choice of interactive interviews with senior researchers was based upon the need for rich data to illuminate the research issues and reflected the integration of the experience of the author with the need for relevance and credibility for the target audiences. Some of the important experience which the author brought to the interview process included: her previous management status and knowledge; her high level of interviewing skills including the ability to build rapport with a variety of people within a brief interview situation; data collection and structured analysis skills employed in a wide variety of environments; and the creation of documentation in a variety of formats.

4.3.1.2 The Use of 'Leaders' as the Sample

In order to gain access to the IS academic community, it was decided to use the UK Committee of IS Professors as the sample group. The intention behind this choice, was that here was a self-selecting group of senior IS researchers already in existence who, presumably, consider themselves to represent and lead the field in the UK. The group did not consist solely of professors of IS, nor solely people with the title 'Professor'. The original list of thirty three members of the Committee of IS Professors was eventually supplemented by some additional names nominated by interviewees during the fieldwork, resulting in a sample that was partially within the author's control and to an extent 'accidental'.

In choosing IS leaders to interview, the research reflects a practitioner's view of the academic community. The leaders were seen as representatives of 'excellence' among the IS academic community, where promotion is decided by peer review and encourages the continuation of research activity, as opposed to the business situation where leaders are generally 'managers', removed from the experience of IS practice. In this context they were seen to be exemplars of good practice across the spectrum of academic perspectives, as 'leaders' rather than as 'managers', people who were looking to influence the way others think about what is desirable, possible and necessary, rather than having the managerial concern with the here and now (Kotter (1990), Bryman (1999)). Some of those interviewed had managerial roles within their institutions, as well as leadership roles within the IS community. The group of leaders was not expected to represent the IS academic community directly, however it was anticipated that as leaders in that community they would have stories to tell which would illustrate the diverse and complex experience of IS research in the UK (Holstein and Gubrium (1995)). It was also assumed that the leaders would be involved in setting the agenda and directions for the community as a whole.

Access to the area of research is one of the most important and, perhaps, most underrated issues for researchers. The researcher needs to be able to identify with some validity a suitable situation or members of a community, which will enable the research data to have

some relevance to the issues under consideration. Having made this identification, usually from outside the situation, the researcher then has to find some means of gaining access to that situation or community in order to collect their data, or make their investigation. The researcher needs to identify the gatekeepers for access to organisations and then manage communications with them effectively (Mason et al (1995)). The most obvious gatekeeper to use was the author's supervisor who was a member of the UK Committee of IS Professors, who could both guarantee the credibility of the researcher and encourage a positive acceptance and response from members of the community.

Politically, any such investigative situation is open to difficulties, very few of which can be predicted in advance. For senior members of any community to give time to assisting with the work of their juniors, where there may appear to be little direct benefit to themselves, there has to be a genuine sense of community 'mission' and a means of opening doors into that elite group. The diverse nature of the IS discipline could have created problems, for instance the sociological nature of the research might be of little concern to those researchers whose interests are purely technical. The author realised that a questioning approach, taken by a student of research, may appear naive to seasoned researchers and be considered irrelevant or simplistic. It was recognised, however, that individual researchers are often under considerable time pressures and any demands on the time of individuals would, therefore, be kept to a minimum.

4.3.2 The Questionnaire Survey

The aim of the questionnaire was to provide a broad set of data which could be compared with the interview findings in order to identify significant differences between the 'leaders' and the rest of the UK IS academic community. The questionnaire would be based on the interview model and created in the light of the responses and findings from the interviews. The survey would take an electronic form with initial e-mail information and responses via a web page. This would allow for short response times and easy follow-up.

One of the major issues was to identify the population to address in the survey, since the IS community is fragmented and generally self-selecting from across a range of academic departments in UK universities. It was initially intended that the survey group should be the UK Academy of Information Systems (UKAIS). This idea was dismissed once it was recognised that the author was not able to gain access to the membership list in order to carry out an electronic survey. The list was not available at that time in the form of e-mail addresses, neither was there any intention to allow open access to the list for such use.

Consequently, it was decided to create a mailing list for the survey from information openly available on the Internet, within World Wide Web pages of individual universities. This was a very time consuming process, but by including all individuals within groups which may have had some connection with IS, a list of 3,000 addresses was created. The list included lecturers and researchers in departments or schools of IS, computing and management, where these seemed to be appropriate targets for the survey. Research students were included, sometimes merely due to there being no distinctions given in the Internet lists. Occasionally, members of other departments or research groups were added, where there was an obviously link to IS topics in their work. It was apparent that the list would include administrative staff and students from some departments, since these were at times not explicitly indicated. (See Appendix B for details of the university departments included in the mailing list.)

The question of access to the research community via electronic means was not considered to be a problem in the area of IS. All of the UK universities were linked to the Internet. Perhaps of all possible survey groups, in the academic or business world, the IS academic community were most likely to be actively using, or at the very least familiar with, both e-mail and the World Wide Web. The IS community has increasingly used the Internet as a means to facilitate discussion, search for software and document transfer. It had recently created its own central focus on the Internet, IS World. Access via e-mail, and the style and formats currently available for creating World Wide Web pages, allowed for an attractive presentation and easy completion for the questionnaire. The technology was still in young, however, which led to some problems in practice, both of production and the availability of

the questionnaire in all universities (see Appendix B).

The inclusion of the questionnaire approach within the project was as a supporting aspect of the research was embarked upon with caution by the author. Having taught statistical methods in secondary education, she had no illusions about the ease of design of good questionnaire survey or the validity of the findings. The creation of an effective questionnaire is a highly skilled task, which is all too often approached lightly by researchers, as an 'easy' option when access to situations is difficult or their social and personal skills are not well enough developed to sustain in-depth work. Questionnaires are also seen as attractive because they appear to offer fast access and response time with easily analysed results. The relevance and credibility of those results is often dubious, although surveys proliferate in IS. The results can be presented with little real understanding of the phenomenon in question, may be easily appropriated, and abused, by anyone, for any purpose, with very little understanding of the process or limitations involved. Increasingly, academics and the general public are regarding the presented results of such surveys as suspect. In this project, therefore, the questionnaire survey has been used simply to enhance and provide additional insights into the main activity of the research.

4.4 LIMITATIONS OF THE CHOSEN RESEARCH APPROACH

In all research the researcher makes decisions concerning perspectives, in particular, in the areas of standpoint, selection and interpretation (Dahlbom and Mathiassen (1993)). The adoption of a critical approach was a positive advantage with respect to this whole issue, since the researcher had acknowledged that these are perspectives rather than 'objective' stands, and is bound to make them explicit and make the results open to alternative interpretations. The author does not claim to have found the 'right' or the 'best' method for this study, but believes that the chosen research approach provides a good vehicle for the work given the factors involved. One of the criticism to be argued about such research is that, due to it's stated exploratory nature, 'what the researcher intends to be the essence of the study is what others consider the necessary background work in order to begin'

(Benbasat (1989)).

In this project the research tries to explore the constructs used by researchers in their descriptions of their work and is concerned with identifying a holistic picture of the situation and providing a 'story' of the constructs employed within the context of the IS research community. It is not an attempt to capture pre-defined theoretical constructs from the data collected nor does it aim to systematically measure usage across each of the subjects. The approach is not intended to be reductionist. The scientific expectations of repeatability, reductionism and refutability (Fitzgerald (1991)) are unsuited, in their usual interpretation, to this type of research approach. The researcher will have influenced the outcomes and, indeed, had a stated intention to create turbulence, where appropriate, during the interviews. Another researcher with different experience and personality would not do or say the same things, get the same reaction from the respondents, or interpret what occurred in the same way. It is intended that feedback from early interviews will influence what is said and done in later ones, because the explicit aim of the research is to gain understanding and insight into the situation, and not to standardise questioning and measure responses. The research activity is dependent on the intellectual framework, which has been chosen by the author, a different framework would lead to different analysis and different results (Rose (1982)).

The results of the research should not only be viewed as a 'snapshot' of the situation with respect to both beliefs and behaviours of the IS community in the mid-1990s. The research project is itself a process of reflecting upon the process of research within the perspective of IS, meta-level research. From the outset, it was intended that there would be a general contribution to IS theory from the results, although there was to be no attempt made to generalise results across members of the research community itself. To consider the results in a positivist light would be to ignore the human aspects of the investigation, where the subjects' explanations of their view and behaviours and the researchers interpretations of their statements, were both subject to the notions of formative context and distancing and appropriation (Ciborra & Lanzara (1989), Boland (1991)). The contribution to IS is intended to be in terms of the view of IS research as an IS, using the insights of the findings

as a persuasive tool (Fitzgerald (1991)), and as a means of eliciting interest among the practitioner community of the theoretical results. One possible outcome may be that it will encourage others to consider similar reflections of their work.

Research can be viewed as about sharing stories which reflect the researcher's experience and priorities, etc. (Boland (1991), Sahay & Walsham (1995)). Information is passed on through the appropriation of consistent and convincing stories by the individual hearing, or reading, them. The lessons learned are not always those intended by the teller, but then, the hearer integrates ideas gained within their own experience and priorities, in order to bring about change in their world. Through a critical approach, the researcher can use their story to enable the reader to question their presence in the research and that of individuals and community being described, rejecting the notion that they can somehow innocently write descriptions of others (Suchman (1995)). Indeed, Checkland (1981) insisted that it is essential 'always to include in a description of human activity an account of the observer and the point of view from which their observations are made'.

The chosen research approach relied heavily on the author's experience and skills from IS practice. For a younger or less experienced researcher the choice would have been significantly different: their focus may have been on the IS practitioner community rather than the academic one, on the appropriation of results rather than the distancing; access to the UK Committee of IS Professors may have been more problematic and the interview approach less critical; the choice of theoretical framework may have been more inclined towards communication and diffusion of research rather than IS theory linked with development; the overall research approach may have been more positivistic with less emphasis on the inclusion of dissemination through interaction

The constraint of working alone, within the limited financial budget available, was perhaps a misguided notion of the author's. In future work with IS practitioners, she intends to collaborate with other researchers in order to broaden the sample across national boundaries to enable a comparative study. With the research issue being of interest to both government agencies and the business community it would seem reasonable to identify additional

funding to support the work. Some funding was provided during this project by the Salford IS Doctoral School which enabled her to undertake the number of interviews across the UK but the author did not seriously consider extending her sample to include international academics.

The choice of 'leaders' as the sample group for the in-depth interviews could be seen to be a limitation of the research. Having generated a list of potential IS academics from the Internet search, it could have been possible to follow a similar route for the sample group. In hindsight, the author believes that this would have led to a sample with a broader range of IS research interests and, hence, a more 'representative' group. The issue here relates to the fragmentation of IS academics and the lack of an agreed boundary for the field. The four areas of organisational activity, application areas, IS development and IT overlap with numerous disciplines and many of those working in the field would not consider themselves as IS researchers. The advantage of engaging the UK Committee of IS Professors was that this group was already in existence and was attempting to co-ordinate the IS community in the UK. The recognition by members of the Committee that they did not yet have their representation 'right' led to the inclusion of other leaders in the interviews.

Other samples could, perhaps, have been determined by addressing individual research projects or departments, or a cross-sectional sample across hierarchical and IS area categories. Each sample would have produced its own issues of 'representativeness' and of 'potential interest value' to the target audiences for the work. The author was looking for 'insights' into the community and the selection of such samples may have provided those insights, though from different perspectives. Since access, credibility and interest were major issues for the author, it was considered that the use of 'leaders' provided a valid choice as the interview group.

With regard to the self-selecting nature of the community, it was considered that a major benefit of carrying out an electronic survey, rather than a postal survey, was that it could be made very easy for people on the mailing list to remove themselves from it if they

considered themselves inappropriately selected. It is unlikely that anyone for whom the survey was not appropriate would make the effort to reply to that effect by post. Electronically, it required minimal effort for them to simply return the e-mail as an indication that they wish to be removed from the list. This also provided feedback to the author in terms of the response statistics.

There are a number of ethical issues which may arise out of such an approach, due to the in-depth and holistic nature of the engagement and discoveries. In the case of the semi-structured interviews, neither the interviewer nor the respondent could be sure what issues would arise, even where the respondent had been given a basic structure in advance. The holistic approach meant that both parties to the interview were free to follow topics as they arise within the broad area of interest, in an open and free manner. Triangulation of the data was not formally carried out, but many areas were discussed across a number of interviews and where issues arose unexpectedly subsequent interviews were used to explore these in more depth. There was a need for the author to 'lead' the discussions because she needed information of a certain kind but, from her experience in IS development, she was aware of the need to consciously address ethical issues in the process, particularly in terms of the anonymity of opinions and the nature of her interactions with the respondents (Walsham (1993a), Hughes (1995)).

The validation of the choice of research method, and the techniques used, are part of the evaluation process of the research. The inclusion of the *weltanschauung* of the researcher as a major criteria, necessarily means that any validation must be considered highly subjective, and will be measured by the conclusions abstracted from the analysis rather than by objective tangible measurements (Fitzgerald (1991)). Fitzgerald, in trying to identify a means for validation of his work, looked at how IS development techniques were validated, and found little evidence for this anywhere in the literature. He noted that it was usual for techniques to be simply described, with authors relying on illustrations to be sufficiently persuasive to validate themselves. He stated that 'We still have the ethical burden of trying to demonstrate our technique's strengths and weaknesses, of establishing under what circumstances it is thought to be more applicable and also, under what circumstances it is

thought to be less applicable.'

The set of principles put forward for evaluating interpretative field research by Klein and Myers (1999) provide a possible means of validating the research presented in this thesis. Their criteria present an integrated guide for the researcher covering the following areas:

- . The hermeneutic cycle – the process from pre-conceptions to global understanding
- . Contextualisation – the gulf in interpretation between the author and the reader with learning enabled by an hermeneutic process
- . Interaction between researcher and the subject – producing the 'facts' of the situation in the context of the interactions
- . Abstraction and generalisation – the use of the theory as a sensitising device to draw out conclusions
- . Dialogical reasoning – the confrontation of the author's pre-conceptions as an aspect of the learning process (Gadamer (1976))
- . Multiple interpretations – the examination of multiple viewpoints to surface the conflicts related to power, economics or values
- . Suspicion – the discovery of false pre-conceptions

A qualified reader can identify principles which were left out by identifying 'holes' in the researcher's story.

A a piece of critical research the work should also provide the reader with a critique of forms of domination, asymmetry and distorted communication in the research situation through showing how social constructions of reality can further certain interests and alternative constructions can be obscured and mis-recognised (Deetz (1996)). The work should also strive to achieve the fundamental criteria for human well-being and emancipation in its process and aims, by addressing Habermas' technical, practical and emancipatory human interests (Jackson (1992)): in assisting the material well-being of the social system through improved productivity; in promoting mutual understanding among individuals and groups; and in encouraging open interactions free from the constraints of

power and distortion.

4.5 CONCLUDING REMARKS

Reflecting on the metaphor put forward by Gummesson (1991) of an area of research being like an iceberg: an iceberg only shows 10-15% of its mass above water, the researcher who wants to see what is really going on needs to look below the surface. In this chapter the author has presented her thinking and evaluation of the IS literature in her choice of research approach for the investigation of the beliefs and behaviours of IS researchers with respect to the dissemination of their work.

The choice of research approach has been made in the light of five factors of the research: the author's experience and underlying epistemology; the research issue which viewed dissemination in an holistic sense as an aspect of IS research: the intellectual framework supporting the research which was based upon viewing IS research as an IS through a Multiple Perspectives Approach; the researcher's assumptions about the target audiences for the work; and the research methods available within the IS field. In this chapter these factors are discussed and the author's choice-making made explicit for the reader.

The research approach, combining in-depth interviews with IS academic leaders and a supporting questionnaire survey of the broader IS academic community in the UK, was chosen to combine the strengths of the author, in the light of the stated framework, to provide predominantly qualitative data to richly illuminate the research issue. The approach would be carried out within a critical research perspective, with the interactive nature of the interviews providing an opportunity for learning on the part of the researcher and an environment for discussion which would extend into the broader IS community. The issues surrounding the choice of interview approach, the use of 'leaders' as the interview group, form and target population for the questionnaire survey were discussed in terms of their strengths and limitations for the research.

Throughout Chapters 2, 3 and 4 the emphasis has been the exploration of the dissemination of IS research through an holistic and critical approach in order to obtain insights which would inform IS theory. The research approach discussed in this chapter was chosen in the light of this emphasis and aimed to produce research data and findings which would provide more than just a 'snapshot' view of the community in the mid 1990s.

In the following chapter, the practical aspects of the research activity are described. The chapter includes details of: the project planning; the preparation and author's involvement in the interviews; the creation and implementation of the questionnaire survey; the analysis of the data; and the dissemination of the research findings.

CHAPTER 5

THE RESEARCH ACTIVITY

5.1 INTRODUCTION

The research presented in this thesis concerns the sharing of IS research results between the academic community and IS practice in the UK, exploring the beliefs and behaviours of IS researchers with respect to the dissemination of their work. The preceding chapter presented the chosen research approach, including in-depth interviews with IS academic leaders and an electronic questionnaire survey of the broader UK IS academic community.

In Chapter 2 the focal research issue of dissemination was identified as an aspect of the broader area of IS research. IS research was then viewed as an information system, a socio-political as well as technical system. The theoretical framework presented in Chapter 3 supported this perspective, bringing together a variety of theory through which the eventual research findings could be interpreted. The research approach discussed in detail in Chapter 4 reflected the need to provide predominantly qualitative data to illuminate the research issue, through a Web Approach. The underlying epistemology of the author suggested the use of a critical approach to the research, providing an opportunity for her engagement with the ‘subjects’ of the research and for the research activities themselves to encourage learning by the participants, members of the proposed target audience for the work, as part of the data collection process.

In this chapter the research activity is described, providing the reader with evidence of the planning, data collection, analysis and expected dissemination within the project. In reviewing the research the author has attempted to provide an honest account of the activity and of her learning about the whole process (Jayaratna (1994)). The chapter begins with an account of the research project planning process, and its review in the light of major unforeseen delays in the project. This is followed by descriptions of the main interview

activity and the implementation of the questionnaire survey. The data analysis process is discussed and compared with the author's experiences in IS development. Dissemination of the findings must be a major consideration for the author in the light of her choice of research issue and the dissemination which was integral to the data collection process is acknowledged, as well as her 'post-thesis' plans.

5.2 RESEARCH PROJECT PLANNING

The author brought to the research her experience of project planning in IS development, and produced both a Project Plan and Risk Analysis as part of her Research Proposal (see Appendix A). The planning phase included the preparation of materials, and techniques to be used for the interviewing and survey activities, and involved the gaining of specialist advice where necessary. From her time in practice, the author was aware of the importance of thorough planning in securing advance knowledge of project activities.

The research project took place over a period of seven years from 1993 to 2000, interrupted for almost two-and-a-half years due to a serious problem with the author's health, followed by her move out of academia and back into IS practice due to the ensuing financial difficulties. Reading of the IS literature began for the author on her entry into the IS Doctoral School at Salford University and continued throughout the period of the project. The main data collection activities of the interviews and survey were undertaken in 1995 and 1996. Analysis and writing began during 1996 and was completed in 2000.

In contrast with most development projects in IS practice, this research project was carried out by the author in relative isolation. The Risk Analysis produced early in the project did not include the possibility of periods of ill health, lack of finance for personal living, and periods of lost confidence – all of which plagued the author at some point over the seven years. The possibility of 'giving up' with such a project, which was personally initiated and perceived at times to be of little importance to anyone other than the author herself, should have been identified as a major risk when the work began. One strategy for ensuring

progress was used during the reading, planning and data collection phases of the work which was to have regular progress meetings with her supervisor supported by formal written reports. This required a disciplined approach by the author but was very effective.

5.3 THE INTERVIEW ACTIVITY

The planning and design of the interviews took place during 1995, and four pilot interviews were carried out during the last quarter of the year. The benefits of pilot interviews were self-evident to the author. There would be no second chances in gaining time with senior, very busy, people. It was essential that the research model, the interview format and timing, use of the recording equipment, and the interactive approach for the interviews should have been tried out in advance, with any glaring problems being addressed. Of course, unexpected problems did arise and are reported in Appendix B. The pilot interviews were undertaken with the assistance of academics at Salford and Huddersfield universities, and interviewees were chosen to cover the range of research areas in IS. The pilots were used to try out the model as a basis for the semi-structured interviews, identifying whether it would enable the collection of the kind of data anticipated and encourage wider discussion, and to discover whether the planned timing would be sufficient to encompass a useful engagement. It was also necessary for the author to try various methods of recording the interview data, the plan being to record the interviews using a mini-disc recorder. The author's ability to build rapport with a range of personalities within the interview constraints was an essential part of the interview activity, and it was important to identify any issues which might arise with academic 'subjects' as opposed to the business users which were familiar from the systems development environment. The ability to manage the interview exchange, its direction and timing was an essential aspect of the process - an ability that was severely put to the test on a number of occasions during the actual interviews.

Two issues which arose from the pilot interviews were the validity of the Interview Model and the recording of the exchanges. One of the pilot interviewees indicated that they would

rather the interview was not recorded. This related to the semi-structured and interactive nature of the interview, for which they could not necessarily prepare their thinking in advance, and their concern that the recording could be heard by someone in their peer group who could at some stage be in a position of judgement or assessment over them. The author anticipated that this would not be a concern of the 'leaders', but in all interviews the participants were asked if the recording may be made. The author's intentions in recording the interviews was to supplement her note taking and to allow her to fully engage in the interactions without concern about note-taking and her poor memory. The author was well aware of her inability to effectively recall the content of interviews after the event, unless she had made extensive notes.

As an analyst, the author had never used, nor seen used, any recording devices during data collection. In her experience, such an activity would have placed great limitations on the process, which was primarily an activity of establishing relationships through which information could be gained about the technical area under investigation. In systems analysis such information was gained gradually and in a piecemeal fashion through a number of interactions with an individual or across a group of individuals. Recording interviews would have been an inhibitor to the process, which is recognised as social as well as technical. Since the aims and context of the research project differed from those in systems analysis, recordings were proposed, and generally accepted by the interviewees. The recording activity itself suffered from some problems, as is noted below.

When conducting interviews with members of the UK Committee of IS Professors, the author was occasionally aware of an interviewees discomfort with the recording equipment in light of the direction of the conversation. Some people merely looked uncomfortable, which presumably influenced their responses, others directly asked for the conversation not to be recorded. The data analysis activities utilised the transcripts and recordings as memory prompts, and the recordings and transcripts have been kept confidential throughout the project. In writing this thesis, the author has ensured that her use of quotations, particularly in Chapter 6, does not contravene this requirement for confidentiality, whilst at the same time allows her to convey the richness of the conversations and ideas expressed.

The whole issue of recording interviews is seen an ethical issue by the author, and its use presumes a high degree of integrity in the researcher.

The criticism of the Interview Model during the pilot questioned the validity of assuming a communication model of dissemination. It was proposed that the dissemination aspect of IS research could be viewed as a learning process for the individual researcher themselves and as a means of identifying the development of the thinking processes of others. The researcher in question considered that the publication of papers in IS academic journals often did not provide new insights into IS as much as into the authors of the papers, the IS researchers themselves. A second criticism of the model, during the main interviews, was its assumption of a communication process primarily from researchers to practitioners. It was suggested that the direction of flow should be seen to be reversed in the case of IS research, since it was practitioners who were actively involved in new developments, with researchers, in the main, just observing and analysing the results. Both criticisms were acknowledged, both being taken into account during the analysis and the latter, also, being incorporated into any future research in this area.

In the light of the pilot study, the author fine tuned her interview technique through some initial insights into academics as the interviewees and moved on to the next stage which was to establish contact with the Committee of IS Professors members. A list of potential and actual interviewees, and samples of correspondence are provided in Appendix B. Members of the Committee were contacted at the beginning of 1996 and all interview occurred between January and July 1996. A total of thirty nine interviews were carried out with senior researchers across the UK, including the four pilot interviews.

Several members of the Committee proved difficult to contact, and after a number of attempts were not, therefore, interviewed. Twenty seven members of the Committee were interviewed (out of a total of thirty three), with the remaining interviewees being nominated by those members for inclusion, or being senior researchers known to the author through her involvement in the IS academic community. Of the five researchers recommended for inclusion by interviewees, two were active in departments in 'new' universities, which were

notably underrepresented in the Committee membership, one was a researcher in systems theory outside the IS field, and two were engaged in IS research from within social science disciplines.

The initial correspondence with potential interviewees was sent under the auspices of the author's supervisor, a well-known figure in the IS academic community. In this way, it was hoped to gain the best possible chance of positive response. All initial communication was via e-mail, although subsequent communication included telephone contact, to book appointments, and normal letter post, to confirm bookings and provide introductory materials. It became apparent that a number of the Committee did not read their e-mails, and an average of 3 telephone calls was generally necessary to establish contact with people. Some individuals could not be reached by telephone, in which case a letter was sent. No member of the Committee refused to be interviewed. All interviewees were personally thanked for their time and involvement, by letter or e-mail. The author maintained a professional approach in all personal and written communication with community members. Five days before the interview appointment a letter of confirmation was sent to the individual, including a brief note about the author and the research project, and a copy of the interview model. Some of the contacts were through secretaries, simply to arrange dates for the interviews, others involved a brief discussion of the work proposed and the level of commitment required. The author was careful to make it clear to everyone that a minimum involvement was being requested, amounting to no more than an hour of their time. In some cases, the interviewees (or their secretaries) sent the author maps or travel information. Where possible interviews were arranged in geographical groups to minimise travel time, and for a number of interviews there was a need for overnight visits. Costs were kept low by arranging accommodation with friends around the country, and travelling expenses were mostly met by the Doctoral School at Salford University.

Preparation included some research on each of the interviewees, through their web sites and publications to provide the author with background knowledge. The practicalities of travel were managed carefully to ensure no problems with lateness to appointments. Again the author's long experience ensured a professional approach here, acknowledging the

importance of respect for the interviewees time, and the impact that non-punctuality may have on the relationships which it was essential to build throughout the whole process - from initial contact right through to the final thank-you letter. Formal dress was another important part of the professional approach, establishing the author's credibility and status, particularly with respect to the business culture of practice and that of the institutes in which many of the interviewees were employed.

The collection of data during the interviews included the use of the mini-disc recorder, the author's notes, her memory of the exchanges and a variety of materials provided by the interviewees, including academic papers and institutional literature. A number of interviews were not recorded due to problems with the use of the equipment and in one case the interview took place in a student café where it was not possible to make a recording. Several of the leaders were happy to allow the interview to extend well beyond the hour allocated and in these cases recordings did not cover the whole session. Immediately after each interview, the author recorded her own thoughts and memories to supplement any notes she had made during the discussion. Recordings were transcribed by a professional typist, this being a very time consuming task for a non-professional two finger typist.

During the interview process, the author necessarily changed her approach and contributions in the light of her learning from previous interviews, as anticipated in Chapter 4 as an accepted aspect of the research approach. She learned about 'doing' the interviews, as well as about the nature of the IS academic community and the issues of research and dissemination right through the activity. One interesting insight, which took the author by surprise, was the impact of the interviewee on the author. Presumably, during the author's many years of interviewing people, she had been aware of her responses to the individuals being interviewed, but in this project those responses were quite striking. In general, the interviews were very productive and the leaders engaged positively with the author in exploring the subject. Some individuals were quite inspirational - even when re-reading the transcripts or notes several years later the impact could still be felt. With some interviewees, little or no rapport was established by the end of the session. In one interview, the author felt overwhelmed by negativity in the interviewee, and at a personal level found

it difficult to maintain the dialogue. On two occasions the interviewee began with what was obviously a pre-prepared speech, only later engaging in a more open dialogue and exploration of the subject. The impact of the leaders' personalities was quite a powerful factor in the interviews, though to some extent this was muted when turned into notes and analysed. Awareness of the influence of the personal interactions has, hopefully, enabled the author to minimise its impact in her analysis. It will almost certainly still be there somewhere, unknowingly.

The interview approach has been acknowledged in Chapter 4 as producing data which is unique to the situation and to those involved. Through engaging in the process reflectively, the author recognised the centrality of this assumption, even in the light of her previous experience with interviewing. On a different day or with a different interviewer, the data emerging from this research activity would be very different.

5.4 THE QUESTIONNAIRE SURVEY

The planning and design of the questionnaire survey occurred during the period of the interviews, in the first six months of 1996. The questions for the survey were produced in the light of the interview planning and the subsequent use of the Interview Model. The author researched other questionnaires and sought the advice of a statistician from Huddersfield University for assistance in designing the questions and data recording approach for the survey, which utilised standard categorisations and data ranges where appropriate. The survey was carried out electronically and comprised a web site and an e-mail solicitation to participate. This initial correspondence with potential survey respondents was sent, once again, under the auspices of the author's supervisor, in an attempt to gain the best possible chance of positive response. Addressees were contacted via e-mail and they were requested to respond by return if they believed they had been wrongly included in the lists. Otherwise they were invited to complete the questionnaire, which was available on the author's personal WWW site. The web site was designed in collaboration with a specialist from Salford University. The five sections in the questionnaire were

ordered to obtain the respondents' interest, therefore personal details were at the end: Research Area; Research Audience; Dissemination of Research Results; Feedback and Evaluation of Results; and The Researcher (see Appendix B for the full questionnaire).

It was important to trial the electronic approach, as well as the content and form of the questionnaire, in order to be reasonably confident of producing anything like a valid response. The pilot activity was undertaken during June 1996 with the assistance of academics at Salford and Huddersfield universities, who were chosen to cover the whole range of areas of IS anticipated in the subsequent research activity. The pilot population was 89 people, including academics at all levels and some individuals who would be 'rejects' for the survey. 12 questionnaire responses were received, 11 people replied that they wished to be removed from the list, and 19 e-mail addresses were returned as non-deliveries – providing a response rate of 20.3% with respect to the amended mailing list. Slight changes were made to the questionnaire after the pilot, reflecting categories offered as possible answers.

Mailing lists were compiled early in 1996 from web-based information for UK universities, as discussed in Chapter 4. The mailing lists were created by trawling the World Wide Web pages of individual universities and departments, information which, when it was provided at all, was publicly available. During the survey two e-mails were received which questioned the ethicality of the individuals being included in a list without their prior knowledge. The author had not considered the creation of the lists as an ethical issue at the time, though is aware that since 1996 some universities have withdrawn public access to telephone and e-mail contact lists for their staff.

The survey population comprised 3,841 individuals, from which there were 100 questionnaire responses, 398 requests to be removed from the lists, and 833 electronically rejected addresses. This provided a final response rate of 4.4% from a target population aimed to embrace all possible departments which might include the self-selecting members of the fragmented IS academic community. The author was aware that the lists would necessarily include many students and support staff as well as IS academics. The response statistics

compare with a more narrowly targeted survey of 565 members of the UKAIS by Galliers et al (1997) from which they received 109 replies. The foci of the two surveys was different, although some comparisons can be made in terms of the characteristics of the respondents (see Chapter 6).

The full survey was implemented in September 1996. The timing was determined to coincide with, what was hoped to be a relatively 'quiet' time for academics, between the return from holidays and the beginning of the Autumn Term. Respondents were asked to include their name on the questionnaire, to enable the maintenance of the mailing lists and prevent people who had responded from being sent reminders via e-mail. All the data from the questionnaires was recorded on SPSS without the identification details. Full returned e-mail messages were recorded elsewhere, as evidence of individual responses. Several repeat mailings were carried out as reminders, based on the maintained lists, an approach which is not possible with postal surveys. The ease with which respondents could request removal from the lists meant that more feedback was provided than with a written questionnaire.

The author experienced some technical problems with the mass mailing, in 1996 the technology (at least her version) was still temperamental. Considerable time and effort was expended dealing with rejected e-mails and faults in sending the messages. There was also no way of assuring the accuracy of the electronic responses, and certainly one reply was not complete on receipt for whatever reason. A review of the process is provided in Appendix B. The data were transferred manually into SPSS for analysis, with detailed categorisation.

5.5 ANALYSIS OF THE RESEARCH DATA

The research issue was to understand the beliefs and behaviours of IS researchers with respect to the dissemination of their work, with a particular interest in dissemination to IS practitioners, and, in doing so, to contribute to IS theory and the practice of IS research. The research approach was critical, looking to identify issues of conflict and variation and

addressing the research issue through questioning accepted ideas and identifying alternatives, whilst providing the reader with both the perspective and choice of process made by the author. Using a Web Analysis, the focal issue of dissemination was investigated in its context of IS research and its participants. The framework through which the learning was gained viewed IS research as an IS, providing theory from the IS literature across the perspectives of technical, organisational and personal. The analysis of the mainly qualitative research data, as presented here, reflected these choices and the skills and experience of the author from IS practice.

The analysis phase of the research occurred over two separate periods of time, the first being during 1996 and early 1997, and the second during 1999 and 2000, due to the delays discussed earlier. The analysis began during the interviews with leaders and has continued through the writing of this thesis, with further reading of the literature informing and resulting from the research findings. The author anticipates that the process will be ongoing through her interactive dissemination activities with both IS researchers and practitioners, which reflects both the critical nature of the work and a hermeneutic view of learning from the outputs of research as discussed in Chapter 3.

The analysis process and thinking is presented to enable the reader, and the author in writing this, to critically review the activity in terms of the choices made by the author in her use of the research methodology. The author is aware that her largely functionalist education and background influenced her approach to both the analysis and presentation of the findings, encouraging a logical and structured manipulation and sorting of the data in order to elicit insight and understanding. In her reading of the literature on the experiences of other researchers in qualitative data analysis, the author found interesting accounts but little practical guidance on actual alternative analysis activities (Bryman & Burgess (1994), Miles & Huberman (1994), Holstein & Gubrium (1995),

In the light of her experience as a systems analyst, the author identified the need for a structured approach of some kind for the analysis, as a means of reducing and managing the complexity of the interview data. In organisations the author had used traditional, in-house,

specification-based standards as well as more formal structured techniques of data flow and entity relationship modelling, noting the benefits of multiple views of the data in highlighting issues and insights in to the situation under investigation. This experience influenced the use of initial coding of the interview data, and in-case and cross case analyses of stakeholders and issues. The SSM techniques of drawing a rich picture and identifying relevant systems for debate and comparison with the situation were also used, providing another perspective on the data (Checkland (1981)). The techniques and approach used is always a choice of the researcher and provide an opportunity for the reader to follow the analysis process. The insights gained whilst undertaking the activity may be unique to the researcher, bringing together their memories of the interactions, the patterns and inconsistencies in the data, and their personal knowledge and internal cognitive schemas into which the new learning is merging (Schon (1987)). As in the dissemination process itself, there is a 'personal' appropriation taking place (Boland (1991)). In the author's first job as an IS practitioner, bringing the 'new' structured analysis techniques from her university course, she was told by the senior analyst on her project team that 'a structured approach doesn't make a good analyst'. The reader is presented with the opportunity of identifying their own insights through their reading of the thesis, and indeed making their own contribution to IS theory.

The analysis activities are identified in Table 5.1, along with the data inputs and outputs of each. The activities were informed by the theoretical framework in Chapter 3 and the outcomes were considered in the light of that framework. The process included both in-case and cross-case content analysis, and utilised both coding or sorting techniques and the filtering and sifting of data, identifying both commonalities across the data, areas of conflict and the breadth of different perspectives put forward. There were interrelationships between the various analysis activities of data reduction, data display and the author's learning, which occurred concurrently throughout the process (Glaser & Strauss (1967), Miles & Huberman (1994)).

There appear to be two essential differences between analysis in IS research and practice: the prior identification of a theoretical framework through which the learning is identified

and made explicit; and the need to present the whole process of the analysis, and earlier choice-making, to the reader to enable both an assessment of the activity and possible alternative interpretations of the findings. Much of the analysis activity required the same analytic skills as in development projects, and the author was aware of the same sense of being overwhelmed by the complexity of the data, and the underlying situation, as she, and other analysts, had encountered mid-way through analyses in

organisations. The insights and deep understandings develop through engaging in the process of analysis and in the continual cycle of listening and reading as the various stages progress.

The author's involvement in, and memories of, the interviews was of great benefit in the analysis activity, where issues and remarks made were gradually isolated from the interviewees as the data was collated and summarised. The context of particular comments was important and it would have been more difficult to carry out the analyses if several interviewers had been involved. The presentation of the findings in this thesis has been done in such a way as to provide the reader with some context for interpretation, either in the form of its structure or through the provision of longer quotations. At all times, the thesis aims to present the essence of the interview findings without making explicit the individual leaders' views and contributions in order to satisfy the requirement of confidentiality.

In future research using qualitative data, the author will be inclined to utilise software for the recording and analysis of interviews, in order to reduce this disconnection of data and interviewee which would also reduce the importance of sole involvement in the interviewing process. She doubts whether the use of software will affect the actual time and effort in analysis, however, because of the necessity of having a deep understanding of the data which can only be gained through the whole process of listening and engagement. One of the possible implication of using software, such as NUD*IST, may be a tendency towards a more reductionist quantitative analysis of the data and away from the holistic

ANALYSIS	INPUT	ACTIVITY	OUTPUT
Interview Analysis	Interviews	Learning during the interview process about 'doing' the interviews, IS research and dissemination and the IS academic community	Behaviour and interactions in subsequent interviews
Interview Model	Interview notes Transcripts and recordings	In-case analysis Coding of data, identification of major issues raised Listening to tapes, reading transcripts, going through notes	Questionnaire – Appendix B Individual Summary Sheets – sample in Appendix B Profile of Leaders – Chapter 6 Profile of Dissemination – Chapter 6
Survey Analysis	Survey responses Author's perceptions from interviewee responses	Transfer of questionnaire responses into SPSS categorisation SPSS analysis of questionnaire and interview responses	Response Statistics – Appendix B Summary and Statistics – Appendix C Comparison with Interview Data – Chapter 6
Stakeholder Analysis	Individual Summary Sheets Interview notes Transcripts and recordings	Identification of stakeholders Cross-case coding of data for stakeholder groups	List of Stakeholders – Appendix C Stakeholder Diagram – Chapter 6 Stakeholder Summary – Appendix C Stakeholders – Chapter 6
Audience Analysis	Individual Summary Sheets Interview notes Transcripts and recordings	Cross-case coding of data for potential audience groups	Audience Summary – Appendix C Profile of Dissemination – Chapter 6
Issue Analysis	All inputs and outputs already identified	Draw focal issues re dissemination from the context through a deep understanding of the data Identify issues relating to the literature SSM analysis of relevant systems	Role of the Researcher – Chapter 7 Routes to Practice – Chapter 7
Review of Analyses after research delay	All inputs and outputs already identified	Re-listening and re-reading of all data and analyses New issues identified in light of author's thinking Research in the literature	Resource-Dependence – Chapter 7 Choice of Audience – Chapter 7
Writing the Thesis	All outputs	Clarify the analysis and findings in the process of structuring and writing the thesis	Thesis Academic papers from the thesis
Further Dissemination and Research	All outputs and thesis	Review the findings and contributions in the light of debate with the IS academic and practitioner communities Review the findings in the light of subsequent research into dissemination	Subsequent research activities and publications

Table 5.1 – The Analysis Structure

approach (Miles & Weitzman (1994), NUD*IST (2000)).

The author's different views and perceptions of the findings experienced after the gap in the research indicated the importance of reviewing research findings, both in the light of debate and simply because of the researcher's interim learning. Particularly in terms of the author's longer term interest in research into dissemination, it is important to recognise the findings presented in the thesis as context related. The issues raised are important and contribute to IS theory and practice, but additional insights may develop over time.

5.6 DISSEMINATION OF THE RESEARCH RESULTS

The dissemination of this research began in the planning stages in the IS Doctoral School at Salford University, through seminars and the presentation of the Research Proposal. The interactive nature of the interviews encouraged an exchange of ideas and was intended to encourage reflection on the application of IS theory in their own research practice amongst the participants. The questionnaire survey advertised the issue of dissemination across the broader IS academic community. As the findings have emerged through the analysis and writing activities of the author, they have begun to be disseminated more explicitly through the community via conferences and journal papers, and in this thesis.

Future dissemination will continue this process of academic publishing and debate, and through future research with IS practitioners. Dissemination to students, both pre- and post-experience will occur through the author's teaching on undergraduate and postgraduate courses. Her emphasis in dissemination will be on interactive engagement with her target audiences, providing both feedback to herself and enabling reflection and appropriation of the ideas from the research by others.

5.7 CONCLUDING REMARKS

The research in this thesis investigates the beliefs and behaviours of IS researchers in UK universities. The research approach involved in-depth interviews with IS academic 'leaders', supported by an electronic questionnaire survey of the broader IS academic community in the UK. A discussion of the strengths and limitations of the approach was presented in Chapter 4, together with the reasons for the choice.

In this chapter, the research activity was described, which included: the planning and risk assessment of the research project; the preparation and activity of the interviews; the creation and implementation of the electronic questionnaire survey; the capture and recording of research data; the analysis of the data; and the dissemination of the results. The activities are discussed critically and the author's learning identified throughout the chapter.

In the next two chapters, the findings of the research are presented. Chapter 6 provides the reader with an informative view of the findings, and suggestions for their reading and interpretation. The chapter should be read in conjunction with the context of IS research in the 1990s, as presented in Chapter 2 of the thesis. In Chapter 7, the author presents her interpretation and learning about the research issue in the light of the theoretical framework for the research, discussed in Chapter 3. Simplistically, Chapter 6 could be viewed as the 'snapshot' view of the work which is used to inform the theoretical insights provided in Chapter 7.

CHAPTER 6

THE RESEARCH FINDINGS

6.1 INTRODUCTION

The research presented in this thesis explores the beliefs and behaviours of IS academics with respect to the dissemination of their research results. The research was carried out by an IS practitioner who had recently entered the academic community and was concerned with the issue of why she, and her practitioner colleagues, had known so little about the IS research being undertaken in universities.

The research activity included in-depth interviews with IS academic leaders supported by an electronic questionnaire survey of the broader community of IS academics in UK universities. The interviews and survey were carried out in 1996. The research approach, and the factors which influenced its choice, were discussed in Chapter 4 of the thesis. It reflected the critical epistemology of the author and the holistic nature of the research issue, enabling a questioning approach to the work and the collection of predominantly qualitative data to provide a rich basis for analysis of the findings, as described in Chapter 5. The focal issue of dissemination was identified in Chapter 2 as an aspect of IS research, which itself was viewed from the perspective of an information system. The definition of an IS used throughout the thesis is that of a socio-political system, within a critical systems philosophy. The theoretical framework underpinning the work is based on this perspective and utilises the Multiview 2 model to provide a Multiple Perspectives Approach to bring together a variety of theory from the literature. The emphasis is on the utilisation of IS theory, much of which is derived from the practice of IS development, to illuminate an issue within the practice of IS research.

Chapters 6 and 7 present the findings from the research and are structured to provide the reader with an informative overview of the interviews and the survey, followed by a

discussion of some of the major issues which arose from the analysis and the author's reading of the literature. Occasionally, the two overlap and there may be some duplication of information in order for completeness. The two chapters are intended to be interpreted as a whole, in order for the reader to appreciate the richness of the research findings. They should be read in conjunction with Chapter 2, which provides a discussion of the relevance of the research issue in the context of the 1990s, and with Chapter 3, which presents the theoretical framework through which the research findings can be interpreted

In this first chapter, some basic findings from the data are presented which build a profile of the leaders, showing them as 'jugglers' of multiple roles with varying priorities and personal motivations for their research. This is followed by a summary of the leaders' perceptions of the main stakeholders of IS research and a profile of dissemination behaviours of the leaders in terms of their choice of target audience and dissemination activities. Towards the end of the chapter, the findings from the interviews are compared with the results of the survey of the broader UK IS academic community.

6.2 NOTES FOR THE READER

The findings presented in this chapter are intended to provide a view of the IS research community in UK universities, which will generate insights into IS theory, research and practice, and to encourage reflection within the IS academic community on the area of dissemination of research results. The findings relate to the community as it existed in 1996, however, the approach to data collection, analysis and presentation is intended to provide the reader with a view of an IS community which is pertinent to their current, and future, concerns with their own practice of IS research.

The literature reviewed for this research has been incorporated into the research process itself, in terms of: the choice of research area and the research approach used; the model for the interviews and questionnaire survey; and the analysis and presentation of findings. The textual presentation and the structure of the two findings chapters aims to present the reader

with a view of the research data gained through the Web Analysis, utilising the context of the leaders' research situation to gain a focus on the area of investigation which is the dissemination of research (Kling (1987)). A communication model for dissemination has been used throughout the research activity, but through an interpretive and critical research approach where the semi-structured nature of the interviews, the variety of analysis techniques and the presentation of the leaders own opinions and statements wherever possible. The findings attempt to provide a social critique of the IS research activity (Alvesson & Wilmott (1992), Hirschheim & Klein (1989)) and enable understanding of dissemination through the meanings the leaders apply to their behaviours (Boland (1987,1991), Orlikowski & Baroudi (1991), Walsham (1993)). The reader is referred back to Chapter 4 for a discussion of how to judge interpretive and critical research, based on an holistic view of the engagement of the researcher with the research subjects and in the learning activity and the quality of the critical interpretation of the findings (Klein and Myers (1999))

In presenting the findings from the interviews with leaders, the author has attempted to show the range and diversity of views and behaviours across the group. No comments should be read as being 'representative' of either the UK Committee of IS Professors, nor of the IS community as a whole. The interview format was semi-structured, based around the Interview Model but allowing the leaders to take the discussion into any area they considered relevant to the dissemination of research. Consequently, the reader should be aware that any particular topic presented in this chapter, may not have been raised in every interview, for example an individual leader may have said very little about a particular stakeholder group with whom they have little or no contact or concern. The interviews illuminate the heterogeneity of the group, even sub-groups based in different departments or types of institution did not prove to be homogenous across the various areas under discussion. The findings should therefore be read as an exploration of possibilities, encouraging diversity and creativity in the achievement of a variety of dissemination aims. 'While the leaders are the source of the issues, the authors are responsible for categorising and organising the issues and putting the differences of opinions in perspective' (Watson et al (1999)).

The author has an advantage over the reader, in the sense that her understanding of the findings as presented is supported by the memory of the context of the individual statements quoted in this documentation. As one interviewee noted, the source of an idea is as important as the idea itself due to the inequalities of power and position of the individuals involved. One interviewee, in discussing anonymous reviewing for journals, stated:

“ ... in management subjectivity is the key. It matters who says, not only what is said. It matters grossly because there are very few criteria for judging whether someone is talking sense or nonsense. Have to look at a person's records.”

However, in presenting the findings in this thesis the author is not providing the identity of any quotations or opinions and the transcripts, which were used to aid the author's memory from the interviews, are not included with the data. The selection of interviewees as 'leaders' in the IS academic community ensures the value of their opinions within the research. Indeed, during the interviews, it was sometimes necessary for the author to state that transcripts would not be provided in order to relieve the interviewee's desire not to be personally quoted, thereby allowing a free exchange of ideas. The aim of the work is to identify interesting and insightful ideas and to show the diversity present in a group of evidently 'credible' leaders in the field. Where the context of any quotation is required in the text, it has been provided.

Consequently, much of the learning from this research activity accrues to the author at a personal level, and is portrayed in Chapter 7 through her subsequent return to the literature and critique of the findings. As has been stated throughout this document, the author carries with her past experiences, personal outlooks and prejudices, all of which will have been reflected in her choice of research area and approach, her interactions with the interviewees and the presentation and form of the results. The reader is provided with quotations and individual remarks, which the author deems crucial to their appreciation of the variety and richness of the data (Holstein & Gubrium (1995)). The reader will be able to identify issues or focus on meanings in the data in a different way to that put forward by the author,

producing a completely different set of findings and conclusions.

An observation comprises two acts - an appreciation of the situation and the presentation of that appreciation (Feyerabend (1975)). The findings and this review are put forward by the author as no more than an interpretation of the data, in the hope that they will provide insights into the theory and practice of IS. The reader is discouraged from reify any of the statements presented as quotations and remarks from the interviews, since in some cases they may be simply passing thoughts in the minds of the interviewees who were very open in their contribution to the research. In general, their statements and opinions were not prepared in advance, with some being altered or expanded upon during the course of the dialogues.

6.3 A PROFILE OF THE LEADERS

The aim of this section is to provide the reader with an overview of the interviewees as researchers and leaders in the IS academic community. The interviewees are presented as individuals with motivations and priorities in their various roles in the context of their personal experiences and backgrounds. The leaders proved to be a diverse group of individuals and this section aims to show some of this diversity and to provide insights into the context in which they work as IS academics.

The interviewees were asked to talk about themselves and how they got to be ‘leaders’ in the IS academic community. The stories which were told included a diversity of educational and professional experiences. They also described the variety of activities in which they engaged as academics and leaders, and the personal and professional motivations behind the prioritisation of their time. The interviewees proved to be ‘jugglers’ of a number of roles: as human beings with personal motivations and experiences; as learners or scholars, learning from and for their work; as educators of students and the wider society; as researchers engaged in IS research alone or with others; as leading members of the IS academic community; and as employees, often managers, within higher education institutions (see Figure 6.1).

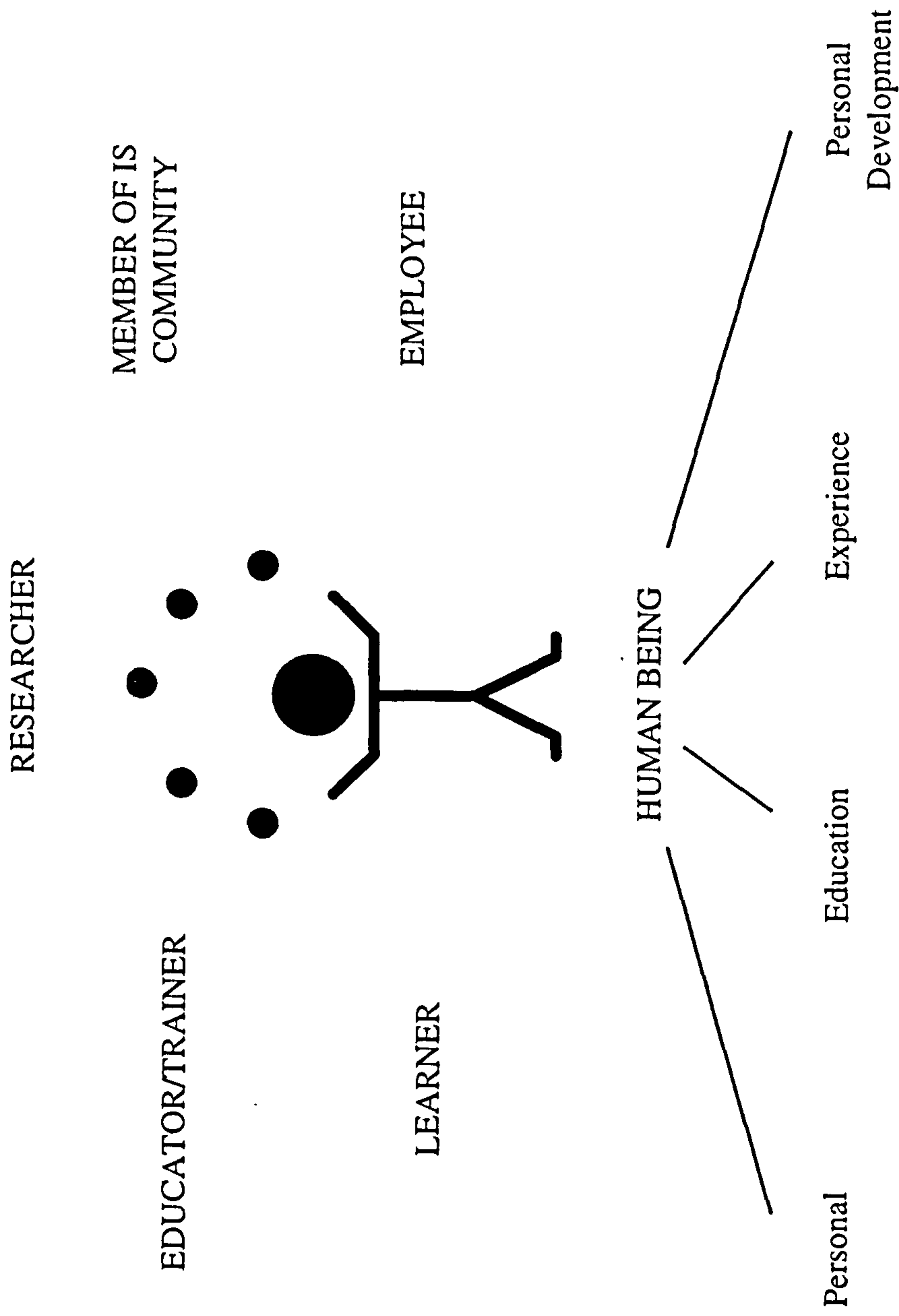


Figure 6.1 – IS Academics as Jugglers

6.3.1 The Leaders as Human Beings

Each interviewee was invited to talk about their background, both educational and professional, to build up a picture of the experiences which have informed them in their current role. The 35 leaders were located within 26 higher education institutions, universities or business schools in the UK. Almost half of the leaders had studied a science subject at first degree level, mostly mathematics, with the remainder split between business and humanities subjects. About a third moved into computing subjects for higher degrees.

Those in computer science departments mostly had a scientific educational background, whereas those from management and business schools included a mix of all backgrounds. (Greater detail of the leaders can be found in section 6.6 where they are compared with the wider IS academic community who responded to the questionnaire survey.)

A third of the group had over 10 years' business experience, and another third had over 5 years', with nearly half of the leaders having experience as IS practitioners. Most of those interviewed had been in academia for over 10 years, and about half engaged in consultancy in that role. Departmentally, the leaders were divided fairly evenly between i) computer science departments, ii) management departments or business schools and iii) an assortment of other areas including IS and systems departments. Three quarters said they were currently active in IS research and all but two were teaching. Just over half supervised doctoral students.

The Committee of IS Professors included, at the time, just one female member, who was also the only female interviewed. Gender in IS was not one of the issues investigated during the interviews, but the invisibility of women in the senior group of IS researchers was an important finding.

One interviewee suggested that the 'cultural background' of researchers did not matter, what was important was their 'attitudes'. Those attitudes develop from a complex interaction of the personalities and backgrounds of the researchers, who are, as was noted by another interviewee, essentially 'human beings' engaged in a variety of activities. In

their research in IS development, Clegg et al (1995) identified the importance of the personal background of key actors on the work organisation of others, both their technical background and their perspectives, a similar influence could be expected in IS research.

One leader pondered on the possible changes that might emerge in the future:

“You are right in asking questions about people's background and what determines the way they think about things, IS has had people from computer science, humanities, social sciences etc. We will increasingly be getting people with backgrounds in IS as well as computer science. I don't know what impact that is going to have in terms of the way we teach the subject, research and interact with professionals. I would be concerned. Greater strength in a subject where people are coming from different disciplines and not hidebound in their approach. If we have developed, as we may have done a generation of people in IS who see the world through systems methodologies and nothing else then I am worried about that unless we have ongoing education development and their own experience leads them to understand there is more to life than this.”

Another discussed the different assumptions underpinning some views:

“In a sense we both come to the conclusion that there is no unifying approach. Our way out is radically different. Theirs is a contingent interpretation of a variety of approaches. Mine is to say trust the person and they will do what's right.” ... “Because interpretation is a product of experience. ... Much of what you become is the natural selection of accidents and how you interpret is the natural selection of accidents that is you. Other people have other accidents.”

Entry into the academic community was gained by individual interviewees for a variety of reasons and with a varying amount of difficulty. Examples include being inspired by mentors, a desire to learn about the world and the need for independence in that process. Several leaders mentioned the impact on their experience of figures from the IS academic community, both past and present. Others spoke of their good fortune in being developed in the direction of research from figures in the business world.

“Decided to take research studentship. Been an analyst about 6 years altogether including time as trainee. Got the studentship. What did I research? Told that I had to find an external research supervisor, had an internal one, but university had a policy of also requiring you to have an external as well. No idea who to approach for this. Thought back to what had influenced me as an undergraduate. One of the people was Enid Mumford. ...

she had written a book with Tom Ward. Knew Tom was IT director of Littlewoods, he was a practitioner but also writing about it. Quite attracted by that - rather than a standard academic. ... He has been such an influence over the years, especially in early period. Explained to him - gave me books to read. 20. Come back when you have read them and we will talk about research. Checkland, Geoffrey Vickers etc. ... Having come from this fairly vague but pronounced practice, when I read these people that seemed to me to be describing what I had experienced. It wasn't the theory, elegant prose, good research. I felt these were people who were writing about organisational issues and probs. Putting it in a way which allowed me to make sense of the problems I had been facing at work."

"I just got interested in it, I suppose. I read the Manchester conference that Trevor [Wood-Harper] and Enid [Mumford] ran on research methods in IS, and I was just interested in the papers, I was interested that people were trying to do science in the area of IS, and there were a lot of interesting ideas around - particularly for someone who had been brought up with a very conventional view of science. I found it really quite intellectually stimulating."

A number talked about their interest in learning and the opportunities the higher education system offered:

"... always - even in school - got into trouble for questioning. Couldn't accept it. Gave up a good career to come into education and develop myself. ... I do have a great appreciation for UK education. It opened my thinking in a way it is not doing for the others. That is because I took the education, I pursued it."

"Interviewer: Why are you doing research? Who is the audience for your work? Respondent: Easy to give glib answers. At some level I have to say it is for my own intellectual interest. I am easily intellectually bored and..... I've got to say that is the only thing that keeps me alive. As I have got older I am more and more interested in this world I am in. Not particularly bothered about IS - could be anything. IS does encompass a wide range of human activity and I can use IS as a vehicle. But I am really trying to find out what life is about. Research is a vehicle to think about these issues."

One issue which was of particular importance for interviewees with regard to being in the academic world was that of independence, being able to choose one's own agenda in a relatively self-controlled environment:

"Decided to come back to an academic job because it gave me freedom to work on things I was interested in"

“Don't have a career to make. I don't want to be working on other people's agendas. I want to work on my own agenda. Academics work jolly hard. Get our own agendas.”

“Frustration in business is generally speaking someone else is controlling your life. In academia no one other than yourself. Lifestyle difference. Only do it because you think it is worthwhile doing in a sense that people who teach might actually have a better experience themselves, contribute, challenge effectively etc. Students benefited - not necessarily lecturers. My motivating force”

One leader considered their motivation for being in academia and tried to consider the reality underneath the usual rhetoric:

“Well, there are lots of nice things about being an academic - you get a lot of control over your time, if you can be clever about bringing the money in, that allows you to support a whole range of interesting professional activities, going to nice places, talking to nice people, it's a nice lifestyle that you're trying to support. So it's more than a job, it's a lifestyle. I think the lifestyle takes over, certainly. I think that's true. But it is rather shallow, isn't it? .. I think intellectual curiosity is still basically the motivation. I think things are superimposed on that, but for a lot of people it is still ... Well, for a lot of ordinary people in the academic enterprise, it's still intellectual curiosity. I'm not so sure about the professors. I think there are people who want to be rich and famous and the best way to do that is by looking at 'what would be the kind of research that will attract instant attention to make me famous?' There are some people who are much more cynical, clever, shall we say, about finding their way through to a senior position. Which is true in everything. There are very few people who get that by simply being very good - as scientists doing outstanding scientific work. In IS, I'd say the majority get there because they're ambitious. And very good at a strategy for becoming important, rather than knowing the basic level of the subject. I don't know maybe that's too cynical. I partly believe that. Those people who see it as a rat race, adopt the right strategy to succeed - not necessarily the most able. Not always true I'm sure, but probably the norm.”

Many of the leaders entered academia after a number of years in business organisations and talked of their varied experiences and views of mixed careers. They came from careers as diverse as social work, accountancy, management, systems analysis and IT management. Some of the leaders felt they were fortunate to make the move when they did, as compared with in recent years, others noted the pressures on new academics from business in terms of academic credibility via academic publication, especially at a senior level.

“About 6 careers. More linkages than will meet the eye. Brought them all together. Broad perspective. Being good academic is about having a narrow perspective. Extremely

fortunate that I came here in the top grade in a chair. If I had come in here as a lecturer I would have had great difficulty in being promoted because you need to be focused on a particular subject and you need to do it a long time and have to get your publications in a row. I have watched other people here trying to go down that route - it's tough. They're in their late 20s early 30s and they are making their careers - at my age if I come in as a lecturer, I will remain a lecturer. Lucky coming straight into a chair."

"The reason I didn't get promoted, I was told, was I was too practical. I am practical, and have always been practical. To my mind systems analysis is about teaching people to do the job. ... And if you are not there helping people get better information then it's a sterile subject. Should be room for everyone."

"Got quite strong views about this which don't necessarily fit your pattern. I, like you come from practice, only been here 5 years - academic terms not long. I came here fresh from consulting with no academic background, not even a PhD. Come from the other direction so my problem wasn't having theoretical ideas and how do I get people out there to take them up - but I am used to engaging in doing things out there - reverse problem. Two problems - to come back in to academia you need a PhD and publications. Unusual to be able to afford the time of 3 years for a PhD so that is starting to be a real barrier to people coming back. Very difficult to recruit people who haven't sufficient publications from the RAE etc. Very difficult route. Very fortunate coming back when I did. Bold move - to take someone on without the right credentials. Desirable but very unusual for people to come from practice to academia. Sad but difficult."

"It would be very useful for academics to have mixed careers. Feel lucky to have had a mixed career. ... You make your own luck by taking a risk. Risky time for academics and for academics to go out of academia, might not be able to get back in again. In general academic careers ought to be mixed, varied. Really believe that my abilities to impart knowledge to students is immeasurably enhanced by the work I have done in industry. ... I do think staff ought to have a different form of career - not actually supported by universities at the moment. Not really supported by industry. In other countries that sort of career takes place. Move between industry and academia - more of that in the States. .. Unless you have seen both sides you don't come up with that insight. ... it would be better if the academics themselves perceived that role because it would help and influence their research."

One leader told a story of their experience as a management trainee and the influence that had for their future career in IS:

"Because I actually started with the guys making the stuff on the shop floor and then at the end I went into the offices and saw it in a sense from there. I think that was the beginning of my intuitive holistic view. All of these were component element parts of the whole. Even what appeared to be the most trivial operation on the shop floor - people like the tool fitters

eg - considered to be a very mundane activity. Yet to me they seemed to be essential - without them nothing else could happen. To me being in the office appeared to be looking down. Big distinction between the culture in the works - actual manufacturing and making and the way they saw it - detached view of the office and the managers. Influenced me strongly."

Access to higher education for leaders coming out of business careers was through research studentships, lecturing applications, establishing direct personal contact with senior members of the community and, in one case, through providing commercial monies to set up a temporary post. Several interviewees noted that they had entered academia gradually over a number of years, taking part-time lecturing work whilst maintaining their business interests.

Several leaders indicated career moves into IS from the more technical disciplines of Computer Science and Engineering. One described their progression from interests in mathematics through computing and into IS:

"I discovered computing was just another form of functionality a bit more messy than maths but just as inappropriate for the social problems. ... There's no light on the road to Damascus. It's systemic. It's a factor of your upbringing, education, the accidents that you've come across during your career, lifetime"

"I am basically an engineer who switched to IS and then switched back to engineering but my major concern is with IS. When I came back into engineering I did not really leave IS - system for manufacturing, design."

"Wasn't planned, accidental, I was interested in what O & M offered. My training and the emphasis on what I did in industry means that I've got a lot more interest in the people side of systems than the technology. That's reflected primarily in what I teach."

Several commented on the distorted views of IS held by the community because of such technical experiences:

"Most of my colleagues at universities come to it out of Computer Science. Always a surprise to me that they say of course you must remember computers are only the formal information system. There are things like informal information systems. That's where I came from so I don't find it so surprising. Downside of that is sometimes I am caught out on

the technological side because of where I came from. Not that it matters as technology changes so much. ... It's a management thing, not software development. It's evaluation, project management, decision making process."

Many of the leaders were keen to be an influence for change, whether in their academic community, in education, in business organisations or more generally in the world at large. Individuals identified either an interest in all these groups, or a specific interest in some and a quite definite disregard or lack of interest in others. General statements made by leaders which indicated that some wanted a broad influence included: 'changing the world – for fun – in no particular direction'; 'open up people's thinking'; 'interaction with people to cause change'; 'can't be sure who you influence – just do your best with multiple audiences – talk to anyone'. Several leaders talked of being catalysts for change with students, believing that they would be the ones to go out and effect change in the world. Several were concerned to 'send students out with more confidence' and took a long-term view 'to educate students to be reflective practitioners'. Their responsibilities towards undergraduate and postgraduate students involved the inclusion of research findings into the university curriculum.

Several leaders were very vociferous about the need to be 'disrupters' in order to create change, to challenge peoples' thinking through cognitive dissonance, confronting individuals with new ideas or negative consequences of their old ideas – not to lead them into change but to stir them to take their own new directions. One interviewee expressed the futility of 'tinkering with lower levels' in organisations, since real change was only effected through senior management. In practice some of the leaders were engaged in the introduction of new ideas into business, where they could be tried out and developed for competitive advantage. Others looked to the empowerment of managers and practitioners to be reflective about their experiences, reaching them through courses, consultancy and action research, encouraging 'self sufficiency in learning organisations'.

A number of the interviewees expressed a strong interest in changing the academic world, through participation in its institutions and processes and by engaging others in the task through professional bodies. Most were supportive of attempts to encourage the field's

acceptance in the academic world, although not all agreed about whether IS was, or should be, a discipline. A few of the leaders had spent time working or studying in the US are told how they had managed to utilise some of their positive experiences there within their UK institutions, particularly in terms of relationships with business, funding for research and organisation of doctoral study. One interviewee recommended time in the US for other IS academics, being very complementary about that environment – however, he stated that he had no desire to live outside the UK.

The leaders' generally noted that their activities within the variety of academic roles was influenced by their own existence as human beings, with education and employment backgrounds, and also by their personal attributes, philosophy and goals. Individual researchers juggle the various roles and place different emphases on them in terms of importance and priority. During the interviews, such different emphases were evident in the areas of interest which people chose to discuss, where main concerns identified were: in their personal credibility within the academic community; their commitment to the activity and improvement of teaching in IS; a need to establish and maintain their personal credibility in the business community; the management of HE as a successful business; the establishment and recognition of IS as an academic discipline; and a number of the leaders identified themselves as being fairly opportunistic with respect to obtaining access to organisations with their main aim being to pursue their personal or team research interests.

6.3.2 The Leaders as Scholars

In the previous section there were numerous comments from the interviewees about their motivations for entering academia, a number of which focussed on intellectual curiosity and their desire to learn about the world. Many emphasised the scholarly aspect of being a researcher and lecturer, and just a couple of extra opinions are presented here to show the importance placed on reflection in terms of improved contribution to practice.

“By stepping back from consultancy practice and thinking about what he is doing he has

probably got better. I'm definitely better now as a result of having had a few years to sit down and think about what was going on and to consolidate what I knew and match it up with some of the ideas and theories that people have. I can articulate what is going on to managers much better now. And yet I still get hostility."

"You are being developed not to promote yourself at the expense of others but to be able to contribute to the others. Anyone who is educating themselves must, by virtue of becoming conscious to their reasoning process, be able to contribute to a better society."

"Unless you steep yourself in literature, concerned about people taking ideas second, third hand. Need to go back and look at the starting point. Original ideas about systems thinking and applying systems ideas."

"Every academic ought to be doing scholarship - not necessarily research. Scholarship goes both ways - helps you with your research and gives you a broad picture and also helps in teaching. Not doing it yourself because that is so time consuming. Research can be terribly narrow and if you move from research to teaching it is death. Find now that I like it better - going out to site, don't need to do it. Prefer to mull over things."

To keep things in proportion, one leader was very honest about the limitations of their scholarship:

"Respondent: Our basic business is the production of scientific knowledge - you have to keep your eye on this. Interviewer: What happens if you keep producing it and it goes into a filing cabinet and is never seen again? I'm not convinced that academics read each others papers either. R: No, wellonly if it's convenient we might, I mean I don't read papers, I haven't read a paper for months. I mean occasionally I get a conscience about it and I go and scan through MIS Quarterly and see if anybody's written anything recently. But increasingly I just don't read anything. Until I need to write a paper, then I start casting around."

Another interviewee emphasised the importance of personality and skills in learning and research activity, and suggested that the reality of practical situations should not be forgotten:

"Most people who write about what methods to use do it from a theoretical point of view - understand the philosophies, etc. Very few actually say what you should do is what you are good at. ... I'm talking about the personality. The academic view would be that personality should not matter. Some say people who do what they are good at not doing their best. Element of truth that you need to make choices, but we are better at doing what we have

done before. Although you don't want to get stuck in a rut. When your back is against a wall you use things you are familiar with. If well done, better than doing something you don't really understand"

"Every academic ought to be doing scholarship - not necessarily research. Scholarship goes both ways - helps you with your research and gives you a broad picture and also helps in teaching. Not doing it yourself because that is so time consuming. Research can be terribly narrow and if you move from research to teaching it is death. Find now that I like it better - going out to site, don't need to do it. Prefer to mull over things."

"What I have been talking about is principally scholarship rather than research. Looking at a body of literature and trying to discuss and examine it critically. What sort of assumptions is it making and challenge those assumptions, what concerns are excluded, what prescriptions are being made and do they fit with my conception of what organisation is about and how things get done."

6.3.3 The Leaders as Educators

Almost all of the interviewees engaged in teaching of some form whether it was with undergraduates, postgraduates or short courses for business. They all had things to say about their own aims in teaching and were often critical of IS teaching across the community and within the university system itself. Several leader identified the value to their own aims through their teaching. Some felt strongly that they were involved in influencing future IS practice, one leader saw themselves as a role model for academia, and others were engaged in teaching what interested them or trying out ideas from their research.

"Talking about it the whole time as it is developing talking to their students, students make comments, that feeds back into the research. That kind of thing - what can happen for the people who are willing to listen".

"I do want to change the world. But not in any particular direction. I want the sheer fun of changing it. Not with academics, with the students. They are going to the jobs and they are going to stir things up."

"Terms of practice - worked on hundreds of projects in the last 40 years. Between us must influence thousands and thousands of students. In terms of getting the message across it is

very much see the students side as very important. All the guys in this group are primarily teachers - 11 men. Teachers trying to take difficult concepts and build skills. Don't have a problem with that."

For several of the interviewees, the university system itself was a hurdle in their aims for influencing change, for another problems were identified which occur at the department level, where academics elitist views of research can prevent the transfer of knowledge through teaching.

"The universities themselves are designed to create ideal herd animals, you're not supposed to rock the boat. The British Uni system was designed to create various layers of civil servants who actually conform to the good of society. You are not supposed to develop radical aggressive individuals who actually may want to be revolutionaries. So the whole university system - you put these potential revolutionaries in one side and out come well behaved herd animals. I want revolutionaries coming out the other end."

Another interviewee, in talking of large classes and financial pressures, noted:

"I suspect that we have to move much more toward actor type people to deliver the lectures. Lectures going to be relatively few and far between and a person who can stand up and do a good lecture which is interactive and all the other things which you want. ... No reason to be different people, but certainly looking for people with those sort of skills, show-offs if you like. ... I know from looking around the dept there is a relatively small number of people in this dept who actually do that."

Interviewees talked of possible benefits to universities and students through the notions of distance and work-based learning:

"I think it has a huge potential. Whether we shall make use of it or not I don't know because my belief is that education in the future will be a synthesis of distance learning and face to face. Cannot see for very long countries financing literally tens of thousands of University professors teaching thermo- dynamics, basic psychology, fundamentals that they do in a less effective way than what you could do through a multimedia distance-learning package. I see that fundamentals will be all done through distance teaching. American universities are actively switching to this mode. Not many here - Doesn't mean that distance learning is going to take over. Just means that there will be less time to spend every year repeating the same lecture. Less members of staff in universities, doing mainly research and seminars with students. Students are going to learn on their own basic stuff. ... Maybe universities are going to be real hot spots of development of knowledge rather than reproducing"

“Work based learning is an individual scheme ... students future role in workplace. Only just starting that. Taken enormous amount of effort, not like another degree scheme, quite different. Taken a long time to get to square one, how that will develop is currently being discussed/. Universities’ moves to be more conspicuous and accessible to our community. ... Trying to make expertise more readily available to the people, readily accessible”

In terms of IS texts, there was much despair about the narrowness of books and the fact that much of the work is outdated once it gets into print but is still used for many years in teaching.

“The textbooks in the States - mind numbingly boring. Change an interesting subject into something mechanistic, technologically determined, narrowly focused, set questions at the end, Yes/no answers, multiple choice questions”

“I’m not actually interested in teaching standard material to students ... being seen as somebody who is active at the forefront of my field and therefore as somebody that you should take seriously, and that I’ve got interesting things to tell, to the students and potentially to a wider audience as well.”

The need for a more critical approach was urged, providing a variety of approaches and emphasising the behavioural and complex nature of the field. The importance of providing students with a broad group of researchers was expressed by one of the leaders. – multi-disciplinary. Several pointed out that they ‘lie less to undergraduates as they progress through the years’.

“Teach them the theory so that their minds are open to different ways of looking at things. ... Demonstrate that there are different ways of doing things based on different theoretical assumptions. Putting ideas into heads”

“Here is a group who ought to have had all the skills to ... actually really influencing events and they haven’t done so and once the IS people come through it will go like computer studies, [but] taught that behavioural stuff is important. My feeling is that is played down a bit because it is much easier to teach. Old fashioned OR kept on so long because it is so easy to teach. Behavioural stuff is so much more difficult. Can’t teach empathy etc. Can teach a bit on behaviour but can’t change attitudes. Touching at the edges.”

"I would like to see a change in the IS field. Aware of the fact that you have to build the networks to do it. Influencing managers etc. is talking about practice. In the end what people do in real organisations is what it is about but my point is that I am trying to theorise that, to contribute to that and to influence others to think more carefully about that. If you get the education right, the rest follows."

"My motivation was that there should be a better experience for the students when they get out on to the placements so they are more pro active. When I came into academia this dept has always had placements, the students did what they were told to do. Students should feel sufficiently knowledgeable and skilful and confident to be able to look at the things they are good at doing and say to employers there is a better way of doing that etc."

"When one looks at teaching something about an intervention in an organisation one has to say something about the process of change, politics of it, psychology. Can't simply say here is a set of tools and techniques. Take them forward and this is the basis of your intervention. Rather like arming them with a gun and saying go out and shoot."

"Students said but you said to us everything opposite to what the previous lecturer said to us. That's education - listen to all of us and make up your mind. Not a training in skills but the only thing I can do is to question conventional wisdom in industry and the academic world and I hope it is going to help you. They would prefer training to education but I got tremendous response from them later on in writing saying because they tried the standard methods. You can try to change the world but you are accessing a very small number."

"For me here in business school I argue very firmly that we should be trying to engineer a virtual circle between our research, teaching and market place. ... In terms of serving the demands of the market place we have to provide relevant teaching. That relevant teaching has to have a currency. No good churning out what we have churned out for 20 years. Our market expects to be served with the right kind of information. We have to do research in order to develop the right kind of teaching material and that is research of literature, current practice etc. Do we have to go further back? Yes. We equally ought to be saying given the length of time it takes us to write a course we need to go to the employers, employment market, industrial market, commercial and working with them help define the research agenda for us to be working on so that we have the material to serve the community Research is about enabling the teaching."

The integrated nature of the academic roles was very evident in all of the discussions about teaching. Other comments will be found within the discussions of students as stakeholders and audiences for research, later in the chapter.

6.3.4 The Leaders as Researchers

Interviewees talked of IS and the domain for research, some arguing why it was a science and others that it was not - an art or a craft?. The field was described as 'issues-driven', 'systems-based', 'too abstract to interest business people', 'technology-based' and a 'meta-discipline'. The group of leaders presented a broad and varied view of the field of IS and a critical perspective on its relevance to business and future directions. Some were concerned that the agenda was student-led and not related to reality, needing a greater attention to outcomes rather than looking for 'hidden meanings'. For several of the interviewees, what was important was drawing theory out of practice, others were looking to implement theory into products or into practice. The IS research process itself was seen in a number of different lights by the interviewees. As one interviewee remarked 'Where does the research process end?' Is writing an academic paper the end point? Is dissemination to the academic community sufficient?

Leaders advocated the importance of building on a cumulative body of work, looking at situations from a variety of perspectives and avoiding being 'naively managerial' in research to establish quality work in IS. Some criticism was made of the 'obsession with methods', which it was felt often led academics to treat them as mechanical and be 'imperialistic' in their use as a management tool. A view was expressed that IS was dominated by development methodologies, and there was a need for a more critical examination of practice, questioning received wisdom and identifying and evaluating 'good practice'. One leader suggested that 'research in organisations is high risk'.

"I want them to take it up and do comparative research. If I'm doing something using a particular way of doing it I would like another group in another country to do something similar and work on a similar basis. Doesn't happen nearly enough"

In terms of the relevance of IS research to organisations, leaders suggested that it was important for researchers to include a mixture of technology and people issues in their work, taking notice of Scandinavian work, and avoiding narrow quantitative work 'with no understanding of context' and 'leaves too many questions to be asked of it', as is often

evident in the US, one interviewee said. One of the leaders complained of the mechanistic approach of researchers who make gestures towards the human element and another talked of the necessity to appreciate cultural aspects of research and the implementation of IS.

“ ... application of some of our management concepts in the environment of Russia. My concern is that not only are we imperialistic, trying to dump outmoded technology on an unsuspecting public out there - great way to assist an emerging economy. Also imperialistic in terms of our concepts. Particularly from the States, the assumption is that it works for us so therefore it will work for you guys. Americans see Europe as a single entity. Different cultures in this country let alone in Europe generally. What do we know about IS in France, Germany? Let alone in Japan, Korea etc. We are so parochial and yet we purport to be a truly international subject.”

“Scandinavians have been talking about this for years. They see IS as about emancipation. In the Anglo-Saxon world - and the British aren't as bad as the French or Germans or Americans - see IT as a means to improve the bottom line. Last year Harvard Business Review suddenly discovered new thing we have just discovered. Davenport. Quite incredible when you think of all the years of work that even in this country has been done on the subject. I think IS is more about people than technology. Some would not agree.”

The rigour of IS research in the UK was considered an issue by a number of the leaders, the use of research methods being heavily criticised: ‘research methods don’t conform to those for scientific disciplines’ was one extreme view; ‘survey research is often meaningless’; ‘researchers are ‘not honest about results which occur by accident’; ‘don’t follow through a research approach in great depth, especially when picked up from another discipline’; to the view that it is the ‘English temperament’ to blame – people ‘like to muddle through’. Feedback on rigour tends to only come from the academic community, since, as one interviewee put it business has a ‘lack of interest in the research process’ itself. Several leaders were very forthright about their approach to research:

“Standard approach is very simple - part is to go into organisations, identified as rich, and say tell me your story about ... Bedrock interview. Carefully thought out questions. I don't believe in rigorous methodology. When people ask me about this I always say what is valuable is insight, experience, ability to make it up as you go along and follow clues and ultimately the ability to analyse what you have got. None of that can you find in books. There are more profitable ways of researching than others. I tend towards quantitative research because I find you get the level of detail that I prefer and I always just ask so many questions of it because there is the context of it, never explained. ... At the same time

quite willing to do quantitative research that supports a deeper understanding of the database. Whenever I have done quantitative research I have always at least gone into a few organisations to get a real feel of what is going on in that organisation so I can at least extrapolate from that the type of results I am getting in a quantitative survey."

"The academic community has set itself up to deal with the irrelevant. Rules are in place to deal with the irrelevant. ... If you can link it into something already going on like process re-engineering initiative and show how one clearly relates to another and together they maybe we could move somewhere. I want minor evidence. How can you be a thought leader if you are not allowed to say anything that isn't justified."

"One of the reasons is that the style of academic papers is becoming so obscure that you almost have to write so much to write something. Quote all this history so there is very little space left to include anything interesting. When you get things refereed people ask you to justify the fact that you say 'the'. There's a awful lot of pedantry in academia - just absurd."

The interviewees were asked about their involvement in research teams and with research partners. Research collaborations, utilising mixed disciplines and individuals seconded from business into research teams, were identified as beneficial for IS projects, with large teams and longer term programmes generally seen to be providing a good quality of work. One interviewee stressed the need to find 'experimental organisations to do action research' and there was much examination of the problems and importance of both action research and consultancy in generating good relationships and relevance with practice.

"The value of the group is that we can bounce things off each other and hope to be quite creative, and generate new ideas, some funding and then maybe get an MBA student to do a project on it. That would be our pilot study and then see if we want to turn it into a full grant application."

"Varies with different people. Some are good at research, others at writing up. I have sometimes written everything up, in other relationships others have done the writing. Part of the issue is who you work with. I tend to work with people who are very focused, and good at what they do so they don't really need other people around when they are working. Self motivated. Can achieve what was required by themselves but you do need a conversation at various points. Useful sometimes if you don't know how the other person works to sit in on them doing an interview, or piece of research to get a picture of what they are up to."

"No good at getting people to work for me. Work with peers but also I don't like people

doing research for me. Feel I really understand something when I do it and the spin off is that I can talk with some authority about case studies. Can't get that in another way. Some people good at delegating."

"Always work with other people, but not with academics. Not necessarily with another consultant. Usually with a past student who is embedded in an organisation somewhere, persuaded bosses this is the sort of thing that should happen. Get together and try to do something about it. ... Don't really work with other academics if I can avoid it. ... I have to do that very professionally. I know what makes consultancies tick. I know what I have to achieve. I find that extremely difficult to do with other people who are not consultants who are academics. Because of this psychological profile that's in here. When I do collaborative things they all become very tangled, and uninteresting, nothing gets done."

"Secret to identify all the tasks that are administrative and get someone else to do them. Data entry of questionnaires, transcriptions of interviews and focus on the bits that no one else can do."

Competition and co-operation were raised in connection with cross-disciplinary work. Most of the interviewees had strong opinions on the importance of such work, to improve the quality of research in IS, to raise the work's credibility in other disciplines, or to gain advantage from greater funding possibilities in the other areas. The nature of IS field and its organisation within institutions leads to: a need for 'polymaths'; for 'multi-disciplinary teams to cope with the breadth' of the issues 'without introducing shallowness'; the growth of shared courses; research partners in a variety of areas such as mechanical engineering, psychology, organisational theory, library studies, and education. One leader spoke of his 'suspicion' of some possible partners, but many worked closely with researchers from other disciplines, sharing ideas via seminars across university departments, writing joint theoretical papers looking at practical situations, or engaging together in practical problems.

"So many of the theories come from other subject areas. IS exists within management. Actually things that come from outside. Most of the work done in these areas not been done in the context of IT. Often find it is from outside. Applying that in a particular way to IS. Lot of people in IS not good at that because they are IS people. Need to be a polymath. Almost impossible."

Several leaders mentioned alternative IS communities – areas where parallel streams of

research were being carried out. Several of the interviewees (not members of the IS Committee) were approached because of their involvement in this alternative community. The PICT project was identified as being a major piece of IS research, nearing completion of a 10-year funding by the ESRC, and having very little links with the IS community either in practice or in publications. Operations Research and Systems were identified as two main-stream disciplines which included IS activity, others included Health Infomatics, Information Retrieval and Education – where ‘IS researchers’ may be publishing rather than in the IS literature itself.

There was a lot of discussion about the ‘closeness’ of IS research to practice – with both agreement and disagreement from the leaders. There was concern expressed about academics use, and understanding of, practice within their research. Some use their research to evaluate practice and engage in critical reflection to identify ‘best’ practice. Some believe that it was a ‘fantasy that IS has a close relation with practice’. Building good links with industry was encouraged, one interviewee commenting that this happens with the best US research where business managers are very influential in theory generation. It was suggested that in a such a fast moving area, researchers need to get more out of the technology, bringing technologies together and investigating uses and implications.

“What is reality? When go to industry I see things are wrongly done so being nearer to industry would mean what? Same thing. Those people have been trained. Academics now seem to be constantly repeating we must be close to industry etc. This is all rubbish because British industry is bad. We have to change it, not listen to it. In decline. Are you going to go to British industry and ask how to teach things in the future. Unacceptable. You have to find ways how to change British industry. Find best practice in the world.”

“That's what has happened with the simplistic methods - you try and transform them and then you claim success for the change of a complex situation. In a sense my work has been about questioning people who are saying things like that. I am questioning the researchers, commercial anyone who is plugging things. Researchers are as bad as commercial guys. Commercial guys are trying to sell a product, researchers are trying to sell whatever they are finding. Students are brainwashed. You become insecure. ... We have to make people intellectual, not use their intelligence to manipulate other people but use it to address the problems and ask the question what is the problem? These are not explored because the politics stop you from saying so.”

Leaders identified a variety of sources of feedback for their research: from formal course evaluation and repeat business, to funding offers and action research interactions. Repeat business from the management, whether of course take-up, consultancy, collaborations or funding success provided many with an indication of the relevance of their work to organisations. Fewer were able to obtain feedback directly from IS practitioners, with the best sources being through interactions within case studies and action research, and through personal contact within bodies such as the British Computer Society. Mature students and past students were another reference for relevance. In the academic community the main sources for feedback were through journal refereeing and conferences.

“Nice to have some sort of practical validation.. Nice to have an audience whether you talk to it very much or not.”

“Practical activity, action research. Going to people. Getting together some ideas and then beginning to develop collaboration with these practitioners how to structure things and then trying them out in a number of actual projects. One drawback - industry wants answers quickly. Don't' give you the time to validate what you are doing. ... Funding does not include that. If we treat it right it provides a beginning, a platform to go on. As long as we recognise it is no more than that. DTI don't recognise this either.”

“In the management school it is education. We do the research primarily to educate people.”

“Tend to aim at both audiences. Raise profile of the college as an executive education centre, the higher the profile we can get ... the better for the college. It's inexhaustible. It stems from the nature of the fact that what we are doing has relevance. People say it is very practitioner orientated, what do you mean? If it is not addressed to the practice of IS what is it addressed to? People usually retire into some argument about fundamental theory and I never quite understand it, I've been in fundamental theory. Seems to me very often I know what they are talking about, but never see them doing it. Seem to be doing fairly - misunderstand nature of the real world and seem to think it is interesting - not to anyone else. Where it is going to lead is probably bit of a dead-end. Very few people are doing fundamental theory.”

“Researchers are commentating upon what is taking place rather than being the major developers, innovators. Maybe a few at the innovation ... who through their work with industry are innovating but there are few. Most of the topics which are the subjects in the IS journals in recent years, I would say most of them started up in industry or commerce. out there taking place before we responded to it.”

“One thing worries me about IS research is that our community has begun to turn in on itself and only talks to itself. If you see some of the frameworks, interesting enough as they are, ... this is nothing to do with me. Think they are at a Conference on higher physics. That bothers me very much that we have got ourselves into this kind of introspective way of looking at things and we are talking to each other only and not to the outside world. Get academic credibility by turning it into something that looks formal and scientific etc. at the same time that excludes the outside world.”

“The advantage I have is that I have industrial experience and I do projects in industry - hospitals, manufacturing, NHS, local authorities, students projects, etc. The difference between myself and others is that I decide to intellectually abstract from using a set of conceptual notions. Not just sitting down and saying So what? That's hit and miss - but actually structuring. It has now become a habit and it gets me into all sort of troubles.”

“We have to look at the best practice. Also I don't believe there should be one way transfer from industry to academic world, or vice versa. Must be collaborative work. What you need - the best brains from academic world working together with industry to develop new ways of doing things. That's the key. We really do not have well established and described best practice.”

“Geoffrey Vickers ... Only thing that all his experiences had taught him was how little he knew. All research does is open up the lack of understanding. If you ultimately accept that is what research is about then you embrace it. Becomes constant exploration. Want to get this across to practitioners.”

“If there are people out there in the real world who are having misgivings about what is going on they might then have an alternative source for making sense of those misgivings. I see quite a large part of my work being about that - trying to contribute an alternative way of making sense of some of these things which might be helpful or illuminating for people who are not convinced by the rhetoric of the people who are selling these things. Or hit problems which they can't easily make sense of in terms of what is being claimed and offered. Potential relevance in that way.”

“Did a survey of MISQ and found most of the articles of no relevance to business - relevant research is messy - not easy to complete. Business research needs the rigour of universities - university research needs the relevance of business”

Much was said about the subject of consultancy work, with around half the leaders engaged in it in some way. Some were concerned about the possible conflicts it engenders with respect to research, the difficulties of getting or avoiding contracts, and the skills required to carry it out competently. A number saw consultancy as a means of gaining learning

about, and insights into, different organisations, ensuring that one could ‘keep topical’, and see ‘what managers are reading by what is on their desks’. It was also viewed as a means of access to organisations for future research, for trying out research ideas, reviewing ideas against practice, providing case studies and of maintaining up-to-date contacts. Some viewed consultancy as merely a means to an end, bringing in funding for research teams or for enabling ‘independence in research’. A number of the leaders were keen to take up opportunities to do consultancy in organisations and described themselves as opportunistic’ with respect to access to organisations. Their motivation was varied: gaining access to carry out their own independent research; using consultancy to provide case studies or ‘laboratories’ for their own work; or to provide income to fund research teams.

Leaders doing consultancy came from a mix of all career types. They were employed in both computer science and business or management schools. They viewed themselves as researchers with pragmatic outlooks, some stated that they were all-rounders, in terms of consultancy, research and, even, dissemination. They provided feedback to organisations with respect to their research, as required, as well as academic papers. One researcher described themselves as a prolific writer of texts and business books, providing articles for the IS practitioner press, amongst other. Their research results were published in business journals and conferences, invariably in addition to the academic equivalents. Some explicitly followed ‘twin-track’ publishing routes, either individually, or through team delegation where they considered their own academic reputation as sufficiently secure.

However, there were some concerns expressed:

“Struggle - if you're a practitioner and you want to talk about it - in a paper combining management consulting and research. ... Basically they characterise the academic and the consultant and the thing that hits home for me is that the academic they characterise as having their own theories but relying on other people's experience whereas the consultant relies on their own experience and uses other people's theories. Exactly the opposite. Quite a problem if you are in the habit as a practitioner of using any theories that you have to solved the problem ... which is the consultant's view of what academic's stuff is for. Useful tools. ... As a practitioner you do something ... you do IS strategy but you could do that by reflecting on it as something to do with IS, strategy, intervention, people, impact on organisations, financial evaluation - all these things you could comment on by reflecting on

your intervention. Danger it's a mish-mash, not a tight academic view then applied to reality. Seems to be the preferred way of working in academia is that you have your particular viewpoint and see through those lenses."

"Dilemma - doing the consultancy and reflecting on it and from that reflection I hope it improves the practice and therefore I pick up theories on the way, develop theories and move it forward in that sort of way."

"Difficult to distinguish research and consultancy in our game. What some might call consultancy I regard as adding to my own research. Good experience and I learn something from it. True in management and IS."

"One of the issues - where is your laboratory? For me it is organisations, I will use a piece of consultancy as access to get the data, etc. Won't do a piece of consultancy because someone comes to me and says I have a problem, can you help?"

In terms of their professional independence, leaders spoke of there possibly being a 'high price to pay for doing consultancy', with respect to the direction and theoretical rigour of their research. One leader talked of the importance of only working in organisations 'where I am free to express my views openly'. Several engaged in projects on behalf of commercial research organisations. These were often individuals who were determined to control their own research agenda, minimising the influence of external stakeholders in order to maintain their independence.

6.3.5 The Leaders as Members of the IS Academic Community

Many of the interviewees focused on the role of universities as being about ideas, but talked of elitism, boundaries across and between disciplines and departments, and the need 'to bring education up-to-date'. For the development of IS, there was a perceived need to 'infiltrate senior academic positions', to raise the moral within the community and develop an IS 'culture'. The fragmentation of the community and its' internal confusion were concerns, as was the problem with recruiting IS academic staff in the UK. Some felt that IS was not 'putting its own theory into practice' and that it should be promoting 'centres of excellence' and extending its networks. The Committee and the UKAIS were results of

attempts to strengthen the community.

A small but important group of leaders were very actively concerned with the establishment and recognition of IS as a discipline. These researchers had mixed careers and were from a range of departments. Their interest was in the politics of academia and HE, with respect to funding of research, and the quality of research, publications, and teaching in IS. They were the prime movers in the establishment of the UKAIS, and its several predecessors, a body which it was hoped would gain the ear of government and HE policy makers, and provide a central point of contact for the media, through the creation of a coherent rather than fragmented IS community.

The UKAIS followed on from earlier attempts such as the Institute of IS which was formed in the late 1970s to early 1980s. The primary activity of the Institute was to run annual teachers workshops to establish some academic grounding for people beginning to work in the IS area. Another group, the Association of IT established a journal and eventually the two groups merged. Membership gradually declined and in the early 1980s another attempt was made to bring the community together through PhD consortia. One leader who was involved early on described the organisation as a ‘band-passing exercise’.

“The PhD consortium didn't have a home. It was run by the next person who volunteered to take it. After a couple of meetings, decided we would form this Academy. I won't try and summarise the discussion, it was very mixed - 3 or 4 academics together generates as much heat as light and we had a room packed full at LSE.”

The UKAIS was formed.

“Decided the first year it was going to be free - 1985. Costs met by the parent institutions of the board members and that's how it started. The charter is the start point and aims of the charter decide whether Academy is worth anything.”

Another leader involved in the formation of the UK Committee of IS Professors:

“Small group of us were struggling to find a way of getting better representation, identity for IS. What was clear was that in a number of universities there were people who seemed

to be locked in different sorts of departments, useful to bring them together. ... Most important thing for me, it has identified the beginning of a discipline in terms of ... Professoriat play an imp role in shaping subject in way that the academy cannot do. By making easy access between the professoriat and critical to gel what could be very important. It is going to get there through a series of social behaviour. Might limit some activity. Has no resources. No membership fees, list."

The UKAIS was generally supported by the leaders although several interviewees felt membership to be an obligation and had concerns about the willingness of the community to 'be moved forward' or to establish 'schools of thought to generate debate'. Some of the interviewees expressed slight concerns about the push to become an academic discipline:

"Good thing - yes. Question of balance. You need that but also keep close to the real world. That's ultimately what it's all for, practical subject. If you push it in an academic direction it may be that that will start generating some of the theories that we need for practice. ... Depends what academics come up with."

"This is the paradox. Nice thing about introspection is we are building a discipline in a community. We are beginning to develop our own concepts and foundations which go beyond computer science, beyond some of the other things. But we are not relating to the outside world because we develop a style and language which they don't understand."

"Very hard to work professionally in terms of a computing professional rather than a computing academic in an academic institution because people want to debate things academically all the time rather than be pragmatic. Not in an academic role. Whereas I am quite happy to drop back to being academic and talk academically about things - when you have to do something, you have to be pragmatic. Can't do everything perfectly - don't want to. Just want to do them."

"Bit unusual here - don't have an IS prof at all. In Computer science. May not be an IS title. Don't have a well defined IS grouping here. Could be a good strategic reason for that. Better to have a number of people making some sort of contribution to that rather than establishing an IS ghetto within a management school"

Others were determined that it was a necessity:

"Not saying that one should be academically respectable for the sake of it but I think we ought to be able to defend the discipline to other academics of other disciplines. Does matter because unless we have a defensible position not going to get research-funded, power in universities, our own panel and all the rest of it. Can't be politically naive about

this. That's why I think the UKAIS is so important."

"I wonder whether - sense you belong to an organisation is not over emphasised. People are just individuals, come in and do things. How can you be said to be operating for this University? All we have are immediate mechanisms - do a class, set exams, etc. Unless someone alters that - Govt alters semester structure. A very individual task by its nature. Lot of factors which lead to that. Difficult to have any kind of relationships with work, projects - easier to resort back to individual. Study what you want, research, take the view you want. Academic freedom. Makes it difficult to move a discipline in any coherent way. Might not be possible anyway. If you take more established disciplines, tend to be schools or bodies of thinking to which people subscribe. Doesn't exist in IS."

Several leaders talked of their personal networks within the IS academic community, citing people they had studied with on masters courses or worked with in institutions or as research partners. A few mentioned 'mafias' within the community, power groups who were trying to control the direction of the community as it developed. One leader said they were happy to be in several camps, and noted that it was funny to watch the infighting. He suggested there was a 'lot of insecurity at play'. In academia, the leadership group has both control over, and obligations to, the community as a whole, and rank and status are important to the leaders. One leader expressed concern that an effect of power could sometimes be to stifle debate:

"Always been up front - personality thing. There has been tremendous pressure and I could see why people change and my idea was that if you stop me from saying this I will find channels to say it - publications etc. In many situations people are afraid to speak out and discuss things. Bad thing for the academic world. You're not giving us a chance to participate - you open it up. ... What is stopping the debate is career structures. The same individual goals people have and their ability to achieve it. If you are in a commercial organisation you suppress your personal thinking because your manager doesn't like it that ... is carried to academia because individuals are not different. Held me back in the political sense. People can stop your promotion directly. ... Power over journals, conferences, refereeing of appointments. The world is the same. Academia is much better than commercial environment. Basically we have to do something to break it in an intellectual sense. I like the intellectual opening but that is used by people to pursue the political ambitions"

As the community matured, centres of excellence were developing, large research or teaching groups within institutions. Some researchers affiliated themselves to the two different foci within the international community, IFIP and HICSS. Networks were seen to

be important because of the nature of the academic world, where publishing and career development were managed by the community itself, with professorial selection groups and the RAE assessment as powerful positions to occupy. The context of academia and the relatively short history of the IS community in particular lent great power to the leaders as a group, emphasising the importance of their values and norms to its present and future direction.

“People who are not with the profession but trading on their academic qualifications - or with no apparent qualifications, but a series of training courses or ex IBM person. Perhaps because of rapid growth where a profession hasn't been able to establish an ownership in the way that accountants did, personnel managers. That is lacking to defend the professional perspective. Means that academics have a greater duty in the absence of profession than perhaps applies in the other professional groups. I think there is a duty because [we are a] discipline and responsibility for furthering that discipline year on year, generation on generation. Passing the baton aspect. If you wish to build this community you have this duty of trying to bring on the next generation, ensuring that you are accountable to the needs of the wider community dependent on you for that services.”

There seemed to be a general feeling that the quality of publishing in IS research needed to be improved, with researchers citing an over supply of papers as the major problem, due to the increase in participation in research by academics from new universities and the pressures of the RAE. One interviewee stated that the proliferation of journals led researchers to publish the same material in a number of different outlets. Others were concerned that the standards of relevance and rigour amongst the community needed to be improved. There were also complaints about the parochialism of IS research in the UK, the remedies being either a concern with IS in developing countries or in international business.

In talking of the IS academic and practitioner communities, it is important to note that we are not considering mutually exclusive sets of people. Almost half of the leaders interviewed had experience in both communities, and many were, or had been, engaged in consultancy or action research within their academic roles. The two communities overlap, the edges are blurred. Some leaders noted the necessity of keeping up-to-date with business issues in order to maintain credibility within that community. More blurring of boundaries was evidenced: by representatives of sponsoring stakeholders joining research teams; by

the combination of the roles of leader and manager by some of the interviewees: and by the teaching of students who were also managers or IS practitioners.

“I see all these communities as quite fragmented. Academics. Within communities they are quite separate and also between. Practitioners and academics. Within practitioners, marketing people quite different from accounts. Within academia people who doing sociology, different from the psychologists, who are different from the IS.”

Leaders talked of the importance of networking in both the academic and business communities. In some cases, the criticism of poor quality academic research or publications, and of a perceived practitioner desire for ‘short term solutions’ and ‘quick fixes’ appeared to speak about a gap between ‘good’ and ‘bad’ researchers, or ‘good’ and ‘bad’ practitioners, rather than a gap between the two communities – a hierarchical or elitist difference, where some leaders felt they had more in common with business leaders than with lower levels, or less competent, members of either community. Leaders talked of the desirability of talking with people with whom they had ‘shared agendas’. IS academics would appear to be ‘bound’ more by possible limitations of research methodologies and the requirements of academic publishing than by a common IS education and apprenticeship or shared goals (Kuhn (1977)).

*“You don't get an audience with [Chief Executive of **] to talk about how he can move IT forward if you are of touch with life. To be able to contribute you have got to be in touch. Most weeks once, sometimes twice a week (business conferences and visits to companies) That's what keeps you in touch and if I'm not in touch nobody will want me.”*

6.3.6 The Leaders as Employees

The aims of universities and their place in society was a subject of discussion by some interviewees, in terms of its impact on their choices in research. ‘Universities as commercial enterprises’ or ‘sources of cheap labour’ versus ‘universities as intellectual centres of excellence’, ‘state providers of undergraduate education’ or ‘research institutions’. One leader opined that ‘money generation is a more important factor for promotion than a PhD’, and there were complaints about ‘poorly paid academics’, ‘cheap

consultants', 'cheap teaching styles' and employment ethics in relation to the funding of contract researchers. People talked about income generation and competition for students, teaching and research – funding issues were seen by some to dominate.

One of the leaders said that it was important to recognise that universities were the minority group in Information Management and IS research. They suggested that universities were in competition with commercial organisations to 'gain the attention of the business audience'. They continued to state that 'not all the brightest people are in universities', the difference in salaries being an indication of this with academics generally earn under half of those doing research in the commercial sector.

A number of the interviewees identified a focus on institutional, rather than personal credibility. For them a main role of the researcher was concerned with income generation and political skills, as opposed to research and consultancy. A fifth of the interview group saw the management of their institutions, departments or teams as their main motivator, out of a larger group who had senior administrative functions (a third of the whole group). This interest group were again mainly employed within business or management school, had a mixed career of business and academia, and included no-one with a science background. These researchers were inclined to talk of the 'customers' of research results generated within their institution, and emphasised the importance of the relevance and usability of those results to business. They were the users of the media for institutional PR, and were most likely to use professional mediators in their contacts with them, usually people from their supporting organisations.

One issue raised was the importance of 'structure' in the institutional research environment. There were two aspects to this: the interdependence of team members, which led to stability of the research team; and the value to the team of support services, such as administration and marketing functions. The individual could perform well for the team within its' structure, the two were brought together to serve the commercial aims of the institution. There were, however, some grave concerns about the management of funding for contract researchers:

"It is a very big issue. I have the risk of losing good people I would like to keep. Well before the end of the project you are planning the next one and a lot of work has to go into these proposals. At a personal level, researchers are living from hand to mouth. ... Shouldn't be up to me to manage to put together a slush fund by siphoning other money to carry people over from one project to the next. Universities should have some sort of funding just out of humanity"

Consultancy funded much research amongst the leaders, terms like 'quasi-consultancy' were used, and one person commented that it was difficult sometimes to distinguish between consultancy and research. Consultancy was carried out in small and medium sized organisations, local businesses and in large multinationals. Justifications ranged from: 'some of this money funds my research – independence of research through doing consultancy'; 'to gain knowledge and try out ideas'; and 'consultancy work to fund the team'. One leader emphasised that he only worked in organisations where he was free to express his views openly. Leaders noted the importance of keeping 'topical', gaining insights into a variety of organisations, and reviewing practice against new ideas. One interviewee said, you 'can't afford to lose touch – senior managers would expose you'. Contacts for consultancy were often past students at all levels, and some of the interviewees actually worked with such 'past students embedded in organisations'. Other contacts were made through business networking, for instance at mixed commercial conferences.

"I still do too much consultancy work. It is more gratifying because the people I work with now are small companies who can't afford real consultants. Quite nice. Often more responsive to what you say because they think they are getting something they wouldn't ordinarily get. Happens faster. It is nice because I feel that I often deal with companies who have no IT people in them and I deal at the board level and I can see the impact that I make and if I don't make an impact I can walk away."

"What are you going to get out of it? That overrides everything else. That's why you sacrifice yourself to the client etc. All the rubbish they come out - all they are doing is satisfying the client who is paying the rewards - promotion, salary, whatever. Sometimes you don't like it but you are forced into it, like an employee. In other situation you do it because there is an incentive. Must differentiate in terms of practical life to what is desirable and they confuse the two so the practice becomes a desirable."

"I think that its been a mixture - there's a business need to keep a research group together."

And a genuine kind of curiosity, that if someone brings a problem to us, then we might very well be interested in it. So that is part of it - just opportunism. basically though that is driven by the cash flow problem. Another aspect of it is that I do very much have a research agenda of my own."

The notion of an 'academic lifestyle' was raised on a number of occasions for quite different reason. Some identified the imbalance between the salaries of academics and their equivalents in commercial research organisations, and with business executives and senior managers. One interviewee expressed the opinion that he expected to be at least as well paid as the students he taught or the managers for whom he provided consultancy services. There was talk of academics 'living on a shoe string', and the importance of personal consultancy to increase their level of income. Unsurprisingly, such comments were put forward by those who had spent much of their career outside higher education, a group which comprised nearly 40% of the total. Comments from other interviewees showed that they valued the freedom allowed to them by the academic life, both in terms of lifestyle and research interests and activity.

"Academic salaries are not very high and I don't think any of my people would be working here if you paid them what this place pays them. Not reasonable. I would not have lectured to anyone who gets paid less than me in the last 5 years. I'm usually the guy on the stage and I'm always the guy who is paid the least."

6.3.7 Summary

To summarise, the findings show that IS leaders in UK universities came from a wide variety of backgrounds and worked within a range of institutional situations. They voiced a strong desire to be influencers of change, whether in academia or the world of practice. The boundaries between the academic and business communities were shown to be blurred due to the experience of many leaders in both their previous and current roles. Leaders identified themselves as scholars, researchers, teachers, and employees. These roles sometimes resulted in conflicting requirements on their time and efforts and were prioritised by individuals, or institutions, according to the pressures obtained from the various stakeholders in their environment. The diversity of roles, in which they all engaged,

identified them as IS academics, differentiating them from practitioners and managers in many organisations, and enabling a rich variety of choices in terms of personal agendas and ways of working. The importance of a critical view in the activities of IS was stressed by many of the interviewees across all interests, and is continued in their perceptions of stakeholders of IS research presented in the next section. Their strong sense of responsibility towards their community and various other stakeholder groups was sometimes balanced by an expressed determination towards independence and integrity in their research.

6.4 STAKEHOLDERS OF IS RESEARCH

The activity of academic research is carried out by researchers, in the context of their institutions, their academic communities and the broader society in which they live. In the previous section, the leaders were described in terms of their backgrounds, views of research and the environment in which they worked. In this section, their perceptions of the stakeholders of IS research are considered – those groups who could be said to have an influence on, or be influenced by, IS research and researchers. During the interviews, leaders mentioned a variety of potential stakeholder of IS research which are detailed in Appendix C and summarised in Figure 6.2.

The descriptions and opinions presented here, again, show the variety of the interviewees comments and acknowledge the heterogeneity of the groups discussed, although stereotypic images were raised at times. Some of the stakeholder groups identified were common to all interviewees, such as the IS academic community and some types of students, others were only appropriate to leaders who engaged in specific types of research or dissemination, for example Government departments or MBA students. A few of the stakeholder groups did not have direct relationships with many of the individual interviewees but influenced their behaviours indirectly, through the leaders' perceptions of them (such as the press) or by their influence on other stakeholders (the general public's relationship with Government). The aim of this section is to provide the reader with an idea of the range of perceptions and

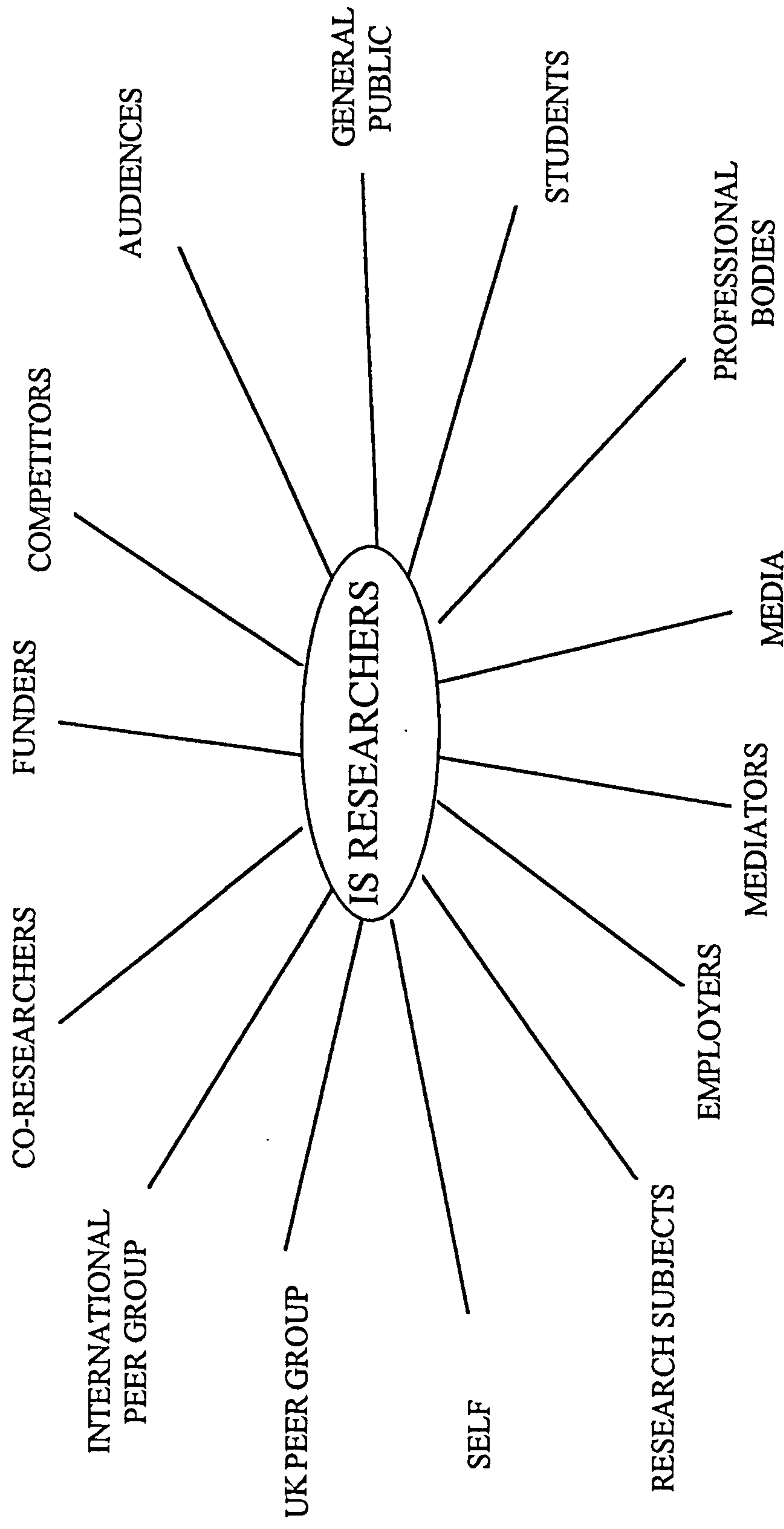


Figure 6.2 – Stakeholders of IS Research

assumptions raised by the interviewees, possible implications for the leaders' and their own research dissemination activities (Mitroff & Linstone (1993)).

6.4.1 The Leaders' Perceptions of IS Academics

The national and international IS academic communities are obvious stakeholders of the IS research process for an individual researcher, perhaps particularly for leaders within the community. In a previous section, a range of the leaders' views of themselves were presented. Here their views of IS academics more generally are considered.

The leaders talked of what makes a 'good researcher' in IS, identifying their own strengths as examples. Table 6.1 provides a list of criteria which emerged during the conversations. An emphasis was placed on critical thinking in the evaluation of published research, as a number of the leaders expressed concern at the quality of publications in terms of both the rigour and relevance of the work.

One interviewee emphasised the need for researchers to take a 'narrow perspective', another said it was important not to be 'an adherent of a single theory'. Leaders were concerned about researchers being seen to be 'wide boys' at one extreme, and warned against adopting a 'group mentality' and craving for 'scientific credibility' at the other. There was a perceived need for a broadly educated group of people to make up the IS community. Several leaders expressed concern at the shortage of good researchers in IS, particularly in terms of recruitment: 'the supply side is not good in the UK'; 'salaries are good outside academia'; 'business schools need well paid, credible staff'. There was a consensus on the need for researcher to be critical thinkers and questioning. The aim of one interviewee was explicitly to be seen as a '5 star academic'.

The leaders saw 'good researchers' as people who learn, and who are interested in using their learning across the various different areas of their work: in teaching, research, leadership of the IS academic community, in dialogue with the business community, and as

managers in the business of higher education. They need to utilise a broad range of sources for their learning, engaging in scholarship in IS literature and that of other disciplines, through their network of relationships within the international academic community, with collaborators in their research and consultancy activities, and with students of all types. Leaders recommended attendance at mixed conferences where academics and business people can exchange ideas. Some emphasised the value of working inside organisations whether on research or consultancy, in order to spend time talking with senior managers.

Criteria for Good IS Researchers	
Critical scholarship	Application of critical thinking Reading of original writings Questioning received wisdom Using one’s own insights and experience to critically reflect on research Visiting secondments
Rigour	Application of research methods Standard of published papers Work with co-researchers from other disciplines
Relevance	Exchange ideas and provide leadership for practice through research, not just commentary and evaluation Keep up-to-date with practice Be involved with the international research community
Political awareness	Political maturity e.g. avoid being naively managerial, envious of popular authors, or imperialistic with respect to methodologies
Flexibility	Pragmatism with regard to one’s own work Adaptability to a changing environment Be an all-rounder Be able to engage in a number of different research or publishing projects at the same time Utilise split careers Work with co-researchers with complementary skills Maintain a fast pace of work

Table 6.1 - Leaders’ Criteria for Good IS Researchers

The interviewees were fairly critical of the UK IS academic community, although it is possible that only those who were critical made comments in this area. The major issues were seen to be the quality of leadership, the level of critical scholarship and narrowness of

some teaching, the standard of publications, use of research methodologies and theory from other disciplines. Many indicated that the field was still immature and that changes were inevitable, whether through IS being subsumed into other disciplines, or through a paradigmatic shift in the area itself. The increase in student numbers in higher education and an industry drive for 'acceptable skills' were discussed in relation to the undergraduate curricula and teaching styles in use, as well as the difficulties of teaching the complexity of IS. One interviewee talked of the need for academics to be 'actors' in the light of rising class sizes, with possible implications for content of courses.

Some of the criticisms of IS researchers by the leaders included comments such as the following:

- . people adopting a 'group mentality', the encouragement of 'clones', 'incestuous groups' and the dangers of the 'mafias', individuals being 'defensive', 'insecure' and 'secretive' about their work – leading to a lack of open discussion and acceptance of variety
- . those who adopted a 'scientific mindset' at one extreme to 'wide boys' at another who ignore the necessity for building a cumulative body of research
- . researchers who were 'politically naïve', 'not pragmatic', 'navel gazers', 'imperialistic and mechanistic in the use of methodologies' or those who were promoting 'managerial agendas'

"I've been around the academic world for the past 20 years in a variety of places, different countries. I know what the academic world is about - incestuous. Complete and utter waste of time in most instances. Load of very bright thoughtful people, can't find a way out of it. Lot to contribute but sorry to say aren't contributing."

*"They are all trying to make a name for themselves, by an large. I think IS is a peculiar field anyway, because, as ** says, it's such a fashion trade. There isn't the sense of the steady accumulation of knowledge that you get in other areas of scientific endeavour. I see no evidence of the normal scientific process in IS. I think it's a lot of 'wide boys' basically. I mean, I really do. I can see IS, in some ways, it's quite coherent as a discipline, but I find it unsatisfactory as a science because it doesn't have those characteristics of knowledge building and people learning from others. I don't know how much that does happen in other disciplines, but there's more evidence of it happening in IS."*

Leaders talked of their research partners and teams, offering a variety of approaches to working with others. Some talked of utilising their academic and business networks to bring together visiting professors, visitors and secondments into Centres of Excellence in IS. One interviewee stressed that this was often established through friendships rather than financial benefit. For a number of the leaders, the establishment and management of research teams was an important issue, bringing with it the problems of 'continuity of funding' and project management. Such teams could be small or large (3-40 researchers), they could be interdisciplinary, involve business sponsors or specialists in areas such as public relations. Several leaders noted the importance of complementary skill utilisation as part of good team-working practice.

Concern was expressed by a number of the leaders about the editorship of IS academic journals. Issues raised included: the long delays in publishing, which could be improved through electronic publishing; the tendency for specialisation which may lead to intolerance of alternative views or the difficulty of publishing holistic work; the requirement for research design which sometimes precluded articles which would attract a business audience, and could be complemented by more papers or critiques on given topics. Many of the interviewees were themselves editors and reviewers for IS journals and spoke of the value of these roles, particularly in the sense of gaining early insight and awareness of work within the community. One leader talked of the 'terrific feedback' to be gained through reviews.

A number of the leaders talked of the US community, sometimes of their personal experiences in institutions in America. They spoke of the US community being under threat, becoming fragmented as other disciplines take over IS issues and struggling to be seen to be relevant to business. There were a variety of views expressed: that the US has international journals which 'are really only for the US community'; that 'US texts are turning an interesting subject into a boring, narrow one'; and that the 'US has the best and the worst business schools'. The European IS community was only discussed in contrast to that of the US: identifying problems in creating a powerful European community because

of the different languages; noting the stronger links with business in the US and the tendency to consultancy roles; and the tendency for managers to be reading 'business-speak' journals rather than the literature, except possibly in Germany. Scandinavia was highlighted as an exemplar for IS research, where 'they have been talking about people for years' in IS research, seeing 'IS as about emancipation'.

The interviewees were uncertain as to the implications on the future of the field and its leadership by the growth of both computing and IS courses in universities, some insisting that the field needed members with diverse backgrounds and others speculating as to the benefits of potential new leaders whose entire careers had been within the IS influence. Issues of employment within IS were discussed, particularly with regard to the careers of contract researchers who it was felt were badly treated by employers. Their uncertain positions also led to considerable efforts on the part of a number of the leaders in raising income and managing funds to ensure continuity of projects.

Several of the interviewees talked of how they believed the academic community were perceived by outsiders, such as non-IS academics, students and, in particular, people from business organisations (see Figure 6.3). Since many of the interviewees had experience in business themselves, and others were active networkers or consultants, it was interesting to note their views concerning business perceptions, which generally seemed to refute any notions of academics as superior professional people. Several believed that managers in business saw academics as 'cheap consultants' because they did not charge commercial rates for such work. They were concerned that many academics were considered untrustworthy by organisations with regard to confidentiality and completion of funded projects. Some interviewees believed IS academics were viewed as irrelevant in terms of training for practitioners, though useful a 'source of advice' at a senior management level. Within universities, it was felt that members of the community were viewed as less competent by academics in reference disciplines, but nevertheless competitors, although it was felt that they were unsure as to what IS academics had to offer that was unique. One interviewee noted that they felt they were often seen as little more than income generators by university management. There was some concern that increasingly IS academics were

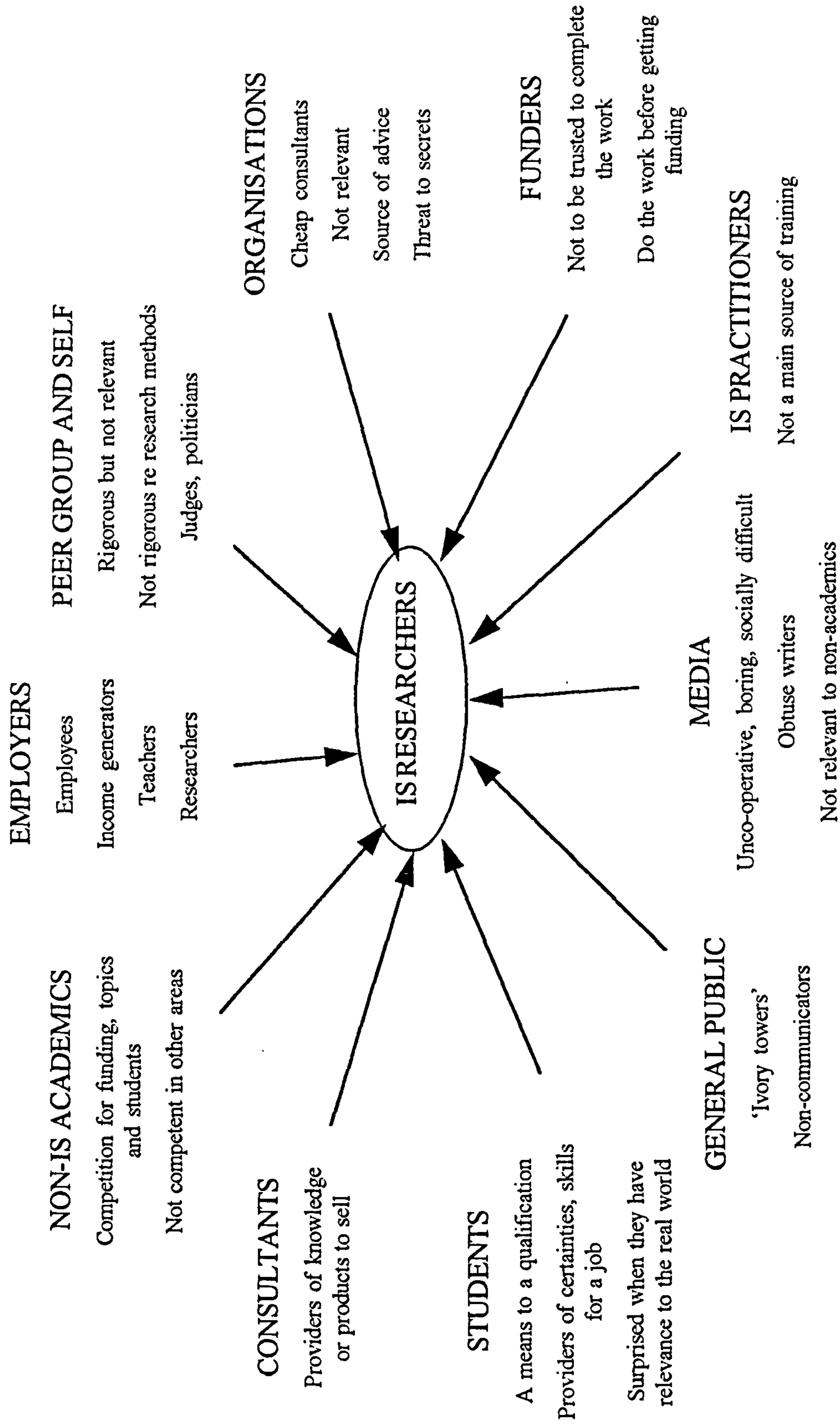


Figure 6.3 – Leaders’ Perceptions of Stakeholders’ Perceptions of IS Researchers

seen 'as a means to a qualification' to students, rather than as role models for the academic world or as authoritative figures in the broader IS community, particularly outside of IS departments.

Looking at the broader society in the UK, several of the interviewees indicated that, along with most other academics, the IS community was viewed as 'uncooperative', 'boring', and 'socially difficult' by the media. Often providing 'obtuse writing' which is 'not relevant to non-academics'. The metaphor of people who were very bright but living in 'ivory towers', out of touch with the real world and unable to communicate with the general public, was put forward. Except where consultants were concerned, it seemed, since they were seen to view the IS community as a rich source of knowledge or products to sell.

6.4.2 Leaders' Perceptions of the Funders of IS Research

As discussed in Chapter 2, the interviewees were conducting IS research in the context of decreasing levels of public funding for research, both directly and through increased competition from within the enlarged university community. Consequently, during the interviews there was much discussion of applications for both public and private funding of projects and teams. A number of the leaders talked of minimising their funding requirements, thereby maintaining some independence in terms of their research agendas and other constraints.

Commercial funding of IS was in the form of endowed chairs, directly sponsored research, groups of subscribing organisations funding research teams, or individual consultancy projects. One of the interviewees made their move into higher education by finding funding for his own post in the short term. Continuity of funding for research teams, often comprising a mixture of permanent and contract research staff, is a major issue for a number of the leaders. Several talked of the need for research groups of a sufficient size and skill level to attract money for research and for long-term or large projects. Some of the leaders managed to obtain funding from public sources, such as the Research Councils or

Government departments, other used student fees, scholarships and university funding. It was noted that very few research students were funded by grants, which led to most of such funding arising from foreign students. Several leaders spoke of the low cost of IS research, for individuals it could be limited to expenses, more widely the need was primarily for researchers, rather than expensive equipment which was often what funders were keen to provide.

It was widely noted that very little Research Council money comes to IS – the field being both ‘disjointed’ and ‘on the sidelines’. Several leaders mentioned the need to know or be known by public funders, encouraging networking in this area, but there was a more general feeling that, even with growing Government recognition of the need for multi-disciplinary and practice-linked projects, the Research Councils tended to distribute monies along very traditional lines. One leader suggested that the IS ‘research area is outside the norm, therefore not generally understood by those making funding decisions’. A number of the interviewees attempted to ‘get into projects within scientific areas’ since more money was available through the EPSRC than the ESRC. Leaders often were reluctant to apply for public funding on the grounds that the amount of preparatory work was unreasonably high and the likelihood of success was low (even at this level - a leader quoted that only 2 out of their 23 proposals had been accepted for funding). One noted that you ‘need to almost do the job before they’ll agree to fund it’, contrasting this with the position in the US where funding follows ‘good ideas’ more quickly.

The RAE was discussed widely by the interviewees, with some criticism of it’s emphasis on academic publishing in order to achieve ‘brownie points’. Particularly for those who were relatively late entrants to academia, the requirement to publish to establish credibility and gain promotion was seen as setting the priority on their dissemination activities. One proposed that ‘the RAE was a load of nonsense’, with others criticising the process which forced them to: publish within top journals in a single discipline only – ‘not outside the area because the quality is unknown to those assessing it’; avoid publishing for practitioners because this did not count; or to publish their work rather than engage in training. It was felt that the RAE was ‘forcing publishers to have a more dominant role than

the usual one of individual career promotion', leading to an increase in paper submissions, a backlog of papers for publishing, and therefore more selection by editors. Many believed that institutions would stop competing at some point in time and simply drop out of research.

6.4.3 The Leaders' Perceptions of IS Students

Since most of the interviewees were engaged in teaching at some level, students were considered a major stakeholder of IS research – both as constraints and as potential audiences. Groups were differentiated including PhD students as trainee researchers, those on other postgraduate courses who were studying IS in depth or as part of broader curricula, and undergraduate students who provide the major funding for many institutions. Commercial short course students are discussed under the section on organisations more generally.

6.4.3.1 PhD Students

The continuity of the community through the education of PhD students was emphasised during the interviews and by the leaders involvement in this role. The value of the PhD as an 'apprenticeship' for the academic life was discussed frequently, although there was some difference of opinion on how this should operate. Concern was expressed about the very low proportion, and numbers, of good quality candidates from within the UK, with a PhD being seen as 'less attractive than a job' and being very 'dependent on the state of the employment market' in the UK. It was noted that it was very rare to encourage practitioners into research, though many were faculty members with experience in practice, studying part time and funded by universities or business. A preference was stated by several leaders for mature students with experience who understand something of IS, and concern expressed that it was difficult 'to attract top class people', it was unusual for them to be good enough to be 'incorporated into research projects' for example.

“Mine have probably been from overseas. ... Period where we had quite a lot of difficulty in attracting UK students into research into this field because the marketplace was much more attractive. Far easier to maintain a flow into computer science areas of the school than into IS. Lot of our better students want to go out and do things in industry. Some interested in research - but go out to work.”

Strong opinions were expressed by a number of leaders as to the roles of PhD students and supervisors. Some shared research interests with their students and published results together, sometimes a supervisor had a group of students working on similar areas which could be brought together. Others believed students should do their own work, not being a resource for their supervisor's work, and definitely not being used as 'cheap labour.

“Strong opinion that that's wrong. Many years ago I was in a PhD community and all some of them were doing were as cheap lab assistants to a professor. PhD is about beginning to think and understand. They ought to be putting together a project, executing it and understanding. I would not direct a student into any project. I would let them flounder, drown before that. Not PhD, research assistant.”

“It is not encouraging people who really are good and have the potential to do things which are extraordinary unless they are in a research lab which exists. I'm sure the best research labs encourage their young researchers ... A lot of them encourage their young researchers to do whatever the Professor wants them to do. ... 'Tell me one project YOU want to do.' And he couldn't. Culture was, the Professor tells you what to do.”

Students may have very close contact with supervisors who act as project managers as much as supervisors, encouraging individual thinking, understanding, and learning how to put together and execute a project for themselves. One interviewee identified his concern with being thought of as an expert in a field studied by his students, where they had done most of the work and his role had been to provide help in improving it. Others may be involved in team research as research assistants, generally not research partners (one leader noted that this slowed down the pace of research). It was suggested that the supervisor's role was to help make the students 'aware of the conflict between intellectual thinking and practical behaviour', to provide a long term relationship and social support through what was noted as 'a lonely task'. Research was diffused through PhD students either individually or in the more formal situation of a doctoral school, often supervisors sharing responsibility for

students to extend the influence and research base.

“One way is good research students. Rather ruthless in who I accept - use good ones as research assistants but in time they develop - by the time they have PhD they are good, hope they have learned. ... Need to be bright enough. Some people good technically and never will be good on the social aspect. Some people good at both. Never found anyone fallen down because they can't learn a bit about technology. Have to have a basic understanding. Need a grasp technically.”

“When I go to PhD consortium for IS I am struck by how badly most of the students there are supervised. Supervisor workshop super, extremely interesting - I presented particular view of what PhDs were about and then some others presented some views very different - programmatic. I have to be a little careful, I don't want to offend people without purpose. Normally keep quiet, or accept an invitation to say something, but not to engage. Has to be variety. Also need some comparisons. I don't think IS is trying hard enough at the moment.”

6.4.3.2 Masters Students

MSc students studying IS are seen to be the people who go on to be IS practitioners, and ‘want to go out and do things’. Leaders saw this as education, not training, ‘leading to confidence in self and values’ and try to encourage in them the importance of their continuing education for the long-term. The courses varied but generally included projects in organisations or part-time study from practice itself. As an alternative, one leader talked of ‘getting business people in to learn the academic rigour as MPhil students’.

Generally, interviewees identified this as a means of disseminating research, ‘taking a questioning approach’ to ‘try to reduce the hype’, giving an overview of a range of methods, ‘providing a breadth of views and bringing in external speakers. At this level leaders saw their research and teaching as ‘closely linked’, with students providing feedback and leaders being able to ‘continually feed off their ideas’. Comments were made such as: ‘you can’t tell what long term influence you may have’ since there are too many other factors; ‘the students are a joy’; and ‘you get enquiring students who are interested in the subject’.

"That's the only reason I stay at University is because the students are a joy. Good students. Where else can you steal your idea from. The joy of good students is that they do a lot of filtering and so you can buy masses of books, give them to the students and tell them come back and tell me what you think about it. Can only do that with good students. I'm very lucky, I've got some superb students. You can create a sort of hotbed of ideas."

"Universities are for giving students an environment of ideas, quite an anarchic environment where we don't actually tell them right or wrong. We don't say do this or do that. We say these are just a cross section of approaches. We give them a philosophical overview so that they can differentiate and compare and contrast the areas of approaches. You say to them when you go out there you have to decide what's appropriate." ... "And also to be confident in themselves. If they are in a minority of one that doesn't mean they are wrong. Because ultimately all they've got is their experience to interpret."

Other masters courses provided joint business qualifications, in particular MBA courses. It was suggested that there is the same proportion of IT graduates on MBA courses as there is spending on IT in organisations. The opinion was put forward, by several interviewees, that 'people go to Business Schools because they are funded by business to get qualifications - they are not interested in IS'. A number of schools, however, provide follow up short courses for managers which they say are well supported, and one interviewee commented that their MBA students were inquiring and interested. There were a number of benefits mentioned for academics from MBA teaching, including: provision of contacts within organisations for future research; using MBA projects or consultancy for research as case studies; more effective teaching and dissemination of research; access for consultancy; and gaining critical feedback on current research. It was noted that students provided insights into different organisations and were generally 'very honest about reality'.

"Occasionally get practitioners to come over. But quite rare. Company teaching schemes intended to do that sort of thing. Teaching MBAs I found horrible. Not interested in what you are teaching, interested in the MBA. Every student who comes here to do our Masters comes because they re interested in what we are doing. ... Don't come to the Business school with the same kind of thing. No one is the slightest bit interested in the fact that I am teaching IS. That's not what they come for. That's the only thing that business funds - MBA."

"It is exceptionally difficult, e.g., in MBA to teach the subject IS. Because they come in with some baggage, phobia about IT or I know all about it. If you talk about anything

different then you start to get flak because the person who knows it all suddenly realises they don't know it all because they want to hear what they already know. ... So it is very difficult."

"Teach the final year undergraduates and postgraduates, so in a way - much of a muchness. One has more experience but intellectually about the same."

6.4.3.3 Undergraduate Students

The interviewees were more inclined to express criticism of the value of their teaching of undergraduate students, both in terms of disseminating research and of the benefits in their own work. There was disagreement about the value and ease of teaching IS at this level – some believing that students with no experience of organisations could not appreciate the issues involved and were simply looking for ‘checklists of words’ and easy answers. It was suggested that it was ‘possible to teach undergraduates with no experience – it is more to do with their general attitudes, values and beliefs’, ‘some don’t like what they are being told – don’t want to confront the ‘mess’’, and ‘some are hostile if you try to teach them something that is difficult to learn’.

"Lot of the students who go out don't understand it at all. Only the MSc level. IS course like ours - 4th year courses, comparative development, methodologies and it's really about thinking through these issues we have been talking about. One or two of them saying we didn't realise how much there was in this."

"My experience tells me - many undergraduates capable of picking this up. Much more to do with general attitude, values, beliefs. Some like it, others detest it."

Many agreed that these students were unlikely to come back into higher education at a later date to continue their education, even if they did become IS practitioners. One interviewee stated that ‘75% of the students who graduate wish the final year was the first year, because they are beginning to get the idea’ about IS. Others noting that past students have often told them that they only understood the importance of the teaching when they were actually working in organisations, some used these ex-students to provide insights for undergraduates. Projects based in organisations and placements were seen as profitable for

students in this area, in order to try out ideas, and a number of the leaders talked of ‘making them acceptable people for industry’ or providing ‘skills for employment’.

6.4.4 Managers and IS Practitioners in Organisations

The leaders’ perceptions of managers and IS practitioners working in organisations are considered in this section, whether within sponsoring or collaborating organisations in research or consultancy, as students on courses or the vast majority of those who fit into neither group. This section should be read in conjunction with the various stakeholder groups which overlap here.

One interviewee described a system of research consortia in which they were involved, groups of organisations who fund, direct and oversee research. Practical difficulties include the variety of expectations the organisations hold on the role of the researchers, the high co-ordination costs which ‘eat into the funding’, and the fact that it is easy to get distracted within a project.

“First major research funding which insisted that any approach should be collaborative. Very difficult. Got to keep all the partners working together. Meeting of minds. Only need a tiny deviation, interpretation, and they go off on a slightly different direction. Great deal of time spent on co-ordination. Transaction costs take up the bulk of the funding.”

Leaders saw their roles as variously: ‘providing another angle on management fads’; ‘acting as a catalyst for top management’. ‘Only the organisation itself can cause change, but it needs a disrupter’, promoting the rhetoric of ‘Learning Organisations’ and self-sufficiency. There was a view expressed by several leaders that it was ‘no good tinkering with lower levels’ in organisations in order to create change, one leader proposing that academic leaders should only be talking to business leaders since those at lower levels would not understand the issues. There were some concerns expressed though in relation to learning in organisations: one leader noting that management in organisations often ‘undervalue individuals’; that there are attempts to make methodologies mechanistic; and

that managers are not interested in analysis, technical training or research, but only in 'soundbites'.

"So many people in British industry in senior echelons bear their lack of education like badge of honour on their arms, lot of consultants as well. Don't see the relevance at all of academia. ... There are examples which would argue against what I have just said but that's part of the problem. Problems in terms of academia reaching out to industry. Also a problem the other way round. Why do we need you?"

"Two communities - IT community and business. Want the same thing. Neither trust each other and it is going nowhere."

"Senior managers usually retain rather more flexibility. Those progressing through careers normally retain more flexibility. When you get down to middle level, seem to be rather more closed, then difficult to get through to them. ... Realised I was really interested in education, seemed more practical than practice, if you can get at them at that stage you can have some profound influences and when you say people aren't influenced by papers, old joke about the Government run by the thoughts of dead economists, that's the ones they have read at university. Form ideas at that stage - not easy later - time, flexibility etc. If someone invested a whole career in a particular approach or style, don't want to know it is not appropriate."

It was suggested that research and dissemination should be viewed holistically, with collaborators aiding in agenda setting and providing feedback of the results of research. Where collaborators were not the direct audience for research, they nevertheless were provided with some feedback via reports or seminars.

"There's a value to academics, I think, because we can learn a lot about organisations, and that's knowledge for us. And so in terms of our business as knowledge producers that's always going to be useful. But for the business people, they have no - , they don't really have - , well, most of them don't see themselves as having any interest in the process of transfer being successful. You know, they might want to get some new technology to be successful in their business, but they don't see it beyond that, I don't think. They don't see that they have this mission to enrich and shape and influence the direction of science. I don't think they're concerned about that. It works the other way, you see, it could be argued that we should be concerned about influencing business practice. There should be a mutual interest in having an influence over the development of science. I have done a bit of work on partnership recently, we had this conference on partnership. I have heard people put the argument that one of the reasons why some user organisations are interested in developing partnership relationships with IT suppliers is that they want influence over the product. So the interaction can occur in some circumstances."

“But it’s just never worked. I don’t know why. I think the company came to us because they wanted cheap consultancy. I don’t know what they wanted actually. And so we blundered along. There’s been a change of MD and ...it can’t be true that they really think that there’s nothing they can learn from us. Because they haven’t even tried to learn. And I’m quite happy to say that there’s a lot that I can learn from them. But I suppose .. you see I’m trying to learn things from them largely for selfish reasons. Because I could write another paper. But you’d think that they could be actuated by selfish reasons as well, but somehow it’s not ... I think in a company environment, people maybe don’t have the longer term view. People are constantly solving problems and if you’re not there visible as a member of the company, then eventually they just lose sight of you. If they had to do extra things to make sure they got involved in something then ... they tend not to make the effort. ... I just haven’t quite worked out the agenda of the person that we’re working with.” – talking about a Teaching Company Scheme

Organisations collaborating in research projects with academics are seen as actors, due to their involvement in allowing access to IS practice and participation in the research activity itself. Managers in these collaborating organisations, as in sponsoring or subscribing organisations, act as gatekeepers for researchers, enabling limited rather than open access to practice, and determining the appropriateness of research results and their internal dissemination to those practitioners not directly involved in any collaboration. Organisations can stop research by not being collaborators, not allowing access.

“Some access problems - getting to talk to them at all. Often senior people are very nervous about you looking at what is going on. Sense there might be skeletons”

It was generally agreed that it was very rare for an IS practitioner to take three years out to do a PhD, and that they tend ‘to pick up their ideas from others they meet’ in the workplace, such as contractors, not looking ‘to academics for help or knowledge’. Several leaders, against the managerial view, believed that IS practitioners were ‘the ones who will bring about changes’ in organisations, being ‘flexible about the use of methods, evolving new procedures, but needing ‘educational development as well as their own experience’ through reflection and moving between practice and theory’.

“My impression of practitioners these days is that they are much more aware of what is going on academically than I ever was. I hadn’t been through the academic system whereas most practitioners now will have done. Entry level is a degree. They have a good base and

contacts. Problem is with the academic - the practitioner tends not to lose that many contacts with their peers, can share information between companies. The academics have the problem, it is much harder now for academics to work in a consultancy. Much more pressure on academics to deliver in the Universities”

“I do a lot of consultancy for industry and I work with IT departments and I was recently asked to help a IT dept to help them improve their image with users. When I asked people their aspirations, they all said they would like to be left alone to get on with the development of new systems. Obvious culture gap. I suggested to them all the things like ‘you must be hybrids’, ‘you must develop interests in business’, etc. and they said, ‘In that case, if that is the only way to gain respect of users, we don't care’. Next time when I rang to find out how they were getting on they were all sacked ... This is a sad story but that is what is happening because people who are recruited by advertisements which say ‘We want experts in IBM operating systems’ and then they are asked to do something which is totally different in a humanely acceptable way. I don't think your initial background matters because mine is in engineering and yet I am far more concerned with understanding human element than technology. What your outlook is.”

“It is mainly to do with the competence of people in industry and these people in industry gain their competence from us so in a sense we are responsible for not teaching them properly while they are young and with us.”

“All that I have written about systems analysis - make sure you realise what the problem is before you do anything else. In industry don't say that. Tell you what the problem is usually - tell you how to resolve it. Reason - more to do with the fact that have a certain amount of money, etc, and something has to be delivered. Don't waste a lot of time. ... Not only do I think that - chap said to me at NCC, what industry needs is 95% technicians. Doesn't want thinkers, disruptive. Would never get anything achieved. Largely believe that. Not desirable but that's the way it is. In a dept like this place a lot of emphasis on giving people skills that will enable them to survive as technicians. Skills are about picking up the next package very quickly. Being able to learn the next programming language, technique, etc. very quickly. ... Majority of people who go through our systems even if we are teaching them to be systems analysts actually perform the role of technicians. Over qualified for what they are doing but that is just the nature of the system. ... Need to be some people who are thinking about what they are doing, that's what the degree are about. In practice how many of the students actually find themselves doing that, is a small minority. Some of the ones who would be good at it drift off into academia. They feel frustration with the constraints in which they are forced to operate”

“My suspicion is that university degrees reflect that. In IS or related areas. People will recruit clones. People going out of university into those sorts of jobs will tend to have that view. Explains why their notion of professional is something like technician.”

6.4.5 Professional Bodies

The question of whether IS was a profession arose during several interviews – with a consensus that it was not. Although one interviewee talked of the ‘duty to bring on the next generation’, it was observed that IS academics and practitioners had no serious professional body but affiliated themselves across a range of institutes and societies. Comments were made such as: ‘Maybe the IS community has not taken a hard enough stance and lost it’s way because of rapid change and growth’; ‘The academic and practitioner communities have grown up at the same time’; and ‘universities are not the sole provider of IS people – patchwork of qualifications available’. Several leaders were associated with the British Computer Society (BCS) but did not see it as comparable to other professional bodies, and were concerned with it’s origins in engineering and computer science – ‘it missed the idea that IS is a social science – changing though’. One leader saw the BCS as an easy way to get access to IS practitioners, noting that ‘they are always looking for people to lecture’, another found membership of a BCS accreditation panel ‘a way to keep in touch with what they are thinking’.

6.4.6 The Media

Access to managers and IS practitioners outside the professional contacts already identified was seen to be achieved through publishing in professional journals and books, or through the mass media. One leader noted that it was ‘easy to get articles in academic and specialist employment press – but minimal impact’. Others found practitioner journals were interested in synthesised results and saw them as the ‘main means of communication with IS practice’. Little was said about the general public as an audience for IS research – although the notion of ‘lifelong learning’ and the need for 50% of the population to be educated to a high level were ‘quoted’ from the political thinking of the time.

Whenever the interviewees were asked about the national media, there were generally either very positive or negative responses. Some were involved with the press and

television on a regular basis: ‘quoted a lot, asked for opinions’; ‘always talk to the press-good publicity’; ‘the same faces turn up a lot, usually from the London area’; invited by a production company to do TV programmes – already done three’; and ‘it’s about networking’.

“Interviewer: How does your reputation get around? Respondent: Word of mouth. And the press. I always make time for the press. Free advertising. Symbiosis.”

Others were very reluctant to have any dealings with them: ‘don’t want to provide soundbites’; ‘won’t touch half of the approaches – they don’t understand what we’re doing’; ‘waste of time – no benefit to my personal aims in the academic world’; ‘Had one go at TV and fluffed it’; and ‘distrust them from previous experience – distortion and sensationalisation of work – wilfully or sloppily’. Some did not currently attempt to use this channel for dissemination: ‘technical academics are not viewed well in TV – they prefer to use Business Schools’; ‘not asked – rare for academics to get on TV’; ‘not a good relationship between academia and the press’; ‘have not been approached by them’; ‘never bothered’; ‘not easy to get things in the press’; ‘haven’t tried TV’; ‘the mass media is where I’d like to be’.

‘Specific skills’ were seen to be required for TV work, academics needed ‘to be a certain type, certain personality to do TV’. Indeed, some believed that academics needed to utilise ‘professional mediators’ to interact with the national media, needing ‘translators’ to cross the ‘culture and language gap’. Several had successfully employed designers, journalists and public relations specialists during research projects, although another leader suggested that ‘PR companies are not geared to do things for academics’, as they take a very superficial view. They could be used for university promotion but not for ideas.

As potential Customers for IS research, the general public relies on the mediation of the media. This usually acts as a block on dissemination through academics lack of skills in providing materials and in performing in a manner deemed acceptable for publication. The use of professional mediators by academics to tap this dissemination mode is minimal, sometimes dictated by the lack of resources allocated for such activity.

6.4.7 Competitors

As has already been mentioned, competitors for IS are often perceived to be academics in other disciplines within universities. The fragmented nature of the IS community into a wide variety of departments and schools and the broad nature of the field leave its members in often weak positions, struggling with the need to draw from a wide literature and open to criticism of lack of competence from other areas. Outside the academic world, IS researchers find themselves apparently in competition with researchers in commercial organisations, as well as management and technical consultants.

Interviewees talked about their relationships with commercial consultancies, training companies and outsourcing service organisations. Some were viewed as direct competition for 'services' which were being 'sold', particularly amongst those leaders from Business Schools, although the offerings of these competitors were generally viewed as quite different from those of the academics. One interviewee described a continuum with academics at one end and consultancies at the other – identifying the differential aims with consultants selling bodies and solutions and academics enabling organisations to solve their own problems. It was suggested that academics should be concerned with 'training the trainers - wherever they are', noting that the 'new' universities are better at putting on courses quickly than the 'old' ones. It was also noted that outsourcing vendors are probably the biggest employers of IT graduates now.

Some of the interviewees provided examples of situations where they had acted as intermediaries between organisations and consultancies or IT vendors, providing a critical and knowledgeable perspective for senior managers to draw upon. Some of the criticism of consultants focussed on their tendency 'to use any theories to solve problems – a mish-mash of whatever makes sense', criticism that was argued against by others in defending their own approach to consultancy and research. It was felt that managers in organisations often 'needed help in evaluating gurus', with academics providing a critical perspective. A comment was made about consultants 'jumping on the bandwagon after the event' in areas such as Business Process Reengineering, or being influenced by 'gurus' via their popular

books or management publications. There were some derogatory comments about gurus generally, although one interviewee expressed the opinion that this was possibly based on jealousy of their influence and financial gain. Interestingly, several leaders had used consultants themselves as specialists in certain applications or skills.

6.4.8 Employers

Different views of the main funding of universities: ‘There is great demand for education, therefore, research flourishes’; and from a mainly self-funded Business School, universities are ‘funded for undergraduate teaching – set up to deal with the irrelevant’. A number of interviewees viewed the composition of staff in their department or school as important, the mix of academic staff, sometimes hand picked by the leader themselves, ‘structured so that each member brings different skills to provide a joint effort and mutual support – ‘helps prevent poaching by other institutions’. Also, in one institution, the employment of the administrative and marketing services needed for the team to function as a business. One leader spoke of the evolution of their department over the years, from data processing to IS, expansion of academic staff numbers, and the move into research. Business and Management Schools were ‘led by the question of a commercial return’: with a ‘strong leaning towards the clients’ interests’; having ‘set outlets for research results, press contacts and courses providing continuity for attendance’; an emphasis on public relations and the reputation of the school; and in one case where it was ‘important that there aren’t any undergraduates here – a distraction’.

6.4.9 Summary

A large number of stakeholders of IS research were identified by the leaders and the picture which emerged from the interviews was of a complex set of relationships, particular to each leader in the context of themselves and their own individual research situations. The leaders’ perceptions of the various groups surface assumptions about individuals among the

potential audiences for research which may influence their dissemination aims and activities.

6.5 PROFILE OF DISSEMINATION

Having already described the interviewees and the major stakeholders for IS research, this section identifies the main target audiences the leaders chose for the dissemination of their results. The interviewees discussed the reasons for their choices, and their perceptions of the groups as learners, and as potential appropriators of IS research, are presented here from an analysis of the interview data. A description of dissemination activities is provided, indicating possible barriers, access issues and mediation. Some leaders talked of feedback from audiences on the research and their use of it in practice. The author is aiming to provide the reader with the range of the leaders' stated beliefs and behaviours in the context provided by the rest of the chapter. Since the discussions were semi-structured around the interview model, leaders were free to take the discussions in directions they considered relevant to their own beliefs and behaviours. The findings here are distilled from that evidence, in the light of the author's learning about the subjects through the interview and analysis process.

The main target audience identified by almost half of the leaders was the IS academic community, mainly focused through academic journals and conferences. Interviewees emphasised that such a focus was 'encouraged' by the requirements of the community and higher education sector for academic publishing. Another quarter of the group stated that organisations, in particular senior managers, were their target audience, whether through sponsoring groups or more generally. Secondary audiences were mentioned, because of funders' requirements, teaching commitments or due to the personal motivations of the leaders. A number of issues affected the extent and range of dissemination, however, such as the costs of dissemination, skills required and leaders assumptions about both potential audiences and the relevance of their own work. Interviewees were sometimes heard to complain that they received little or no feedback of their work, but comments show that a

number of stakeholder groups did provide feedback across the areas of relevance, rigour and dissemination of IS research.

One interviewee insisted that he wrote for himself, another for ‘anyone who paid’. Multi-track publishing was discussed by a number of the leaders, who mentioned the requirements of funders, the possibility of reaching different audiences and the fact that it was often well paid. Several noted that there were many opportunities to publish more widely, but insufficient time to do it. Leaders asked ‘what is the end point of a piece of research?’ and ‘what percentage of time is spent on dissemination?’, with another suggesting that it was a ‘cop-out by just writing an article, holding a seminar – need to target a larger audience’. It may be that complementary skills are required for research and dissemination, as experienced by one major publicly funded IS project which hired specialists.

In this section, leaders’ comments on dissemination to multiple audiences are presented, followed by a consideration of the academic and business audiences separately. Lastly, their views on some of the other potential audience groups and the use of the mass media are included. The findings should be read in conjunction with the previous sections to gain the richest picture of the situation. For greater detail of the range of the leaders’ comments and activities see section 6.6 and Appendix C.

6.5.1 Dissemination to Multiple Audiences

Some of the leaders had achieved success in publishing their research through a number of different outlets and urged others to consider this if they have the required skills.

“A lot of people have a real problem of crossing a number of publishing outlets. I am addressing all audiences but I have to address them in different ways. Basic work that I do - research - has to be done vigorously and objectively, but having got that independent view of what is going on I can cut that up to an academic audience but also re-package it to a senior executive audience, deliver it to a lower level practitioner audience. Type of themes I pick tend -practical things - travels well across those audiences.”

"I publish in Harvard Business Review and Journal of Management, one is very practitioner orientated and the other academic. People don't understand this. How can you do that. If you can do it, why shouldn't you."

"What we choose to do - can do various things. Can write papers, books, teach students at various levels, post experience courses, in depth case study work, action research, what is most effective - I don't know. Some driven by expediency. If you have a job you have to do a certain amount of teaching."

"Becoming more difficult to publish. Difference is that the people who do manage to ride the two horses are very good. Or very committed."

"Has to be fast. Target the audience. Something which we are not doing. We are nepotistic. Want to publish in our own academic journals, don't want to publish to the wider community. Several of the ... will say how are you going to communicate with the wider community. We will host a seminar, or write an article in the professional journal. Cop out that the average academic will come out with. Rather than say when we say we are going to disseminate we can hit large numbers."

"Happy to engage with those people and I have never really seen a fundamental difference in engaging with any of them. Seems to me that the way I have been trying to engage with them is I have been exploring these things to find out why I am in this world, never get the answer but have to try. I'm offering them my thoughts on the subject. If someone will offer me money to give my thoughts - fine and that is quite sensible because I have thought quite carefully about these issues. I don't have the answers."

One leader, producing guidelines and support material which may be of use to academics, students and employers, made their work available electronically as well as in paper-based forms, 'so that if people want to follow it through, can browse and pick up bits'. Several others were less confident about their understanding of the non-academic audiences and their interests in research.

*"I felt quite strongly about the dissemination,. in the practitioner community, of the results of the ** study. I was very pleased that they said 'come and give this talk'. ... But there's still an idealism as well, I would like to think that people would be interested in what I'd got to say. But then I'm not sure they will be."*

"Can't get much publicity in the national press or never done it for me. Academic is a pejorative expression Need to have some other angle and I think academics, even business

schools are not very good at knowing what the angle is. Certainly I am not very good at knowing what it is. Done some work which I find enormously interesting, think the whole world would want to know about it”

Among those engaging in sponsored or collaborative research with organisations, there was a dual-track publishing cycle.

“The company will get a report, simple things to make .. happy with what they are doing, brain surgeon use a system. Feedback right across the board. Workshops, seminars - various levels. Academic papers. Recent work in writing up - European conferences, IS. That will change now. Back at the beginning of the cycle.”

Motivations for multiple dissemination varied in the group, and some expressed an appreciation of the inadequacy of academic publications for the wider audience.

“If it is a group of managers - I don't treat them any differently. Where are they coming from? Mutual exchange of views. .. . What I have just said is that I am doing that all the time. Therefore a continuing process. Exchange of views like this interview. I am passing things on to you and you to me. Done 8 different activities today - each one a passing on of what I perceive to them. .. Not a megalomaniac. Don't think I personally will revolutionise the world but I am trying to make my contribution in my own way. Trying to work with like minded people here and abroad”

“Local TV ring up sometimes, technology fraud, how much? I'm not altruistic. Got to be a reason. Either making money, or having fun”

“That's why I think a lot of our literature fails at that level. I suspect that if a lot of practitioners were to read it, come to our conferences or read our papers .. lovely conferences very enjoyable, stimulating [about IT and changes in the organisation of work] but if your average practitioners walked in these he/she would not have had a clue. ... enormous gap - language, culture between at least some of the idea presented.”

*“Somebody I was speaking to yesterday - her version is that she is the idiot who has to read these reports to make sure idiots will understand them. ** is anything but an idiot. She is reading for the lay person making sure that we don't make it too erudite”*

6.5.2 The Academic Audiences

The leaders reasons for choosing academics as their main audience varied from positive to negative ones, and were related to their views of research and the sharing of knowledge, their roles as leaders in the IS community and their personal career aspirations. In some instances academics were chosen as the target audiences, in others leaders felt that they were obliged to disseminate to them. Almost half of the interviewees employed their main dissemination effort in this direction, generally via academic journals and conferences. As one leader noted ‘publishing in academic journals is the route to promotion - it has to be done’ and that this suited him because it was what he liked doing. Motivations ranged from the needs of the RAE, ‘even though it is more pluralist than that’, and the ‘need to make results accessible and challenge researchers’ views’.

“Interviewer: How much feedback did you give to the organisation? Respondent: In that [project], I gave them none. I: They didn’t ask for any? R: No.. well, there might have been an understanding, but... well ...I wasn’t particularly interested in them I was interested in writing it up. I guess I knew what I wanted that paper to be about. ... It was meant to illustrate some theoretical points that I was interested in. It was not for practitioners at all. It was basically for the academic community.”

“The output for me would still be trying to gain knowledge and publications in the public domain which are the important output. Academic publications. Have to do a good job for the funder. Have to get your reports in if you are being funded by Research Council or you have to get your report in if you are doing consultancy work but the main output for me would always be the academic papers.”

“Yes, that would be nice to think, that there could be more interaction between academics and practitioners - but there are a lot of reasons why that doesn’t happen. It’s just very difficult - It’s much easier to talk to people who have similar agendas, than to people who have different concerns. You have to work very hard - and it doesn’t often work”

There were comments which addressed their roles as leaders with responsibilities to the IS community:

“If everybody who is interested in the more sophisticated aspects of organisations etc. migrates away from IS into the community that deals with that sort of stuff, leaves the IS community even more denuded. I shall remain firmly placed in that camp. My attitude to

MIS quarterly is to try to influence it, not reject it."

"Recently I haven't even published anything because I was just busy with some other research and I am writing a book which is very slow in developing, summarising from previous conferences papers. I consider myself also responsible for not pushing enough to change the situation."

Others talked of issues relating to career prospects and the requirements of peer review:

"If I was a lecturer starting out on my career or a little way into it I think I would see fellow academics as the main audience because I would need their approval to go further up the line."

"I like to think it's relevant for the practising world but more and more one is pushed into writing for other academics and the academic world. Pushed by research assessment and the need to publish in journals, always been like that in a way. People want to progress in the academic world ..."

"Publishing as a promotional act. People publishing for RAE. Have to play the game. People published largely for promotion. If you wanted to enter into a debate formal publication is not the way. People who do this genuinely do it through conferences and workshops, etc. Other means - other journals, offer people opportunity to put in draft papers."

"I suppose I've become a little bit less idealistic in recent years, is the truth of this. It would be quite nice to be a professor, and the only way you get to be a professor, and have the respect of your colleagues, is by producing quality work which is esteemed by the peer group. Which would be your fellow IS academics. So that would...I would basically see practitioners as a source of money and a source of research opportunities. I don't have any great idealistic, crusading desire to help people build better systems."

"The real answer is that my audience is academic. My promotion, job depends on what I publish. Money, grants, etc, whether you get a chair depends on fellow researchers. My prime audience is people who read refereed journals. Right or wrong that is how I am measured. Much more plural in how we are evaluated. But still when an academic looks at your CV - what have they published? Academics are no different from anyone else. Operate in a controlled system. Not neutral. If a programmer is rewarded by banging out [code] then they will bang it out. Some of them with broad views and vision would take the risk and do that as well. Tends to be an add-on, as it is with most researchers. If you asked what percent of your time do you allocate between dissemination and research, I think it would be quite low. Less than 20 % - maybe less than 10 or worse."

Although academic publishing was generally the priority, there were a few leaders who did not see academics as their audience – one stating, ‘I don’t care if they read my papers – they don’t anyway – I only write to retain credibility’. A couple of the leaders expressed very negative opinions about the necessity of academic dissemination.

“Attend about 1 academic conference a year and it takes me a year to get my blood pressure back under control when I see all these people wasting their time, government money and then moaning ... load of nonsense.”

“Business managers exclusively. There isn't another audience. We have to write for academic people but I don't consider them an audience. You write in a way that will get published not that you are that bothered about people reading it. .. writing for academic journals is something we should do enough of to retain academic credibility. Prime audience never reads that stuff. And also wonder whether many academics read it either.”

One of the interviewees expressed an alternative motivation:

“Writing may be for oneself, not necessarily to communicate - read papers for interest and pleasure - looking for quality in marshalling an argument - the arguments are known but the intellectual progress of the people is interesting - an intellectual soap opera - also viewing the political game”

During the interviews, leaders provided their perceptions of academics as a potential audience, as learners. Their views covered a wide range, as indicated in Table 6.2, and emphasised the importance of not considering the community as homogenous. One leader noted that academics were individuals ‘driven by what they are interested in’, which meant that in disseminating they are aware that their research may only be of interest to, say, 10 people in the whole world.

“Nature of the academic world, can't actually instruct anybody to do anything. Have to try and persuade. Pick up on philosophy sometimes. A lot of things I have tried to initiate . Impossible for one person to bring it about, have to work with people and try to bring it about by example”

Perceptions of Academics as Learners
<p>An academic's role is to ask questions</p> <p>Craving to be scientific to impress computer science</p> <p>Easier to talk to people with the same agenda, eg. other academics</p> <p>Many academics don't read papers, except to use them for their own writing</p> <p>Don't read journals -people just skim the contents pages of journals, since they cater for a wide range of interests</p> <p>People who like doing research</p> <p>Academics envious of popular authors</p> <p>Personally – a technophobe</p> <p>Very bright people but not connected with the real world</p> <p>Independent lifestyle</p> <p>Nature of academics – they need to be persuaded not instructed</p> <p>Working for a salary</p>

Table 6.2 – Leaders’ Perceptions of IS Academics as Learners

Much criticism emerged when interviewees discussed the quality of academic journal papers and the perceived power of editors. Some criticism addressed the form of papers, from the ‘obscure style’ required at one extreme and the ‘journalistic writing’ at the other. The standard of publications was described as very low, especially when compared with other areas such as management, with one leader saying that they try to raise the standard by participating in UK journals. One interviewee urged researchers ‘to say something new and exciting about IS’ and complained that many ‘write repetitively’. The time delay in research being published was noted and it was hoped that electronic journals would improve this situation.

“Best journals take 3 years. From the time you submit the paper - i.e. takes 5 years from the time you start work. Trying to speed up but ... has to go through referee process.”

Conferences were considered important from the networking perspective and it was felt that ‘more ideas are exchanged through conferences than publishing papers’, although one interviewee noted that ‘researchers are less convincing at conferences’. Some used conferences as publishing route because of a backlog in journals caused by the RAE.

Generally, the leaders were positive about the refereeing process, with one talking of the

‘terrific feedback’ to be gained through reviewing, but several had problems publishing, even at this level – citing non-IS journals and anonymity as issues. Others gained inside knowledge of research and good feedback for their own work through the review process. Editors were seen to have considerable power, particularly with backlogs in submissions, and some criticism was expressed about their intolerance towards certain research approaches. It was suggested that people, perhaps mistakenly, ‘assume refereed articles are OK’.

*“Don't get much from responding to papers etc. Few articles I have written like ** get far more feedback. By and large academics don't care. ... - can't recall anyone ever writing to me personally saying you're wrong or whatever. If you go to a conference people might come up and say they liked it or whatever. Partly because it has been refereed so it is never going to be hopeless. If they have a different viewpoint you wouldn't write to somebody. You would write to the paper. If you write as letter to an editor it gets in fast but people don't want that. They want a refereed journal. It is distorting.”*

6.5.3 The Student Audiences

Most of the leaders had lecturing roles, the majority with postgraduate students, though almost half with undergraduates too. They noted that it was rare to get IS practitioners amongst their PhD students since it was less attractive than a job in IS, certainly financially. It was generally agreed that the numbers of UK PhD students was very low, anyway. Table 6.3 shows some of the perceptions leaders expressed in relation to students as learners. In talking of their main dissemination audience, one leader noted:

“Academics. But I would hope that through teaching on Masters, undergraduates, or just picking stuff up that it will filter through”

Many were very positive about their experiences of sharing research ideas and interacting with students, providing a broad and questioning approach.

*“I take ideas that I throw at them and develop them. I will then get 4 or 5 students to give me their own scenarios for how IT is affecting **. Very much their background will colour what they come back with.”*

Perceptions of Students as Learners
<p>Students as revolutionaries</p> <p>Mature students looking for certainties</p> <p>Don't read books – 'old hat'</p> <p>Not aware of, or concerned about, ethical issues</p> <p>Filter information and come up with ideas for the future</p> <p>Their general attitudes values and beliefs are important in their understanding of IS</p> <p>Some don't like what they're told – don't like to confront the mess</p> <p>Hostile if you try to teach them something that is difficult to learn</p> <p>Need rules – gradual building up</p> <p>Are enquiring and interested</p> <p>Need variety of views and make up their own minds – encouraged to read broadly</p> <p>Know nothing about businesses and organisations</p> <p>Have technical not managerial interests</p> <p>Often come back after several years saying they understand now what we were telling them and why – surprised that their learning is relevant</p> <p>Don't go out into the research audience community</p> <p>10% of MSc students are capable of going out to change the world, 10% of those may do it!</p> <p>Gain understanding of industry through placements</p> <p>Need previous experience to understand the issues in IS</p> <p>Want to go out and do things</p> <p>Seem to split getting a degree and working in industry – sandwich courses help</p> <p>Take ideas out into practice</p> <p>Need broad education with technical knowledge</p>

Table 6.3 – Leaders’ Perceptions of Students as Learners

“My first primary target audience is my students. What I am trying to get across to them is my view ... other material I expose them to Quotations. Otherwise you only get one message which is mine, not really where you should be at, should be assessing the messages you get.”

Some were grateful for mature students and the awareness they brought to their learning in IS, particularly in relation to the reality of organisations and also in the experience and ideas they could contribute from business situations. One leader spoke of his students as his community. It was interesting, however, to note some of the barriers leaders identified in

promoting the complexity of the IS area and their aims to promote critical learning amongst students:

“Our first year students are particularly hostile if you try to teach them something that isn't easy to learn. As time goes on I criticise things more and more, I give them more reasons why this isn't very good, I honestly think the so called mature students are the worst because they try so hard they often come back having had some kind of unsatisfactory form of education in their lives and they want to try so hard because they realise this is their last shot and they learn everything.”

“Not centred on very young. Some doubts on what I am doing with the very young because I don't think they have any points of reference. Interested in the more complex issues of IS and their relationship with organisations, people and society. No handles on that.”

Leaders identified feedback from students with respect to their research and dissemination through a variety of formal and informal channels: via formal and informal course evaluation; through applications for postgraduate courses and the payment of, what are considered by UK students, high fees by overseas students; a general high demand for IS courses and the attendance of practitioners on courses; the students understanding, or lack of it, of the course materials; and, lastly, through their, often, non-reading of IS texts.

6.5.4 The Organisational Audiences

Dissemination to managers and IS practitioners in organisations took many forms, from formal project reporting to sponsors or collaborators, through courses, conferences and consulting, to informal interactions as aspects of IS activities of action research or case studies. Audiences included senior business and IS managers, middle management and IS practitioners. As for the rest of this dissemination section, the reader is referred to the Stakeholder section (6.4) for further findings.

A number of the leaders expressed an interest in influencing organisations, and provided some indication of their aims in dissemination:

"I basically cause trouble. I deliberately deny methodologies, I make speeches, I talk to businessmen, I rubbish methodology as a matter of course. I deny the whole idea of perfectibility in information as an aid to decision making. ...I see myself as a catalyst rather than some sort of permanent sort of dead-weight. I go in there, shake things up and come out and they get on with it. Because ultimately being a radical humanist I believe only the organisation itself can cause the change."

*"At the end we got people we had been talking to from the different companies together at the ** for the evening session and it was marvellous. But for the first time many of the people were talking to their own colleagues. Other thing I'm experimenting with is focus groups. ... mainly to get a discussion going, get feedback from this group of potential users. Quite powerful way of doing things. ... Get their reactions and hopefully some of what we have been saying they will be able to test out themselves."*

"Not about us doing it on the basis of our expertise but providing this to the practitioners to allow them to do it. ... If we do it for them then not providing anything. I want them to accept that this is a fundamental part of their practice. Last 15 years I've done a lot of training in project management - recurring theme with managers, frustrated by inability to reflect about their experiences so they can improve. Genuinely want to at least learn from those mistakes."

"Some of the best stuff that managers can use is what may have started in Universities and has been turned into something that makes more sense by consultancies - published in management rather than academic journals."

"I guess my view generally is that our role is to ask questions rather than to prescribe for the people who are actually doing the job. We don't have to do it. This is my criticism of some consultants. Say this is what you have got to do and walk away from it. Don't have to live with the consequences. So I am nervous about prescribing about what people have to do. Happy to raise questions and offer resources to think about what they are doing or question."

Feeding back results of research to collaborators as an integral part of a project through reports and seminars was viewed as 'good' dissemination activity. Where research was sponsored it was 'not necessary to force the results onto them, as they are setting the agenda'. Some leaders expected sponsoring managers to be the disseminators, although one noted that managers sometimes 'hide the results they don't like'. Managers' preference for dissemination included verbal rather than written reports, and implications of the results for the organisation. Leaders suggested that adherence to deadlines and dissemination conditions influenced organisations' openness, or otherwise, to researchers with respect to

access, as well as the take up of research results. Some identified a preference amongst senior managers for large research groups from elite institutions.

They were not generally interested in the academic publications.

“Part of our contract - like an open report to all who participated. Don't write separate reports. Separate presentations but same overheads, talks etc . Positive and pessimistic. Positive - workshops with these tools, listened, useful, helped them identify their choices, taken them very seriously, genuinely made an effort to work through it - that's good. User personnel mixed groups with tech people. Pessimistic - drop in the ocean. ... For all this collective knowledge etc it is largely being ignored. Only more positive thing about that is the conviction that some of the stuff could work”

“Prefer not to read, to be told. They like to de-brief you. The advantage is because of my background as a consultant, I can do research and then actually move into a consulting mode and say I'll tell you what this means for you and I can interpret it for them in a form that they like at no great cost. Reciprocal on an informal basis. Makes research easier.”

For one leader the process and structure of dissemination efforts was important:

“Do much more about getting people back. Our set of courses makes some sense as well. Structure and flow whereby maybe a group of people who have been on different components work as a team better because they have the same ideas at different levels. Often get people come on the high strategy course - send someone else on project management, etc. so management team becomes more familiar with a set of what we think are good ideas. ... Workshop - running another one in June. One afternoon at least if not more is dedicated to people who have been here 2-3 years ago, talking about what they have done, successful or not, people very honest. Some really good. Very open. People pay to come back and do this”

Dissemination requirements were placed on many of the leaders by research funders and collaborators, with one leader noting that ‘funders gradually requiring more practitioner publications for their money’. The demands for the exploitation of results, for instance, was seen to have implications on the allocation or refusal of future funds or policy decisions concerning acceptable research agendas. Several of the leaders mentioned that they ‘always keep ownership of the work’ done with organisations, where confidentiality does not interfere with the gradual publication of results in the public domain. Several interviewees talked of ‘selling’ the results of research, whether through implementation into ‘products’, by example through consultancy, or through developing a

‘methodology as a marketing tool for research teams’. One interviewee used market research to identify likely take up of their ‘products’.

In talking of their reasons for choosing managers as their target audience:

Two of those - senior managers, who can make things happen, and project managers, who can alter the emphasis of a particular project. Recognising that there are loads of different messages for different people, those are the two prime targets.”

“Business managers exclusively. There isn't another audience. We have to write for academic people but I don't consider them an audience. You write in a way that will get published not that you are that bothered about people reading it. .. writing for academic journals is something we should do enough of to retain academic credibility. Prime audience never reads that stuff. And also wonder whether many academics read it either.”

“Our customers are European industries. Miles behind are academics. I don't really care about academics. Vastly different than writing for the sake of writing. I see the present research exercise as a load of nonsense. The same people turning out the same dross more times in slightly different ways. Nobody in this world has got that much to say.”

“Part of our deliberate strategy in assignments is to get the manager to take what they have learned and apply it to their workplace and perform that as an activity which we then assess. Got a deliberate pattern towards the dissemination side of it.”

In terms of feedback on their dissemination:

*“Got a letter last week saying that they are already using ** on another project. That is a demonstration of success. Confidence.”*

“That dissemination was quite reasonably rich at the time. Not a lot of companies but a lot of coverage in things like computing, article in the Times. At Christmas I went to a party with someone I have known for some time in the charity world and he said ‘I saw an article of yours’. Quite shocked ...”

Interestingly, one of the interviewees proposed that those at the top of the academic hierarchy should only be talking to those at the top of an organisational hierarchy, since they can understand each other. The fact that the majority of leaders had a mixed background in organisations and academia indicated some blurring of the edges between

the two communities. The rhetoric of the IS academic community being 'close to practice' generated a number of opinions:

"I think it's a fantasy that we have very close relationships with practitioners. I don't know if it's true at all. I mean, clearly you get some practitioners who, from time to time, get drawn in, and they come in and do masters courses and might go on to do a PhD, but they aren't typical really. ... I suppose they don't even know that IS exists as an academic discipline. They might be quite surprised to find that what they were doing was the subject of a scientific discipline."

"Yes, that would be nice to think that there could be more interaction between academics and practitioners - but there are a lot of reasons why that doesn't happen. It's just very difficult - It's much easier to talk to people who have similar agendas, than to people who have different concerns. You have to work very hard - and it doesn't often work."

"I would be quite excited by that. I've been a bit cynical in saying that I'm only interested in research which but it would be quite nice to think that you had influence on people. I think the reason why this Teaching Company Scheme broke down was because if we had some specific technical skill that they needed then I think there would have been no problem. I think that the problem was that, either we have some skills that they didn't want or we just don't have any skills, I don't know what it is - but we weren't perceived to have anything tangible or recognisable which would be useful to them, that they would be able to turn around and say 'look we'd like to use that'."

"Have periodic workshops to which we invited practitioners - giving papers and listening. Can be quite fruitful. Tend to get the wrong level of person - too low. Difficult to get people at senior level to take time."

"I feel that the research I have done has had a direct impact but most of the advice I give is at a higher level and I draw on my knowledge of other people's research rather than my own."

Several interviewees suggested that relations between universities and business are improving as management has become a graduate occupation. Managers have an increasing awareness of academics, although with a 10 year gap between theory and practice, and different agendas and political priorities in the two communities, one academic suggested that 'it is a fantasy that we have a close relation'. Some leaders believed that managers did not trust academics to come up with the results, in terms of research and consultancy, and warned that 'managers will expose you – academics only catch you out on rigour and

methodology’. Managers were criticised for their short-term views and reluctance to discuss why they do things. As decision makers, they were seen to be uninterested in sociological ideas, making choices ‘irrespective of the decision making process’ and on occasions ‘hiding’ results of research which they didn’t like. One leader suggested that in organisations ‘things develop out of crises not reflection’, and another that ‘it’s all about covering up - managers don’t want to let people see what is really going on – skeletons in the wardrobe’. Table 6.4 indicates some of the leaders’ perceptions of managers as a potential audience for research, again the reader is urged not to assume managers form an homogenous group.

Perceptions of Managers as Learners
<p>Do not read books</p> <p>Either IT phobics or know-alls</p> <p>Better educated than in the past – culture hostile to education</p> <p>Human beings like anyone else</p> <p>Pay lip service to life-long learning</p> <p>Need help in evaluating gurus</p> <p>Not interested in analysis or technical training, only strategy and business</p> <p>Not interested in research – only soundbites</p> <p>CEOs don’t go on courses – only workshops</p> <p>Interested in different things than students</p> <p>Not interested in research and how it is formulated</p> <p>Middle aged managers are inflexible, unlikely to change, deadwood, closed thinking</p> <p>Individual learning used for self-promotion – organisations not taking the benefit – no debriefings, etc</p>
As Employees and Employers
<p>Organisations as groups of people</p> <p>Hierarchy</p> <p>Business community is fragmented</p> <p>Don’t select employees on trust</p> <p>Career instability</p> <p>Little organisational learning</p> <p>Multi-disciplinary teams</p> <p>If organisations are really serious about developing people they should give them time to inform themselves about the latest developments</p> <p>The global village is a myth – 150 people make a community</p>

Table 6.4 - Leaders’ Perceptions of Managers as Learners

With regard to IS practitioners, the interviewees generally identified them as 'techies', not looking to universities for training or support (see Table 6.5). Some engaged in collaborative research with practitioners, utilising their practical experience and alternative perspectives. A number of the leaders regarded practitioners as a 'lower level' to which they did not attempt to disseminate their research: 'they are not capable of taking in the results'; 'different groups can't talk to each other'; and 'no good tinkering at the lower levels'. Several questioned whether practitioners were looking for, or had a need for, information, and one asked 'what motivates them to learn, beside fear?'.

"The most I would like to influence are the people who are practising. Those people who are practising are the ones who are going to bring about changes in life, second lot who are researching, they will publish and that will influence an audience."

'Good practice' of disseminating to practitioners included contact through conferences and the British Computer Society. One of the leaders commented that, as a community, IS practitioners are at least as fragmented as IS academics and, without the benefits of a profession, this caused problems with dissemination.

"If I was wanting to get ideas into practice, best way by speaking at industry conferences. Paid to do so. Industry conferences - someone gave me a cheque. As an academic you do it for nothing. Industry conferences organised by particular industry, or company. Active in the BCS in London - always desperate for people to speak. Got to be prepared to turn up and speak with 3 people there. One might be systems analyst from BP. Not that difficult and get paid for it. Must be prepared to address the issue. Have to be very clear in making distinction in what you are trying to achieve. If you go to a lot of conferences get people who think it sufficient to tell you their experiences about project they have worked on, etc. Not in itself sufficient just because it is in practice."

"Realise in this and my own more particular research - community of practitioners or users can vary quite a lot. So some of it can be relevant to analysts, project managers, user project managers, strategists, senior managers. One of the problems we have in the same way as we are fragmented our users are also different communities. When we say we want to involve the users of our research or communicate we don't have a good focus as to who we are trying to hit."

Perceptions of IS Practitioners as Learners
As Technical Experts
See themselves as techies An art or a craft? Professionals or technicians? ‘Cosmopolitans’ rather than ‘locals’ Only project managers may be able to influence projects Reluctant to discuss ‘why’ we do things They are the ones who will bring about changes in life
As Learners
Not likely to come back into universities – never got the whole story, didn’t move on to the socio-technical stage Don’t put theory into practice in their own areas Analysts trained by commercial organisations Don’t look to universities for help Need to be reflective and move between theory and practice Learn a lot from contractors – they usually have a wide knowledge Pick up their ideas from others they meet Flexible about methods – evolve new procedures Research is about finding out how little you know, a constant exploration – practitioners need to do this too Part of the mass TV audience Unusual to take three years out to do a PhD Need on-going educational development as well as their own experience At least as intelligent and knowledgeable about the issues as academics Need to get them to take a more academic perspective

Table 6.5 - Leaders’ Perceptions of IS Practitioners as Learners

When questioned by the author, a number of interviewees deplored the amount of dissemination to IS practice, but it was not generally considered an issue of priority. There was a strong feeling that there was little demand for IS research results from practice, although one researcher noted that there was developing a critical mass of researchers and consultants promoting a ‘demand pull’ from business organisations.

6.5.5 Other Audiences

Other audiences for IS research included Government policy makers, with several leaders

managing to achieve ‘input to policy guidelines’, for bodies such as the Central Computer and Telecommunications Agency (an executive agency of the Office of Government Commerce which aims to provide help for mainly public sector organisations in their utilisation of IT) (CCTA (2000)). One interviewee asked ‘who has the policy makers’ ear with respect to policy and power?’, answering that it was institutions like the London Business School because of the way in which it is structured, the money that comes into it, and the type of people they employ. It was suggested that ‘once you are on the Government’s list, they repeatedly call on you’.

The leaders said little about the general public as a potential audience, except that more was needed in terms of ‘lifelong learning’. Dissemination to non-academic audiences in a general sense was seen as a problem area, and definitely an after-thought. It was suggested that ‘people read Tom Peters because it’s there’ and there was a general dismissal of such writing, but for comments such as:

“Very easy to deprecate anybody who does write those sort of books or does that sort of work. Lot of it is quite positive in terms of disseminated ideas.”

“In some way to capture the depth that research produces in a book that you could envisage selling on an airport bookstand that people will read. Difficult - that will get you visibility and bring organisations who will want to take part in your research. I think if you can - Charles Handy is good at this - has got depth - not a great research depth but a depth of thinking - not superficial, and then you get a reputation as a guru and people read his work and what he is suggesting it becomes a self fulfilling prophecy because he is a guru. ... Find it very difficult to think of somebody who does in depth research but also fits the mainstream bookstands. Once you hit the bookstands you want to keep going with it and can't really be doing ... What I am surprised to find is colleagues in other universities, business schools who move along that track to some extent are so visible to the outside world”

There was considered to be a ‘conflict between the mass audience and the academic audience’, with the feeling that one’s academic credibility was at risk by publishing more superficially. A number of the leaders engage in publishing with professional journals, the press, TV and commercial videos, and one spoke of academics’ ‘parochial views’. Some had produced books, either with others or as a review of their work, though one leader

spoke of their disappointment that the book had been taken up as a mere 'text book'. Many talked of the importance of personal contact above all else, and emphasised the importance of networking across a variety of communities. Several commented that 'you never know what impact you will have'.

With respect to the mass media of television, radio and the national press, there were distinct views, though many had little experience of it.

"Quite a small world. See same people cropping up time and time again and it is very often in London. If they do a good job they come back to those people. It's about networking. Haven't sought to do that because not sure I would want to. Difficult to do. Have to be quite skilful. At least 2 audiences ... people who do know the subject area would think you would putting over their subject area rather inadequately."

"That bridge is tougher here than it is overseas. When I have been abroad on conferences it is normal to get in the paper or be interviewed on radio or the odd thing on TV overseas. Not in this country - only on radio. Don't know why it is different. The academic practitioner gulf. Academics carry more weight and respect overseas than here. Get feted more overseas. Treated with more respect. .. Maybe the notion of universities that existed from the Oxbridge ... ivory towers still sustains itself in the mind of people in radio and TV. Don't trust the academics to be able to - don't expect to be able to use academics in the way that they want. Maybe the average programme in the UK is meant to entertain and to appeal to a mass audience, whereas in other countries that one might go to there is a much more clearly defined middle class which is ready to listen to academic ideas."

"If you happen to be on a topic that comes to the top of the agenda they get hold of you but I haven't done that. Need to quite a clear message. Best thing for that is if you've done a survey. Found that 70% of IS projects fail. Say something very definite. Need something like that or something about the government."

"Interviewer: How does your reputation get around? Respondent: Word of mouth. And the press. I always make time for the press. Free advertising. Symbiosis."

"Can't get much publicity in the national press or never done it for me. Academic is a pejorative expression Need to have some other angle and I think academics, even business schools are not very good at knowing what the angle is. Certainly I am not very good at knowing what it is. Done some work which I find enormously interesting, think the whole world would want to know about it"

"None been sufficiently controversial for the press to pick up on it or for a press release

worth writing. Nervous of experience I have had with the press on other projects. They are looking to sensationalise things and they will - wilfully or sloppily misrepresent things. I would be somewhat nervous and reserved.”

The skill requirement for dealing with the media, performing or writing, and determining content were of most concern.

“People tend to go into research because they want to do research. ... I have no expertise in the marketing of that. ... Not something that comes naturally to researchers. Not good at it, like me trying to persuade an analyst he should business process re-engineer or programmer thinking about job design. Not paid, or trained or rewarded for it. Researchers likewise - your career structure”

“At one time TV people ... and what I had to say seemed very interesting. Then I fluffed it, ... never came back.”

6.5.6 Summary

The leaders' views and behaviours in disseminating their research showed a community focussed on sharing knowledge internally, for a variety of reasons. In general, there was a high demand on individuals to publish results for other academics, and on the form of those publications. In a similar manner, for those who utilise sponsorship and for those engaging in collaborative research in organisations, there was a need to satisfy the dissemination demands of contracts in order to ensure future funding or access. The different styles, form and content requirements of academic and non-academic publishing led to the necessity, or possibility, of multi-track approaches, influenced by resource availability and personal, or demand based, motivations. The need for specialist skills in successfully participating in such activity resulted in the development of skills by individual leaders, the employment of 'experts' in the required area, or the avoidance of participation at all.

Interactive dissemination activities were identified as 'good practice' across all target audience groups, and was seen to provide the added benefit of feedback on the research itself. IS practice was not generally seen as a main audience for IS research, for a variety of

reasons which will be pursued in Chapter 7.

6.6 COMPARISON OF IS LEADERS AND COMMUNITY SURVEY

The aim of the questionnaire was to provide a broad set of data which could be compared with the interview findings in order to identify significant differences between the ‘leaders’ and the rest of the UK IS academic community. The questionnaire was based on the interview model and created in the light of the responses and initial findings from the interviews. The survey data also provides a snapshot view of the community at the end of 1996, which in a general sense can be compared with a similar survey reported by Galliers et al (1997) based on the membership of the UKAIS, but which also provides a summary of dissemination behaviours.

A copy of the questionnaire is provided in Appendix B and the full survey results in Appendix C. It should be noted that not all of the leaders provided information to satisfy every question in the survey, due to the nature of the interviews and their function in generating the questionnaire. The leaders’ contributions to the survey were derived from the interview data by the author and necessarily include her perceptions and estimates in places. Where the position of any leader was unclear with respect to a question, no response was included.

As noted in Chapter 4, the group of leaders was not expected to ‘represent’ the IS academic community directly, however it was anticipated that as leaders in that community their ‘stories’ would illustrate the diverse and complex experience of IS research in the UK. It was also assumed that the leaders would be involved in setting the agenda and directions for the community as a whole and would thereby provide informative insights into the issue of research, and of dissemination. It should be noted that the original choice of the UK Committee of IS Professors for the interview group was supplemented by other senior IS academics who, it was suggested, could provide alternative perspectives on the research issue.

6.6.1 The Survey Respondents

One interesting aspect of the survey was to identify locations of members of the IS academic community, since it is both fragmented and self-selecting from across a range of academic departments in UK universities. The target survey population was identified from departments of IS, computing and management utilising university internet directories. The majority of the respondents were employed within departments of computing, computer science and computer studies (65%), which was double the proportion for leaders, who were fairly evenly divided between computing, management and other departments. Around a fifth of the survey respondents were based in IS departments.

It was stated earlier in the chapter that all but one of the interviewees was male, in the survey the dominance of males was also noted although the proportion here was just 4:1. As could be expected the age range of the leaders was narrower and higher than in the broader community and this was reflected in their more diverse educational backgrounds, with the survey respondents having predominantly science and, due to increasing availability, computing degrees. The 'blurred edges' noted in the leaders employment experience in both academic and organisational situations were less evident among those responding to the survey where over half had little, or no, business experience. They were more likely to have undertaken 'professional' roles in IT and engineering than the leaders and less likely to have acted as consultants and IT/IS management.

In comparison with Galliers et al (1997) survey of UKAIS members, this survey showed a less 'senior' group of respondents, with less experience in both their academic and non-academic roles. A greater proportion of the respondents worked within computing departments, and considerably less in management, than in Galliers et al survey, reflecting the broader range of the population targeted here. This produced a difference in the research interests identified in the two surveys, although direct comparison is very difficult due to the categorisations used in each. The use of research methods showed a more even spread within this research, with more people indicating the use of experimental work.

Galliers et al focussed on the dissemination of research through academic publications, considering individual journal and conference usage in some detail, but only considered other dissemination obliquely through identifying the industries with which academics co-operated for research. No data was presented concerning dissemination via students.

6.6.2 Research in the IS Community

Wood's (1994) categorisation of IT, application areas (AA), IS development (ISD) and organisational human activity (OHA) was used to identify research interests in the IS academic community. From the survey, the interest was evenly spread except in the area of OHA which received little attention for research, contrasting with its predominance as a concern among the IS leaders at this time. Reflecting this, the community utilised a broad range of research methods but were more likely to engage in experimental and modelling activities than the leaders. From the interview discussions, the author identified a greater interest in critical research and the use of qualitative approaches among the leaders than the community as a whole.

In terms of the practicalities of research, leaders were much more likely to have business sponsorship, or direct Government funding, for their work than the survey respondents, a fifth of whom had no funding at all. They appeared to be opportunistic with regard to the availability of funding, in a manner that perhaps was not available to others. Many in the community appear to carry out their research in isolation and, as non-respondents, without the collaboration of colleagues from the many reference disciplines for IS. A very high proportion of those replying to the survey indicated personal interest in the research issue and intellectual satisfaction as motivators for their work.

When asked to identify their main audience for research, the leaders' answers reflected their greater responsibilities towards their research funders, in terms of requirements for dissemination. In both groups, a majority identified an academic audience, whether IS or another discipline, as the primary target for their work. The dissemination requirements of

the 'funders' of research were perceived by those responding to the survey to be for predominantly academic publications and presentations, whether internal to their research groups or institutions or more widely to the IS community. Over half of the respondents indicated the use of e-mail interactions as a dissemination activity. A larger proportion cited the transfer and discussion of knowledge as a motivation for dissemination than other issues such as promotion or funding requirements. The empowerment of individuals, whether academics or others, was identified by very few as a reason for their activities.

In terms of contact with students, the leaders' bias towards PhD students was reversed in the community generally with a bias towards undergraduates. This was reflected in their dissemination behaviour, where less than half the community identified lectures and course content as a means of dissemination of research, as compared with the great majority of the leaders. Very few of the survey respondents had contact with practitioners via MBA courses in contrast with almost half of the leaders. For those who disseminated their research to non-academic audiences, less than a half of the survey replies, a variety of methods were used including publications, conferences, seminars and workshops. A very small number (8% of the total) responded that they had utilised the mass media in any way, as compared with 36% of the leaders, although the leaders' contacts may have been more concerned with public relations activities than research dissemination directly.

Feedback about research from the academic community was identified as resulting mainly from interactions at conferences or via the internet, within a network of colleagues, through research supervision, and from the review and publication of papers. Both current and past students were also seen as sources of feedback, but very few indicated feedback from organisations which was an important source for some leaders.

6.6.3 Discussion of the Survey

The richness of data recovered from the interview findings provided a source of diversity with respect to findings about the leaders and their research situations. The questionnaire

survey, considered in the light of this, provided a means of comparison between the community and their leaders'. Its contribution is two-fold: in providing a snapshot of the community, its members, their research and dissemination behaviours; and in identifying the different profiles of the IS academics and their leaders in an emerging field. The comparison of a community and its 'leaders' must be considered in the light of the context of IS within both the academic and business worlds, as discussed in Chapter 2.

One leader noted that this generation of IS leaders, in forming the young discipline, needed to be 'broad-based' whereas the next generation would be 'more specialised'. Another talked of the greater strength in subjects where academics have backgrounds in other disciplines and are not 'hidebound in their approach', expressing their concern about a community which is based on a narrow view of computing and IS, 'if we've developed a generation of people who view IS through systems methodologies ... and nothing else'. The benefits of 'split careers', or blurred edges between the IS academic and practice communities was emphasised amongst the leaders, across all departments, in terms of its enhancement of research and dissemination, although one suggested that 'that sort of career is not supported' by either universities or industry in the UK. One leader talked of his 'gut feeling' that, if the new generation in IS have not been outside universities, IS 'will become an introverted subject and will die'.

Leaders identified the need for individual IS academics with the right 'outlook', 'a good technical knowledge and sophisticated social approaches', those who are prepared to 'engage with practice'. One proposed that in IS, generally, there would be a growing need for individuals with knowledge of the application areas, a new generation centred solely around technology was a possible concern. With respect to research methods, a 'doomsday scenario' was identified by one leader as the adoption of the 'US approach' in response to a push inside the community for more rigorous research, suggesting that it would lead to an increase in 'unreadable' results of no relevance, 'compromised by the need not to offend anyone', addressing 'simplistic hypotheses which we already know to be true'. It was proposed that 'people, on the whole, tend to recruit clones', with the suggestion that leaders with a background as programmers influence both curricula and recruitment. In the light of

the diverse backgrounds of the group of interviewees, such a tendency may ensure the continuation of an OHA emphasis amongst the next generation of leaders from a differently balanced IS community.

In terms of the findings on the dissemination of IS research, the survey identified a community whose members had less opportunity, than the leaders, to dissemination results via students, or to senior managers in organisations through sponsored research activities. The researchers' proximity to IS practice, although perhaps high in terms of their involvement with technology, was potentially fairly low in terms of their personal experiences. In an increasingly competitive research 'market place', the need for research funding might be expected to grow, although its current usage was low and the main requirements for dissemination appeared to be based around peer pressure for academic publications. The findings were of a similar range of activities and requirements, with a very different balance between the community and its 'leaders'. The leaders' research interests appeared to be narrower than the community as a whole, with them more likely to utilise research, and dissemination, methods which involved contact with individuals in organisations. Their high motivations to be influencers of change encouraged a broad range of interactive dissemination approaches across the range of audiences, and enabled greater feedback from audiences.

6.7 SUMMARY OF THE FINDINGS

In brief then, the chapter presents the findings of the research to provide the reader with a rich 'picture' of a community of researchers with a diversity of personal backgrounds, experiences and motivations, who were seen to be 'jugglers' of a range of interrelated activities as academics. The findings aim to show the breadth of opinions expressed during the interviews and the context in which the dissemination of IS research occurs. Like the community itself, the 'leaders' were mainly self-selecting and many were highly motivated to be influencers in either the academic or business world, with a variety of opinions on how to raise the quality of IS research in terms of its rigour and relevance. Access to

organisations for research and to research funds, for individual work or to maintain research teams, was identified as a problem by some of the leaders, one of growing importance in the environment of IS in UK universities. Evidence of split loyalties between the academic and business communities was presented, with personal and institutional credibility in these communities an influence on dissemination activities.

A large number of stakeholders of IS research were identified by the leaders, some groups overlapping and some playing a variety of roles within the research process leading to a complex picture of influence. The perceptions expressed of these groups varied, uncovering a mixture of assumptions and stereotypical images. Some of the stakeholders were in control of resources which were often required for IS research, particularly in the light of its stated aim of relevance to organisations

In terms of their dissemination behaviours, almost all of the leaders and the wider survey group, published for their own community which made high demands on them in terms of the quantity and form of publications. Many leaders also focussed on satisfying the demands of their business sponsors and collaborators, entering into contracts which specified required research, or consultancy, deliverables. Examples were provided of multi-track publishing as evidence of good practice, although the barriers to this were seen as high, including a lack of resource and a lack of skill. Personal motivation was a major encouragement for such activity. There was some awareness expressed that academic publications were not readily 'accessible' to non-academics, and many who aimed at such audiences achieved dissemination through their personal interactions with managers and IS practitioners during research or in consultancy, utilising research methods which enable this contact. For many who engaged with business, the contact was considered of mutual benefit for learning. Feedback on their research was achieved through a mixture of research interactions, journal review and debate in dissemination. A number of the leaders managed their whole research activity to ensure their independence in order to achieve their personal aims for their work.

6.8 CONCLUDING REMARKS

The research issue within this thesis is an exploration of the beliefs and behaviours of IS researchers with respect to the dissemination of their work. The research approach involved in-depth interviews with leading IS academics, supported by a survey of the broader IS academic community in UK universities. The main data collection activities took place during 1996. The research approach was critical in attempting to surface a broad range of opinions and activities through an interactive, questioning approach. The semi-structured interviews were designed to encourage reflection by the interviewees on the research issue within the context of IS research as a whole, and to elicit issues from the respondents outside any narrow preconceived notions held by the author. The holistic view of the research issue identified in Chapter 2 and reinforced through the Web Approach to the analysis incorporated areas such as the researchers themselves, other major stakeholder groups, their activities and aims within IS research, and the context in which these occurred.

In this chapter, the findings of the research have been structured to provide the reader with an understanding of the research issue through: a profile of the leaders as individuals, their backgrounds and the various roles they engage in as academics; the leaders' perceptions of the stakeholders of IS research; a profile of their dissemination behaviours and perceptions of potential target audiences for their work; and a comparison with the broader IS academic community in the UK. The findings are presented as a picture of the diversity of views expressed, providing the reader with the broad range of opinions and behaviours put forward by the leaders, as a basis from which to understand and evaluate the ideas put forward in Chapter 7, the author's interpretation of the findings in relation to the theoretical framework.

CHAPTER 7

DISCUSSION OF THE RESEARCH FINDINGS

7.1 INTRODUCTION

The research presented in this thesis explores the sharing of IS research results between the academic community and IS practice. This research investigates the IS research community in UK universities, attempting to understand the beliefs and behaviours of researchers with respect to the dissemination of their work. The research issue was discussed in Chapter 2 in relation to its compelling relevance in the context of the demands of organisations and the UK Government, and the direction of the IS field and community, in the mid 1990s. The research takes an holistic view of dissemination as an aspect of IS research, through the perspective of IS research as an information system.

Chapter 4 provided a discussion of the factors influencing the choice of a critical research approach, involving in-depth interactive interviews with ‘leaders’ in the IS academic community in the UK. The study incorporated a supporting survey of the wider community, and all of the data collection activities were carried out during 1996 by the author. The assumptions and limitations of the approach were discussed and the practicalities of the research activity were described in Chapters 4 and 5.

In Chapter 6, the findings from the research were presented in an informative structure, providing: a profile of the leaders as individuals, including their backgrounds and current academic priorities; the leaders perceptions of the various stakeholders of IS research; a profile of the leaders’ dissemination choices and activities and their views of potential audiences for research; and a comparison of the range of findings from the leaders with those from the wider community. The chapter provided the reader with a view of the range of opinions and behaviours expressed by the leaders and an awareness of the richness of the information provided. The findings should be interpreted in conjunction with the context of

IS research during the 1990s as presented in Chapter 2 of the thesis

This chapter aims to highlight some interesting issues raised by the findings, as interpreted by the author in the light of the theoretical framework for the research outlined in Chapter 3. The findings are intended to be interpreted as a whole and the reader is referred back to the beginning of Chapter 6 the intentions of the author in presenting the findings, and the strengths and limitations of the approach are discussed.

The chapter begins with a consideration of the findings in the light of the theoretical framework for the research. Four major issues are then discussed which arose from the analysis and the author's reading of the literature: the role of the researcher and its impact on dissemination is explored through a variety of paradigmatic perspectives, through the personal motivations of the individual researcher and their views of IS research; the importance of resource-dependence relationships with stakeholders of IS research is considered in terms of research funding, personal career issues and the need for access to business situations for research activities; the choice of target audience for research in the light of ethical considerations; and, finally, possible routes to reaching IS practitioners and the problems associated with indirect dissemination.

7.2 LEARNING IN THE LIGHT OF THE THEORETICAL FRAMEWORK

The research issue for this thesis was expressed, in Chapter 2, explicitly as the beliefs and behaviours of IS researchers with respect to the dissemination of their work. In Chapter 3, the theoretical framework for the research was discussed as a means by which the research findings could be interpreted. The identification of the Multiview 2 model, utilising the Multiple Perspectives Approach, reinforced the notion that the learning about the dissemination of IS research would involve an understanding of the people involved in the research process, the process itself and the context in which it took place (Mitroff & Linstone (1993), Avison et al (1998)). The use of a Web Analysis also placed the focal concern of dissemination within this broader research context (Kling (1987)).

Strong assumptions underpinning this thesis are the perspective of IS research as an IS and the possibility of learning about research from the theory of IS and IS practice. In this sense the framework was a guide to the research approach and analysis, and an indicator of issues which may be of interest as a comparison with the research into IS practice. Chapter 3 identified research issues within the three perspectives of Technical, Organisational and Personal, some of which provided a start point for an understanding of the findings whilst others were identified, and researched, as a result of issues which arose during the analysis of the interview data. The important issues which arose from the analysis, in the 'messiness' of the reality of the practice of IS research, necessarily crossed such artificial boundaries as technical, organisational and personal (Ackoff (1980)). The three categories were no more than perspectives, forcing the author to consider the IS research process in a broad way. Taking a critical research approach, the interactions in the interviews and the analysis of the data attempted to surface assumptions of the leaders and suggest possible alternative viewpoints. The emphasis throughout the author's reading, data collection, analysis and dissemination has been on interactive relationships and the empowerment of researchers and practitioners through debate and self-reflection.

Before continuing the discussion of the findings, the author would like to note that some of the interesting issues which she has chosen to highlight from the research data may appear to be 'common sense' to those in the 'know', members of the IS academic community. In the author's reading of the IS academic literature, this is also true of research into IS practice. In carrying out and publishing this research, the author is contributing to the field of IS by ensuring that these 'common sense' ideas stand alongside, and contribute to, the accepted formal models and theories of IS. As an IS practitioner, the author observed IS models and methodologies in use in organisations, models intended to describe practice which ended up dictating to it, closing down opportunities for originality and the 'common sense' view that developers hold of their own situations. As Bob Wood pointed out to IS doctoral students at Salford once, 'common sense is very underrated', what is common sense to one person is a new idea to many others. When issues are not made explicit in a theory, models may be used, or imposed, in contradiction of 'common sense'.

The research aimed to be exploratory, to gain understanding about the beliefs and behaviours of IS researchers with respect to the dissemination of their work. The findings are used to raise issues and questions which may inform the theory in IS and encourage self-reflection in the academic community on its practice of research. During the analysis activity, the data were sorted and filtered until some issues were identified which provided the author with insights into the research area, in the light of IS theory (see Chapter 5 for a discussion of the analysis activity). It is in the nature of such a study that there will be findings which are both 'snapshot' views of the situation in its context at a particular point in time, and longer term learning relating to the framework theory. The author has attempted to present the findings, in Chapter 6, as a 'story' of the leaders and their thinking within their research situations, enabling the reader to identify the historical 'snapshot' picture, but also to provide an illustration of possible relationship types, ways of thinking and perceiving situations and people, and underlying motivational influences which may bring understanding to the way in which we describe and theorise in IS. In this chapter, some of the author's insights from the findings are discussed which enabled her contribution to IS theory, research and practice as put forward in Chapter 8 of the thesis.

Before moving on to consider the four main areas of the findings, it is worth noting that the definitions of the two communities of IS academia and practice should not be taken as straightforward. In the academic community, membership is through researchers' self-selection, their choice of being IS academics rather than, say, computer scientists, organisational theorists, sociologists, or psychologist. With the IS practitioner community, the issue of 'membership' is one of outside perception rather than internal choice. Those working in organisations in the development or implementation of IT, often having a technical background, are usually considered to be IS practitioners, by business managers and by academics – note some of the comments by the leaders about practitioners thinking of themselves as 'techies'. At the outset of the research project, the author's preoccupation was with the dissemination of IS research results to IS practitioners. By IS practitioners she, also, meant the programmers, analysts, project leaders and IS managers in organisations who are involved in the analysis, design and implementation of computer

systems - in other words information systems developers. During the interview discussions, this view of IS practitioners was broadened to incorporate those whom the interviewees considered to be possible audiences for their work, bringing in technical practitioners in specialist areas such as information retrieval, and business managers concerned with IS strategy who may not themselves be IS specialists.

Mason et al (1995), in their book the 'Ethics of Information Management', however, proposed a much more diverse group of people who could be seen as IS practitioners. This included: those people turning events or happenings into 'stories', such as reporters, photographers, writers, etc; people involved in the reporting of financial and economic data, such as accountants and economists; archivists, historians, curators, etc. who are involved in the creation and maintenance of historical or cultural ISs; the information brokers and librarians who make information available in various forms to interested parties; and model builders such as management scientists and OR specialists; in addition to the usual technical and business ISD groups already mentioned. It would appear that the understanding of the term 'IS practitioner', by the author and the interviewees as a whole, is not an inclusive definition but the rather narrow one.

In the rest of this chapter, four issues are explored which bring together findings from the research and theory discussed in Chapter 3. Where evidence from the interviews is presented in this section it should be read as an illustration of a point and not as representative of the whole interview group. The breadth of opinions and ideas generated during the interviews was large, covering a full range of views and oppositions. No attempt is made to summarize these, merely to show some of the variations noted in order to pursue the exploration of the issues. The discussions focus, particularly, on IS practitioners as a potential audience for research and the influences of the many stakeholders on the potential 'communication across the divide'.

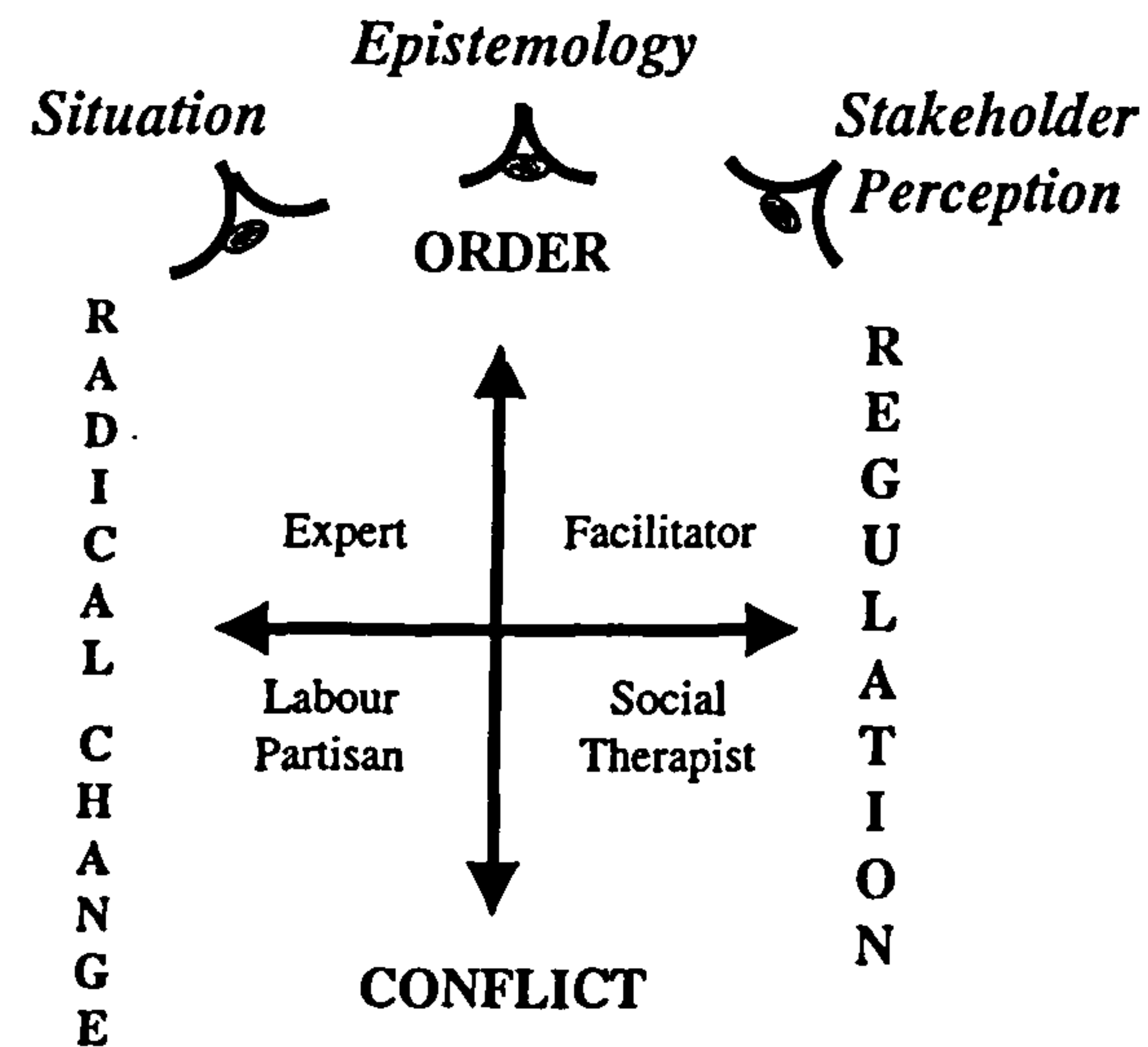
7.3 ROLE OF THE IS RESEARCHER

In taking an holistic approach to this research, the author encouraged leaders to talk about themselves and their aims in research and dissemination, and a rich, complex picture of possible alternative roles open to IS researchers emerged. Discussion about the variety of roles provides insights from leaders in the academic community into the diversity of IS research in terms of intentions and choice-making, furthering understanding of dissemination activities and providing new options in their practice of research for the reflective IS researcher. Through the acknowledgement of such individual role choices, potential impacts on researchers beliefs and behaviours with regard to dissemination are identified. Avison and Wood-Harper (1990) included a consideration of roles for analysts through a paradigmatic framework and in this section the leaders' personal motivations and their views of IS research are discussed as additional perspectives to provide broader insights (see Figure 7.1).

7.3.1 A Paradigmatic View

The role of the analyst has been considered in the IS literature with the aim of alerting developers to alternatives within their processes and to provide insights into their choice of methodology within particular development situations, influenced by their skills and experience in IS and by the dominant metaphors of the organisational contexts. In analysing the interviews with academic IS leaders, the continua of 'Subjective – Objective' and 'Regulation – Radical Change' were utilised to identify possible influences of the leaders views on their dissemination activities (Burrell & Morgan (1979), Avison & Wood-Harper (1990)). Three perspectives were identified as interesting applications of this thinking to the interview data: the perceptions of the leaders with respect to the research situations in which they engaged; their personal underlying epistemologies, as expressed during the exchanges; and their perceptions of the many stakeholders' perceptions of them in their research roles. The leaders various roles as Owners, Actors and Customers of the IS research process provide an additional complexity to consider.

A Paradigmatic View



Personal Motivations

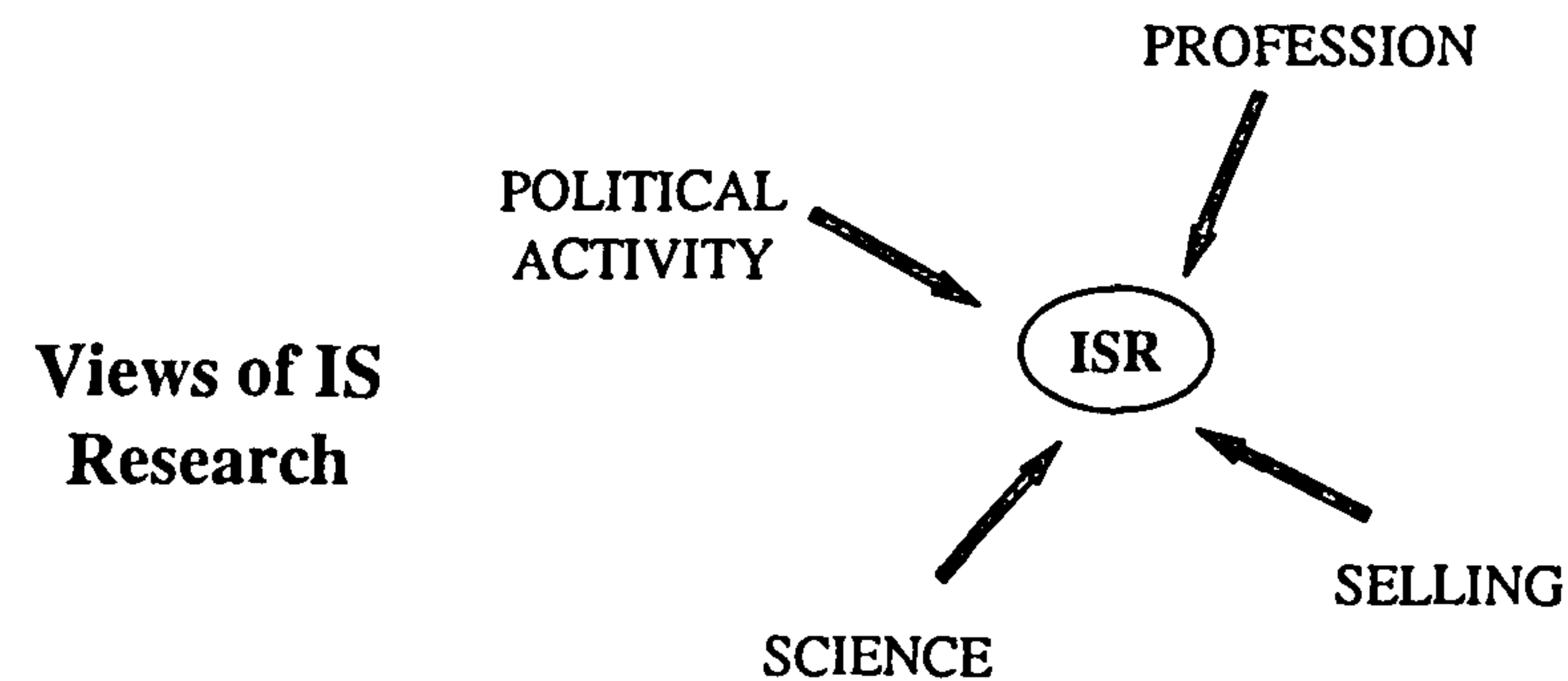
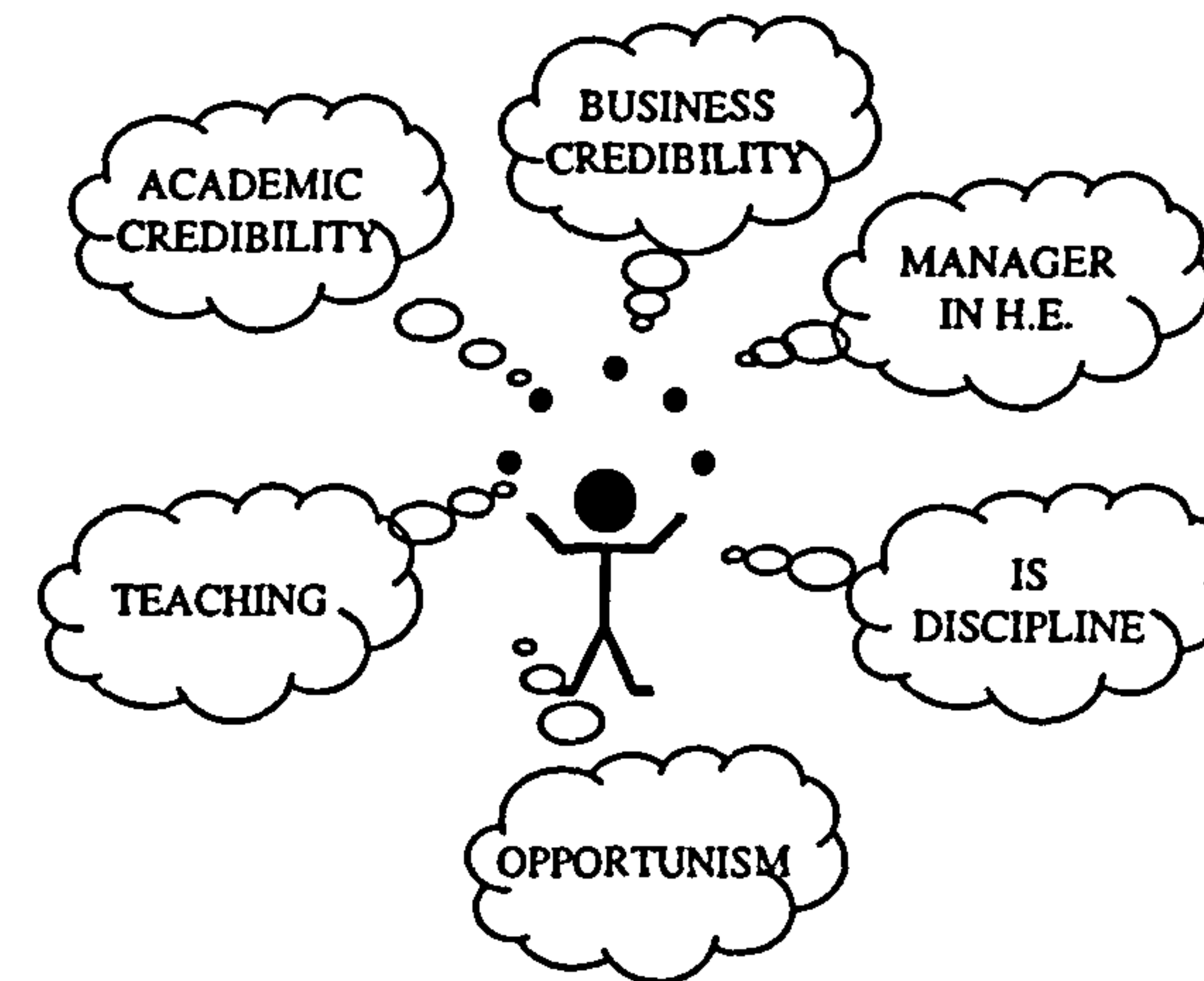


Figure 7.1 - The Role of the IS Researcher

In the interviews with leaders, the author noted a variety of potential conflicts between their comments on what makes a 'good researcher', their views of the research situations they encountered and the way they were perceived by students, employers and organisations. Many of the leaders expressed their aim of influencing the academic or business communities. Such influence took many forms: of providing exemplars in the academic literature; creating a forum and focus for the community via the UKAIS; being a 'role model' for students and of giving them 'confidence to go out into employment'; enabling change in organisations through education and interaction; provoking change through 'disruptive ideas' as a catalyst; to 'open up people's thinking', recognising them as 'human beings' whatever the audience; and to make a long term investment in educating students as 'reflective practitioners'. The personal epistemologies of the leaders took in all the paradigmatic views, with some individuals seeming to be flexible in achieving their aims through any of the means available to them.

They felt that some students perceived them as 'providers of qualifications', of 'certainties', and were 'more interested in training than education'. Several of the leaders criticised the 'mechanistic' approach to IS taken in many texts, which reinforced this functionalist view, and one even talked of the university system as being designed to 'create herd animals'. One interviewee suggested that organisations were looking for graduates to fulfil 'technician' roles, and did not require 'analytical thinkers'. Leaders talked of the importance they attributed to taking a 'questioning' approach in their teaching, and of teaching theory so that students' 'minds would be open to looking at different things'. Several noted the need to include the psychology and politics of 'change' and 'intervention' within their teaching of IS, but the relative difficulty of 'changing attitudes' within the constraints of teaching situations was acknowledged. For leaders in the academic community, there was some recognition of the difficulties of disseminating the complexity of IS, as identified in research, to students without a background in practice and under the resource pressures in many universities.

The fulfilment of 'contractual obligations to clients' was considered essential amongst leaders who engaged in sponsored research and consultancy. One leader emphasised that he

only worked in organisations where he was free to express his views openly, implying that organisations did not expect this and that researchers, more generally, may be more pragmatic about the situation. Very mixed views were expressed about consultancy, and about the potential dangers for the integrity of researchers in contractual research situations. Conflicts between being an independent researcher and an 'employee' were noted and some leaders were critical of the assumption of a 'managerial agenda' by other researchers, perhaps encouraged, or influenced, by the perceived need of many IS academics for being 'income generators' for universities. Some of the leaders stated that they were viewed as 'salvage experts' called in to relieve crisis situations in organisations, or to help managers deal with the hard sell of suppliers, some believed IS academics were seen to be 'out of touch' and 'unreliable' in satisfying the definite needs and wants of organisations.

Some of the constraints under which IS researchers operate may discourage dissemination activities, through teaching and research, which individuals would consider essential for learning. The leaders all attempted to balance the, mainly, functionalist paradigmatic roles required of them by stakeholders of research with their personal views of their role in individual and organisational change and learning, dealing with any conflicts in whatever way they could in order to satisfy their own aims and academic integrity. In considering the paradigmatic framework in combination with the complex demands of situation, researcher and stakeholders enables researchers to reflect on the richness of the choices they make within research and dissemination. From the perspective of the IS practitioner, some of the practical and political constraints on the dissemination of research are surfaced, which may resonate with the conditions under which they themselves work, their own epistemologies and the perceptions of them by the stakeholders of IS within organisations.

7.3.2 Personal Motivations

Every IS researcher performs a juggling act, prioritising the variety of roles which they are expected to fulfil by reason of their employment in higher education and their involvement in the IS academic community: as Learners through their practice of research and

scholarship; as Educators or Trainers of students of IS whether undergraduates, postgraduates, IS practitioners or business managers; as Researchers actively involved in the building of IS knowledge; as Members of the IS Academic Community; and as Employees within a higher education institution or within commercial research or consultancy contracts with organisations. Any IS researcher's activities in these roles are underpinned by their own existence as a human being with a background education and experience, and with personal attributes, philosophy and goals. Individual researchers juggle the various roles and place different emphases on them in terms of importance and priority. During the interviews with senior IS researchers, such different emphases were evident in the areas of interest which people chose to discuss: personal credibility within the academic community; commitment to the activity and improvement of teaching in IS; personal credibility in the business community; management of HE as a successful business; opportunism with respect to obtaining access to organisations to pursue personal or team research interests; and the establishment and recognition of IS as an academic discipline (see Figure 7.1). A number of interviewees stressed several different areas, usually bringing together teaching interests with other more personal aspects.

The various motivation groupings indicated only a matter of emphasis that interviewees placed on certain areas of their work as many of them were involved in a great variety of projects and activities across the whole range of roles. Some of the interests were a reflection of, or reflected, the employment position of the interviewees. For example concern with personal credibility in the business community was essentially an interest expressed by those in management or business schools. Those who placed an emphasis on personal credibility in the academic community were all active researchers and learners who regarded membership of, and recognition by, the community as an essential aspect of that work. These different emphases did, however, have an impact on the researchers' behaviours with respect to the dissemination of their work and were reflected in the metaphors the interviewees used to discuss researchers and IS research.

Personal credibility in the IS academic community was stressed by nearly a third of the interview group and nearly half of the interviewees considered academics as their main

research audience. These results were similar in the broader survey. These leaders included a mix of backgrounds in education and business experience and were employed in computer science, management and business departments or schools.

The leaders views of what makes a good academic included the two extremes of having broad and narrow perspectives, but there was a consensus on the need for researcher to be 'critical thinkers'. It was considered important that academics should learn from teaching, research and practice. The aim of one interviewee was explicitly to be seen as a '5 star academic'. The publication of papers in academic journals and conferences and networking in the academic community were seen to be essential, although some concern was expressed amongst this group about the quality of published papers in IS, and a number of different views held concerning the support and development of new researchers through PhD supervision.

The importance of personal credibility in the academic community as a motivator reflected the power of the community as a stakeholder in IS research. A number of leaders discussed this in relation to employment and promotion criteria, with respect to both the perceived pursuit of excellence and political strength, and to the power of journal editors over the publication of radical or controversial papers. A number of different formal and informal networks were identified, with reference being made to an 'IS mafia' by one interviewee. The influence of the Research Assessment Exercise (RAE) was seen to be another factor encouraging the dissemination of results within the academic community.

Almost a fifth of the interview group emphasised the motivation of personal credibility within the business community. Since half of the entire group, and those responding to the survey, engage in consultancy activities, for personal or institutional financial gain, this came as little surprise. Most of the leaders in this group were employed in business schools or management departments and, in general, they had experience in business prior to their academic careers, though there were even numbers of those with science, business and humanities backgrounds. These researchers saw themselves as either 'experts', providing consultancy and guidance to business, or as 'catalysts', providing a view from outside the

organisational situation, whether as 'disrupters' or more gentle 'catalysts' of change. Their research results were published in business journals and conferences, invariably in addition to the academic equivalents. Some explicitly followed 'twin-track' publishing routes, either individually, or through team delegation where they considered their own academic reputation as sufficiently secure.

Consultancy activity was seen to have a variety of purposes in this group: enabling researchers to maintain a current knowledge about business; as a means to fund independent research; as a part of the research process itself; and as an outlet for research results. They considered it important to be trusted by executives and senior managers in organisations, with respect to both their research and consultancy roles. As well as personal credibility with the business community, many in this group perceived the need to maintain institutional credibility, also. These were the users of the national media, members of a network who were called on for their opinions on topical issues. Most used the media explicitly for public relation purposes for their institutions, but a few of them were involved with radio and television programs directly related to IS and research issues. One of the dominant influences on the research carried out by this group were the funding organisations, whether through consultancy fees, subscription or sponsorship of team research.

An overlapping emphasis, but with a more direct focus on institutional rather than personal credibility, was the management of higher education. In this instance, the role of the leaders was concerned with income generation and political skills. A third of the interviewees talked of administrative functions but around a fifth discussed the management of their institutions, departments or research teams as a main concern for them. These were again mainly employed within business or management school, had a mixed career of business and academia, and included no-one with a science background. These researchers were inclined to talk of the 'customers' of research results generated within their institution, and emphasised the importance of the relevance and usability of those results to business. They were the users of the media for institutional public relations and were most likely to use professional mediators in their contacts with them, usually people from their supporting

organisations. Team projects were often controlled quite directly by the funders of the research and results were usually disseminated within a defined group of organisations before academic publication. Confidentiality of organisations participating in research projects was a major aspect of the publications, as with the previous group. One issue raised by this group was the importance of 'structure' within the research environment. There were two aspects to this: the interdependence of team members, which led to stability of the research team; and the value to the team of support services, such as administration and marketing functions. The individual could perform well for the team within its' structure, the two were brought together to serve the commercial aims of the institution.

The importance of teaching was emphasised by nearly a third of the leaders, with an eighth identifying students as their main research audience. The survey provided a similar result. Of interviewees in this group, two thirds were employed in computer science departments, and the teaching commitments were evenly divided between undergraduate and postgraduate students. There was an even split between researchers with traditional academic careers and those with some early business experience, and the three quarters of this group had scientific educational backgrounds. Of the whole interviewee group, nearly half taught undergraduate students and almost two thirds non-MBA postgraduate students, with just under half of the interviewees having contact with a business audience via MBAs and short courses. In the survey the proportions teaching undergraduate and postgraduate students were reversed, and less than a fifth had business contact through teaching.

The divergence of views in this group of interviewees concerned the role of IS education in higher education, from a broad education to the provision of technical training for employment each, separately, being considered important. There were various roles ascribed to academics, including those of 'scholars', 'actors', and 'academic role models' for students, with one interviewee stressing the importance of variety. Again there was an indication of the interconnection between the research, consultancy and teaching activities, with an emphasis of the importance of bringing relevance to the classroom for students. The dissemination issues for this group included the raising of the standards of IS teaching through the dissemination of research results to academics themselves, via papers,

conferences and students texts. There was concern expressed about the simplistic presentation of IS in some students texts and the mechanistic approaches taken by some in their teaching. Many interviewees expressed a hope to influence IS practice through their teaching of students.

Students constituted a large stakeholder group in terms of the dissemination of research, though in complex ways. The importance of state funded undergraduate courses dictated the high proportions of researchers involved in teaching at this level, even amongst the senior group of researchers in question. Indeed, several interviewees from business schools expressed their 'relief' at being excused such contacts, and one suggested that 'undergraduate-led funding implied an undergraduate-led research agenda' for those in traditional universities. At the postgraduate level, both the income from students and the prestige for a small number of 'elite' institutions or 'centres of excellence' encouraged the recognition of this as a potentially powerful stakeholder group.

A number of the leaders spoke of their opportunism with respect to access to organisations to carry out and disseminate research. This sometimes occurred through consultancy, as a means of raising money in order to maintaining personal independence in an individual's own research or as case studies, or laboratories, for their research. Members of this group did not stress a desire for credibility in business as much as a need for access to follow their own research interests. Leaders in this group came from a mix of career types and were employed in a wide variety of departments and institutions. They viewed themselves as researchers with pragmatic outlooks, some stated that they were 'all-rounders', in terms of consultancy, research and, even, dissemination. They provided feedback to organisations with respect to their research, as required, as well as academic papers. One researcher was a prolific writer of texts and business books, providing articles for the IS practitioner press, amongst other. Several engaged in projects on behalf of commercial research organisations. This was fundamentally a group of individuals who were controlling their own research agenda, minimising the influence of external stakeholders in order to maintain their independence.

Lastly, a small but important group, a tenth of the interviewees, talked of being very actively concerned with the establishment and recognition of IS as a discipline. These researchers had mixed careers and were from a range of departments. Their interest was in the politics of academia and higher education, with respect to funding of research and the quality of research, publications, and teaching in IS. They were the prime movers in the establishment of the UKAIS, and its several predecessors, a body which it was hoped would gain the 'ear of Government' and higher education 'policy makers', and provide a central point of contact for the media through the creation of a coherent, rather than fragmented, IS community. Their emphasis on cohesion and quality in the IS academic community implied an inward looking focus, particularly with respect to dissemination of research results. Formal and informal networks were seen to be a means to achieve their aims, an emphasis on the power of the community over its members, as well as over external stakeholders.

Through an identification of possible personal motivations of researchers, insights can be gained about their prioritisation of the various roles in which they engage and, thereby, influences on the dissemination of IS research identified. In this discussion, the range of alternative personal aims provides another indication of the complexity of the situation under investigation. IS practitioners will have their own personal reasons for engaging in the work they do, which will also influence their behaviours on development or implementation projects.

7.3.3 Views of IS Research

In analysing the interview data, four possible metaphors for IS research and dissemination were identified: Selling, IS results packaged for use by organisations; Professionalism, including the role of academics as the education and professional development of practitioners; Science, the pursuit of knowledge for all who have an interest in it; and Political Activity, for some personal or group benefit in a particular context (see Figure 7.1). The identification of metaphors, or SSM relevant systems, enables some reflection on

the aims and activities of IS research and dissemination which may raise hidden assumptions or implications. The power of the metaphor, it must be remembered, is the fact that it has only a 'partial' similarity to the situation (Lackoff & Johnson (1980)).

In considering the Selling metaphor, research and dissemination should benefit IS practitioners, provided that they were chosen as a target audience or 'customers' for the products or services of IS research and have the ability to buy, either through organisations or as individuals. The selling of results to executives and business managers should not be assumed to be the equivalent as selling them to IS practitioners. The 'owners' of research could be seen to be aiming to maximise their profits, or benefits, through the activity, with some stakeholder groups gaining prominence as 'shareholders'. Branding, the fulfilment and creation of needs and customer knowledge would be important issues in a competitive market place. Flexibility and change become the keys to individual or institutional survival, the need to build strong relationships with important customers would have to be balanced with the necessity of a broad market base. Public relations, publicity, 'centres of excellence', large teams and individual 'stars' raise public awareness and credibility, specialists provide the administrative and marketing support to product, or service, developers. Differential markets leading to products, or services, of varying quality for those with the means to pay for them – students, organisations, individual practitioners, Government, etc. The identification of products, such as IS methodologies, as 'marketing tools', in a mixture of 'pull' (customer need) and 'push' (product availability). Potential impacts on dissemination such a perspective may include: dissemination as 'social radar', advertising the fact that more is available, at a cost; interactions with 'customers' as persuasion; increased relevance to practice of research results but a built in need for support or upgrades; and a raised profile of research to the targeted stakeholders. For the benefit to IS practitioners in their appropriation of research results, the selling metaphor may be a useful one if knowledge was to be widely disseminated to all interested audiences. Dissemination as selling would benefit practitioners where they had the ability to buy – either within organisations or as individuals.

As a Profession, IS practitioners would look to academics to provide the growing body of

knowledge that they need to carry out the activities of IS in organisations, and to provide the development and training that they require to maintain their status and expertise. Each would play a role in the activities of the professional body, which would manage the admission, membership and conduct of the community and make the public aware of what are considered 'acceptable practices'. The academic emphasis on rigour would be extended to the practitioner community. Practitioners would be considered a main audience for research results and the academic community would aim to be 'close to practice', looking continually for feedback and evaluation of research. Recognition of the IS community as a whole as a profession might place a greater emphasis on practitioners involvement with IS academics through postgraduate or MBA courses.

As a Science, IS research could be viewed as an IS itself where knowledge, or information of results, is to be available to all audiences who have an interest or can benefit from it. Results are placed in the 'public domain', traditionally seen to be university libraries and academic journals, which are more recently being made available electronically on the Internet. The academic community would be a major target audience because in its commitment to 'extending knowledge' and results would be directed to them in terms of location, style and language. Establishing IS as a discipline would be important to gain credibility for research in the scientific community as a whole. For the IS practitioner, the publication of research in academic literature would require them to gain access through personal or organisational subscription to journals or courses.

As a Political Activity, IS research could be motivated by any of the perspectives already mentioned and could also be a process subject to the influence of stakeholders and personal interests, and of the situational context of practice and research. Issues of power, and power relationships with and between stakeholder groups, become predominant in this view in terms of the aims and behaviours of researchers with respect to funding, employment conditions, career prospects, etc. With an acknowledgement of the actors, owners and customers of research as 'human beings', issues such as the maintenance of an 'academic lifestyle', of 'research independence', of personal aims, skills and strengths may be issues for individuals. The identification of long and short-term aims, and 'pragmatism' and

‘opportunism’ in the activity of research and dissemination provide options which can be evaluated in changing circumstances and environments. Academic and business ‘networks’ may provide openings for dissemination which are available rather than planned, with opportunities arising from researchers making efforts which increase their possibilities of being in the right place at the right time in the fragmented communities, both nationally and internationally. As a political activity, IS research may be motivated by any number of factors, as mentioned above. The dissemination of results would be seen as a political activity too, being subject to the influence of stakeholders.

Identifying possible metaphors for research from the interviews with leaders provides an insight into their views of research and into some of the criticism and conflict within the academic community, about publication standards and the research agenda for example. The value of metaphorical analyses is in establishing a broader view of the phenomenon under consideration and surfacing hidden assumptions through an investigation of the metaphor itself. It is possible that public debate on the purpose of research and the aims of higher education may encourage changes of emphasis, or provide alternatives, in the metaphors considered by researchers, thereby influencing their dissemination behaviours.

7.3.4 Discussion

The aim of this section is to consider the variety of alternatives presented by IS academic leaders during the interviews in terms of the role of the researcher. In exploring the range of possibilities the richness of the choices available to researchers is made more explicit and encourages a greater awareness of both the constraints under which they operate and their individual volition in the choices they make. The leaders provided evidence of the full range of alternatives presented here, related to their personal backgrounds, aims and situations. Their choices in dissemination can be seen in the light of this complex variety: of personal backgrounds, aims and epistemologies; of perceptions of the situations in which they are employed; and of the views of higher education in society. For any individual researcher, changes in dissemination behaviour may be enabled by awareness of, and

changes in their perceptions of, this multi-faceted environment.

7.4 RESOURCE-DEPENDENCE RELATIONSHIPS WITH STAKEHOLDERS OF IS RESEARCH

The interviews with leaders took place at a time of radical change in business organizations, which was filtering through into public sector institutions. IS researchers, confused about their academic identity, fragmented across university departments and disciplines, were beginning to form a community, their leaders looking to raise the academic profile of the field in order to build a discipline. This fledgling discipline found itself competing for research funding among a newly enlarged university sector, and under pressure from a newly established, government-initiated but peer-controlled, evaluation process. At the same time, public and private funding sources were becoming more insistent on value for money and utilizable outputs from research.

IS theory does not explicitly reflect the range of choice-making involved throughout all aspects of an IS, although some action research and case studies of IS practice have illustrated the richness of individuals' beliefs and behaviors. It may be useful to utilise theory in organisational control, specifically in the area of resource-dependence relationships, to gain some understanding of possible influences on choice-making in IS research, in order to understand the issues relating to the target audience for IS research. Senge (1990) proposed that in order to appreciate the complexity of events, we should see things as circles, not as simple cause-effect relationships. The influence of the stakeholder groups on the activities of IS research is complex, both in terms of the relationships between stakeholders and the relationships between the aspects of the research process on which they have an impact.

Stakeholders of IS research were identified as part of the interview process and analysed in terms of the researchers' perceptions of them as influencers on IS research and on their choice of target audience for results. Major stakeholder groupings identified in the interviews included: individual IS researchers themselves and their academic community;

funding bodies; universities or research institutes; students; IS practitioners and managers; sponsoring and collaborating organization; and the media.

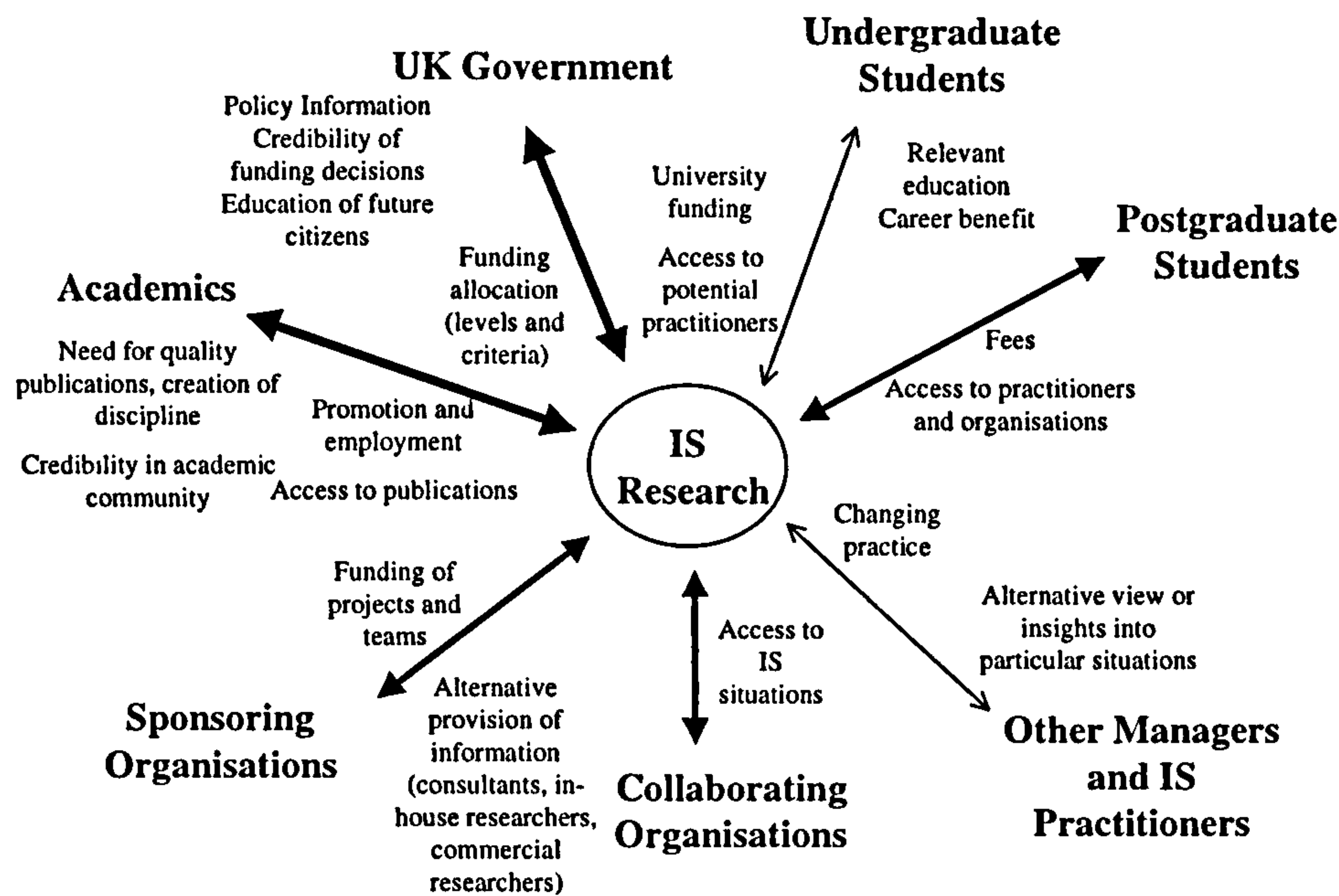


Figure 7.2 - Possible Resource-Dependency Relationships between Researchers and the Stakeholders of IS Research

Figure 7.2 shows possible resource-dependencies between IS researchers and the stakeholders of their work, as identified by the IS leaders interviewed. It is important to note here that IS researchers are not an homogenous group. Amongst the interviewees there were a wide variety of approaches to research, and also to the need for, and sources of, funding. The figure provides an overview of that variety, rather than any kind of shared or commonly held view. Leaders talked of the influence stakeholders had over their activities in three main areas: the provision, or withholding, of funding to enable research; the power to control access to academic publications for the dissemination of research and for the achievement of personal or career credibility; and access to business situations for research

and dissemination activities.

7.4.1 Research Funding

Funding for IS research was seen as a critical resource by many leaders, with access to funders being complex, highly competitive and requiring considerable effort. The acquisition of funding was used as a measure of success in terms of the RAE and institutional evaluation of research. It was perceived to be linked to the need for relevance in IS research, and to personal academic and business credibility. A variety of funding sources were available to the IS researcher: directly from university funds; from public funders such as Research Councils or charities; through consultancy; or via sponsoring organizations. The value attributed to the various funding sources was dependent on the type of institution in which an individual researcher was employed, the perceived ease of access to the funding, and criteria established within the research community itself.

A small proportion of the IS leaders relied on internal university funding, including postgraduate fees, for their research, particularly where the money was only required for expenses or for 'buying out' teaching time. For a number of leaders, the pressing issue was for funding to maintain a research team, for others a 'commercial return' was required for whole departments within their institutions.

Around a third of the leaders gained grants from public funding bodies such as UK Research Councils, Government departments or the European Union. The view was expressed that IS often lost out in this area because of its lack of recognition as a discipline, its broad and cross-disciplinary nature, and where there was a need to fund people rather than the purchase of equipment. Networking and personal contacts were identified as an advantage in obtaining public funds, with one leader commenting that one 'needs to be in the clubs' to get the grants. Several leaders were critical of the process of applying for such grants, noting that 'you need to almost do the job before they'll agree to fund it', and that 'the amount of effort to get funding outweighs the value of the money'.

Some did not attempt to 'get involved in trying to satisfy' such bodies, identifying a 'culture clash between Government directives and Research Council funders'. Even at the professorial level, IS researchers were often refused funding for projects after a long bureaucratic process of application, possibly because the IS 'research area is outside the 'norm', therefore not generally understood by those making funding decisions'. Public funding is increasingly dependent upon a commitment by researchers to disseminate results to professional groups or more widely in the business sector (UK Research Councils).

Consultancy provided income for many of the leaders, having the added advantages of enabling them to maintain current knowledge and experience in business situations and of opening up opportunities for future collaborative research. It was occasionally used to top-up academic salaries to enable the academic life to be an affordable option to those used to higher commercial salaries. Access to organizational sponsorship of research was often dependent on researchers', and institutions', credibility in the business world. This could be achieved through the existence of large research teams, from reputations as 'centers of IS excellence', or through individual publication strategies and networking. Around half of the leaders had involvement in sponsored research, either with individual companies or sponsoring groups. Formal contracts were usually drawn up which identified requirements for the reporting of results to the organisations' management.

Interviewees talked of the 'client remaining in control' and stressed the need to maintain a sense of 'responsibility to the sponsors' in order to build trust and a professional approach. Much of the client reporting, as with collaborating organisations, was in the form of verbal, rather than formal, written reports. Both the content and form were identified to satisfy the needs of the audience. In most cases, a 'twin-track' publishing route was pursued, with academic publishing via academic journals in the 'public domain' following the initial feedback to sponsors. There were some concerns expressed by the interviewees, however, particularly with regard to 'short-termism' in business and a perceived lack of interest on the part of managers in 'sociological ideas'. Leaders variously voiced the views that: managers hide results of research which they reject; that they are 'not interested in research, only soundbites'; and that they are often 'reluctant to discuss why they do things', 'choosing

what they want irrespective of the decision making process'. One leader suggested that it was 'a fantasy that we have a close relation' with business, and a number made comments about the UK's cultural hostility to education.

7.4.2 Academic Publishing and Personal Career

Virtually every leader interviewed talked of the importance of academic publishing in terms of their employment requirements or career prospects, with almost half identifying academics as their main audience for research. Only one world-renown figure commented that, since the young researchers with whom he worked needed the academic publications, he focussed on the business writing. Others, although sometimes very critical of the quality or requirements of IS journals, acknowledged the centrality of their academic publishing for a variety of reasons: because of RAE or academic credibility requirements; taking a view of papers as a means of sharing ideas which provide the 'most important source of information' for their own work; or in order to 'raise the standards of publications by participation, providing a positive alternative' for the community. Strong criticisms were made of the power of journal editors and their use of publishing as a means of control over the community, one leader noting that confidential refereeing sometimes blocked radical views from being espoused by well respected figures, another that the politics of publishing did not allow for intellectual argument. Most agreed that academic journals were rarely read by business people and practitioners, emphasizing issues such as the long delays in publishing times, the rules regarding the form of articles and their lack of relevance to business.

The requirement of publishing within the RAE generated a large number of comments during the interviews: one leader talked of the 'need to get 'brownie points' by publishing academic papers; it was noted that the RAE effort took priority over other dissemination efforts, since 'papers produced for practitioners don't usually count'; and some researchers were under pressure to publish in academic journals outside of IS, since the panel under which they would be assessed would not be able to judge the quality of another discipline's

journals. One leader made the comment that they were pushed into academic publishing for promotion purposes, another that as a late entrant to the academic world the requirement to publish was high in order to achieve credibility. The RAE was seen as 'forcing publishing to have a more dominant role than the usual one of career promotion'. There was an added frustration that, until some institutions started dropping out of research, the backlog of papers held by journal editors would allow them to be more selective - having the dual outcome of, possibly, higher quality articles being published and of researchers spending increasing amounts of time and effort in submitting to journals to meet their institutional and personal career requirements.

7.4.3 Access To Business Situations

In a field that describes itself as being close to practice, the generation of research results which are relevant to organizations implies a need for access to organisational situations. Many areas of IS are best studied via action research, case studies and in-depth survey, or through consultancy and reflection, all of which require access to organisations and the involvement of managers and IS practitioners as collaborators in projects. Leaders noted that access to business situations was dependent upon several factors: the credibility of the researchers in terms of their reputation as academics; experience in other collaborations; and the perceived likelihood of them providing results in a format and within a time-scale which would be useful to the collaborating organisation. The latter was considered by several leaders to be a major problem for most academics.

Influencing business practice was cited as one motivation for doing research, and leaders identified a variety of routes to reaching that audience. Direct routes to managers and IS practitioners which were suggested included consultancy, networking, and speaking at professional and commercial conferences and seminars. Engagement in research activity and feedback sessions with sponsoring or collaborating organisations provided another opportunity to talk directly with practice. Concerns were expressed about access to IS practitioners and 'operational' managers, and problems with dissemination to senior

management, as were noted earlier.

Access to practice via students was considered important by a number of the leaders, with more than 10% of those interviewed identified this as their main audience for research results. Some leaders, however, were critical of students receptivity to research issues. One leader proposed that undergraduates were 'a distraction from the business of research', since 'students' interests were different from managers'. Several interviewees commented that as undergraduates finished their courses, in particular after a number of years working in organizations, they began to appreciate the relevance of the content of the teaching. Research dissemination was more likely to occur at the postgraduate level, where students were less likely to be looking for 'checklists of words' and more likely to already have some relevant experience in organisations.

Use of the mass media for dissemination to IS practitioners and managers was generally rejected by the interviewees, although a few used this route regularly and effectively. The concern expressed was two-fold: firstly that the press and television were not interested in IS; and secondly that the leaders felt they lacked the skills to attract and manage the media. A need for mediators was mentioned, to 'translate' research results into a media friendly form and to deal with the sensationalist tendency of the press. Leaders noted that one needed to 'be credible' for the press and television, both in terms of content and style, it was necessary to network - 'once you are known they come back to you for your opinion'. Similar requirements were identified for access to Government and public policy makers.

7.4.4 Discussion

The findings presented in this section illuminate some of the complexity of choice-making in IS research. It discusses some of the possible influences on researchers in choosing target audiences for the results of their work, through the perspective of resource-dependence relationships with stakeholders of IS research. The influence of stakeholders is greatest where they provide resources which are critical to those researchers. If the supply of such

resources is limited, or the acquisition of the resource is included in measures of success for the researcher, the influence of the stakeholder increases (Pfeffer & Salancik (1978), Frooman (1999)). The relative influence of researchers over the stakeholders of IS research may depend upon the availability of the information, service or products they provide from alternative sources, such as commercial research organizations, consultants and academics in other universities.

IS leaders found themselves in a variety of resource-dependence relationships with stakeholders who provided resources in the areas of research finance, academic publication and career progression, and access to business situations and practitioners. Several of the leaders talked of having insufficient time or funds to disseminate to all audiences who may be interested in their work. With limited resources, competing demands on their time and specific dissemination requirements of funders, institutions and peers, dissemination to the broad management and IS practitioner audience was generally seen to be a low priority. Where leaders talked of a personal commitment to share results with practitioners, they were more likely to utilize both direct and indirect routes to reach them. Amongst members of the IS academic community as a whole, the personal motivations of researchers, their stakeholder relationships and the importance, and availability, of any given resource will vary greatly. However, the choice of target audience will almost certainly include a process of prioritisation and, from an IS practitioner's viewpoint, there is a danger that this group will always be the least-advantaged because of the low-interdependence of their resource relationships with IS research.

7.5 CHOICE OF TARGET AUDIENCE FOR IS RESEARCH AS AN ETHICAL ISSUE

IS researchers' choices of target audience were identified in Chapter 6 and some possible influencing factors have been discussed already in this chapter. IS practitioners were not prominent as a target audience for research and, in this section, the ethical nature of this issue of choice of audience is considered. Leaders spoke of their aims of influencing the

academic or business communities, and of their 'responsibility' for, and 'duty' to, individuals and stakeholder groups of IS research . The notion of the IS researcher as a moral agent is explored here, alongside the need to be aware of 'moral issues' in their practice of research. The author suggests that the choice of target audience is such a 'moral issue' and that it is important for researchers to reflect on their choice-making and its consequences for all stakeholders of IS research. In Chapter 2, it was identified that IS researchers were operating in a context of limited resources and competition, they were subject to an imposed evaluation process and under pressure from Government and business concerning the utilisation of their research results. In the light of such influences, choices were seen to be constrained or directed, possibly discouraging reflection and the acceptance of ethical responsibility.

The interviews provided some evidence of the leaders' perceptions of IS practitioners as a potential target audience for research results. The author was, perhaps naively, rather surprised at the lack of identification of practitioners as an audience, particularly in the light of the community's presumptions of a closeness with practice, its involvement in the initial education of many practitioners and the 1990's growing debate about professionalism in practice. The question grew in her mind during the analysis as to whether there was any moral obligation on researchers to ensure their research was accessible to practitioners, prompting some research into the ethical literature (see Chapter 3). The concern is addressed in this thesis as a consideration of the choice of target audience for IS research as a moral issue, which is now considered through the notion of its moral intensity.

The Moral Intensity characteristics identified by Jones (1991) were used to gain some understanding of the nature of the issue with respect to the various stakeholder groups who were potential target audiences for IS research results. Factors which may influence the choice of audience have already been identified in terms of the possible resource-dependence relationships between researchers and the stakeholders. The Moral Intensity characteristics used in Table 7.1 are defined as follows:

- . The magnitude of the consequences of the choice of target audience on the researcher and on the audience, the sum of benefits to the beneficiaries

- . The social consensus within the IS academic community about need of dissemination to that audience
- . The probability of the effect of the dissemination, that it will take place and that it will cause the benefits
- . The temporal immediacy of any consequences of the dissemination, the time between the present and the onset of the consequences
- . The proximity of the researcher to those affected, culturally, socially, psychologically and physically
- . The concentration of effort required on the part of the researcher to affect the action, an inverse function of the number of people affected by dissemination of a given magnitude

Table 7.1 shows some of the characteristics of the issue of choosing an audience which may lead to high moral intensity with respect to individual stakeholder groups. As identified in Chapter 6, some stakeholder groups have multiple roles within IS research and individuals may belong to a variety of groups. The academic community itself must be considered as heterogeneous, with individual researchers operating in different situations, with individual backgrounds and aims, and prioritising their roles in unique ways. An evaluation of these characteristics necessarily involves perceptions and opinions, calculations of 'worth' and 'benefit' and will be both culturally and socially influenced. In this case, the author has merely attempted to find such perceptions and opinions from the interview data in order to provide an illustration of the possibilities for IS research. Where the perceived magnitude of the consequences and the stakes for the agent are low, under time pressures, they may economise their efforts in ethical thinking, concentrating on efficiency rather accuracy in their identification of solutions (Jones (1991)). Organisational factors may create impediments to individual ethical behaviour, or distort the ethical intentions of individuals. Such an analysis provides insights into the pressures and influences in the research environment, the leaders' personal motivations and preferences and the range of alternative views within the group. The analysis can be used to identify gaps and possibilities in dissemination choices and perceptions and may be useful in illuminating what is not being done and who is not benefiting, in order to recognise the potential for 'dwarfing'

MI Characteristics	IS Academics	IS Students	Managers in Sponsoring and Collaborating Organisations	IS Practitioners
Magnitude of Consequences	Employment and career Personal credibility Sharing knowledge Developing community	Providing employment skills Developing next generation Changing business via students	Contractual requirements Personal credibility Enable change in organisations Involvement and relevance to small group	Empowerment of individuals Professional development Enable change in practice
Social Consensus	Peer review Need for IS discipline	Expectation to disseminate via postgraduates Equipping undergraduates for work	Relevance debate Professionalism Need for income	Closeness to practice
Probability of Effect	Competition for publishing Do academics read journals?	Easy access Lack of experience of some students Problem with quick solutions and easy answers	Want recommendations Reject what they don't like	Possibly reached via BCS No career benefits Not usual source of information for practitioners
Temporal Immediacy	Long publishing delays	Placements and mature students take learning out into organisations	Integral aspect of action research, case, etc Work fast and give immediate feedback	Unknown influence Concern with immediate needs
Proximity	Academic culture Similar agenda Many journals Fragmented community	Physically accessible Cultural, psychological and social variety	Involvement in the research activity Culturally and psychologically different	Different agendas, cultures and psychology
Concentration of Effort	Small community	Apprentice style PhDs Large groups lose understanding	Small focussed groups	Fragmented group, no obvious route

Table 7.1 – Moral Intensity of Choice of Target Audience for IS Research
(based on Jones (1991))

(Seedhouse (1988)).

There were a variety of views about the necessity of disseminating research results to academics, with some leaders talking of the need to contribute to raise standards and encourage alternative views within the IS community in terms of both research and teaching, and others complaining of the pressure put on researchers by the imposition of the RAE by Government and its influence, through the peer review system, on the career prospects of individuals. The needs of the community and the possibility of gaining power within universities through establishing the field as a discipline did provide a consensus for choosing academics as a target audience, although there was a mixed view as to researchers as a receptive audience. Several of the leaders were critical of academics use of the IS literature, from the extreme of IS academics 'do not read journals', 'don't listen and are not interested in change' through to complaints about the power of editors and the review systems which 'blocks radical views' or are 'set up for people who follow their rules'. Others spoke positively about the community's involvement in scholarship and the importance of academic papers as their major source of information in IS. The long delay in publication was a common theme across the group, however, and networking was encouraged as a necessary activity. Overall, there appeared to be a high moral intensity for dissemination to IS academics apart from the possibility of a long time delay and some concern with the process and use of journal publishing by individuals. Personal gains were considered high through choosing this audience in terms of individual credibility, career and employment prospects.

Having identified, in Chapter 6, leaders' aims to influence change in academia and business, their comments emphasised the importance of dissemination to managers in sponsoring and collaborating organisations. Encouraging and enabling change through interactions with managers was also seen to be a benefit in terms of the leaders' own credibility in business, providing opportunities for future access and research funding. In their roles in the commercial aspects of higher education, many of the leaders stressed the need for professionalism in their responsibilities to their clients, in adhering to formal contracts and in providing results in a form and manner which made them accessible and

useful to the clients. Most were very positive about dissemination to this group due to their involvement and particular interest in the research, where the organisations were sometimes ‘setting the research agenda’ or just active participants in the process, but there were some cautionary comments about managers who hide results they do not like or which are critical of practice. The benefits of immediate feedback during or after the research activity were stressed in contrast with opinions that practice was generally about 10 years behind theory. The leaders’ perceptions of managers identified a possible cultural and psychological gap between the communities in terms of their modes of learning, their interest in the breadth of IS, particularly socio-political issues, and the immediacy of their perspective. Many of the leaders had considerable experience in business before becoming academics and they formed a ‘blurred edge’ between the communities, identifying some common agendas, status and interests, but these were generally at a very high level – as leaders or senior managers. When talking about lower level management, concerns were more common about their lack of reflection, priorities and willingness to learn. This aspect aside, the moral intensity of choosing this target audience was very high among the group.

Incorporated within student stakeholders are a number of quite different groups, as were identified in the last chapter. Students were viewed as either potential, or actual, IS practitioners, or as apprentice researchers. As the former, several leaders identified the importance of ensuring their education provided them with skills and knowledge for employment, though research dissemination was generally reserved for more advanced or more experienced students who were deemed more likely to appreciate the complexity of IS and subsequently become reflective practitioners. Several expressed the view that students started to understand the issues only after they moved into organisations. There was a full consensus about the necessity to ‘bring on the next generation’ and to share research with PhD students. Generally, students were easily accessible to the leaders and their commitment to teaching, usually at the postgraduate level, meant that the group had a high intensity as a choice, although they were usually secondary to the leaders’ main target audience.

IS practitioners as a potential audience were the least advantaged of the four stakeholder

For researchers in a context of limited resources, with strong pressures and a high moral intensity to select academics and sponsors, or collaborators, as a target audience, there is a need to prioritise. The likelihood of IS practitioners being targeted for dissemination is very low, and appears to be dependent on the personal motivation of the researcher themselves. As ethical agents, however, researchers need to address the benefits which were identified as accruing to practitioners if they were audiences of research and the harm that may be done to them by their not being targeted. If there is a value for IS in people being practitioners, they should be treated with respect and consideration taken of their need to be autonomous individuals and develop their potential in their lives and employment (Seedhouse (1988)). Practitioners should be encouraged in their learning about IS and have access to research results which would enable them to understand and reflect on their activities. By choosing not to target them as main audiences, the leaders interviewed are either dismissing them as an audience altogether or are confident that research will reach practice through their targeted audiences of academics, sponsoring or collaborating managers, and students, which is discussed in the next section on dissemination routes to practice.

From a practitioner viewpoint, being a least-advantaged audience where dissemination, if considered at all, is assumed to be achieved through an indirect route, could be seen as an instance of researchers 'dwarfing' practitioners, denying them the acknowledged benefits of research. From an academic viewpoint, it may be useful to refocus dissemination to practice from being a 'burden' placed on the researcher to a question of 'access' to the practitioner. The choice of target audience for IS research is a moral issue because there are potential consequences for others as a result of that choice. The researcher can decide to ignore the issue explicitly, considering it not part of their job, believing that they have no individual choice in dissemination or identifying no personal consequences of such behaviour, which implicitly means that they accept the view that the decision rests in the hands of some other 'authority' such as the academic community, senior business managers or Government (Walsham (1993b)). Alternatively, they can accept that they are making moral judgements and consider the issue in the broadest ethical manner and take

responsibility for their own action. Both are moral choices.

7.6 ROUTES TO IS PRACTICE

In the previous sections, influences on leaders' choice of target audience have been considered and the IS practitioner community identified as a potentially least-advantaged audience for research. Leaders suggested a variety of routes by which their research results may reach practitioners, however, both directly and indirectly via other academics, students and managers in sponsoring or collaborating organisations. In this section the opportunities and problems of such routes will be discussed, along with issues of mediation and access.

7.6.1 Routes via Academics, Students and Managers

IS academic leaders suggested a variety of routes by which their research results might reach IS practitioners, both directly and indirectly via other academics, students and managers in sponsoring or collaborating organisations (see Figure 7.3). A number of the interviewees deplored the lack of dissemination to practitioners even though they were generally not considered a priority as a potential target audience for IS research. There was a fairly widespread view that there was 'little demand for IS research results from practice', since they 'don't look to academics for help or knowledge' and that they tended to 'pick up their ideas from others they meet' such as contractors and get their training on commercial training courses.

Table 7.2 indicates some of the issues identified by leaders concerning the dissemination of IS research to practitioners, and to the intermediary stakeholder groups who may act as 'gatekeepers' to practice.

Dissemination to other IS academics encourages the sharing of research results across the community through scholarship, which may then be incorporated into an individual's own

research, utilised in their teaching or synthesised in consultancy activities. At some level the results will be disseminated more widely. Leaders stressed the importance of supporting academic publishing by more interactive dissemination via conferences, research seminars and through personal networks built up over time, considered to be ‘priceless’ but ‘hard work’ to initiate and sustain.

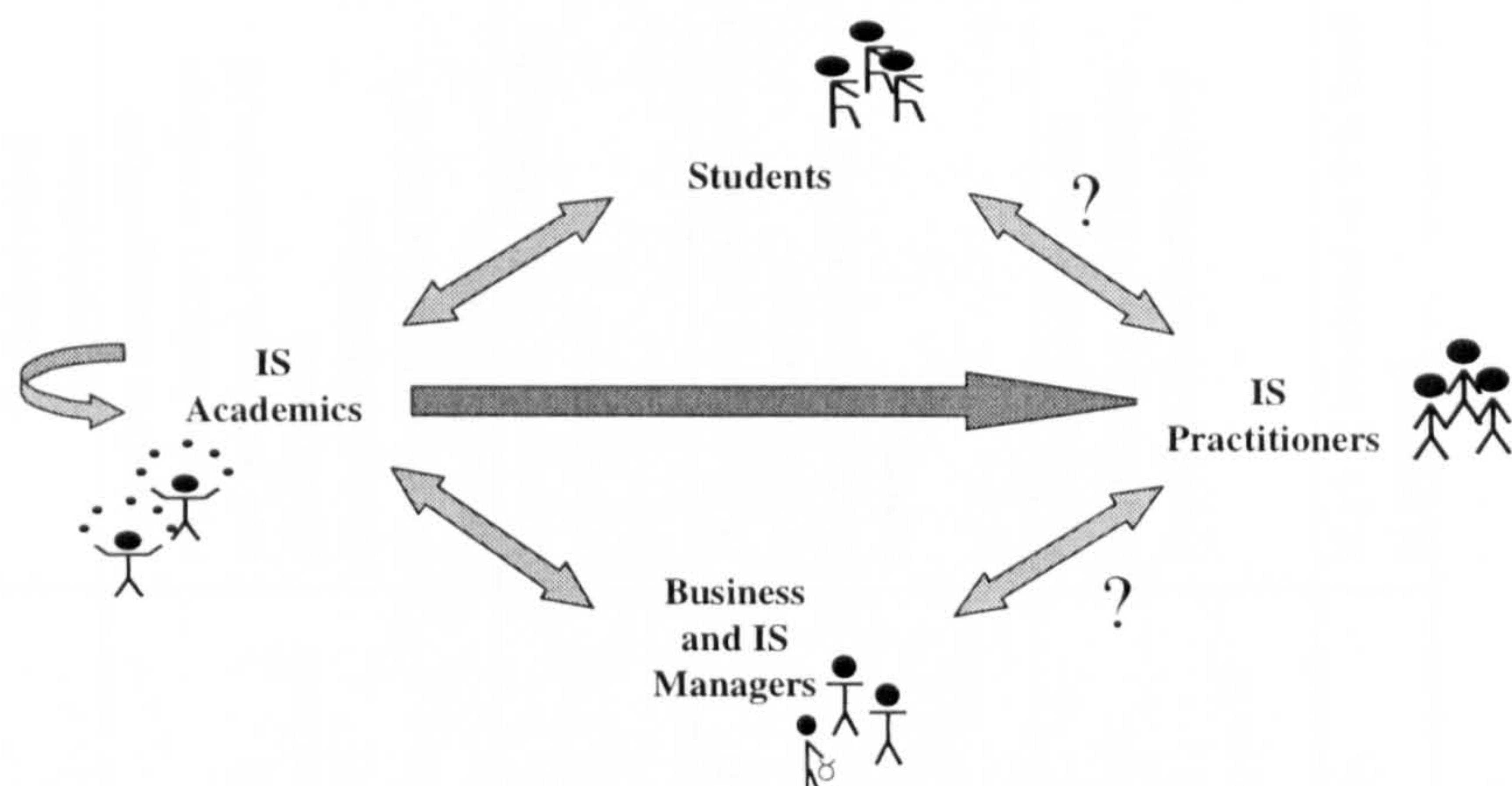


Figure 7.3 - Dissemination Routes to IS Practice

Academic audiences were generally considered to be self-selecting and active learners, with one leader noting that it was the ‘nature of academics - need to be persuaded, not instructed’. One of the major concerns with academic publishing was the long time delays, which leaders attempted to overcome through their networking and by being journal reviewers where it was possible to ‘get prior knowledge of work going on’. Other concerns were expressed about the gatekeepers of academic publishing, ‘power of journal editors’ and the difficulty of publishing work which did not fit their ‘rules’ or agendas. Publishing of research results was, however, widespread due to both the nature of the academic culture and the requirements placed on researchers by the Research Assessment Exercise in the UK.

Dissemination to:	IS Academics	Students	Managers in Sponsoring or Collaborating Organisations	IS Practitioners
Mode	Academic journals Seminars, conferences Networking	Course material Academic texts Lectures and seminars PhD students as apprentices	Project or management reports, business briefings and meetings, commercial conferences Recommendations Interactions as aspect of research projects	Professional conferences Interactions as aspect of collaborative projects Short courses Business publications
Gatekeepers	Journal editors Conference organisers Peer reviewers	Peer group – teaching allocations	Sponsoring or collaborating organisations	Conference organisers Management in organisations
Access Barriers	Numbers trying to disseminate Publication standards Time delays	Inexperienced students	Difficulty of getting sponsors or collaborators Once involved no barriers to reporting	Access to organisations may be difficult, and to less senior levels Large, fragmented community
Perceptions of Audience	Readers for research purposes Scholars	May not understand complexity of IS Generally not readers Undergraduates go on to be IS practitioners	Not readers of research Political control of results Possible short term views	Not readers Source information outside academia “Techies”
Likelihood of dissemination	High	High for postgraduates	High if involved in this kind of research	Low

Table 7.2 - Issues Regarding Dissemination Routes to IS Practice

Broad academic publishing was seen to encourage the dissemination of research to students, some of whom may be, or become, IS practitioners. For the most part, the leaders' contact with students was interactive and their relationships were built up over a period of time. Within the socio-political and economic culture of education in the UK, the student audience was generally self-selecting, and some of the leaders identified them as potential future 'innovators' in organisations and society. Where these students were already IS practitioners, on part-time or mid-career courses, dissemination could occur directly and may provide profitable exchanges for both the researcher and the student, as leaders pointed out: students 'need previous experience in order to understand the issues in IS'; it is possible to get 'good feedback from mature students'; but postgraduate courses may be 'ideal for mature students, though [it is] still quite difficult to pass on research issues'. With undergraduate students and those with no organisational IS experience, it was acknowledged that they did not generally appreciate the complexity and uncertainties of IS, where 'some don't like what they are being told - don't want to confront the 'mess'' and some were seen to be 'hostile if you try to teach them something that is difficult to learn'. There was a view that academics needed to 'lie less' as students progressed through their courses, particularly where placements existed, achieving a gradual 'building up' from 'rules' to more complex issues. One leader noted that he felt 'that 75% of the students who graduate wish the final year was the first year, because they are beginning to get the idea'. Even mature students were sometimes considered to be looking for 'definite answers' and 'simple solutions'. There was even some criticism of the teaching of IS at undergraduate level as being itself simplistic and mechanical, reinforced by the style of the texts, however, there was a view expressed that students 'do not read books' anyway. MBA students brought the experience of organisational work and it was suggested that the proportion of IS practitioners on courses may be comparable with that in organisations, but some leaders considered that 'people go to business schools because they are funded by business to get qualifications - they are not interested in IS'. As IT becomes more integrated into managers' roles right across organisations, these students are likely to be increasingly bringing that experience onto courses, though may still have no formal background education in the IS.

For those students who move on into IS practice in organisations, there will be a need to

bring together their academic learning and the complexity of the situations they will encounter. The author is aware from her own experience of initial education followed by practice and then a return to theory, that her technical skills were utilised and disseminated fairly easily but the more esoteric ideas were more difficult to remember, to incorporate into practice and to share with other practitioners. Indeed the small amount she had initially learnt about SSM, for example, was completely forgotten until she returned to the academic literature at Salford. New recruits to IS practice are often drawn into the organisation's way of working, use of methods, etc. which is a new learning process itself. Leaders identified the long-term investment they were making in students as future 'reflective practitioners, and were realistic in appreciating the difficulties they would face as utilisers, let alone, disseminators of research. In some cases, they admitted that undergraduate teaching just 'provides students with a checklist of words' in trying to 'make them acceptable people for industry, give them skills for employment', encouraging 'students to try out ideas in placements' as a non-threatening environment compared with a 'real job'.

Dissemination to managers in sponsoring or collaborating organisations was another route for IS researchers to reach practice, as it was expected that these managers will influence activity in the organisations or further disseminate the research to IS practitioners. Contact between leaders and managers in these situations was generally interactive and built up over the period of the research project time, where they may be working together and discussing an area of common interest although, possibly, with different overall aims and agendas. The dissemination included a broader awareness of research issues as well as the results of the particular project, and often occurred as an integral aspect of the work as well as through presentations and reports at the end. Often the organisations determined their own requirements from the project, and the style, form and content of the feedback, which was quite different from that of the academic publications eventually generated. One leader commented that many managers seemed 'not interested in research and how it's formulated – just looking for sound-bites'.

Leaders noted that business, including IT, managers should not be considered as an homogenous group, there being wide variations in their interests and attitudes, particularly

with respect to technology. Where some 'intelligent organisations want more than consultancy' from academics, it was also felt that 'managers were not interested in sociological ideas' and were often 'reluctant to discuss why they do things', with much organisational change developing 'out of crises, not reflection'. Several leaders believed that managers, even IT managers, were not interested in the detail of IS or development but were only concerned with 'strategy and business'. Again it was observed that 'managers do not read books'.

Dissemination of the research results within the organisation should be considered as an organisational, and therefore political, issue. The recommendations made to managers may be situation and time specific and may only be considered within some short-term aims of the organisation. Managers may censor the findings, 'hide rejected research results', utilise the recommendations as they see fit within the aims of the organisation and the roles they take within that. Dissemination to others may be made on a 'need to know' basis, within the management agenda of the organisation. Several of the leaders insisted that within their own project, all participants received feedback from the research and one stated that he purposely provided a standard report of the findings for all those involved.

A small proportion of the leaders aimed to disseminate directly to IS practitioners, for a variety of reasons. Some were positively committed to do so because of their own background and to encourage professional development, where they believed 'academics have a duty in the absence of a professional body'. Others were put off because of the lack of a clear route to reach what is a very large, ill-defined and fragmented audience, and because of the skills, effort and attitude required to disseminate via the mass media. In terms of the British Computer Society (BCS), it was noted that 'the academic and practitioner communities have grown up at the same time' and the BCS 'originated from engineering and computer science - missed the idea that it is a social science' though it was acknowledged that this was changing. One leader suggested that although the 'BCS aspires to be like other professional bodies', it was not in reality and IS practitioners were not professionals. Several leaders did, however, identify BCS conferences and seminars as an easy way to gain access to practice: 'they are always looking for people to lecture';

‘speaking at conferences is the best way to get something into practice’; though one leader noted that sometimes the size of the audience could be very small.

Direct contact with IS practitioners through action research projects or case studies, MBA and short courses, particularly where followed up by briefing seminars, were all considered good practice as interactive means of dissemination. Some of the leaders identified the role ‘practitioner’ with ‘techie’, as they believed practitioners often did themselves, and there was disagreement about the nature of their work as ‘professional or technicians’, and IS practice as ‘an art or a craft’. There was a view that they did not ‘look to universities for help’ and that there was ‘no demand for academic thinking at lower levels’ in organisations. Some leaders saw them looking for ‘quick fixes’ and holding ‘short term views’ while others thought they were ‘at least as intelligent and knowledgeable about the issues as academics’.

A large proportion of the leaders had experience of working in organisations as IS practitioners, moving out of both the practitioner environment and the organisational world into academia where almost half maintained business links through their consultancy and research activities. Interestingly, one interviewee stated that those at the top of the academic hierarchy should only be talking to those at the top of the business hierarchy, since they understood each other and shared similar agendas, possibly reflecting the research areas which predominate amongst leaders, their personal business backgrounds and their roles as managers in higher education.

Good practice for dissemination between academics and their target audiences was seen to be interactive: relationships were built up over time through the formal structures of teaching, research projects or through networks; trust and credibility could be established by the researcher; the information being disseminated could be discussed and considered in the light of the audiences’ prior knowledge, experience or needs; radical ideas could be introduced and discussed. Dissemination viewed through an ‘interactive’ metaphor, rather than as the ‘transport’ of ideas, encourages good communication and active participation by individuals (Katz (1999)).

Indirect dissemination to IS practitioners, however, assumes a process of 'Chinese Whispers', where individuals in the main target audience for the researchers' work appropriate the information and ideas, gaining insights through their personal experience and situational requirements. For students this may be influenced by a lack of experience with IS in organisational situations, by their mode of learning and their expectations of how the learning will be utilised. For managers involved in specific research projects, the findings may be presented in the form of recommendations which are time and situation specific, any learning will be influenced by the formal, and informal, agenda of the organisation and their role within it. Any secondary dissemination by students or managers to IS practitioners will be based upon this appropriated knowledge and insight in the socio-political context in which they now find themselves. Interim audiences, thereby, become 'gatekeepers' for access to IS practitioners.

In identifying this situation, the author is not trying to make the claim that some important 'objective knowledge' is being lost in this process. Even within the process of research itself, its approach and the interpretation of the findings, the researcher is appropriating information from the research situation which they then attempt to provide in some form for public understanding. The outputs are their insights and understandings based on their experience and situational context. The point which is being made is that the richness of the researcher's findings may be lost in their dissemination through inexperienced or politico-managerial routes to an audience as embedded in IS as the originator of the work. Those who should 'most' understand and appreciate the findings of IS research, who could most innovatively identify insights and ideas for their own work, must be those who explicitly engage in the activity of IS. Several leaders expressed a serious concern about the possibility of 'distortion' of their work when published via the mass media, though little was said about potential distortion via student or managerial routes to IS practice.

7.6.2 The Use of Specialist Mediation

In order to communicate effectively with an audience it is important to gain an understanding of the audience as people and to identify their needs, wants and preferred style of learning. In order to address such a target audience, it may be necessary for a researchers to either develop new communication skills or to utilise specialist expertise from elsewhere, particularly where research teams increase in size and as requirements for dissemination outside the academic community becomes more prevalent. Some of the leaders worked with support staff within their institutions who provided administrative and marketing skills, some incorporated members of the sponsoring or collaborating organisations into research teams, and others engaged media and communications professionals. This practice of dissemination was not widely followed, however, with many of the leaders working alone or sharing skills and strengths with other researchers in partnerships or research teams.

Waterson et al (1995) discussed the flexibility of teams and the sharing of knowledge as one strength they saw in IS practice, where multi-skilled groups worked together in a move away from the 'software factory' metaphor used in early development projects. Such teams would typically include both technologists, business users and managers. Traditionally within IS practice there has generally been a proliferation of roles and development teams for large projects, or within large organisations, have included consultants, project managers, analysts, designers, programmers, network analysts, database managers, testers, technical writers, trainers, etc,. The multitude of roles and specialisms did, however, generated a hierarchy in IS practice, both politically and financially, and are subject to the 'fashion' in employment practices and changing technology 'fads'. In recent years with the introduction of end-user computing and distributed IT teams, the specialisations have been reduced and expectations are that individuals will be capable of carrying out all the roles.

Where there is close proximity between researcher and audience (culturally, socially, psychologically and physically) good perceptions and understanding may be relatively easy to acquire through dissemination interactions. Where there are important consequences for

the researcher in the success, or failure, of dissemination to a particular audience, there will be a strong motivation to acquire the necessary skills themselves or through 'expert' assistance. The long process of journal review provides an indication of the effort researchers are prepared to make in the light of the community's insistence on quality in academic writing, as is the importance attached to 'multi-track' publishing by a number of the leaders, attending additionally to both the form and style of writing and the verbal feedback requested by business managers. In the case of an IS practitioner audience, proximity was seen by leaders to be achieved through research approaches which include dissemination as an integral aspect. The acquisition of communication skills or the use of specialists may be dependent on personal commitment to practice or on some community, or external, 'formal recognition' of practitioners as a valuable resource, as individual professional people and as contributors to the success of organisations.

The use of the mass media as a route to IS practice provides another example of the necessity of researchers acquiring specialist skills, as their understanding of the practitioner audience needs to be embedded in an understanding of the particular media, as a technical and socio-political phenomenon. A number of the leaders had developed both the skills and the networks required to utilise this mediation resource, and all who had tried emphasised the specialist nature of the effort in terms of performance, materials and political acumen.

Consultants provide important mediation between academic and practitioners through the identification of potentially interesting or useful research and through the synthesis of theory. They can contribute an interpretation or translation of research into a form which may be more accessible to practice, identify recommendations or application of results, and utilise their business networks to ensure access to potential audiences. Indeed, many of the leaders engaged in this activity themselves, having both the rigour of the academic approach and an awareness of the relevance of research based on years of experience in organisations. However, unless consultants are working within organisations at the practitioner level, their contribution to the dissemination of research to IS practice is, again, via managers.

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7.6.3 Access to IS Research Results

It is taken as given within this thesis that IS research should be an important resource for IS practitioners working in organisations and that awareness of the results of research would enable practitioners to be reflective about their own experiences. Having identified that IS practice is not one of the main target audiences for IS research and that there are potential problems with indirect dissemination via the 'gatekeeper' stakeholders of students and managers, it is useful to consider the question of practitioners' 'access' to the results of research. Mason et al (1995) wrote of the 'burden' of dissemination by information givers in an IS, as opposed to 'access' to information by information takers. Enabling greater 'access' to research results for practitioners may take some of the 'burden' off IS researchers.

Access, like the notion of 'proximity' discussed in section 7.5 on moral intensity, includes cultural, social, psychological and physical aspects. Unless IS practitioners are aware of the existence and availability of research which may be useful and interesting to them, they will have no reason to actively engage in accessing results, whether through courses, publications or more informal networks. The location and indexing of information in university libraries creates difficulty enough for researchers to trace articles on a given subject. With access to electronic search machines, the situation is being greatly improved, but still access is restricted for practitioners by journal subscriptions unless they are searching as university students. It is widely acknowledged that practitioners are unlikely to take three years out to do a PhD, and they will be very fortunate if their organisations provide them with the opportunity to read specialist journals. The defence of some of the leaders that their work is published in the 'public domain' does not really address the issue of access for IS practitioners. IS books by 'gurus' sold in general bookshops is probably their best chance of learning of IS research.

Outputs from research need to be genuinely accessible to individuals in terms of their personal learning styles and preferences, and in the context of their organisational activity. The language used, the style and form of outputs should enable access, in the way that this

is considered for the main target audiences if the practitioner is to appropriate the results in a manner that is effective for them. Practitioners need to read, or talk, about real examples and stories, interesting theory, possible implications of results and recommendations for action, having enough information to interpret these critically in the light of their own experience and perceived needs. Lessons could, perhaps, be learnt from the research into the human factors of IT about the value of addressing outputs to the 'average' audience rather than to some small 'elite' group, thereby enabling wider access (Damodaran (1998)).

7.6.4 Discussion

In this thesis it is assumed that IS research should be an important resource for IS practitioners working in organisations, in enabling their development as reflective practitioners and, thereby, enhancing the performance of their organisations. The research presented here investigated the direct and indirect routes researchers may use to disseminate their work to practice and identified some of the issues associated with them. In this section, the leaders emphasis on the value of interactive relationships between the researcher and their target audience is discussed and some potential shortcomings of utilising interim audiences to reach practice.

7.7 SUMMARY OF THE FINDINGS

The findings presented in this chapter should be read within the rich context of IS research identified in the previous chapter and as a contribution to IS theory in making explicit the influences and choice-making which occurs within an IS. The four issues identified here represent the author's insights into IS theory and practice in terms of the research data and her reading of the literature, and thinking, at this time. The reader will be able to identify further issues relevant to their current experience and interpretation.

The first important insight is concerned with the variety of roles available for an IS

researcher. Awareness of alternatives was identified by the author as a useful aid to the practice of research, as well as a means by which an individual can reflect on their experiences and perceptions. The author proposes that:

Choice-making and activity in dissemination can be considered in the light of the many possible roles which could be assumed by the actors within an IS. The role analysis identified in the IS literature can be extended through a consideration of the following:

- . a broader view of paradigmatic roles from the three perspectives of: the actor's perceptions of the IS situations in which they engage; their personal underlying epistemologies; and their perceptions of the many stakeholders' perceptions of them in their IS roles.**
- . the personal motivations of the actor as a complex individual, as a juggler of the multiple activities of the IS, and as a member of both their professional community and their employing institutions**
- . a metaphorical analysis of the actor's views of an IS and the dissemination of its information**

The second issue raised by the findings relates to the influence of resource-dependence relationships between researchers and the stakeholders of IS research. These relationships were seen to vary in importance and relevance across the group of leaders and their research situations. In a context of competition for limited resources, whether for research funding, career progression or access to research situations, unequal power relationships with, or between, stakeholders can impact on the choice of target audience for IS research. The author proposes that:

Analysis of resource-dependence relationships of the various stakeholders within an IS can provide insights into the choice-making and activity of dissemination of the information to interested audiences. In particular, such analysis can identify potential least-advantaged audiences in a context of scarcity of resources or narrow control of essential resources. The identification of resources should include those relating

directly to the actors, as well as those necessary for the activities of the IS.

The third issue raised in this chapter relates to an ethical consideration for IS researchers. As, necessarily, moral agents within the IS research process, researchers are urged to reflect on their choice of target audience for their work (Walsham (1993b)). The author proposes that:

The choice of target audience for dissemination within an IS is an ethical issue and consideration should be given, by the actors in the IS, to the affect on any interested audience of their not being chosen.

All the findings raised in this chapter are interrelated and, in particular, the fourth issue of dissemination routes to IS practice was discussed in the light of the low incidence of their being a target audience for research. The discussion identified the perceptions of the leaders about the various stakeholder groups and the potential barriers to indirect dissemination. A high value was placed on interactive communication as an effective means of dissemination. The author proposes that:

Actors in an IS need to test out their perceptions of potential audiences for dissemination, or access to information, and their assumptions about indirect dissemination.

The research issue for this thesis was to understand the beliefs and behaviours of IS researchers with respect to dissemination. In these two chapters, the author has presented findings which provided her with a rich understanding of dissemination in the context of leaders of the IS academic community in the UK in the 1990s. The proposals identified above are intended to make explicit her insights in the more general context of IS theory, thereby empowering other researchers and practitioners to gain a deeper understanding of the IS situations in which they engage.

7.8 CONCLUDING REMARKS

The research in this thesis is an exploration of the beliefs and behaviours of IS researchers with respect to the dissemination of their work. The research activity involved in-depth, semi-structured interviews with IS academic ‘leaders’, supported by a survey of the broader community in the UK. The research approach was critical, identifying a range of opinions and behaviours through an interactive, questioning approach intended to surface assumptions and conflicts within the situation. The focal issue of dissemination was addressed within an holistic view of IS research, its stakeholders and broader context. The discussion of findings presented in this chapter should be read with Chapter 2 which provided the context for IS research during the 1990s in the UK, and with Chapter 6 which provided a structured view of the findings as a ‘snapshot’ of the situation encountered during the research activity.

In this chapter, the author has presented her thinking about the findings of the research in the light of the theoretical framework for the work put forward in Chapter 3. Four main issues were identified from the research data to provide insight into the research issue of the beliefs and behaviours of IS researchers with respect to the dissemination of their results. The variety of alternative roles available to researchers were considered with respect to a paradigmatic view, personal motivations and possible metaphors for research. The influence of stakeholders and resource-dependence relationships on the dissemination of research was investigated, with particular reference to the resources for research funding, personal career success and access to organisational situations for research and dissemination. The notion of choice of target audience as a moral issue was considered, and the potential impact of IS practitioners as a least-advantaged audience. Lastly, the issues surrounding direct and indirect dissemination to practice were discussed, including the use of mediation and enabling access to research to relieve the burden on researchers.

The findings are summarised as a set of proposals which form the basis of the contribution of the work to IS theory, which build on the literature identified in the theoretical framework. This contribution is presented in Chapter 8, which will also include a review of

the research, the contributions to IS research and practice, and the author's suggestions for future research which will build upon this thesis.

CHAPTER 8

THE RESEARCH CONTRIBUTION

8.1 INTRODUCTION

The research presented in this thesis is an exploration of the sharing of research results between the IS academic and practitioner communities. The research presented in this thesis investigated the beliefs and behaviours of IS academic leaders with respect to the dissemination of their research results, in the context of the business, political and IS academic worlds of the mid 1990s in the UK. In Chapters 1 and 2 of the thesis, the research issue was identified as of compelling relevance, potentially offering insights into IS theory, an encouragement to reflection amongst the IS academic community on their practice of research, and a ‘snapshot’ view of the thinking and activities of the community itself.

The research was based on an holistic view of dissemination as an aspect of the broad activity of IS research, the stakeholders of research and the environment in which it occurred. This holistic view was reinforced in the choice of theoretical framework for the research, as discussed in Chapter 3, where IS research was considered within the socio-political perspective of an information system. The influence of the author’s experience in IS practice was acknowledged in the choice of a critical systems perspective on the literature, and the framework utilised the Multiview 2 model as a basis for bringing together theory of relevance for the work.

In Chapter 4, a number of factors were identified which would influence the choice of research approach, including the author’s own underlying epistemology, the nature of the research issue and the form of the theoretical framework, the intended target audiences for the work and the research methods available in IS. These influences were discussed in detail providing a coherent and integrated argument for the particular approach with IS academic leaders in UK universities. The practical issues of the selection, planning and

process of the data collection and analysis were described critically in Chapters 4 and 5.

Chapters 6 and 7 of the thesis summarised the findings of the research, within the context provided in Chapter 2. The form of presentation of the findings was intended to enable the reader to interpret the author's learning relative to the theoretical framework, as discussed in Chapter 7, and to encourage the reader to identify possible alternative interpretations and learning, as an aspect of the critical epistemology of the work.

In this final chapter of the thesis, the author reviews the research in the light of its initial intentions, critically analysing the choices made throughout. The contributions made by the work to IS theory, IS research and IS practice are identified and suggestions are made for future research as an outcome of this work.

8.2 A REVIEW OF THE RESEARCH

The research presented in this thesis investigates the sharing of knowledge and ideas between the IS academic and practitioner communities. This is research into the practice of research, an investigation into the application of theory in practice, and it considers the beliefs as well as the behaviours of individuals in the dissemination of IS research. The work is based on a view of IS research as an information system itself, with dissemination as an aspect of that information system. The ideas and theory utilised in the thesis integrate with the framework for the research, and the thesis necessarily becomes a complex description of self-reflection upon research into self-reflection. Within a critical perspective, the thesis aims to make these acts of self-reflection as transparent as possible to the reader.

In the following sections, the main issues relating to the research issue, theoretical framework, research approach and the findings are reviewed in terms of the initial assumptions of the work and the choices made by the author.

8.2.1 The Research Issue and Theoretical Framework

In the context of the agenda of the business world during the 1990's of radical change, often driven by IT and emphasising the need for an informed and empowered IS practitioner community, the issue of dissemination of research was highly relevant, encouraged by UK Government interest in the role of higher education. For the author, as an IS practitioner moving into the academic community, the discovery of a body of literature which should be a valuable resource for practice reinforced this relevance in terms of the empowerment of individual IS practitioners.

A broad view of dissemination was taken, in the light of the author's own critical epistemology and experience in IS development, and the research issue included both the beliefs and behaviours of IS researchers with respect to dissemination of their work. The research was to be exploratory, rather than more narrowly testing any preconceived notion. An initial expectation was that the research might uncover a situation of academics who were lacking in the communication skills required to reach IS practice, possibly an issue of different 'psychological types' as identified long ago with respect to IS practitioners and business users in the work of Mason and Mitroff (1973). The decision to take an holistic view of dissemination as an aspect of research, and research as a socio-political as well as technical activity, was congruent with the author's experience of IS practice and with the literature on Multiple Perspectives, in particular the Multiview 2 Model of IS development (Mitroff & Linstone (1993), (Avison et al (1998))). The research issue was stated as a need for understanding about dissemination in its context, a 'problem setting' issue, raising awareness and identifying potential insights into theory and new avenues of research.

The adoption of this critical and holistic view at the outset of the research proved to be the greatest strength of the work, enabling it to make a positive contribution to IS theory. The insights discussed in Chapter 7 arose through the richness of the data gained through the exploration of the context of research and its stakeholders, as well as the narrow activity of dissemination.

Some of the early assumptions of the research reflected the author's view of the relevance and usefulness of IS research to practitioners and their perceptions of it as such, in the event that they had access to it. These assumptions will be investigated in future research, alongside the perceptions expressed by the interviewees about IS practitioners. Other assumptions related to the possibility of effective communication between the two communities, which was evidenced by some of the 'good practice' described by the leaders in Chapter 6, and their acknowledgement of the necessity to either develop skills or employ specialist mediators for such communication where it became a required aspect of the research activity.

In perceiving IS research as an information systems, the author utilised the IS literature to generate a theoretical framework for the research, noting the importance of the many reference disciplines in underpinning the theory of the field. The framework provided a guide for appreciating the critical nature of the project itself, for maintaining a multiple perspective view of the findings, as well as a providing literature against which the contribution of the work could be considered. The framework had as its foundation the critical notions of emancipation and social critique, in terms of respect for the opinions, activities and well-being of individuals, and the surfacing and questioning of socio-political assumptions in the context of an IS (Alvesson & Wilmott (1992), Hirschheim & Klein (1994)). The findings from the research and the contribution to IS theory and practice must be evaluated and adopted in the light of this critical foundation.

The literature discussed in Chapter 3, under the Technical, Organisational and Personal perspectives, was identified throughout the course of the research, reflecting the author's reading during the analysis phase as well as her notions of relevance from her initial literature search. The metaphorical use of IS development to encourage an understanding of the process of IS research, while acknowledging the many differences between the two activities, emphasised the link through IS theory itself which attempts to address a broad notion of an information system beyond the constraints of data-based computer systems in organisations (Buckingham et al (1987)). The nature of the framework and the Multiple

Perspectives Approach encouraged the development of the literature-base throughout the process of the research, emphasising an hermeneutic view of the learning about the research issue, and of the activity of academic research itself.

8.2.2 The Research Approach and Activity

The holistic perspective of the work continued into the choice of research approach, where a range of factors were considered as influences. An approach which would provide the required learning about the research issue in the light of the author, the theoretical framework, the chosen target audiences and the research methods available in IS was identified and discussed in Chapter 4. The coherence of the author's epistemology, the framework and the research approach was identified as an important issue in terms of the integrity of the work.

The choice of a research approach, incorporating in-depth interviews and a supporting survey of the wider IS academic community in the UK, anticipated not just a 'snapshot' view of researchers in 1996 but a more far reaching contribution to IS theory and IS research. In choosing to interview leaders of the community, and in defining the interactions as an intervention which enabled dissemination to be explored within the wider context of the researchers and the environment of research, the research activity was planned as an exploration of the application of IS theory to the practice of IS research, which in turn would shed light on the theory itself.

The author's experience and skills as an IS practitioner were essential elements within the chosen research approach, particularly in the activities of data collection and analysis. Her learning about the research issue developed right through the research process, from the initial reading to the writing of this thesis, forming a cyclical process of reflection and debate. The thesis provides temporary closure for the research, making definite the author's current view of the findings in order to share them with others for critique and debate. The dissemination and learning will continue into the future with individuals from both the IS

academic and practitioner communities.

8.2.3 The Research Findings

It is important for the reader to consider the findings of this research as the issues raised in Chapter 7 embedded in an appreciation of the rich context addressed in Chapter 6, and as a contribution to IS theory in making explicit the influences and choice-making which occurs within an information system. The author's interpretation of the findings and the issues raised as insights into IS theory reflect her background and experience within this research process. The reader will make their own interpretation through their engagement with the detail of this thesis and may gain different insights for theory and for reflection on their own practice of IS research. For the author, the findings were interesting and diverse with respect to her initial ideas about the research issue. Although the communication skills of researchers was identified as an area of potential concern in the findings, this was overwhelmed by the rich picture of beliefs and behaviours uncovered. The decision to explore dissemination in the wider context of the researchers, their work and the environment of IS research was fully justified by the findings, which presented a complex interaction of influences on the choices and activities of dissemination.

The critical approach surfaced assumptions held by the leaders, and their many and varied perceptions, of their roles as academics and their relationships with the stakeholders of IS research. The variety expressed across the group of leaders identified the community as heterogenous, with individuals being strongly influenced by their own personal aims, as well as the opportunities and constraints of their environments. Dissemination choices were viewed in the light of such aims, perceptions and pressures and have been presented, as much as possible, through the words of the leaders themselves. In the light of the theoretical framework for the research, four major insights were identified in Chapter 7 which contribute to both the theory and practice of IS, in terms of: the role of the actor in an IS; resource-dependence relationships between the actors and stakeholders of an IS, particularly in the context of limited resources; the ethicality of the choice of target

audiences for the sharing of information, including the issue of ‘dwarfing’; and the issues relating to the burden of dissemination and the accessibility of information.

In much of the IS literature reviewed in Chapter 3 the focus was on IS practice. In the discussion of the findings presented in Chapter 7 the focus is on IS researchers. Through the understanding of the practice of an IS, these findings provide insights into the theory of IS and make explicit the importance of the individual actors, their aims and self-perceptions both within the IS directly and as employees or members of the wider society which forms the environment for the IS. The activity of dissemination in an IS is subject to the influence of many complex and interrelated factors, as identified in this research. In making some of these explicit within IS theory, the actors, whether researchers, practitioners or individuals in general, may be empowered to reflect more widely on their own volition in the face of a multitude of alternatives and to gain an improved understanding of the situations within which they find themselves.

8.3 THE CONTRIBUTION OF THE THESIS

The research presented in this thesis provides a unique contribution to the theory and practice of IS. It originated from an unusual perspective, of an IS practitioner considering the world of IS academia because she had discovered a wealth of literature as a resource for reflection on her own experiences in organisations. The work brings together a variety of theory from within the IS literature, and elsewhere, as a framework for learning about dissemination within IS research, from the perspective of IS research as an IS. The work is complementary to the literature whilst at the same time building upon it. The research presented here is inherently interesting to the IS academic community, both for this unique stance and because they are, themselves, the subject of the work. It offers insights into IS theory and encourages self-reflection by individual IS researchers. It also provides a body of findings to be utilised by the author within future research with the IS practitioner community. The contributions discussed below are based on the author’s learning about, and insights into, the research issue based on the findings presented in Chapters 6 and 7,

which are subject to the limitations and assumptions identified throughout the thesis.

8.3.1 IS Theory

The contribution to IS theory begins with a proposal from the research activity itself::

- 1 An amendment to Checkland's (1991) framework of factors affecting the choice of research approach to include the influence of the IS researcher and, from Keen (1991), their chosen target audience for the work.**

The research concurs with the emphasis in the IS literature on the Multiple Perspectives Approach and Stakeholder Theory, notably based on the work of Mitroff (1983), Mitroff and Linstone (1993), Avison et al (1998), but offers some supplementary proposals to the theory, as follows.

- 2 The author proposes a more varied analysis of alternative roles for the actors in an IS, including a more explicit awareness of the influence of individuals on IS choice-making, adding to work such as that of Avison and Wood-Harper (1990), Flood and Jackson (1991), Dahlbom and Mathiassen (1993):**
 - . a broader view of paradigmatic roles from the three perspectives of: the actor's perceptions of the IS situations in which they engage; their personal underlying epistemologies; and their perceptions of the many stakeholders' perceptions of them in their IS roles.**
 - . the personal motivations of the actor as an complex individual and as a juggler of the multiple activities of the IS and as members of both their professional community and their employing institutions.**
 - . a metaphorical analysis of the actor's views of an IS and the dissemination of its information**
- 3 The IS literature has incorporated Stakeholder Theory since the work of Mitroff**

(1983). The author suggests the need for IS theory to bring the work in the literature of Organisational Theory literature more explicitly into the definitions and models of IS. From the findings of this research particularly encourage an inclusion of Resource-Dependence Theory, thereby acknowledging issues of power relations between the actors in an IS and its stakeholders, and the possibly commercial nature of the 'sharing' of information within an IS (Pfeffer & Salancik (1978), Frooman (1999), among others).

Analysis of resource-dependence relationships of the various stakeholders within an IS can provide insights into the choice-making and activity of dissemination of the information to interested audiences. In particular, such analysis can identify potential least-advantaged audiences in a context of scarcity of resources or narrow control of essential resources. The identification of resources should include those relating directly to the actors, as well as those necessary for the activities of the IS.

- 4 The research brings an alternative perspective to the discussion of ethics in the IS literature by its consideration of the choice of audience as an moral issue, as well as the IS actor as a moral agent (Jones (1991), Walsham (1993b)). The author proposes that any Stakeholder Analysis should identify potentially interested audiences within an IS in order to explore the possibility of 'dwarfing' of individuals and groups through their lack of access to information (Seedhouse (1988), Mason et al (1995)).

The choice of target audience for dissemination within an IS is an ethical issue and consideration should be given, by the actors in the IS, to the affect on any interested audience of their not being chosen.

8.3.2 IS Research

The research presented in this thesis provides a contribution to the IS research community in a number of ways. Firstly, it provides a demonstration of the application of IS theory to the practice of IS research, utilising the Multiple Perspectives Approach and the Multiview 2 Model (Mitroff & Linstone (1993), Avison et al (1998)). This thesis encourages IS researchers to reflect critically on their own practice of research, and in particular their belief and behaviours in the dissemination of their work, as did the leaders during the research activity. The reflections presented here concerned socio-political and personal analyses, as well as a technical review of their work. The research is concerned with the empowerment of individuals within the IS research community, through its presentation of the findings and its emphasis on self-reflection, and in its surfacing of alternatives.

As was noted earlier, the work is of inherent interest through its focus on the IS academic community. For new researchers the findings presented in Chapters 6 and 7 will provide knowledge about, and insights into, the community as a whole. Through a focus on the wide range of alternatives in researchers' views of their role in IS research and on the influence of the researcher in the choice-making of IS research, the thesis aims to promote the notion of individual volition and the need for evaluation of the implications of such choices. From the perspective of dissemination, if Keen's (1991) proposal that the choice of target audience ensures the relevance of IS research is valid, then it is important that researchers are aware of their choice-making activity throughout the whole process of IS research.

Through the explication of her choice-making within this research project, the author is providing a case study of a novice researcher's attempt at a critical, holistic approach to IS research.

8.3.3 IS Practice

The author anticipates that the contribution to IS practice from this thesis will be two-fold. Firstly, the findings will be utilised in her future research with practitioners. Secondly, the contribution to IS theory will be disseminated more widely: amongst the academic community through journal and conference papers where it may be applied by others; to students through the author's own teaching; and via non-academic publications in a form which may be of relevance or interest to some individual practitioners.

The contribution to theory identified in 8.3.1 applies to any IS situation, therefore, IS practitioners can utilise it to reflect on their own individual practice in the same way as researchers. The full findings may be of interest to a practitioner in the sense of providing insights into the world of academia, a view of researchers and IS research, although the form of the thesis does not encourage the non-academic reader.

8.4 IDEAS FOR FUTURE RESEARCH

The author proposes the following as fertile areas for research:

- 1 A similar investigation of the beliefs and behaviours of IS researchers with respect to the dissemination of their work within a culture which is significantly different from that in the UK, which would possibly identify different personal motivations, perceptions and resource-dependent relationships, for example, as a comparison with the findings presented here.
- 2 An exploration of the beliefs and behaviours of IS practitioners in the acquisition of knowledge and ideas to enhance their understanding of their work in IS practice would complement the current research. This work could utilise a similar framework and research approach, in particular taking both a critical and holistic view of the research issue, and include a focus on practitioners perceptions of IS

academics and research. An evaluation of the perceptions expressed by the IS academic leaders about the practitioner community could also be included in the work.

- 3 Another interesting area of research would be an exploration of the resource-dependence relationships between practitioners and the stakeholders of IS development. Again, such research could be carried out across a variety of cultural and organisational situations. A better understanding of the influences on choice-making in IS practice, particularly in situations of limited resources, may illuminate questions of purpose and ownership of information systems in both organisations and society as a whole.
- 4 Research needs to be carried out to test the validity of the leaders' perceptions of potential audiences as learners, and especially of the role of mediators and interim audiences in the indirect dissemination of IS research. Evaluation of the dissemination activities within collaborating or sponsoring organisations would be interesting, with a particular focus on the level and content of such results reaching IS practitioners. An exploration of the utilisation of their learning by students of IS in organisational situations could be carried out relatively easily with respect to those involved in industrial placements, or with part-time mature students.

8.5 CONCLUDING REMARKS

The research in this thesis is an investigation into the beliefs and behaviours of IS researchers with respect to the dissemination of their work. The research approach was both critical and holistic, providing the reader with a review of the context, the process, the findings and the contribution of the research from which they may derive their own interpretations of the whole. The findings are presented as an encouragement to self-reflection within the IS research community on their practice of research, encouraging the empowerment of individuals through an improved awareness of their own situations and

the possibility of alternatives.

The work aims to promote dissemination to an equal prominence with relevance and rigour within the IS literature, as three integral aspects of the IS research process. From this study of dissemination, a contribution has been made to IS theory concerning the influence of individual actors and stakeholder relationships on the choice-making within an IS, providing insights into a complex picture of influence and choice-making. The theoretical contribution is provided through additions to the cumulative literature in: the Role Alternatives for participants within an IS; the use of Stakeholder Theory to identify influences on beliefs and behaviours of the actors within an IS; the use of Ethical Theory in analysing choices made within an IS; and the need to Surface Assumptions about the activities and stakeholders within an IS.

This research began with the author's discovery of a 'treasure trove' of IS literature which should be a valuable resource for IS practice. The research will provide an addition to that literature and be of relevance and interest to both IS practitioners and IS researchers. In doing so, it aims in some small way to encourage understanding and awareness about Communication Across the Divide.

APPENDICES

APPENDIX A

THE RESEARCH PLAN

A1 - THE PROJECT PLAN

Research Activity	Dates	Comments
IS Doctoral School	Oct 1993 – Aug 1994	Lectures, seminars and workshops, and directed reading
Agree Research Proposal	Completed January 1995 Viva held February 1995	
Pilot Interviews	October - December 1995	
Creation of Survey Mailing Lists	January – February 1996	Trawl of university web sites
Interviews	January – July 1996	Interviewees contacted in geographical groups by e-mail, letter and telephone
Creation of Questionnaire	February – May 1996	The questionnaire was developed through a number of drafts and consultations with technical and statistical ‘experts’
Pilot Survey	June – July 1996	SPSS categories were set up for testing in the pilot survey
Full Survey	September – October 1996	E-mails sent in batches over a 2 week period – sent in 9 batches to allow for rejections to be received and handled Reminders sent after 2 weeks Responses transferred to SPSS on receipt
Analysis of Research Data	January 1996 – March 1997 March 1999 – July 2000	Analysis of the interview data was an ongoing activity from the start of the interviews in January 1996 Analysis resumed after the author rejoined the IS academic community in 1999
Writing the Thesis	September 1996 – March 1997 April 2000 – September 2000	Writing interrupted by period of illness and employment in IS practice
Reading the Literature	October 1993 – July 2000	Reading continued throughout the research process and beyond

A2 - THE RISK ANALYSIS

The table below shows the analysis of risks at the planning stage of the research.

Risk Factor	Importance and Likelihood	Mitigation
Completion:		
Failure to complete within time constraints	High – Medium	Risk analysis at various points throughout the project
Failure to produce meaningful results within time constraints	Medium - Low	Pilot interviews and pilot of questionnaire. Risk analysis throughout.
Researcher side-tracked by compelling side issues during interviews	High - Low	Continuous progress reporting to supervisor. Lack of funds for extended research.
Growth of research interest to exceed time constraints	High - Medium	Risk analysis.
Loss of support from significant others (eg. supervisor)	High - Low	Involvement in Doctoral School and Interim Assessors other than supervisor
Identical research identified elsewhere mid-project	High - Low	On-going review of academic journals and feedback from interviews will provide early identification
Interviews:		
Lack of access to senior IS researchers	High - Medium	Access relies heavily on recommendation of the research supervisor and the performance of the researcher during interviews. Thorough preparation should improve prospects for success.
Lack of meaningful data from interviews	High - Medium	Pilot interviews should provide an indicator of any likely problems
Refusal for transcripts of interviews to be made public	Medium - Low	Use of researchers as subjects should ensure co-operation with the research publication – note that transcripts are not being made available
Questionnaires:		
Inadequate number of responses to questionnaires	High - Medium	An explanatory note will accompany all questionnaires and respondents will be provided with a summary of results. Non-responders will be sent 2 reminders and additional copies of the questionnaire, over the Internet.
Lack of meaningful data from questionnaires	High - Medium	Pilot questionnaires should provide an indicator of any problems If necessary, a personal survey will be carried out within the 17 universities local to the researcher
Dissemination:		
Refusal of papers for publication in academic press	Low - Medium	Co-authorship of papers by supervisor

APPENDIX B

RESEARCH ACTIVITY

B1 - INTERVIEWS

B1.1 - List Of Interviewees

UK COMMITTEE OF IS PROFESSORS:

Professor Ian Angell	London School of Economics
Professor Dave Avison	Southampton University
Professor Terry Bayliss	South Bank University
Professor Michael Earl	London Business School
Professor Chris Edwards	Cranfield University
Mr David Feeny	Templeton College, Oxford
Professor Paul Finlay	Loughborough University
Professor Guy Fitzgerald	Birkbeck College, London
Professor Bob Galliers	Warwick University
Mr Tom Gough	Leeds University
Ms Catherine Griffiths	Imperial College, London
Professor Clive Holtham	City University
Professor Michael Jackson	Humberside University
Professor Nimal Jayaratna	University of Central Lancashire
Professor Roland Kaye	Open University
Professor Frank Land	London School of Economics
Professor Geoff Lockett	Leeds University
Dr Mike Newman	Manchester University
Professor Richard Ormerod	Warwick University
Professor George Rzevski	Open University
Professor Dave Targett	Bath University
Professor Geoff Walsham	Lancaster University
Professor John Ward	Cranfield University
Mr Leslie Willcocks	Templeton College, Oxford
Professor Howard Williams	Strathclyde University
Professor Trevor Wood-Harper	Salford University
Mr Brent Work	Surrey University

OTHERS:

Professor Chris Clegg	Sheffield University
Malcolm Hudson	Greenwich University
Professor Barry Lee	Huddersfield University
Roger Spear	Open University
Dr Dave Wastell	Manchester University
Professor Sam Waters	University of the West of England
Professor Hugh Willmott	UMIST
Bob Wood (RGJ)	Salford University

PILOT:

Gilbert Mansell	Huddersfield University
Steve Pollitt	Huddersfield University
Sunil Vadera	Salford University
Steve Wade	Huddersfield University

B1.2 - Interview Planning

Task	Issues	
Selection of interviewees	UK Committee of IS Professors	A self-selected group with 33 members Consider 60% to be satisfactory Initial contact via supervisor, professional approach to correspondence Diary of correspondence Initial contact via e-mail from supervisor Follow-up telephone call to book appointment Confirmation letter on Salford headed notepaper one week before interview date, including the model to be used as a basis for the interview and brief details of the research Thank you e-mail immediately after the interview Internet details of person and institution Maps, addresses, e-mail addresses and telephone numbers Main areas of research for each person from supervisor Identification of papers written Use of model for structure within semi-structured interviews Broad list of areas and issues Opening and ending approaches Strategy for maintaining discussion and timing plan Confidentiality Professional appearance, introduction to provide credibility of researcher A mini-disc recorder with five discs and mains connection, with a back up of a micro-cassette recorder Familiarisation Transfer of recording to tape Back-ups Transcription of recordings Use of model for structured data recording immediately after interviews and from recordings Six geographical groupings for booking interviews: North Local, London, Midlands, Midlands South, South and Scotland & Ireland.
Contact with interviewees	Response rate Strategy Correspondence	
Interview preparation	Interviewees	Maps Timetables and travel times Car maintenance Eating and sleeping arrangements Costs and reimbursements Four researchers identified from Salford and Huddersfield universities, covering the four areas of IS Timing Interview structure Recording and note taking Response to aims, etc
Data recording	Recording equipment	
Travel plans	Note taking Grouping interviews Practical issues	
Pilot interviews	Interviewees Interview evaluation	

B1.3 - Sample E-mail Sent to Interviewees from Professor Wood-Harper

Dear Ian

I wonder if you could help us with our investigation into differences between the academic world and practice.

Nuala Nevill is an experienced, senior IS practitioner currently carrying out research for a PhD with me at Salford. She is investigating the communication between ourselves, as researchers in IS, and the practitioner community in general. As part of this work she is interviewing members of the Committee of IS Professors in order to appreciate their backgrounds, research activities, behaviours in disseminating their work and views on the audiences to which this communication is addressed.

Nuala and I would be grateful if you could spare an hour of your time to share your views and experience with her. She will contact you by telephone in a few days to arrange an appointment to suit you during the next few weeks.

Thank you for your support.

Best regards

Trevor Wood-Harper

Sample Letter Sent to Confirm of Interview Appointments

(Print on Salford University headed notepaper)

Dear Dr Griffiths

I am writing to confirm our meeting at 10am on Monday 22 January 96, as agreed recently. The interview will last no longer than one hour and will broadly follow the model shown on the attached sheet.

My PhD research is in the area of communication between IS researchers in universities and IS practitioners working in business. In particular, I am interested in the beliefs and behaviours of IS researchers with respect to the dissemination of their work.

I plan to interview at least 20 senior IS researchers during the next few months. The interviews will undoubtedly broaden and enhance my own ideas about this area, based on my experience as an IS practitioner and consultant and the last 2 years as a researcher and lecturer.

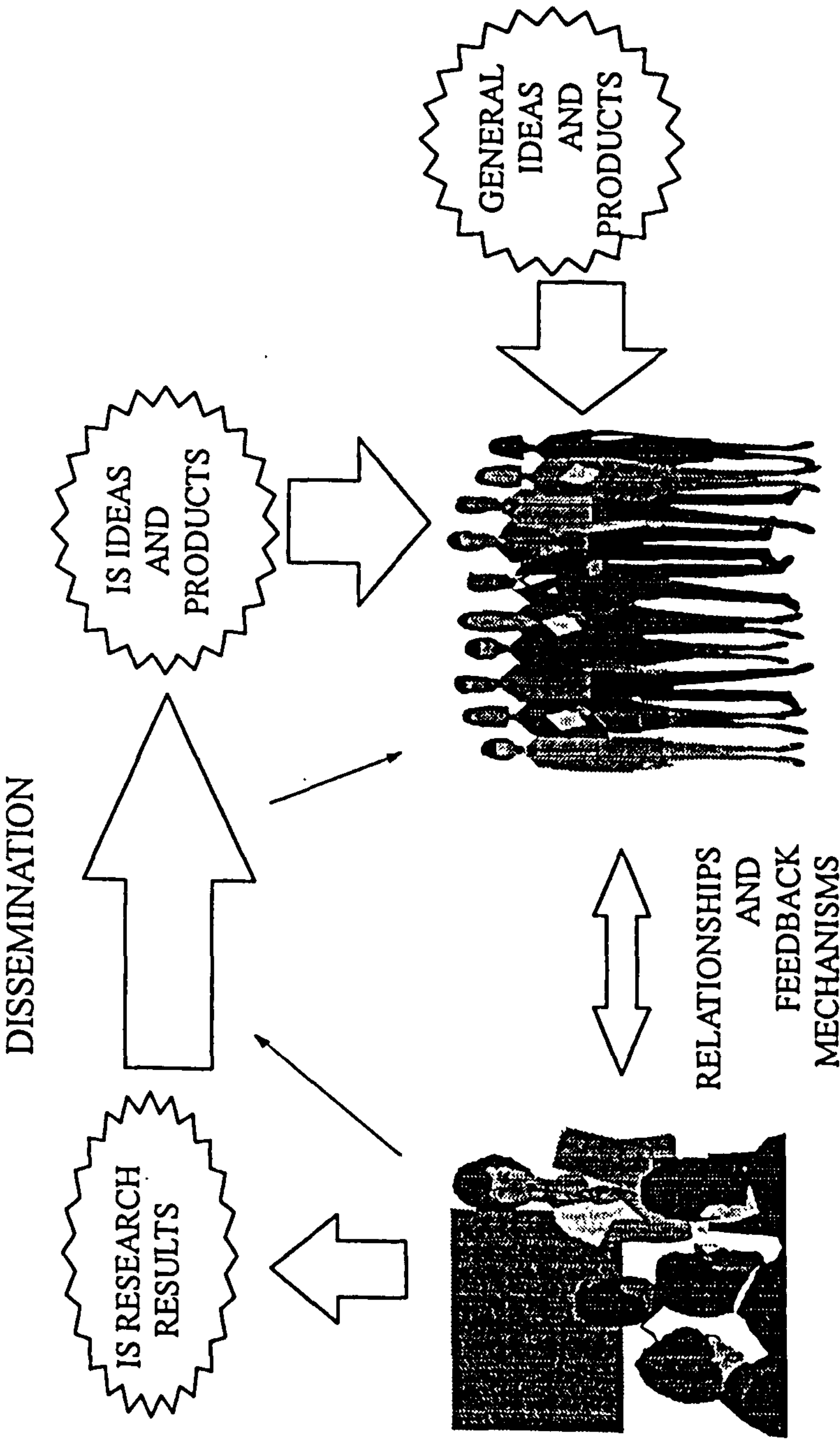
As well as assisting in the creation of a picture of IS research dissemination at the current time and within the current political climate, the findings from the interviews will be used to produce a questionnaire addressed to the wider IS research community within UK universities.

Thank you again for your support. I look forward to meeting you on Monday.

Yours sincerely

Nuala Nevill

B1.4 - Dissemination Model used for Interviews



B1.5 - Sample Interview Summary Sheets

Name of Interviewee

Title

Department or School

University

Date

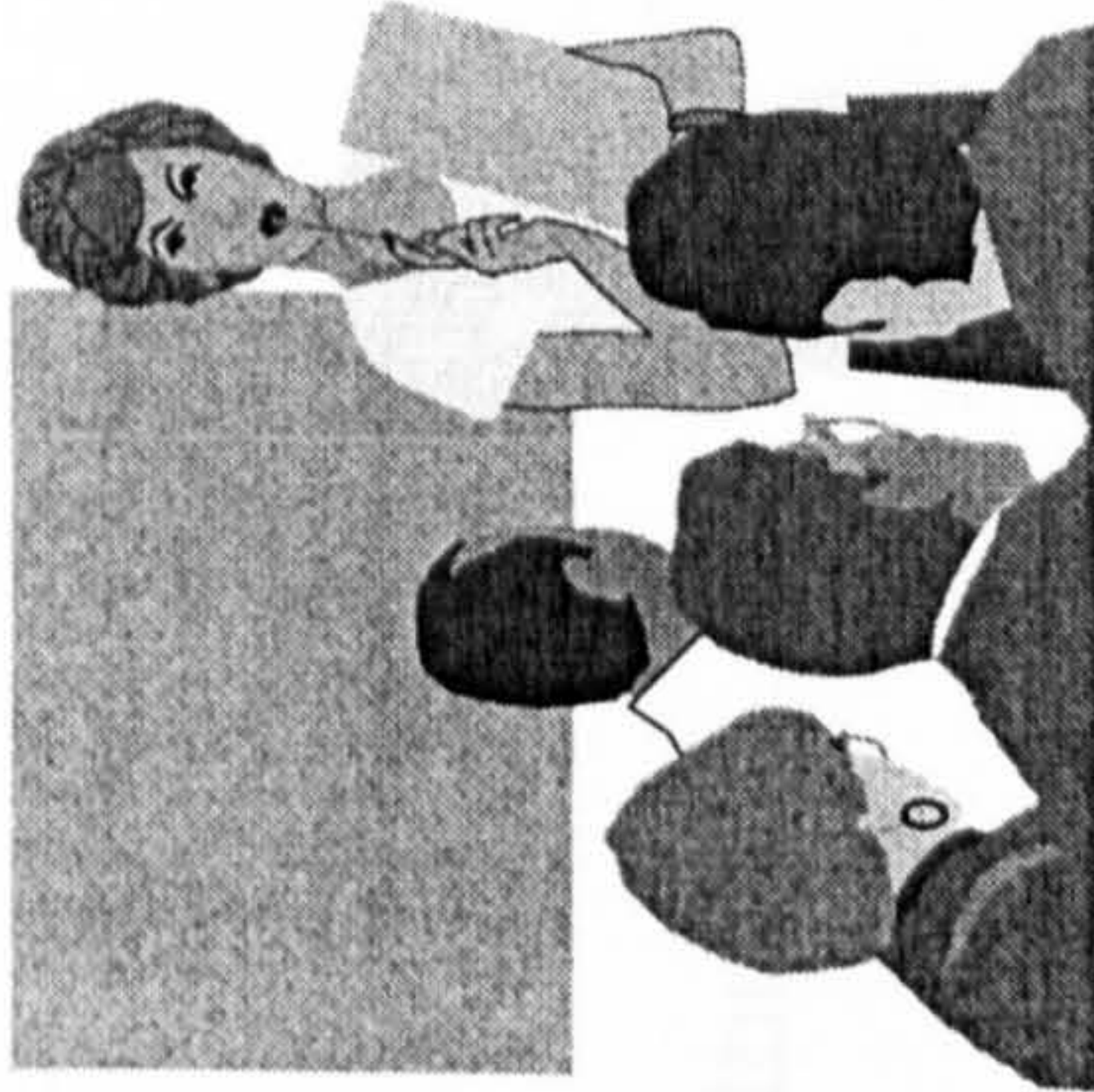
My Note

Committee of IS Profs: YN

Tape: YN

My feelings about the interview:

RESEARCHER



Education:

Business Experience: ? yrs

Academic Experience: ? yrs

Philosophy:

Personal: Sex, Age band

RESEARCH

Area:

Working with:

Method:

Research/Scholarship/consultancy:

Funding:

Motivation:

X Disciplines:

General views

DISSEMINATION

Requirements/constraints:

Aims:

Academic:

Media:

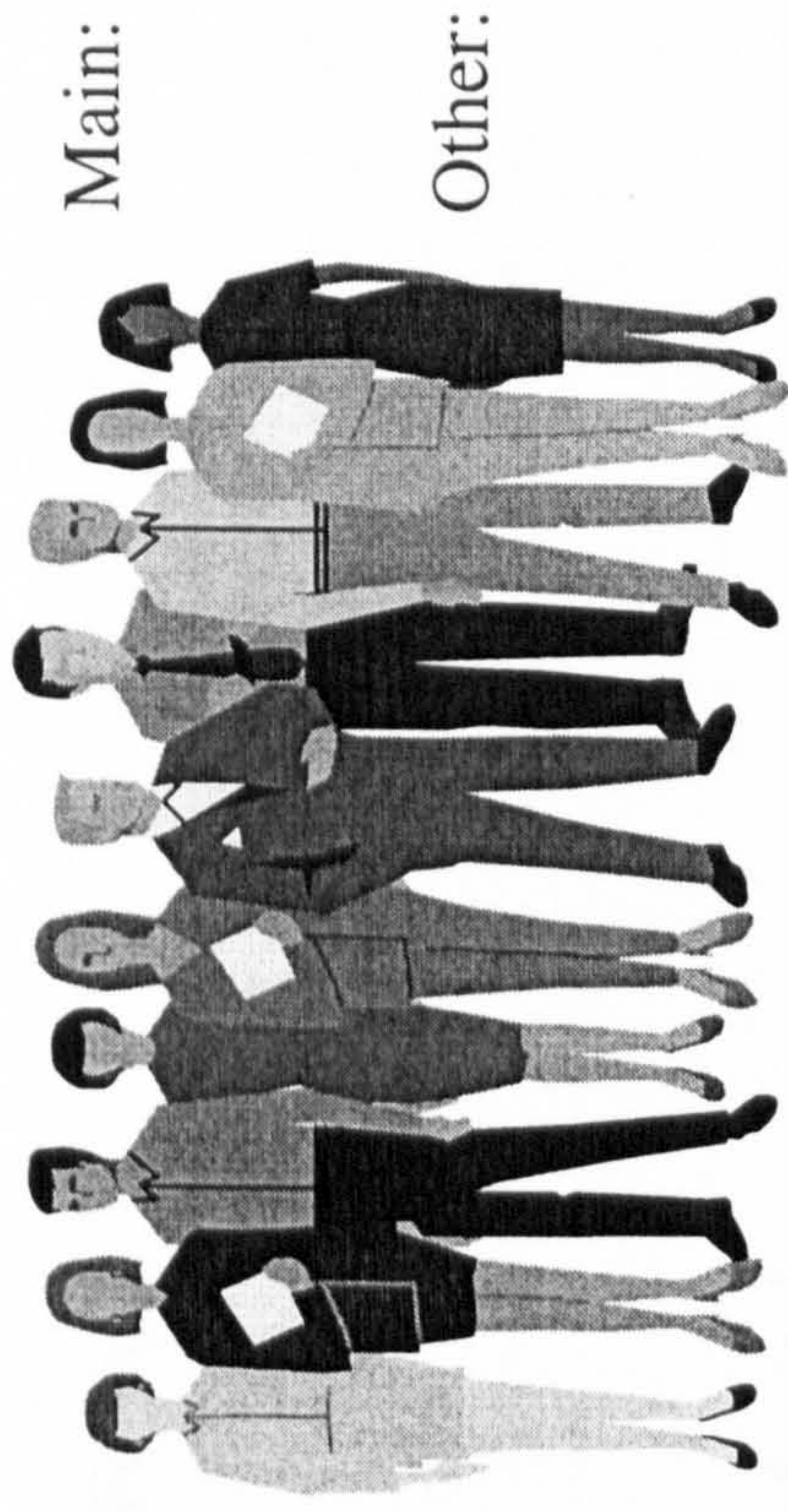
Commercial/public:

Mediating factors:

Teaching:

Mass media:

AUDIENCE



Reasons:

View of audience:

Access:

FEEDBACK

Formal:

Informal:

Evaluation:

Additional Note

aaaa

bbb

ccc

B2 - QUESTIONNAIRE SURVEY

{

B2.1 - Questionnaire Planning

Strategy	Task	Issues
	Survey population Responses	All people involved in departments relating to IS in UK universities Questionnaire and all correspondence to go out under supervisor's name to encourage responses Confidentiality of data recorded was promised but, in order to maintain the mailing lists it was important to know who had responded, therefore there was a space on the questionnaire to enter both name and e-mail address Rejection of use of UKAIS membership Internet lists for departments related to IS, Computer Science, Management E-mail addresses Feedback from interviews to create categories for responses Four drafts Content and wording, Covering letter and guidance Length and time for completion Layout and style Question order, Question content and relevance Population and sample Statistical significance of responses Media used with respect to the sample Rejection of paper and postal media WWW pages using FORMS on researchers Demon home pages Creation of questionnaire pages Form of responses Trials
Data recording	SPSS	Define variables, Codify answers Transfer of data from responses, Accuracy of data input Recreate data file after pilot for new questionnaire form Identify possible analysis forms
Pilot survey	Sample size	At least 50 people, including known rejects
	Sample	Variety of positions and research areas School of Computing and Mathematics, Huddersfield and Department of Mathematics and Computer Science, University College Salford - 89 in total Researcher known to many of the people in the sample Same as for full survey
Full survey	Procedure Mailing	Send from researchers home PC via Demon Internet Ltd using FI Mail by department Maintain mailing lists with response and rejected data
	Timing Follow-up contact Data recording	Need at least one month clear of beginning of university holidays Two reminders to non-responders, the first after one week, the second after four weeks Transfer data from responses to SPSS Accuracy checks on transfers

Pros and Cons of using the World Wide Web for the Questionnaire

Pros

- . Anyone involved in research in the IS area should be familiar with the Internet and be using e-mail - the management researchers will undoubtedly be less familiar than the others
- . The route is very cheap since link up costs are free within universities and very cheap for the researcher in sending initial e-mails
- . Using electronic means saves the respondent the necessity of physically enveloping and posting the response, although this is balanced by the need to log into the WWW page itself
- . The use of a WWW page allows for formatting and clear presentation of the questionnaire rather than sending it as part of an e-mail message - it would be impossible to ensure the acceptance of an attached e-mail file due to problems of decoding etc on different receiving machines

- . As the WWW page is linked to the ISRC page and a US ?? page, the questionnaire can be found and completed by anyone outside the mailing list - this is not overly likely but is possible
- . Individual responses are automatically sent to the researcher via e-mail - it was decided to do this rather than create a file for reading directly into SPSS due to the free text answers within the questionnaire which will require consideration before being input, ie setting up of new categories etc. The numbers of responses expected is not sufficiently high to make manual input a problem
- . The response time may be significantly shorter electronically, due to speed of mailing and no requirement for internal distribution
- . It will be easier to check the validity of the mail list as incorrect addresses are immediately returned to the researcher
- . People who are incorrectly included on the mailing list may be more likely to respond via return of the e-mail which requires minimal effort, and will remove them from the list

Cons

- . People who choose to answer the questionnaire not include those who are unhappy with the use of technology
- . E-mail is considerably easier to dispose of than paper mail - ie it can be instantly deleted, making it more likely that the recipient will not respond

- . Some of the addressees may not look at their e-mail whereas they would always be aware of paper mail, some of them may have very long lists of unanswered e-mail and not even notice the questionnaire request
- . Will the sample be skewed towards those with an interest in technology - or is this irrelevant for this population?
- . There may be an incidence of partially completed forms as people run out of time or inclination when filling in details
- . There may be duplication of responses where someone isn't sure whether they have completed a form, which may or may not be noticed by the researcher on input to SPSS

Problems

- . Involvement of other people and technology - affects deadlines negatively
- . Unknown technology - little experience or knowledge around
- . Copied Demon questionnaire, seemed very straightforward but problems with use of e-mail at universities

Problems Encountered in Pilot Survey

- . Not possible to complete and send from Salford
- . E-mails do not always mail successfully, eg corruption takes place in addresses
- . Flashing message continues after submit accepted, causes confusion - **no problem on Demon**
- . Request to enable printing/saving of responses by the respondent - either as a record or in case of error on sending
- . Possible need for a note at the top stating that they can ignore any question they do not understand
- . Very time consuming to input data from e-mails to SPSS - create a paper summary chart for full survey
- . Need to make spot checks on accuracy of input to SPSS
- . On Demon www pages there is no record of the respondents e-mail address - therefore less assistance with keeping lists clean
- . multiple copies being sent to a single person - one person reported 7 copies!! because I sent multiples? checked in later mailings, there were some duplicates, could also have been the university's server trying to send and returning me rejects but still trying?

Problems Encountered in Full Survey

- . Intermittent fault in sending mail with FIMail - error cuts connection - either due to corrupt outgoing files - need to check before sending that the files are ok and not duplicates, or due to excessive incoming files, eg rejected messages
- . massive volume of returned mail where addresses are rejected
- . too easy to delete e-mail before acting on it!!!
- . one person contacted Mark Jones re not being able to get response to work and therefore it being necessary to re-complete the questionnaire
- . very time consuming to action responses by amending lists
- . Confidentiality - one person commented on this issue, some people did not enter their name or e-mail address at the end - I have stored original responses (with name) and then updated to SPSS without name
- . Submission of forms not always able to do this - asking for e-mail version
- . Unsolicited, junk mail - two people complained about this - one sent his complaint to Demon, suggesting I was breaking my contract with them! Obviously very irate!
- . Rejected mail which then resulted in responses - the servers sometimes reject but keep trying to send and are subsequently successful
- . Someone queried my spelling of questionnaire!

B2.2 Survey Response Statistics

Questionnaire Survey - Summary of Response against Mailing

	Mailed	Rejections	Removals	Responses
PILOT SURVEY	89	19	11	12
% original list		21.3%	12.4%	13.5%
Response rate for final list 12/59 = 20.3%				
Overall response/removals rate 23/89 = 25.8%				
FULL SURVEY	3481	833	398	100
% original list		23.9%	11.4%	2.9
Response rate for final list 100/2250 = 4.4%				
Overall response and removals rate 498/3481 = 14.3%				

Notes:

- 1 Response rate for final list =
 questionnaire responses/(mailed - rejected - removed)
- 2 Overall response and removals rate =
 (questionnaire responses + removals)/mailed

B2.3 The Questionnaire

E-mail Sent to Mail List for the Full Questionnaire Survey

If you are not engaged in any way with academic research or teaching in any subject related to the Information Systems area, please simply return this e-mail to the sender and your name will be removed from the mailing list.

Dear Colleague

I would very much like to obtain your views for a national survey being organised by the Information Systems Research Centre at Salford University.

The survey concerns the issue of the Dissemination of Research in IS, an area in which the IS community appears to have no recent data. Details of your views and behaviours in this area will be very helpful to the community with regard to issues of research funding, being also an important concern of the UK Research Councils, the European Union and other funding institutions.

The results of this survey will themselves be widely disseminated, both within the IS academic community and more broadly to Government Bodies and Commercial Organisations.

I would, therefore, urge you to spend a few minutes of your time during the next few days to find and complete the questionnaire on the World Wide Web at the following address:

<http://www.camomile.demon.co.uk/research/dissemination-questionnaire.html>

Thank you for your help.

Professor Trevor Wood-Harper

Director of the IS Research Centre, University of Salford

Please address any queries to:

Nuala Nevill e-mail: nuala@camomile.demon.co.uk

2nd E-mail for the Full Questionnaire Survey

If you are not engaged in any way with academic research or teaching in any subject related to the Information Systems area, please simply return this e-mail to the sender and your name will be removed from the mailing list.

Dear Colleague

We have received a good response, so far, to the Salford University Information Systems Dissemination Survey. We shall be analysing all responses during the next few weeks, so, if you would like to have your views included, please spend a few minutes of your time during the next week to find and complete the questionnaire on the World Wide Web at the following address:

<http://www.camomile.demon.co.uk/research/dissemination-questionnaire.html>

Thank you for your help.

Professor Trevor Wood-Harper
Director of the IS Research Centre, University of Salford

This national survey is being organised by the Information Systems Research Centre at Salford University, and concerns the issue of the Dissemination of Research in IS, an area in which the IS community appears to have no recent data. Details of your views and behaviours in this area will be very helpful to the community with regard to issues of research funding, being also an important concern of the UK Research Councils, the European Union and other funding institutions.

The results of this survey will themselves be widely disseminated, both within the IS academic community and more broadly to Government Bodies and Commercial Organisations.

Please address any queries to:

Nuala Nevill e-mail: nuala@camomile.demon.co.uk

B2.3 The Questionnaire

Communication Across the Divide - A survey of the current dissemination practice of IS academics



This survey is being organised by the Information Systems Research Centre at The University of Salford.

The survey concerns the issue of the Dissemination of Research in IS, an area in which the IS community appears to have no recent data. Details of your views and behaviours in this area will be very helpful to the community with regard to issues of research funding, being also an important concern of the UK Research Councils, the European Union and other funding institutions.

The results of this survey will themselves be widely disseminated, both within the IS academic community and more broadly to Government bodies and commercial organisations.

I would, therefore, urge you to spend a few minutes of your time to complete this questionnaire during the next few days.

Thank you for your help.

Professor Trevor Wood-Harper 
Director, IS Research Centre, The University of Salford

Note: Please ignore any questions which are irrelevant to your situation or which you do not understand.

Section A: Research Area

1. Research Interests

Please select the category which most closely represents your current or recent research interests

Not Research Active

IT

Application Areas

IS Development

Organisational Human Activity

Please state briefly your main research interest

2. Research Methodology

Please select the methodologies which you have used in recent research projects

Case Study

Action Research

Lab Experiments

Mathematical Modelling

Survey

Consultancy

Field Experiments
Conceptual Study
Other (please specify)

Please select the categories that best describe your recent research

Quantitative
Critical
Problem Solving
Understanding a situation or event
Qualitative
R&D
Social Interaction
Engineering a situation or product
Positivist
Interpretive
Evaluation of change
Reengineering a situation or product
Description of a situation

3. Research Funding

Please indicate the sources of funding for your recent research projects

No Funding
Internal University Source
EPSRC
ESRC
Other UK Research Council Source (please specify)

DTI
DOE
OST
Teaching Company Scheme
Other UK Government Source (please specify)

Charity (please specify)

EU
Business Sponsorship
Consultancy Fees

4. Team Research

Please indicate the categories which apply to your recent research projects

Working Alone
Research Team (more than 2 researchers)
With 1 Other Researcher
With Masters or Doctoral Students

If working with people outside your own discipline, please indicate their main disciplines

CS
Accountancy
Anthropology

Business Studies
Economics
Engineering
Health
IS
Marketing
Management
Mathematics
Organisational Behaviour
Psychology
Sociology
OR
Political Science
Systems
Other (please specify)

5. Motivation for Research

Please indicate the motivations for your recent research projects

Personal Interest
Research Team Interest
Advance IT/Progress
Promotion/Career Prospects
Funding Availability
Student's Interest
Funder's Request
Satisfy Organisational Demand
Understand the World
Intellectual Satisfaction
'Hot Topic'
Enable Change/Improvement in Business
Other (please specify)

Section B: Research Audience

1. Main Audience

Please indicate the main audience to which you actively disseminated results of recent research

None
IS Academics
All Students
Postgraduate Students
Funding Organisations
IS Practitioners
General Public
Short Course Students
Business Managers
Senior Business Managers
Other Academics (please specify)

Government Policy Makers (please specify)

Other Practitioners (please specify)

Other (please specify)

Please select the category which best applies to your main audience

Passive Readers

Active Participants

Active Learners

Independent Actors

Other (please specify)

2. Other Audiences

Please indicate any other audiences to which you actively disseminated results of recent research

None

IS Academics

All Students

Postgraduate Students

Funding Organisations

IS Practitioners

General Public

Short Course Students

Business Managers

Senior Business Managers

Other Academics (please specify)

Government Policy Makers (please specify)

Other Practitioners (please specify)

Other (please specify)

Section C: Dissemination of Research Results

1. Dissemination Requirements of Research Funders (where appropriate)

Please indicate the dissemination routes required by the funders of your recent research

None

Books

Academic Journals

Academic Conferences

In-house Seminars/Workshops

Thesis

Reports

Professional Journals

Practitioner Conferences

General Seminars/Workshops

Other (please specify)

2. Dissemination to the Academic Community

Please indicate recent research dissemination behaviour

None

E-mail Interactions

Books for Academics (not texts)

IS Academic Conferences

IS Academic Journals

Special Interest Groups

Internal Academic Papers

Non-IS Academic Conferences

Non-IS Academic Journals

Other (please specify)

3. Dissemination via Teaching

Please indicate recent research dissemination behaviour

None

Student Course Content

Student Texts

Student Lectures/Seminars

Student TV Programmes

Other (please specify)

4. Dissemination to Non-Academics

Please indicate recent research dissemination behaviour

None

In-house Seminars/Workshops

Books for Practitioners (not texts)

AR Interactions

General Seminars/Workshops

Books for General Public (not texts)

Non-Academic Conferences

Practitioner or Management Journals or Magazines

Seminars/Workshops organised by Professional Bodies

UK Government Policy Makers

5. National or International Media

Please indicate recent research dissemination behaviour

None

BBC TV

Independent TV

BBC Radio

Local Radio

Guardian

Times

Independent

FT

Educational Videos
Business Videos
Other media (please specify)

6. Motivation for Dissemination

Please indicate the motivations for your current dissemination behaviour

Empowerment of IS Practitioners
Transfer of Knowledge
Promotion Requirement
Empowerment of IS Managers
Discussion of Knowledge
Funding Requirement
Empowerment of Executives
Communication of Knowledge
Payment for Dissemination
Empowerment of Lecturers
Learning from the Activity of Writing
Other motivation (please specify)

Section D: Feedback and Evaluation of Research Results

1. Feedback

Please indicate the categories through which you have recently gained feedback on your research from other people

None
Published Papers
Letters to Journal Editor
Academic Conferences
Business Conferences
Internet
Academic Networks
Business Networks
Current Students
Past Students
Action Research Interactions
Business Workshops
Course Evaluation
Repeat Speaking Invitations
Repeat Business
Journal Refereeing
Research Supervision
Other (please specify)

Section E: The Researcher

1. Personal Details

Please indicate the appropriate categories

Sex: Male Female

Age: 20-29 30-39 40-49 50+

2. Qualifications

1st Degree

Subject

Institution

Masters Degree (if appropriate)

Subject

Institution

Doctorate (if appropriate) (select if pending)

Subject

Institution

3. Academic Work Experience

Total Number of Years in Academic Work: 0-4 5-9 10-14 15-19 20+

Current Institution

Department/School

Computing

IS

Management

Other (please specify)

Research Centre (if appropriate)

Current Role:

Lecturer

Senior Lecturer

Principal Lecturer

Professor

Reader

Fellow

Research Assistant

Student

Other (please specify)

4. Current Position

Please select the categories which are appropriate to your current role

Teaching

HND

1st Degree

MBA

Other Masters
Practitioner Short Courses
Executive Short Courses
Doctorate
Diploma
Other (please specify)

Non-teaching
Research
Consultancy - Personal
Consultancy - Institutional
Department Management
Scholarship
Student Tutor
Other (please specify)

5. Non-Academic Work Experience
(do not include consultancy as an academic):

Total Number of Years in Non-Academic Work: 0-4 5-9 10-14 15-19 20+

Non-Academic Roles
Programmer
OR
Accountant
Systems Analyst
Engineer
Marketing
Project Leader
BusinessO&M
Manager
IT/IS Manager
Other (please specify)

6. View of Yourself as a Researcher

Please indicate the category that **most** closely fits your view of yourself as a researcher

Expert
Practitioner
Scientist
Academic
Teacher
Learner
Communicator
Investigator
Story Teller
Catalyst

Thank you for your time.

Please complete the following information:

Name:

E-mail address:

These details will be detached from the survey data immediately it is received and recorded only for future general correspondence. All survey data will be recorded and analysed anonymously.

Please click the **Submit responses** button now to register your responses.

If you experience any difficulty using this form, please click [here](#) to send an email to Mark Jones (M.C.Jones@mcs.salford.ac.uk).

APPENDIX C

RESEARCH RESULTS

C1 - STAKEHOLDERS

C1.1 - List of Stakeholders	
STAKEHOLDER GROUP	STAKEHOLDERS IDENTIFIED BY IS RESEARCHERS
UK PEER GROUP	Information academics: IS, Systems, OR, IR, Computer science, Management Social Science academics, Librarians Journal editors Conference organisers Visiting professors UKAIS Committee of IS Professors Research team Department: Lecturers, Researchers Information academics: US, Scandinavian, European, international Journal editors Conference organisers
INTERNATIONAL PEER GROUP	Non-IS academics: other information academics, non-information academics Research team Research partners Individuals seconded from organisations Teaching Company Scheme members Collaborating organisations - management, research PhD students RAs, research fellows Sponsoring organisations - management, research Special Interest Groups Mediators: PR, journalists, designers University
CO-RESEARCHERS	Government: direct depts, TCS, research councils, HEFCE Foreign governments Charities: grants Non-profit organisations: Local Authorities, NHS, Health and Safety Executive Commercial organisations: Sponsors, subscribers, consultants, commercial research collaborators, sponsors of posts Student fees: Individuals, government, scholarships, foreign sponsors Management consultancies
FUNDERS	
COMPETITORS	

Research organisations
Other universities: Old or new universities
Other departments: PICT groups
Business Schools
R&D labs
Gurus, individual consultants
Large computing organisations: Outsourcing vendors, Suppliers, Commercial trainers
Executives
Senior managers
Managers: Business and technical
Practitioners: IS, IT, IR, librarian specialists
Students: UG, masters, PhD
Policy makers: UK government, EU, foreign governments (developing countries), professional bodies, advisory groups
Organisations: local industry, SMEs, multinationals, UK business, US business, co-operatives, NHS, local authorities, university corporate IS
Consultants
Trainers

GENERAL PUBLIC

Information academics: IS, Systems, OR, IR, Computer science, Management, Social Science academics, Librarians
Internet contacts: User groups
Potential research partners, sponsors
Potential students
TV viewers, radio listeners, newspaper readers
Correspondents
Past students
Business contacts
Academics

STUDENTS

UG: degree, HND, etc.
Postgraduate: MSc and conversion, MBA, PhD
Business: Executives, senior managers, managers, practitioners
Foreign students: UG, postgraduate, business
Local organisations

PROFESSIONAL BODIES et al

BCS
IR Society
OR Society

UK Systems Society
Royal Society
Royal Association
SIGs

MEDIA

National: Press, Radio, TV
Local: Press, Radio, TV
Specialist employment/practitioner press
Business conferences
Academic journals
Academic conferences

Books: Student texts, scholarly texts, management books, other books
Journal editors: academic, business
Conference organisers: academic, business, agencies
Press, TV: Journalists, editors, producers
PR companies

British Council
Foreign universities
Consultants

Students: UGs

Policy makers: government, professional bodies

Lecturers: IS, Systems, OR, IR, Computer science, Management academics, Librarians
Government, HEFCE, RAE

University: Professors, administrators, marketing, managers
Department: Head, professors

Business employers: Consultancy, commercial research

Research sponsors: Direct, subscribers, academic post endowers

Managers: Executives, senior managers, managers

Subjects: Executives, senior managers, managers, practitioners, contractors

Personal (future): Intellectual, career, lifestyle

Personal (past): Education, employment experience

Personal (current): Personality, human being

Family/spouse

MEDIATORS

EMPLOYERS

RESEARCH
ORGANISATIONS,
COLLABORATORS
SELF

C1.2 – Stakeholder Summary

Power Groups: The old Thames Poly gang - all left to eventually become profs, etc; professors often achieve their position by politics rather than excellence, peer group control and obligations; rank and status are important to UK IS academics - power and control; IS academics have little power within universities without a defensible academic position; we operate within a controlled system

UKAIS: Have been numerous attempts over the years to bring IS academics together - none lasted for more than a few years - ran out of energy; UKAIS needs strength of numbers before looking for wider publicity - not interested in UKAIS - though feels obliged to be a member. UKAIS is the 3rd attempt - PhD Consortium, Standards, Conferences, trying to improve communication; little funds to do anything, have provided time and money for the UKAIS but they don't seem to want to be moved forward; pushing UKAIS

Leadership: Accountable to them - they should set the research agenda, duty and professionalism - lack of closeness with practice; need a paradigm shift to progress IS - just a group rolling along, no established schools of thought to generate debate, a muddle, can't distinguish good from bad, rehashing old ideas, not progressing

Referencing: Struggle to get papers through the refereeing process in management science, although academics like to read them; being a journal reviewer means you can get prior knowledge of work going on; terrible feedback through reviews; I resist demands for refereeing; reviewing for top journals is worth 'brownie points' in the US - not here

IS Journals: Include good articles, but not read by practitioners; long delays in publishing times in the best journals; tend to specialise - intolerance of other views, academic journals require research design, business journals don't; don't usually get into them - not considered to meet the research method criteria; set up for people who will follow their rules; often not allowed to quote your own papers in references - need to if you are to build on unique ideas; articles are of no relevance to business, need to take a single consistent theme to get published - difficult to be holistic; many journals will not accept a systems approach, editors could encourage papers or critiques on interesting topics

Visiting Professors: Creating a Centre of Excellence, bringing in visiting professors through friendship not finance, provide a different perspective - people seconded from business, overseas visitors; half time in two universities - one in UK, one in Europe

UK Committee of IS Professors: Mundbund - key players probably do quite a bit but not people on the fringes, not very influential compared with OR equivalent, current group should have had the skills to stop IS being niche and to influence people - but they haven't done so - perhaps biting off more than they can chew!; a standard body in a discipline - aims to influence university and government action, self-selecting group; national and international voice; core of 15 active members, not aware of a crisis in the IS community from the outside - lack of IS professors may mean they are vulnerable in terms of an IS presence

Research Groups: Lecturers, researchers directed by business people; use contract researchers - problem with continuity of funding - and small permanent team, project management is an issue, mixed disciplines; research team if there is enough money for a project; work with two others - close team; currently 3 co-researchers, Research Institute of 25 staff or more; 40 researchers; 10 split between IT, Comp Science, IS and Librarians, work closely in team of 4; team supervision of PhD students, important to build a team of researchers; teamwork includes complementary skills

Research Partners: Works with RAs and colleagues; generally uses RAs; selects RAs on ability, social skills and motivation - find top UK PhD students to work with me; work with individual researchers - mostly those I met in US; work with variety of individuals

Electronic Journals: Without reviewing, would mean faster turnaround times

Stakeholders 1 - UK Peer Group

US: US community under pressure concerning relevance; other areas taking over the issues - fragmenting the subject; member of the US Academy of IS - important circuit - wouldn't live there though; Americans see Europe as a single entity; interesting things happen in the US - but MIS is under threat; US has international journals - but they are really only for the US community; US texts are turning an interesting subject into a boring, narrow one; spent time in US and saw a different way of behaving - saw what could be done if you had money - wanted to create it in Britain; US has the best and the worst business schools, US research is often quantitative with no understanding of context, no insight - low standard, US research leaves too many questions to be asked of it; because it's the US, it has become the dominant culture of research - they are good at marketing themselves; had reputation amongst practitioners - unreadable results, not relevant, simplistic, common sense, compromised by trying not to upset anyone; management theories start in Britain - collaboration between MIT and business, US business schools were doing a good job teaching IS, therefore managers are better educated - UK catching up slowly; US managers still reading the literature

Europe: Language problems in creating a 'power community' in Europe; very little management theory comes out of Europe - they have theories and use other people's experiences - not good consultants; tend to follow the fads - not as good links with industry as US, only the German managers are still reading the literature, except for business speak journals

Scandinavia: They have been talking about 'people' for years, they see IS as about emancipation

Stakeholders 2 - International Peer Group

Statisticians: Nearly half are involved in research groups; one third carry out projects with PG students, one third work alone or with a single partner; over a quarter engage in research with academics from other disciplines - at least half of those being in a scientific field

Cross-Disciplinary: Work ourselves into other disciplines for the future, very little contact with other disciplines, need to be polymaths; isolation of IS academics spread across many different depts, consultancy links across the university; growth of shared courses - competition for content - structure of courses changing; computer studies dept only deal with 'bits and bobs' wiring up electronics, interdisciplinary use of IS; research partners in mechanical engineering, suspicious of psychologists, etc, organisational theorists starting to take IS seriously, split between IT, Crump Science, IS and Librarians, each project brings together two disciplines; work with psychologists, engineers, educationalists - engage in practical problems; share ideas via seminars across the university depts; IS people drift off into other areas; do joint work with surveying, since they can get funding, joint theoretical paper looking at experience, personal contacts with non-IS academics; essential to have credibility in their areas; time is limited - don't do enough of it, multi-disciplinary teams need to cope with breadth without introducing shallowness

Alternative Communities: Health - medical information, OR Society, parallel stream of research in IS - PICT funded by ESRC - 10 year project just finished - very little links with the IS community; IR Community - academics and practitioners; Systems academics - have to be main audience because of RAE, OR & Systems academics are main audience; organisational behaviour and accounting, research group looking at teaching in HE - competency-based degrees, librarians - IR audience; editing a book with organisational behaviourists; non-IS academics believe they can take over the IS role

Views about social sciences: They think SSM is functionalist - won't dirty their hands with it; they don't realise that it allows you to go out and do something; organised conference to bring social scientists and IS researchers together; sociologists not keen to engage with practice, PICT Groups - ESRC 10 year funded IS research in social sciences, OASIG - research group with 11 members and no budget, brought together after Alvey Research to collate ideas, etc - ideas were largely ignored - concerned that they don't end up as 'fads'; dismisses sociology; reluctantly involved with political theory

Stakeholders 3 - Co-Researchers

Commercial Funding: IS funding is almost exclusively from outside - e.g. 2 of the 3 parts here funded by industry; some from business; public and industry funding; endowed chairs, moved into HE by getting funding for a post for myself, cross-sector group, consultancy money and direct funding by organisations; consultancy and direct

Research Sponsors: 21 sponsoring companies, funding issues to keep the team intact, a big enough group and sufficiently skilled to attract money for research and the big or long term projects; annual funding of the research centre - EU, ESRC, DTI, individual organisations

Public versus Private Funding: Funding from the government is dead - uni will pick good people off, fund my work via scholarships, students, research funding

Statisticians: Nearly 50% have research funding from business sponsors; one third rely only on internal university funding - a few of these are particularly dependent on PG student fees, a quarter use Research Council funds and a quarter are directly sponsored by UK Government departments; less than one fifth have funding from the EU, even fewer have funding from charities

Stakeholders 4 - Funders

Public funding: Very little of the RC money comes to IS - on the sidelines, disjointed; little bit of funding from Europe; local contact with HEFCE. RAE categorisation is not in ISs favour this time; ESRC: a huge consultancy for the EU, DTI; RCs distribute money according to traditional ideas, not government directives, i.e. they don't fund AR; the same people are making the decisions as always - need a change of paradigm; the RAE, however, gives the same respect to pure and applied research; SERC has more money available than ESRC so tries to get into projects within scientific areas, public and industry funding; E.g. Health and Safety Executive, tried for public grants but unsuccessful; SERC: UK Government funding educational research, initiatives with SMEs means that research/consultancy funds are available

HEFCE Issues: Predict that in 5 year's time QAE and RAE will work together and funding will depend on the outcome, HEFCE, RAE - need to get 'brownie points' by publishing academic papers; requirement to publish - particularly as late entry to academia - have to establish credibility, RAE effort takes priority, pushed into academic publishing by RAE for promotion purposes; RAE is 'a kind of museum'; RAE pressure to publish in top psychology journals - not outside the area because the quality is unknown to those assessing it, papers produced for practitioners don't usually count - a book would; pushed into publishing rather than training; forcing publishing to have a more dominant role than the usual one of individual career progression, huddling of papers for publishing, so more selective; pressure will be released when institutions start dropping out of research

University Funding: They want to provide funding for equipment but that's not what we need, 2% levy of student fees for research funding - paid by individuals or sponsoring organisations; University consultancy funds,

Disadvantages: Need to almost do the job before they'll agree to fund it (US funding right from the start if a good idea); funding doesn't allow for evaluation; much of the funding goes to large research groups, money attracted to large groups from EU and EPSRC; in the past RCs were not interested in interdisciplinary work; RCs don't appreciate the difference between research and consultancy; amount of effort to get funding outweighs the value of the money - too distant and bureaucratic; need to be in the 'clubs' to get the grants, doesn't get involved in trying to satisfy them; don't like bureaucracy; even get rejected at this level; limited amount of funding available; funding for exoteric research rather than practically based work - a widening gap; won't apply to RCs - takes a long time and then get rejected; culture clash between government directives and RC funders - time delay in change to project funding

Funding Proposals: Put in proposals for funding; 2 out of 23 applications have been successful - usually offered too little money; research area is outside the 'norm', therefore not generally understood by those making funding decisions, more funding is available for recognised disciplines such as OR - rather than systems; the money defines the agenda; difficult to make the case for people, not equipment; never had a grant for IS directly, need a strong defensible position as academics

Student Fees: Funded PhD students; the number of research students on grants is very small, via PhD students - RCs, foreign students, sponsorships, individual's fees - attracts large numbers

Charities: British Library, etc.

Stakeholders 4 - Funders (Public)

Consultancy: Providing short term answers; interviewed them for OASIG research; Gurus influence practice via books, management publications - problem of relevance of IS research; having a hard time currently; Business School able to mediate for organisations, e.g., identify realism, lenders; brought consultants into JISC to see how ones should write IS strategies, large commercial consultancies; hard on supplier salesmen - they don't know the theory - do it for credibility with the management, use any theories to solve problems - a mish mash of whatever seems to make sense - have their own experiences and use other people's theories; jump on bandwagons after the event - eg BPR after all the US writings

Direct competitors: LBS, Warwick, Cranfield, Ashridge, Henley, Oxford, big consultancies, small specialist organisations

Internal universities: Other disciplines/departments teaching and researching IS topics, PICT parallel research stream, multi-disciplinary activity - need to listen and learn; academics in the minority in IS research - most of the research done in R&D departments of major companies, non-academics researchers are paid twice as much, brightest people are not necessarily in universities; competition to gain the attention of business people

Research: Get funding to do work for them - provides a certain kudos; want a particular type of academic who can write in a certain style and work quickly; relevance but not rigour; large computing organisations e.g. IBM - papers published within their organisations

Training: Need to 'train the trainers' wherever they are; the new universities are better at putting on courses quickly than old ones

Outsourcing Vendors: Probably starting to be the biggest employers of IT graduates; need to be more concerned with evaluation

Stakeholders 5 - Competitors

Effecting change in organisations: Only the organisation itself can cause change, but needs a 'disrupter': on good working with lower levels, looking to become Learning Organisations - self-sufficient; cross-disciplinary work and with practitioners; promotion of co-opt with local authorities, Research and dissemination - an holistic view; produce comparative research across different business areas, not researching for them but for academic audience; market survey to see if product wanted

Dissemination to research collaborators: Not necessary to force the results onto them - they are setting the agenda, feedback re results of research, research not done directly for them but they get some feedback via reports or seminars

Choice of audience: European business managers - defined by BS mission statement, not generally CEOs, occasionally IS project managers

Views of organisations: Undervalue individuals - try to make methodologies mechanistic

View of Business Managers: Career instability; better educated than in the past; need help in evaluating 'gurus', not interested in analysis or technical training - not interested in research, only soundbites

View of Practitioners: Very unusual for a practitioner to take three years out to do a PhD; they pick up their ideas from others they meet, need on-going educational development as well as their own experience, don't look to academics for help or knowledge, need to be reflective and move between practice and theory, they are the ones who will bring about changes in life, learn a lot from contractors in business - they usually have a wide knowledge; they are flexible about use of methods - evolve new procedures, provide feedback on students and courses from people in industry

Stakeholders 6 - Audiences

Need 50% of the population educated to a high level - lifelong learning, view academics as being in 'Ivory Towers'

Stakeholders 7 - General Public

Value of a PhD: British students only about 10% of the total, in UK PhD less attractive than job, dependent on the state of the employment market for UK PhD students; all faculty members doing PhDs - all experienced in practice, need scholarships for experienced people; most are part-time funded by the university or business, rare to encourage practitioners into research, funders via their fees, demand for MSc and PhD places from foreign universities (British Council)

Student Role: Shared research and publishing, PhD students act as facilitators for UG students; ad-hoc areas of research of their choice, not a resource for my research; strong opinion about not using them as cheap labour - doing lab work for professors, should do their own work, it is about beginning to think, understand, put together and execute a project; working on directed projects, only 2 - view it as apprenticeship, very close contact, sometimes involved in team research; part-time students working with me, take students who want to work in the area of research - work in the team if it fits in - used as RAs; don't use them for research partners - slows the pace, all working on similar areas - hoping to bring it all together, work on their own projects; use them to do research in my area; part of the Institute's research team, projects in NHS; may be able to incorporate their work, selected by area of interest to work as part of the research group - in areas related to my work, they choose their own work - important because it's a timely task; member of District Health Authority - PhD projects

Supervisor Role: Shared research and publishing, providing project management guidance rather than supervision, student projects take me into areas about which I know nothing; they do most of the work - you approve it and provide help; bit of a worry to be seen as an expert in their field; joint publications if they agree, tries to make them aware of the conflicts between intellectual thinking and practical behaviour - to reduce their stress, half-supervision with someone else; Doctoral School - currently 19 students between 2 supervisors - teach first year - directed reading, research methods, etc - not directed re subject, but the DS is an influence; my community rather than academics; longer term relationship and social support; many others are badly supervised; research diffused through them; contacts via students on placements; research methods taught patchily

View of students: Prefers mature students, students not as good as at Oxford, can't incorporate them into research projects, can't attract top class people; generally PhD students don't understand IS - try to get people with experience

Stakeholders 8 - PhD Students

Value of MSc: Long-term view - education not training, leading to confidence in self and values, students mostly from abroad; 10% are capable of going out to change the world, 10% of those may do it; try to encourage continuing education via the MSc; undertake projects in organisations - go on to be practitioners; run a course where students do a week in college and then go back into their jobs in industry; need previous experience in order to understand the issues in IS, joint degree in IS and Business Management is very popular; conversion masters degree - specification of needs and strategic planning; we have the largest course - 150 students - international, conversion courses, students want to go out and do things - analysts, programmers; get business people in to learn the academic rigour as MPhil students; BSc students don't tend to come back to HE, bring in funds - course fees are expensive, demand for MSc and PhD places from foreign universities (British Council)

Role of Students: Part of the Institute's research team, students filter information and come up with ideas for the future; not IS but database and computer science.

Role of supervisor: Doctoral School, research diffused through them, pressed him to write his ideas up in his recent book; take a questioning approach; research and teaching is closely linked, teach techniques not methodologies, overview of a range of methods, research questions, facilitator of learning; provide breadth of views & external speakers, try to reduce the 'hype'; get feedback from work experience and past students, can't tell what long term influence you may have - too many other factors; try to make them acceptable people for industry, give them skills for employment, UKAIS discussing curriculum, try out high level ideas in teaching - some methods; feedback; continually feeding off their ideas

View of students: 'The students are a joy'; get enquiring students who are interested in the subject, ideal for mature students, though still quite difficult to push on research issues, good feedback from mature students

Stakeholders 8 - Masters Students

Value of UG: UG teaching just provides students with a checklist of words, persuade CS entry failures to sign up for IS: students want to go out and do things - analysts, programmers: it must make a difference for Business Schools not to have UGs - different people recruited, geared up differently, joint degree in IS and Business Management is very popular; students don't go into jobs in this research audience area; 2% levy of student fees for research funding - paid by individuals or sponsoring organisations, post students are generally analysts, post students provide contacts for consultancy, what makes them come?: feel that 75% of the students who graduate with the final year was the first year, because they are beginning to get the idea, important that there aren't any holes - a distraction

Role of students: Undertake projects in organisations - go on to be practitioners, student projects, industrial placements for UGs as 'risk free environment'

Role of lecturer: Can't tell what long term influence you may have - and many other factors; facilitator of learning, provide breadth of views & external speakers; try to reduce the 'hype', get feedback from work experience and post students; range of teaching commitments are outside my own research area, take a questioning approach, research and teaching is closely linked; Encourage students to try out ideas on placement, try to make them acceptable people for industry, give them skills for employment; do very little teaching of UGs - just 4th year research methods; could possibly use students for fast, quantitative research studies in organisations, especially via the Internet - considering adding it to their contract; see teaching as an opportunity to provide a role model, teach systems thinking across many disciplines; try out high level ideas in teaching - some methods; feedback: UKAIS discussing curriculum; bring in speakers for UG students - best practice

View of students: Possible to teach UGs with no experience - it's more to do with their general attitudes, values and beliefs, some don't like what they are being told - don't want to confront the 'mess'; hostile if you try to teach them something that is difficult to learn, mature, part-time students only; need rules, etc, gradually building up

Stakeholders 8 - UG Students

Value of MBA: Not CEO types, don't have the big names like the business schools, business funded - just looking for the qualification, same proportion of IT graduates on MBAs as spending on IT in business, bring in funds - course fees are expensive; mix of UK and European delegates, people go to business schools because they are funded by business to get qualifications - they are not interested in IS; repeat business very high, managers - aged 25-29; funders via their fees

Role of students: MBA projects used as feasibility studies for the research team

Role of lecturer: Use MBA projects for research; provide contacts for access to organisations; teaching more effective than with UGs, often work with post students embedded in an organisation; student projects and consultancy provides case studies; teaching leads to consultancy; contributing to scholarship, have a duty to bring on the next generation; they get a critical view of current research - not received wisdom, provide lectures for local university MBA course with no IS expertise; executive students provide contacts for research, provide links to organisations and projects; encourages scholarship; continually feeding off their ideas, contacts for research and consultancy; educate them to go and do it themselves; part of the change process - insights into different organisations - people very honest about reality, feedback via courses and course assessment; prefer teaching mature, experienced people; my community, rather than academics

View of students: Even MBA students are inquiring and interested; often come back after several years saying they understand now what we were telling them and why; self-selecting, have time and interest

Stakeholders 8 - MBA Students

Professional Bodies: BCS, OR Society, Long Range Planning Society, Royal Society, International Telecommunications Society, International Social Committee for Co-ops - non-academic membership; UK Systems Society - a meeting place for a scattered community; Institute of Chartered Accountants

Issues: Maybe the IS community has not taken a hard enough stance and lost its way because of rapid change and growth, the academic and practitioner communities have grown up at the same time: joint assessment between industry and HE, academics have a duty in the absence of a professional body

BCS: Not dealing with issues of continuing education; BCS aspires to be like other professional bodies - but it isn't - IS practitioners not professionals - no legal sanctions, etc. originated from engineering and computer science - missed the idea that it is a social science - changing through; disappointed with BCS practitioners - they want 'quick fixes'; easy to get access - they are always looking for people to lecture; must be of relevance to business; BCS accreditation panel for membership - a way to keep in touch with what they are thinking; conferences; speaker at conferences; unpaid BCS seminars - paid ISCOM seminars; easy access to practice - speaking at conferences is the best way to get something into practice

Benefits: OR Society courses; universities are not the sole provider of IS people - patchwork of qualifications available; lead speaking at OR conferences; chair of a special interest group; networking is important; funders, eg Institute of Chartered Accountants, gradually requiring more practitioner publications for their money

Stakeholders 9 - Professional Bodies

Contacts: Requested by press and Scottish TV, press - quoted a lot, asked for opinions, should do more - no TV; press has no means of finding the right academic to approach about a specific issue - UKAIS should help that, try to get into Financial Times, always talks to the press - good publicity, technical academics are not viewed well on TV - they prefer to use business schools, the same faces turn up a lot, usually from the London area, it's about networking; not asked - rare for academics to get on TV; not a good relationship between academics and the press; have not been approached by them, none - very backward in that sense, never bothered, gone too far because nobody knows we exist; not easy to get things in the national press; haven't tried TV; invited by production company to do TV programmes - already done three; the mass media is where I'd like to be

Concerns: Don't want to provide soundbites; won't touch half of the approaches - they don't understand what we're doing; waste of time - no benefit to personal aims in the academic world; distract them from previous experience - distortion and sensationalisation of work - willfully or sloppily

Conference agencies: Paid £4,000 per hour; educational events as organisational funding

Practitioner Journals: Synthesis of results, etc. for publication; main outlet for commercial research organisations; will continue to be the main means of communication with IS practice; easy to get articles in academic and specialist employment press - but minimal impact

Stakeholders 10 - Media

Skills TV work required specific skills; need professional mediators; need to be a certain type, certain personality to do TV - asked but not interested; use designers, journalists and PR - SERC paid for this in OASIG project and provided press releases - more professional, PR companies are not geared to do things for academics, very superficial view - use for the university but not for ideas; had one go at TV and stuffed it; need translators - culture and language gap

Stakeholders 11 - Mediators

Role of Universities: Education business, great demand for education - therefore research flourishes; funded for UG teaching - set up to deal with the irrelevant, use commercial products of research. OU has huge potential but may not make the most of it

Departments: Have overseen the evolution from DP, growth of dept, expansion into research - coherence: personally recruited all the staff; we are not a great dept - we have to work hard, structured so that each member brings different skills - joint effort and support - helps prevent punching by other institutions, large admin and marketing dept, tries out feedback from HEFCE involvement; need to understand the politics in a department

Business and Management Schools: Led by the question of commercial return - semi-consultancy, split between technical and social aspects; strong leaning towards the clients' interests, set outlets for research results, press contacts, courses provide continuity for attendance; PR, reputation of the school - it must make a difference for business schools not to have UGs - different people recruited, geared up differently; important that there aren't any UGs here - a distraction

Consultancy Funding: consultancy, mostly with SMEs; there is plenty of money in business for research - they just don't trust most academics to be relevant or to deliver; some quasi-consultancy, difficult to distinguish between consultancy and research; consultancy in large multinationals; consultancy for local organisations, consultancy to gain knowledge and try out ideas; consultancy work to fund the team and direct funding; very little consultancy - most people don't have the time or inclination to do it; some of this money funds my research - independence of research through doing consultancy; work in organisations where I am free to express my views openly, past students provide contacts for consultancy; MBA students provide contacts for access to organisations, often work with past students embedded in an organisation, student projects and consultancy provides case studies; teaching leads to consultancy, contact with CEIAC enables you to keep topical, gain insights into different organisations, review practice against new ideas; consultancy and AR

Stakeholders 12 - Employers

Personal interactions: Mixed commercial conferences, academics and business people - exchange of ideas; interviews with senior managers, get out into organisations 2 days a week - talking to people; can't afford to lose touch - senior managers would expose you; lots of different experiences in different types of organisations, not invited into organisations to talk to people, feedback re research via business conferences - they pay - high level contact - senior managers; executive students provide contacts for research

Types of Collaboration: Consultancy, subcontracts, tenders for individual research projects, networks, Research Consortium - funds, directs and oversees research, Subscribing Organisations - funded research institute to allow for a continuous research programme, projects, surveys, and consultancy, for team research, research not done directly for them but they get some feedback via reports or seminars, may pay my expenses, Groups of organisations, eg the construction industry; get people from outside to contribute ideas; 12 involved - all have different expectations of the level of research involvement; variety - usually one at a time, big co-ordination tasks - transaction costs eat into the funding - easy to get distracted

Researcher's Roles: Providing another angle on management fads; teaching executives on short courses; I treat all audiences the same - except adjust my views to suit them - don't want to be unpleasant, find out which issues are influencing business by looking at what managers have on their desks, eg HBR, etc; contract - researchers need publications, data, etc - managers usually want some form of recommendation, courses and consultancy; not usually providing dissemination for practitioners; projects with mixed teams - bringing in business specialists - provide different views of life; invited to speak to user groups, act as a catalyst for top executives

Stakeholders 13 - Research Subjects

JOB

Roles: Co-ordinating fellows, managing research projects, sets up collaborations and funding; arranges alumni conferences where researchers speak, initially nervous about being head of department - tried to influence curriculum to reflect reality, management school needs you more than you need them - an individual's name attracts money and prestige - they need a guru plugging their research, consultancy: 50 days per year consultancy expected in management school - it tops up the salary and ensures relevance, dispensation from teaching for research - geared to output in refereed journals, aims to be an exemplar to the other academic staff; financial regimes requires short courses and consultancy, expectation that you will get involved in research and teaching to substantiate your salary; time allocated from teaching quota to do research - expect publications but no support - no pressure either; using IS knowledge and skills to inform university corporate use of IS; in earlier days, formed a company to do consultancy - as part of the poly, managing project and publications - producing materials for lecturers and employers

RESEARCHER

Developing countries are a major interest - important to work with people in their own culture

Gets hate mail from 'losers', they need to get an education

Family: Busy but still a happy family life, make extra money to keep my wife happy

Self Development: Personal philosophy develops systematically - a factor of your upbringing, education, the accidents that you come across during your career, lifetime

Personal: Intellectual curiosity, lifestyle, high ideals but low ambition, reflection, wants peer respect, to be a prof - conflicts?; good friends amongst the IS community - past support

Stakeholders 14 - Self

C1.3 – Audience Summary

Influence of Stakeholders: Requirements of funders; RAE criteria; promotion criteria; formal contracts with collaborators or sponsors; client remains in control; role of professors as income generators; editors of journals have power; IT is not 'sexy' enough for the mass media; need translators; payment for dissemination; distrust press because they sensationalise and distort; difficult to get access to the executive and practitioner levels; limited resources - can't disseminate to all the audiences; multiple audiences with immediate interests; responsibility to the client; client confidentiality; managers don't accept results they don't like; lack of access to media or policy makers; requests for information

Personal Constraints: Personal aims; personal skills; easier to talk to people with the same agenda; promotion requirements; employment requirements; top academics should not be talking to lower levels in business - they are not capable of taking in the results; different groups can't talk to each other; personal choice; culture gap; language gap; researchers overly managerial; credibility for TV and press, it would be nice to have something useful to say, not enough time; whatever discipline is appropriate; hopes to influence students through academics; need for academic credibility; under RAE, means academic publishing, conferences; paradigm shift from Machine to Information Age - masses and methods to individuals and creativity

Type of Institution

Business School: Mission, commercial return; selling courses; short courses; executives ask for what they want; outcome-based research; answers not questions; sponsored research groups; research done to educate people; experienced students; feedback re research results; use press for publicity; operate as a business; commitment to share results with purchasers; need well paid credible staff

Universities: Emphasis on UG teaching in universities; foreign PhD students for income; and due to lack of UK people, no commitment to the State with respect to research results except to put them in the public domain via papers; new universities attempting to attract local industry for consultancy, research and short courses - mix of commitments, raise academic profile, get direct feedback

Choice of Audience

UNIVERSITIES

Universities as Commercial Enterprises - Sources of Cheap Labour: Money generation is a more important factor for promotion than a PhD; slash funds - employment ethics re contract researchers; cheap consultancy; poorly paid academics; cheap teaching style; departments in competition for students, teaching and research topics; sponsored appointments; points; funding issues dominate; measurements of success: academics in jobs, career structures, status, UG distractions to the research machine; HE as successful business; commercial universities

Universities as Intellectual Centres of Excellence - State Providers of UG Education - Research Institutions: Universities are about ideas; business schools are ambitious in their mission - need a longer term view, peer group promotion, not seen as source of training for practitioners, UG led agenda vs research machine, need to bring education up-to-date - 20 year old teaching methods; elite group of research institutions, boundaries across and within disciplines, departments, RAE criteria, academia as lifestyle - 'the good life'; new vs old uni, not leading corporate trends; academics in 'Ivory Towers'; UK lack of education and pride, hostile to education; tight bureaucracy and rules; culture - long term advancement of knowledge; elitist view of institutions - competition for funding

Aims: Do professors, heads of departments and the UKAIS have the same aims?; influence senior academic positions; an academic's role is to ask questions; craving to be scientific to impress computer science; easier to talk to people with similar agendas, eg other academics; many academics don't read papers except to use them for their own writing; since journals cater for a wider range of interests, people just skim the contents pages; mission - to direct and influence science; people who like doing research, enjoy the lifestyle; working for a salary

IS Academics as Human Beings: Research is painful, especially the writing; academics envious of popular authors, technophobe, very bright but not connected with the real world, don't read journals; nature of academics, need to be persuaded not instructed, don't assume homogeneous groups; IS professors backgrounds influence the curricula; independent lifestyle; need to supplement income with consultancy

IS Environment: IS not putting theory into practice in its own area; morale problems in IS at the moment, lack of departments and no culture, IS not promoting centres of excellence; academic supply side not good for UK IS; need paradigm shift in IS/information theory; PhD not career enhancing, UK IS network is too small, power and politics, salary as indicator of intellect, push to be more academic, internal confusion; academics in 'Ivory towers'; high age group; many traditional uni teaching technology not IS; peer group power over promotion, etc; fragmented community, pressures to raise money for institutions; consultancy to enhance understanding of business; seen as 'experts'; culture of persuasion not instruction

Teaching: Learn from teaching, research and teaching topics not necessarily the same; try out ideas in teaching, teaching as a role model; current HE teaching style is cheap - lecturers rather than teleconferencing; teach what interests me, easier to teach UGs than to interact with executives; training for lecturers; hate sharing of good practice; our teaching methods are 20 years behind the times, bad stuff being taught now will be in the system for 40 years, easy to teach methods, etc - provides a false sense of credibility - most people know that's not how it is; should be teaching a critical view of practice - not 20 year old texts, competition for teaching work with other departments, fragmented community, state funded institutions committed to teaching UGs - time consuming, low status

Audience - IS Academics

Education of students: Role of universities to educate UGs, to provide acceptable people for industry; education as brain washing - turning out herd animals, IS texts are bland, UG teaching just provides students with a checklist of words, feel that 75% of the students who graduate with the final year was the first year, because they are beginning to get the idea, a lot has been done recently to make students more relevant to practice, need broad education with technical knowledge; need variety of views and make up your own mind, students are surprised that their learning is relevant, less to students as they progress through the UG years, role of students on placements; UGs are a distraction from the business of research, students' interests are different from managers; business managers pay for the learning they want; got enquiring MSc students who are interested in the subject; MSc ideal for mature students, though still quite difficult to pass on research issues; good feedback from mature MSc students; MBAs just looking for the qualification - they are not interested in IS; Doctoral School; PhD as an apprenticeship - mostly not close contact; encouraged to read broadly; contact with broad group of researchers - multi-disciplinary

Students going into jobs: PhD as apprenticeship for research; very rare to get UK PhD students; students don't go out into audience community; competitive marketplace for students; British students only about 10% of the total PhD students; in UK PhD less attractive than job; dependent on the state of the employment market for UK PhD students; can't attract top class people; generally PhD students don't understand IS - try to get people with experience; 10% of MSc students are capable of going out to change the world, 10% of those may do it; undertake projects in organisations - go on to be practitioners; understanding of industry through placements; run a course where students do a week in college and then go back into their jobs in industry; need previous experience in order to understand the issues in IS, students want to go out and do things - analysis, programming; get business people in to learn the academic rigour as MPhil students; BSc students don't tend to come back to HE, undertake projects in organisations; student projects; industrial placements for UGs as 'risk free environment'; students seem to split getting a degree and working in industry - sandwich courses help, give them confidence to go out and make suggestions during placement, students take ideas out into practice; most mature students are also practitioners
Students as human beings: Students as revolutionaries; mature students looking for certainties; students don't read books - 'old hat', students not aware of or concerned about ethical issues, students know nothing about business and organisations, have technical not managerial interests; try to encourage continuing education via the MSc; students filter information and come up with ideas for the future; possible to teach UGs with no experience - it's more to do with their general attitudes, values and beliefs; some don't like what they are being told - don't want to confront the 'mess'; hostile if you try to teach them something that is difficult to learn; mature, part-time students only; need rules, etc., gradually building up, even MBA students are enquiring and interested, often come back after several years saying they understand now what we were telling them and why, self-selecting, have time and interest

Audience - Students

ORGANISATIONS

Organisations as Sources of Funding and Research Opportunities: 10 year gap between theory and practice; difficult to get access to the executive and practitioner levels; managers don't want people to see what is really going on - skeletons in the wardrobe; more difficult to get access in UK than abroad, reject results they don't like, hide them; source of research funding - not interested in passing on results; sources of income - short courses, research and consultancy

Organisations as Corporate entities - Organisations as Employers: IT as a corporate weapon; little organisational learning; British industry is bad - short term views, doesn't respect education, hierarchy - executives, senior managers, managers, practitioners; consultants' role: IT comes as driving globalisation; split communities - e.g. marketing, accounting, etc. multinationals not interested in countries; the global village is a myth - 150 people make a community; people politically committed to co-operative structures, not hierarchies, IT industry is not driven from Europe

Learning Organisations: Organisations as groups of people; individuals are human beings; individual's learning used for self-promotion - organisations not taking the benefits - no debriefings, etc; consultants' learning, practice needs to mature, value of employee learning, fear motivates learning - what else?; changes develop out of crises not reflection, intelligent organisations want more than consultancy; little organisational learning, it's all about covering up; if organisations are really serious about developing people, they should give them time to inform themselves about the latest developments; it would be interesting to compare the UK with Germany or Japan, say, in terms of people keeping up-to-date

Managers as Human Beings: Managers do not read books, IT phobias, IT know-alls, better educated than in the past; audience as human beings, pay lip-service to lifelong learning, don't assume homogenous groups

Management as a Scientific or a Political Activity: Managers are not interested in sociological ideas; organisations spend less on socio-technical systems than on application technology; choose what they want irrespective of the decision making process; hide rejected research results; reluctant to discuss why they do things, need help in evaluating 'gurus'; not interested in analysis or technical training, not interested in research, only soundbites; confidential results; things develop out of crises or reflection; short-termism, British industry is bad; committed organisations; organisations are not interested in countries; IT managers not interested in ISD only strategy and business, people who question and make policy not interested in ISD; power re IS decisions in management of organisations; world becoming global, driven by IS; low spending on socio-technical systems in organisations

Relations with Academics: Don't trust academics to come up with results, don't see universities as a source of IS training; increasingly aware of academics through experience as UG students; managers interested in different things than students, good managers are respected - not trivial, secondment and collaboration, more managers will have gone through units more aware of what is going on academically; UK lack of education and pride; UK culture hostile to education; CEOs don't go on courses only workshops, it is a fantasy that we have a close relation; access problems at top and lower levels, universities do not lead corporate trends; US managers read the literature; not interested in research and how it's formulated - just looking for soundbites; need to educate them to take the long-term view; senior managers who have been through universities consider academics not worth talking to subsequently; managers will expose you - academics only catch you out on rigour and methodology; 10 year gap between theory and practice; different agendas and political priorities, products as a means of access

Management as a Job: Hierarchy; executives, senior managers, managers, practitioners; executives don't go on courses; managers are not interested in learning about IS, only strategy; managers interested in different things than students, business community is fragmented, management activities are not the subject of research; middle-aged, middle managers are inflexible, unlikely to change, downward, closed thinking; don't select employees on trust, career instability; little organisational learning, 'global village' is a myth, 'intelligent organisations'; need to select individuals on trust, multi-disciplinary teams in organisations

Audience - Business Managers

Practitioners as Technical Experts: See themselves as techies, previously students - trained in a role or encouraged to be revolutionary and confident?, is IS an art or a craft?, professionals or technicians?, 10 year gap between theory and practice; don't put theory into practice in their own area, recognise IS as a discipline, 'cosmopolitan' rather than 'local', need to mature, UG students become IS practitioners - not likely to come back to universities, never got the whole story, didn't move on to the socio-technical stage, only project managers may be able to influence projects, analysts trained by commercial organisations, 10 year gap between theory and practice, reluctant to discuss 'why' we do things, is IS practice and art or a craft?, IT phobics and know-allis; need to be reflective and move between practice and theory; they are the ones who will bring about changes in life, learn a lot from contractors in business - they usually have a wide knowledge; they are flexible about use of methods - evolve new procedures; research is about finding out how little you know, a constant exploration - practitioners need to do this too - operating as technicians not professional, therefore don't look to universities for help, paradigm shift in organisations - away from top-down IDS methods, from command and control, paradigm shift from Machine to Information Age - from masses and methods to individuals and creativity

Practitioners as Human Beings: Part of the mass TV audience, very unusual for a practitioner to take three years out to do a PhD, they pick up their ideas from others they meet; need on-going educational development as well as their own experience; practitioners are at least as intelligent and knowledgeable about the issues as academics, can learn from them, need to get them to take a more academic perspective

Relations with Academics: Using the experience of collaborators; joint observation with practical specialists; secondment from industry; why doesn't practice learn?, give practitioners an academic perspective; research crucial of practice is not always accepted, don't look to academics for help or knowledge; provide feedback on students and courses from people in industry, universities not seen as main source of training; material is available if practitioners are serious about finding it; top academics should not be talking to lower levels in business - they are not capable of taking in the results; different groups can't talk to each other, no demand for academic thinking at the lower levels, they are saying 'why do we need you?'; are practitioners looking for information?, do they have a need for information?, different agendas, 10 year gap between theory and practice; socio-technical academics vs 'techie' practitioners, practitioners have no mission to influence the direction of science, no good tinkering at the lower levels, managers don't give access; theory doesn't take account of organisational pragmatics

Practitioners as Part of an Organisation's Culture - As a Job: Don't have an academic perspective, take short-term views; need to reflect, evaluate and learn from experiences; want quick fixes, reluctant to discuss why they do things; no mission to extend knowledge for the greater good or to direct and influence the direction of science, different agenda than academics, fear motivates their learning; don't see universities as source of training; feel no need for information from academics; don't access available materials re research; contractors have a lot of knowledge, not at same level as professors - not able to understand issues, value of employee learning?, managers are not interested in IS; do they have a need for information?, intelligence and knowledge; IS not putting theory into practice in its own area, practitioners want quick fixes, seminars and training of individuals is not benefiting the funding organisations; source of money and research opportunities

Audience - IS Practitioners

C2 - FULL SURVEY RESULTS

Notes

- 1 See questionnaire for ordering of categories within questions, in the tables the categories have been ordered for ease of identification,
- 3 Data could have been lost through the electronic transfer - tested initially but cannot guarantee – example Response 61 - no answers after C5.1
- 4 100 responses to questionnaire
 - no. 7 is blank, was a repeated submission
 - first 8 -10 responses received were lost due to software failure, not included in the 100 final responses
 - 39 responses to interviews - determined by author from interview prep, interaction, and knowledge - some questions are identified as the author’s views rather than specifically asked information
- 5 Subjects are grouped based on author’s view

Key to tables

Questionnaire figures are %, since 100 people responded in total
Interview figures are given as actual numbers and %

- n/a not asked or not attainable
- (+) category not asked on questionnaire
- (*) category identified as other by respondent(s)

Section A: Research Area

A1.1 Research Interests (single answer)
Please select the category which most closely represents your current or recent research interests

Question A1.1 Research Interests			
Category	Survey	Interviews	
Not Research Active	0%	2	5.1%
IT	36%	1	2.6%
Application Areas	28%	4	10.3%
IS Development	25%	5	12.8%
Organisational Human Activity	8%	25	64.1%
Education Research (+)	n/a	2	5.1%
Not answered	3%	0	0.0%

A2.1 Research Methodology
Please select the methodologies which you have used in recent research projects

Question A2.1 Research Methodology			
Methodology	Survey	Interviews	
Action Research	23%	12	30.8%
Case Study	40%	17	43.6%
Conceptual Study	32%	11	28.2%
Consultancy	11%	8	20.5%
Field Experiments	20%	2	5.1%
Laboratory Experiments	34%	1	2.6%
Mathematical Modelling	36%	2	5.1%
Survey	39%	10	25.6%
Other	3%		
Not answered	3%	4	10.3%

A2.2 Methodology Category
Please select the categories that best describe your recent research

Question A2.2 Methodology Category			
Category	Survey	Interview	
Critical	13%	15	38.5%
Interpretive	19%	9	23.1%
Positivist	4%	0	0.0%
Qualitative	30%	14	35.9%
Quantitative	32%	6	15.4%
Social Interaction	15%	2	5.1%
Description of a Situation	18%	5	12.8%
Engineering a Situation or Product	33%	8	20.5%
Evaluation of Change	12%	2	5.1%
Problem Solving	56%	9	23.1%
R & D	38%	4	10.3%
Reengineering a Situation or Product	20%	1	2.6%
Understanding a Situation or Event	47%	12	30.8%
Not answered	0%	5	12.8%

A3.1 Research Funding
Please indicate the sources of funding for your recent research projects

Question A3.1 Research Funding			
Source	Survey	Interview	
No Funding	17%	0	0.0%
Internal University	33%	13	33.3%
Postgraduate Student Fees (+)	%	1	2.6%
HEFCE/JISC (*)	3%		
UK Research Councils (total)	24%	11	28.2%
EPSRC	20%	4	10.3%
ESRC	4%	8	20.5%
BBSRC (*)	1%		
UK Government (total)	17%	11	28.2%
DENI (*)	4%		
DFEE (*)	1%		
OST		2	5.1%
DTI	6%	4	10.3%
DOE		1	2.6%
DOH (+)		1	2.6%
MAFF (*)	1%		
TCS	4%		
EU	19%	7	17.9%
British Council (*)	2%		
Charity	8%	5	12.8%
Overseas Universities or Governments (*)	3%		
Business Sponsorship	10%	20	51.3%
Consultancy Fees	12%	n/a	n/a
Not answered	0%	6	15.4%

A4.1 Team Research

Please indicate the categories which apply to your recent research projects

Question A4.1 Team Research			
Category	Survey	Interview	
Working Alone	50%	6	15.4%%
With 1 Other Researcher	23%	8	20.5%
With Masters or Doctoral Students	26%	13	33.3%
Research Team (more than 2 Researchers)	46%	17	43.6%
Not answered	0%	6	15.4%

A4.2 Cross-Disciplinary Research

If working with people outside your own discipline, please indicate their main disciplines

Question A4.2 Cross-Disciplinary Research			
Discipline	Survey	Interview	
Computing:	14%		
Computer Science	8%		
IS	7%		
Business:	14%	1	2.6%
Accountancy	4%	1	2.6%
Business Studies	5%		
Economics	2%		
Management	6%		
Marketing	3%		
Organisational Behaviour	4%		
Social Science:	11%	3	7.7%
Education (*)	1%		
Law (*)	3%		
Philosophy (*)	1%		
Sociology	3%	3	7.7%
Systems	5%		
Science:	27%	6	15.4%
Design (*)	1%		
Engineering	13%	2	5.1%
Mathematics	6%		
Medicine and Health	6%	1	2.6%
Pharmacology (*)	1%		
Physical Science (*)	1%		
Psychology	10%	3	7.7%
Humanities:	5%	1	2.6%
Construction	1%	1	2.6%
Geography, Geology, Environmental Sciences (*)	3%		
Library Studies (*)	2%		
Tourism and Hospitality (*)	1%		
Transport (*)	1%		
Not answered	58%	28	71.2%

A5.1 Motivation for Research
Please indicate the motivations for your recent research projects

Question A5.1 Motivation for Research			
	Survey	Interview	
Advance IT/Progress	41%	9	23.1%
Understand the World	22%	4	10.3%
Enable Change/Improvement in Business	25%	12	30.8%
Satisfy Organisational Demand	12%		
Funding Availability or Request	11%	13	33.3%
'Hot Topic'	26%	7	17.9%
Intellectual Satisfaction	62%	5	12.8%
Personal Interest	85%	14	35.9%
Promotion/Career Prospects	26%	3	7.7%
Research Team Interest	33%	14	35.9%
Student Interest	17%	3	7.7%
Not answered	0%	2	5.1%

Section B: Research Audience

B1.1 Main Audience (single answer)

Please indicate the main audience to which you actively disseminated results of recent research

Question B1.1 Main Audience			
Audience	Survey	Interview	
None	1%	3	7.7%
IS Academics	47%	15	38.5%
Non-IS Academics (*)	1%	3	7.7%
Internal Research Group (*)	2%		
Specialist Research Group (*)	8%		
Research Supervisor (*)	1%		
All Students	8%	4	10.3%
Postgraduate Students	7%	1	2.6%
Funding Organisation	9%	3	7.7%
Business Managers	2%		
Senior Business Managers	3%	9	23.1%
IS Practitioners	6%	1	2.6%
Non-IS Practitioners (*)	3%		
General Public	2%		
Not answered	0%	0	0.0%

B2.1 View of Audience (single answer)

Please select the category which best applies to your main audience

Question B2.1 View of Audience			
	Survey	Interviews	
Passive Readers	21%	1	2.6%
Active Participants	44%	10	25.6%
Active Learners	16%	20	51.3%
Independent Actors	10%	5	12.8%
Not answered	9%	3	7.7%

Correlation of B1.1 and B1.2 Questionnaire only

Correlation of B1.1 and B1.2					
Audience	Passive Readers	Active Participants	Active Learners	Independent Actors	Not Answered
Research Supervisor	1				0
Funding Organisation		7	2		0
IS Academics	15	22	4	4	2
Non-IS Academics		1		1	0
Internal Research Group			1		1
Specialist Research Community	1	5		2	0
IS Practitioners	1	5			0
Business Managers			1	1	0
Senior Business Managers		3			0
Non-IS Practitioners			1		2
General Public		1			1
All Students	2		4	2	0
Postgraduate Students	1		3		3

B1.1 Main Audience by B1.2 Main Audience Category		Interviews		
Independent	Passive	Active	Active	Actors
	Readers	Participants	Learners	
B1.				
IS Academics		1	14	
All Students		1	3	
Postgraduate Students		1		
Funding Organisations		2	1	
IS Practitioners				1
Senior Business Managers		5		4
Systems Community	1			
OR Academics			1	
Psychologists			1	

B2.1 Other Audiences
Please indicate any other audiences to which you actively disseminated results of recent research

Question B2.1 Other Audiences			
Audience	Survey	Interviews	
None	12%	0	0.0%
IS Academics	15%	8	20.5%
Non-IS Academics (*)	2%		
Specialist Research Group	5%	1	2.6%
All Students	14%	8	20.5%
Postgraduate Students	32%	9	23.1%
Short Course Students	6%	1	2.6%
Funding Organisation	15%	2	5.1%
Business Managers	16%	1	2.6%
Senior Business Managers	6%	7	17.9%
IS Practitioners	17%	6	15.4%
Non-IS Practitioners	7%	2	5.1%
Government Policy Makers	4%	1	2.6%
General Public	6%		
Various Others	1%		
Not answered	16%	10	25.6%

Section C: Dissemination of Research Results

C1.1 Dissemination Requirements of Research Funders (where appropriate)
Please indicate the dissemination routes **required by the funders of your recent research**

Question C1.1 Dissemination Requirements of Research Funders			
	Survey	Interviews	
None	13%	0	0.0%
Thesis	26%		
Academic Journals	32%	7	17.9%
Academic Conferences	40%	5	12.8%
Reports	39%	13	33.3%
In-House Seminars/Workshops	18%	16	41.0%
Professional Journals	12%	1	2.6%
Practitioner Conferences	14%	4	10.3%
General Seminars/Workshops	16%	1	2.6%
Books	4%	2	5.1%
Prototype (*)	1%		
Internet (*)	1%		
Not answered	15%	14	35.9%

C2.1 Dissemination to the Academic Community
Please indicate recent research dissemination behaviour

Question C2.1 Dissemination to the Academic Community			
	Survey	Interviews	
None	2%	1	2.6%
IS Academic Journals	30%	33	84.6%
IS Academic Conferences	54%	28	71.8%
Non-IS Academic Journals	18%		
Non-IS Academic Conferences	21%		
Special Interest Groups	34%	1	2.6%
Internal Academic Papers	40%		
E-mail Interactions	57%	1	2.6%
Internet (*)	5%		
Books for Academics (not texts)	9%	6	15.4%
Not answered	4%	2	5.1%

C3.1 Dissemination via Teaching
Please indicate recent research dissemination behaviour

Question C3.1 Dissemination via Teaching			
	Survey	Interviews	
None	30%	1	2.6%
Student Course Content	44%	16	41.0%
Student Texts	15%	9	23.1%
Student Lectures/Seminars	46%	32	82.1%
Student TV Programmes	0%	1	2.6%
Not answered	19%	5	12.8%

C4.1 Dissemination to Non-Academics
Please indicate recent research dissemination behaviour

Question C4.1 Dissemination to Non-Academics			
	Survey	Interviews	
None	44%	0	0.0%
Non-Academic Journals	6%	13	33.3%
Non-Academic Conferences	10%	15	38.5%
Books for Practitioners	3%	5	12.8%
Action Research Interactions	0%	7	17.9%
Seminars/Workshops for Professional Bodies	13%	8	20.5%
General Seminars/Workshops	13%	15	38.5%
In-House Seminars	15%	11	28.2%
Books for General Public	0%	2	5.1%
UK Government Policy Makers	4%	1	2.6%
Not answered	13%	4	10.3%

C5.1 National or International Media
Please indicate recent research dissemination behaviour

Question C 5.1 National or International Media			
	Survey	Interviews	
None	60%	4	10.3%
Television (total)	3%	7	17.9%
BBC TV	3%	3	7.7%
Independent TV	0%	2	5.1%
Radio (total)	4%	1	2.6%
BBC Radio	3%	1	2.6%
Local Radio	4%		
Press (total)	3%	11	28.2%
Financial Times	1%	3	7.7%
Guardian	3%	2	5.1%
Independent Times	1%	1	2.6%
Times	1%	3	
Videos (total)	0%	3	7.7%
Business Videos	0%	2	5.1%
Educational Videos	0%		
Internet (*)	3%		
Not answered	32%	21	53.8%

C6.1 Motivation for Dissemination

Please indicate the motivations for your current dissemination behaviour

Question C6.1 Motivation for Dissemination			
	Survey	Interviews	
Transfer of Knowledge	62%	7	17.9%
Discussion of Knowledge	62%	15	38.5%
Communication of Knowledge	51%	3	7.7%
Learning from the Activity of Writing	31%		
Promotion Requirement	13%	9	23.1%
Funding Requirement	23%	8	20.5%
Payment for Dissemination	3%	2	5.1%
Empowerment of IS Practitioners	11%	6	15.4%
Empowerment of IS Managers	5%	4	10.3%
Empowerment of Executives	5%	8	20.5%
Empowerment of Lecturers	13%	6	15.4%
Not answered	11%	5	12.8%

Section D: Feedback and Evaluation of Research Results

D1.1 Feedback

Please indicate the categories through which you have recently gained feedback on your research from other people

Question D1.1 Feedback			
Category	Survey	Interviews	
None	5%	2	5.1%
Published Papers	32%	7	17.9%
Letters to Journal Editors	1%		
Academic Conferences	56%	2	5.1%
Business Conferences	6%	2	5.1%
Internet	45%	1	2.6%
Academic Networks	29%	7	17.9%
Business Networks	5%	7	17.9%
Current Students	31%	11	28.2%
Past Students	19%	4	10.3%
Action Research Interactions	7%	8	20.5%
Business Workshops	3%	6	15.4%
Course Evaluation	14%	2	5.1%
Repeat Speaking Invitations	8%	3	7.7%
Repeat Business	8%	4	10.3%
Journal Refereeing	25%	1	2.6%
Research Supervision	37%		
Not answered	7%	11	28.2%

Section E - The Researcher

E1.1 Personal Details

Please indicate the appropriate categories

Question				
		Survey	Interviews	
Sex	Male	73%	38	97.4%
	Female	18%	1	2.6%
	Not answered	9%	0	0.0%
Age	20-29	24%	0	0.0%
	30-39	27%	3	7.7%
	40-49	35%	19	48.7%
	50+	8%	17	43.6%
	Not answered	6%	0	0.0%

E2.1.1 1st Degree Subject (single answer)

Question E2.1.1 1st Degree Subject			
Subject	Survey	Interviews	
Computing:	30 %	2	5.1%
Computer Science	25%	2	5.1%
IS	4%		
IT	1%		
Business:	8	8	20.5%
Business Administration	2%	2	5.1%
Economics	6%	4	10.3%
Finance and Business		1	2.6%
Management/Sociology		1	2.6%
Social Science:	6%	2	5.1%
Government and Politics		1	2.6%
Law/Sociology	2%		
Philosophy	2%	1	2.6%
Social Anthropology	1%		
Systems	1%		
Science:	41%	18	46.2%
Botany	1%		
Chemistry	3%		
Engineering	11%	3	7.7%
Food Science	1%		
General Science	1%		
Mathematics	15%	11	28.2%
Medicine and Health	1%		
Physics	6%	2	5.1%
Psychology	2%	2	5.1%
Humanities:	8%	6	15.4%
Architecture	1%		
Classics		2	5.1%
English, et al	1%		
General Subjects	1%		
Geography/Geology	2%	2	5.1%
History	2%	2	5.1%
Tourism and Hospitality	1%		
Not answered	7%	2	5.1%

E2.1.2 First Degree Institution

Question E2.1.2 First Degree Institution		
Institution	Survey	Interviews
Aberdeen	2%	
Aston	1%	
Queen's, Belfast	5%	
Bournemouth	1%	
Bristol	1%	
Brunel	1%	
Cambridge	9%	2 5.1%
Central England	1%	
City	1%	
De Montfort	1%	
Durham	2%	
Edinburgh	3%	
Exeter	2%	1 2.6%
Greenwich	1%	
Heriot-Watt	1%	
Hertfordshire		1 2.6%
Kingston	1%	
Lancaster	1%	
Leicester	1%	
London, Imperial College	1%	
London, King's College	1%	
London School of Economics	1%	1 2.6%
London, University College	1%	
Loughborough	1%	
Manchester	2%	
Newcastle	1%	
Nottingham	2%	
Open University	3%	1 2.6%
Oxford	3%	1 2.6%
Portsmouth	1%	
Reading	1%	
Salford	1%	
Sheffield	1%	
Sheffield Hallam	1%	
Southampton	5%	
Staffordshire	1%	
Stirling	1%	
Strathclyde	1%	
Surrey	1%	
Teeside	1%	
Ulster	6%	
UMIST	25	
Wales, Bangor	1%	
Warwick	1%	
West of England	1%	
Wolverhampton	15	
York	1%	
Other UK	2%	
Outside UK	11	2 5.1%
Africa:	2	
Algeria	1	

South Africa	1		
America:	1	2	5.1%
USA	1	2	5.1%
Asia:	2		
China	1		
India	1		
Australasia:	1		
Australia	1		
Europe (non-UK):	5		
France	1		
Holland	1		
Italy	1		
Ireland	1		
Yugoslavia	1		
Not answered	8	30	76.9%

E2.2.1 Masters Degree Subject (single answer)

Question E2.2.1 Masters Degree Subject			
Subject	Survey	Interviews	
Computing:	33%	9	23.1%
Computer Science	20%	3	7.7%
Human Computer Interface	2%	1	2.6%
IS	6%	5	12.8%
IT	5%		
Business:	6%	16	41.0%
Business Administration	1%	2	5.1%
Economics	2%	1	2.6%
Management/Sociology		12	30.8%
Management Science/OR	2%	1	2.6%
Marketing	1%		
Social Science:	0%	4	10.3%
Systems		4	10.3%
Science:	7%	2	5.1%
Engineering	1%		
Mathematics	4%	2	5.1%
Physics	2%		
Humanities:	1%	0	0.0%
Architecture	1%		
Not answered	53%	19	48.7%

E2.2.2 Masters Degree Institution (single answer)

Question E2.2.2 Masters Degree Institution			
Institution	Survey	Interviews	
Aston	2%	2	5.1%
Bradford	1%		
Bristol	1%	1	2.6%
Cambridge	1%	1	2.6%
De Montfort	1%		
East Anglia	1%		
Glasgow	1%		
Greenwich		1	2.6%
Hertfordshire	1%		
Kingston	2%		
Lancaster	2%	4	10.3%
London, University College	4%		
Loughborough	1%		
Manchester	1%		
Napier	1%		
Newcastle	%	1	2.6%
Northumbria	1%		
Robert Gordon	1%		
Sheffield	1%		
Sheffield Hallam	1%		
South Bank	2%		
St Andrew's	1%		
Sunderland	1%		
Sussex	1%		
Ulster	3%		
UMIST	1%		
Wales, Aberystwyth	1%		
Wales, Bangor	1%		
Wales, Cardiff	1%		
Warwick		1	2.6%
Non UK	9%	0	0.0%
Africa:			
Algeria	1%		
America:			
USA	2%		
Asia:			
India	1%		
Australasia:			
Australia	1%		
Europe (non-UK):			
France	1%		
Germany	1%		
Holland	1%		
Yugoslavia	1%		
Not answered	55%	28	71.8%

E2.3.1 Doctoral Subject (single answer)

Question E2.3.1 Doctoral Subject			
Subject	Survey	Interviews	
Computing:	48%	7	17.9%
Artificial Intelligence	2%		
Computer Science	27%	2	5.1%
Human Computer Interaction	2%		
IS	7%	5	12.8%
IT	10%		
Business:	4%	3	7.7%
Economics	2%	1	2.6%
Finance and Business		1	2.6%
Management/Sociology		1	2.6%
Management Science	2%		
Social Science:	1%	0	0.0%
Law/Sociology	1%		
Science:	5%	2	5.1%
Biochemistry	1%		
Mathematics	2%	1	2.6%
Physics	2%		
Psychology		1	2.6%
Humanities	0%	0	0.0%
Not answered	42%	27	69.2%

E2.3.3 Doctorate Pending

Doctorate Pending 24 questionnaire only

E2.3.2 Doctoral Degree Institution

Question E2.3.2 Doctoral Degree Institution			
Institution	Survey	Interviews	
Aston	1%		
Belfast, Queen's	3%		
Brunel	2%		
Cambridge	4%		
East Anglia	1%	1	2.6%
Heriot-Watt	1%		
Keele	1%		
Kingston	1%		
Lancaster	4%		
London, Birkbeck College	1%		
London Business School		1	2.6%
London School of Economics		1	2.6%
London, University College	5%		
Manchester Metropolitan	1%		
Napier	1%		
Nottingham	1%		
Open University	1%		
Robert Gordon	1%		
Sheffield	3%		
Southampton	5%		
Stirling	1%		
Strathclyde	1%		
Sunderland	1%		
Teeside	1%		
Ulster	9%		
UMIST	1%		
Wales, Aberystwyth	1%		
Wales, Bangor	1%		
Wolverhampton	1%		
York	1%		
Europe (non-UK):			
France	1%		
Holland	1%		
Italy	1%		
Not answered	42%	36	92.3%

E3.1 Academic Work Experience - No of Years in Academic Work (single answer)

Question E3.1 No of Years in Academic Work			
No of Years	Survey	Interviews	
0-4	28%	0	0.0%
5-9	25%	6	15.4%
10-14	14%	8	20.5%
15-19	14%	10	25.6%
20+	16%	14	35.9%
Not answered	3%	1	2.6%

E3.2 Academic Work Experience - Current Institution

Question E3.2 Current Institution		
Institution	Survey	Interviews
Aston	3%	
Bath		1 2.6%
Belfast, Queen's	1%	
Birmingham	1%	
Bournemouth	3%	
Brunel	1%	
Central Lancashire		1 2.6%
City		1 2.6%
Coventry	1%	
Cranfield		2 5.1%
De Montfort	2%	
East Anglia	1%	
East London	1%	
Greenwich		1 2.6%
Heriot-Watt	4%	
Huddersfield		4 10.3%
Humberside		1 2.6%
Kingston	4%	
Lancaster	5%	1 2.6%
Leeds		2 5.1%
London, Birkbeck College	1%	1 2.6%
London, Imperial College		1 2.6%
London Business School		1 2.6%
London School of Economics		2 5.1%
London, University College	7%	
Loughborough	2%	1 2.6%
Manchester		2 5.1%
Manchester Metropolitan	6%	
Napier	3%	
Nene College	1%	
Open University		3 7.7%
Oxford		2 5.1%
Portsmouth	1%	
Robert Gordon	3%	
Salford	2%	3 7.7%
Sheffield	9%	1 2.6%
South Bank		1 2.6%
Southampton	8%	1 2.6%
Strathclyde		1 2.6%
Sunderland	1%	
Surrey	2%	1 2.6%
Sussex	1%	
Teeside	2%	
Ulster	15%	
UMIST		1 2.6%
Wales, Swansea	1%	
Warwick	2%	2 2.6%
West of England	2%	1 2.6%
Wolverhampton	3%	
Not answered	1%	0 0.0%

E3.3 Academic Work Experience - Current Department (single answer)

Question E3.3 Current Department			
Department	Survey	Interviews	
Computing, Computer Science, or Computer Studies	65%	13	33.3%
IS	21%	3	7.7%
Information and Media	1%		
Management	8%	13	33.3%
Systems		1	2.6%
Accountancy and Finance		1	2.6%
Architecture	1%		
Tourism and Hospitality	1%		
Not answered	3%	8	20.5%

E3.4 Academic Work Experience - Current Research Centre (single answer)

Question E3.4 Current Research Centre			
Research Centre	Survey	Interviews	
Computer Science	1%		
IS	2%	8	20.5%
IS and SE	2%		
Information and Management		7	17.9%
Database Access		2	5.1%
Network Management		1	2.6%
Computer Systems Engineering	2%		
Technology & Innovation	1%		
Parallel Application	1%		
Co-operative Systems	1%		
Interactive Systems	2%		
Computer Graphics	1%		
Multimedia	1%		
Work Psychology		1	2.6%
Transport	1%		
Architecture	1%		
Molecular Biology	1%		
Not answered	83%	20	51.3%

E3.5 Academic Work Experience - Current Role

Question E3.5 Current Role			
Role	Survey	Interviews	
Lecturer	24%		
Senior Lecturer	24%	2	5.1%
Principal Lecturer	1%	3	7.7%
Professor	7%	26	66.7%
Reader	3%		
Fellow	5%	1	2.6%
Research Assistant	15%		
Student	17%		
Other:			
Research Associate (*)	1%		
Head of Department (*)	1%	1	2.6%
Research Officer (*)	1%		
Not answered	1%	6	15.4%

E4.1 Current Position - Teaching

Please select the categories which are appropriate to your current role

Question E4.1 Current Teaching Role			
	Survey	Interviews	
None	n/a	2	5.1%
HND	10%	3	7.7%
Other Diploma	9%	1	2.6%
1st Degree	64%	17	43.6%
MBA	6%	16	41.0%
Other Masters	50%	15	38.5%
Doctorate	32%	23	59.0%
Practitioner Short Courses	17%	1	2.6%
Executive Short Courses	11%	9	23.1%
Not answered	23%	4	10.3%

E4.2 Current Position - Non-Teaching

Please select the categories which are appropriate to your current role

Question E4.2 Current Non-Teaching Role			
	Survey	Interviews	
Research	83%	29	74.4%
Scholarship	15%	17	43.6%
Department Management	17%	13	33.3%
Student Tutor	40%	1	2.6%
Personal Consultancy	28%	15	38.5%
Institutional Consultancy	22%	5	12.8%
Not answered	9%	2	5.1%

E5.1 Non-Academic Work Experience - Number of Years in Non-Academic Work (single answer)

Question E5.1 Number of Years in Non-Academic Work			
No of Years	Survey	Interviews	
0-4	57%	8	20.5%
4-9	19%	10	25.6%
10-14	13%	6	15.4%
15-19	2%	7	17.9%
20+	2%	2	5.1%
Not answered	7%	6	15.4%

E5.2 Non-Academic Work Experience - Non-Academic Roles

Question E5.2 Non-Academic Role			
Role	Survey	Interviews	
Programmer	40%	13	33.3%
Systems Analyst	19%	9	23.1%
IT Support	1%		
Project Leader	8%	3	7.7%
IT/IS Manager	7%	5	12.8%
Researcher	3%	2	5.1%
Operational Researcher	3%	5	12.8%
O&M		1	2.6%
Statistician	1%		
Teacher	3%		
Civil Servant	3%	2	5.1%
Engineer	13%	3	7.7%
Chemist	1%		
Manager	7%	2	5.1%
Marketing	9%	2	5.1%
Administrator	1%		
Economist		1	2.6%
Accountant		1	2.6%
Consultant	1%	6	15.4%
Various	1%		
Writer	2%		
Political Organiser	1%		
Retail Caterer	2%		
Labourer	1%		
Banker	1%		
Actuary	1%		
Accountant	2%		
Medicine	2%		
Psychologist		1	
Not answered	20%	6	15.4%

E6.1 View of Yourself as a Researcher (single answer)
Please indicate the category that most closely fits your view of yourself as a researcher

Question E6.1 View of Self as Researcher			
	Survey	Interviews	
Expert	6%	3	7.7%
Practitioner	11%	5	12.8%
Scientist	15%	7	17.9%
Academic	32%	10	25.6%
Teacher	5%	3	7.7%
Learner	12%		
Communicator	3%		
Investigator	8%	5	12.8%
Story Teller	2%	1	2.6%
Catalyst	1%	4	10.3%
Not answered	5%	1	2.6%

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