INTERACTION & INFLUENCE: INDIVIDUALS & INSTITUTIONS

a summary report of six pilot studies commissioned by the ESRC

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INTRODUCTION

Social science researchers have always interacted with those who use and benefit from their work. The character of these interfaces and associated patterns of academic and non-academic influence change over time. These adjustments and developments are significant because "how researchers interact with potential users is a critical issue in the effectiveness of different approaches to dissemination" (Davies 1998).

Those who apply for and win research council funding, or other externally sponsored contracts, confront a range of persistent questions:

- what does it mean to be an academic researcher?
- what are the limits and responsibilities of the job?
- where do researchable issues come from?
- how should research be organised, promoted, and used?

In short, what is involved in the transfer of knowledge to the wider community and to what extent is that wider community itself involved in the production of social scientific knowledge?

Practical responses to such questions reflect the mixtures of priorities and incentives embedded in researchers' immediate working environments and in the culture of social science research. Landmark documents such as the Rothschild report (HMSO 1971) and the 1993 White Paper "Realising Our Potential" represent key moments in the history of ideas about how social scientific knowledge is, or ought to be, produced and consumed and have had real effect in reconfiguring institutional priorities. Changes in the perceived value of social research, in the means by which it is funded, and in the identities and aspirations of those involved define the contexts within which user-researcher relationships take shape.

Observations about the *contemporary* character of this interaction permeate six pilot studies of the part which universities play in fostering the promotion and use of social science research. In their different ways, these studies have much to say about how linkages are forged and broken, how influence is acquired and accumulated, and how user-researcher interactions evolve within university environments. These six studies, commissioned by the ESRC and undertaken by teams at the Universities of Cambridge, Edinburgh, Lancaster, Manchester, Sussex and Warwick , form the basis of this report.

Though initially focused on the university's role in promoting the use of social science, all six spiralled outward, drawing on a mixture of survey and case study material to develop typologies and analyses of the production and use of social science research. As well as describing the current structuring of influence and interaction, the studies highlight implications and consequences for universities, users, research funders and researchers themselves. Part summary, part review, this report aims to capture recurrent themes and concerns whilst acknowledging the diversity of ideas and practices unearthed along the way.

Approach

Taking a deliberately simplified approach, we reflect on the conditions and circumstances in which research is undertaken within universities - whether in academic departments, specialist research units, or long-established research centres.

Institutional arrangements

In focusing on forms of institutionalisation we distinguish between relatively coherent and *structured* situations (for example, established research centres, or well defined user organisations such as government departments) and those which are more strongly dependent on *individual* identities and initiatives, as when academics become known in their own right, or where individual users appropriate research results. This basic framework allows us to review contexts and situations in which social science research is generated and appropriated.

Our aim is not to offer an evaluation of research but to reflect on the social process of its development and promotion. This means taking note of how research agendas are shaped, and of how non-academics use and translate research during the course of its production and after.

Networks and relationships

The six pilot studies provide endless examples of how important networks are in structuring academic and non-academic interaction and in fostering and sometimes making possible the dissemination and promotion of social scientific research. By networks we mean the patterns of social and professional contacts, working relationships and friendships which form between academics and others and which grow, fade, and evolve over time. To give just a couple of illustrations, responses to the Lancaster and Manchester University survey questions about means and methods of promoting research showed that "89% of researchers rely on networks - other than where government departments or sponsors do the networking for them" (Shove et. al., 1998, p19). More simply, the Cambridge study reports that "those with networks use them" (Crosland et. al. 1998, p27).

Taking these observations to heart, this summary report focuses on the formation and development of research networks rather than on the substance of the research involved or the specific ambitions and aspirations of either researchers or users.

Structure of the report

Part one *Contexts of research and contexts of use* summarises the characteristics and features of contemporary university based research environments and synthesises what the six pilot studies have to say about the varied and changing situations in which research is used.

Part two, *Research situations* considers four environments of researcher-user interaction and use and provides case studies and examples of instances :
1. where research centres interact with relatively well organised user groups
2. where research centres interact with dispersed populations of potential users
3. where individual academics interact with relatively well organised user groups
4. where individual academics interact with dispersed populations of potential users

In each case we consider the processes of network building:

- how do new entrants, be they researchers or users, encounter each other?
- how do relationships between academics and users develop and end?
- what distinctive opportunities for interaction and influence arise in each of these situations?

Though this analysis captures important differences in the production and consumption of research, it obscures the routine *dynamics* of research practice and changing interpretations of relevance and value. As the six studies also confirmed, individual and institutional careers are not locked into one or another of these four situations: instead they develop within and between evolving research environments.

Part three, *Constructing relevance*, reviews the ways in which researchers and non-academics define and interpret relevance in the light of previous experience and future ambition.

Part four, *Interaction and influence: individuals and institutions,* highlights trends and tensions identified in the six reports and considers their implications for universities and for the social science researchers they contain.

Acknowledgements

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The report summarises the six pilot studies, authors of which are listed below:

Bechhofer, Frank, and Robin Williams, May 1998, "Research Exploitation in the Social Sciences Pilot Audit of the University of Edinburgh" University of Edinburgh

Crosland, Paul; Simon Deakin, Loraine Gelsthorpe, Gill Jones, Thelma Quince and Holly Sutherland, May 1998, "Using Social Science: A pilot audit of non-academic exploitation of social science research in the University of Cambridge

Ferlie, Euan; Robert G. Burgess, Susan Band and Kim Kaivanto, June 1998, : "Research Exploitation in the Social Sciences: Report of a Pilot Audit at the University of Warwick", University of Warwick

Shove, Elizabeth, Brian Robson, Oliver Fulton, Peter Halfpenny, Ian Miles and Alan Warde, March 1998, "Exchanging Experience of Exploitation", University of Lancaster and University of Manchester

Wallace, Helen, Mike Hobday, Puay Tang, Tom Sinclair and Peter Holmes, June 1998, "Pilot Audit of Research Exploitation in the Social Sciences at the University of Sussex", University of Sussex

In writing this summary document we have identified research centres but have anonymised individual researchers.

PART 1 CONTEXTS OF RESEARCH AND CONTEXTS OF USE

Contexts of research

The six pilot studies review research undertaken within universities as opposed to consultancy organisations, commercial research institutes, or non academic settings. Having said that, it is important to recognise that universities vary widely in terms of size, history, and composition and in how they foster and promote research. Some, like Manchester and Sussex, (Wallace et. al, 1998, p3) have central research support offices: others, like Lancaster, operate much more informally. One of the more surprising findings was that the scale and form of centralised research support seemed to make little difference to institutional success in attracting external funding, in achieving high rankings in the Research Assessment Exercise or in ensuring that research had the impact it deserved.

This is perhaps because all the universities considered here see themselves as 'research institutions' and because there is no great variance in their research performance. Another possibility is that research entrepreneurialism is a product of the essentially dispersed activities of individual researchers and research centres. Researchers' views on this question are revealing. While many of those working in universities with formal arrangements for research support welcomed some of the services provided (for example, the dissemination of information about research opportunities), the predominant view was that administrators never knew - and could never know - enough about actually doing research to make much difference to those who were already active, knowledgeable and capable researchers. Though research support offices might help and encourage those new to the game, few experienced researchers thought this would in itself sustain or engender nationally or internationally significant research activity. From this perspective, the efforts of centralised research support services were somewhat marginal.

Yet the university setting was not entirely irrelevant. Working in a university with a solid reputation for research undoubtedly enhanced perceptions of relevance and status. Cambridge, for instance, has a reputation which overshadows the work of individual scholars (Crosland et. al. 1998, p45). In this, as in other examples, the value of being in a university was generalised, having more to do with image and expectation than the nuts and bolts of research support. To summarise, the university was important not as a significant institutional force in its own right, but as an umbrella sheltering a multitude of sub-institutional research arrangements.

The most important sub-institutional division was between soft-money centres and academic departments. As we suggest below, these two settings have important implications for the development of non-academic networks and for related patterns of interaction and influence.

Research Centres

The six studies identify innumerable types of research centre including: large formally-structured centres which are virtually independent of their university base; centres which are distinct entities within faculty structures, often staffed by a mixture of HEFCE-funded academics and researchers on external soft money; centres embedded within academic departments; centres which have an informal structure and which draw on a loose network of academics supplemented by research assistants specific to particular projects, and 'virtual' centres which exist merely as a result of collaborative working by tenured academics.

Despite this variety, it is useful to highlight the features of an ideal typical research centre. A large, formally constituted centre generally contains a mixture of long and short-term staff, all or most of whom are full-time researchers. Unaffected by the rhythm of the teaching year research staff are subject to different seasons and time pressures. Those working in such a context are able, and often required, to respond to research opportunities at very short notice (Shove et. al, 1998, p49). In this environment, meeting deadlines is a way of life.

Though research populations change, sometimes rapidly, established centres generally include enough people with sufficiently overlapping interests to sustain internal dialogue, mutual support and the swapping of contacts and ideas. Centres of this type tend to have rather clear divisions of labour (See Cambridge and Edinburgh reports on the distinctive challenges facing contract research staff). Some of the larger ones include administrative staff whose specific responsibility is to assist with dissemination, communication, conference organisation and the like (e.g. PREST at Manchester and IDS at Sussex). Whether this is the case or not, dissemination and promotion of research is generally seen as a useful and worthwhile activity since it helps ensure a steady stream of future invitations to tender (Shove et. al., 1998, p25).

Centres which share these characteristics tend to be good at identifying research funding opportunities; cultivating long-term non-academic networks; disseminating research and, potentially, training new contract researchers. Dependence on external income has other less positive consequences. The pilot studies highlighted two in particular.

First, large centres may be tempted to undertake research more for the sake of generating income than to advance research methodologies or academic argument. In succumbing to this temptation they risk their reputation as centres of academic excellence, and so risk compromising the very identity which distinguishes them from their purely commercial competitors.

Second, research staff are constantly working on new and often quite different research projects. In this switchback environment it is difficult to build up a coherent knowledge base, to publish reflective articles, or to establish a solid reputation in a specific field, yet that is what is required for those who want to develop durable research careers.

The case-studies reviewed in part two show how research centres handle the strains and tensions associated with survival, funding, intellectual and individual career development, and how such strategies influence the day to day management of non-academic interaction.

Academic departments

Much university based research takes place within the context of an academic teaching department. In this sharply contrasting situation, academics combine research with teaching, sometimes buying in short-term research assistance, sometimes buying out their own teaching time (Wallace et. al., 1998, p13).

Researcher-lecturers can be much more selective about the projects and ideas they choose to pursue. Deadlines are generally of their own making and as a result it is possible to make time to reflect on the implications of research and to publish as and when appropriate. Since there is much less pressure to work on sequences of externally funded contracts there is greater opportunity for researchers to hunt amongst the literature and to read and reflect on issues and arguments at the cutting edge of contemporary academic debate.

At first sight, this situation appears to correspond to the model of the lone scholar, pursuing his or her interests in the relative isolation of an ivory tower. The six pilot studies suggest that this is an inaccurate image for they remind us, time and again, of the extent to which researchers rely on communities of academic peers working on similar themes but in different institutions and countries. There are real incentives (in terms of developing research ideas, as well as careers) to construct academic networks and establish reputations and positions within chosen research domains. This perhaps explains the proliferation of virtual groups, inter institutional alliances, and research clusters within departmental structures (Shove et. al. 1998, p44/p63).

The form and character of non-academic interaction mirrors the features highlighted above. Research activity in any one area is sporadic; projects come and go depending on researchers' interests, timetables and teaching responsibilities; work which does not require external funding may remain relatively invisible; and without the sub-institutional support of a distinctive letter head or a collective brochure, individual contributions may never receive any deliberate promotional attention.

Organising social science research

These portraits, first of a large research centre and second, of a departmental research environment are partly caricature. So far we have emphasised differences between the two, suggesting that motivations for doing research differ, as do allocation of priorities and time, and the imperatives (or otherwise) of building non-academic networks. We have argued that universities contain multiple research environments ranging from research centres wholly dependent on external funding through to departmental settings in which research and teaching compete for time and resources. Having recognised this diversity it is no longer surprising to find that that cross-cutting university initiatives regarding research support, publicity or the management of research overheads, get such different reception and reaction on the ground.

Of course there are also overlaps and parallels. Centres and departments are both evaluated in the RAE, contract researchers and lecturers share the same coffee bars, and both seek to develop their careers within the same university setting. Though the consequences might be very different, both are on the receiving end of funding strategies and central initiatives to promote research. It would be simplistic to argue that one or another represents a better setting for university research or that either generated more relevant or more useful knowledge. Nor do the six pilot studies provide any evidence that there is an increase in the number of centres or that departmental research is on the wane: in this respect they do not demonstrate a shift from what Gibbons et. al. (1994) refer to as Mode 1 to Mode 2 forms of knowledge production. Yet they do suggest that universities are endeavouring to organise and manage "their" research more deliberately than ever before. In some cases this means abandoning their familiar if passively benevolent role as the mere containers of researchers and research activity and instead trying to ensure that the university's researchers and their (or should it be "its") research contribute to the collective interests of the institution as a whole. This is a delicate business for such strategies may run counter to established expectations and practices. For example, researchers frequently ignore corporate boundaries in order to collaborate with colleagues at competing institutions. Similarly, researchers' identities and interests are as likely to be bound up with the fate and fortune of a discipline or field, as with the needs and interests of their current employer.

We return to questions about the university's role in defining and responding to the conditions and circumstances of social scientific research in the final section of the report. Before showing how individual research *projects* are organised and managed in different research *settings*, we reflect on the other half of the story: that is on the contexts in which social science research is used and consumed.

Contexts of use

The six pilot studies are dominated by researchers' perceptions, descriptions and perspectives. Even so, it is impossible to ignore the variety of uses and users which populate their accounts. Some of this relates to the substance and form of research, for example, whether research activity generates data, intelligence, advice, specific insights, generalised conclusions, and so on; and to the disciplines involved. Certain fields such as social work, planning, management and law (Crosland et. al. 1998, p24) relate to readily identifiable professions and areas of specialist expertise. In other cases, such as anthropology or sociology, there are no such parallels.

Further distinctions can be drawn regarding the character of user involvement. For instance, some of those who use research have also funded it; sometimes users benefit from work which others have supported; some are involved in the co-production of knowledge, some benefit from what appear to be elaborate chains of production, use, translation, mediation and appropriation, and so on.

What it means to "use" research is again something which is highly context dependent. In situations where problems are well defined, it is relatively easy to identify the use of research. In these cases, research generates information which permits the resolution of pre-established problems or questions. In other settings research influences the definition or formulation of questions and puzzles and is important not in providing answers but in generating problems. As a number of researchers observed, the enterprise of using research is itself one which requires skill and experience (Wallace et. al. 1998, p1).

Rather than delving further into definitions of use and users we instead focus on two contrasting contexts of use and summarise what the six pilot studies have to say first about the uses of research by government departments and, second, about more anonymous forms of research use, as illustrated by researchers' encounters with the media.

Organised users

Government departments are important users, funders and consumers of social science research. As well as being potential sources of future funding, government departments represent readily identifiable and usefully concentrated user communities. For these reasons, certain researchers were willing to invest time and energy in trying to cultivate links, build networks and understand the policy environments and shifting priorities involved. Their experiences highlight a number of important points regarding the contexts of use.

The first concerns the extent to which researchers penetrate the policy process. While it is possible to follow trends in government research management, and to establish relationships with individual users/government officials, it is much harder to understand when, how and why research feeds into policy. Despite this persistent uncertainty, the six reports reveal a number of shared experiences.

Researchers who deal with government departments frequently subscribed to the view that informal interaction was the key to policy influence. Being involved in debate counted for more than the production of formal reports or publications. Perhaps related to this, there was some evidence that government departments took more note of research they had commissioned themselves than of that which - however relevant and appropriate - had been produced elsewhere.

Experienced researchers were also used to sudden and inexplicable swings of interest. It came as no surprise to find that definitions of relevant research veered wildly over short periods of time, that work which promised to be worthwhile when first commissioned ended up at the margins of debate, or that what seemed to be dated or redundant research was picked up with enthusiasm and given a central if unanticipated role in policy making (Shove et. al. 1998, p41) .

While government research is frequently managed through competitive tender the importance of informal contact and familiarity cannot be understated. From the policy users' perspective, the academic world is a sprawling and bewildering place. It is therefore essential to have a handful of reliable and trustworthy guides willing to provide advice and known to deliver research results on time and to budget.

As these few points suggest, the character of researcher-user interaction depends as much on the institutional positioning of the user as of the researcher. From this side of the fence, interpretations of research relevance, and the value of investing time and energy in getting to know the research community depend on the users role, not just as an individual but as part of a wider system of organising, filtering, interpreting and commissioning research.

Diverse users

Researchers are understandably reluctant to invest energy in courting individuals or institutions unlikely to have more than a fleeting interest in their work, or so scattered or disparate as to be tremendously difficult to identify and contact. In these situations, organisations, like trade associations, professional bodies, or the mass media sometimes act as intermediaries - consuming research on behalf of their clients, readers, or constituents.

Again taking the researchers' perspective, the six pilot studies highlight the costs and sometimes the benefits of interaction with those who represent diverse populations of potential users.

Stories of media interaction predominate. Though media coverage may well enhance individual reputation or the image of a research centre the immediate returns are pretty hard to discern. Investment in producing press releases and deliberately cultivating links with journalists made sense for certain research centres, but for others such activity represented a one-way drain of time and resources.

Whether deliberately sought or not, researchers were typically ambivalent about being the subjects of media attention and often critical of the way in which their ideas were taken out of context, turned into a "story" or given an unanticipated twist. At heart these experiences point to different interpretations of relevance. While it is rewarding to have research widely promoted and disseminated, that reward turns to dust, or worse, if the "wrong" features are highlighted or if the real significance of the work is disregarded or dismissed.

Where user communities are relatively well known and relatively well organised, as is the case with central government departments, further debate can perhaps help to put the story straight. With media coverage there are no second chances for this is an extractive rather than an interactive context of use.

The six pilot studies provide examples of researchers interacting with many more users and engaging in many more contexts of use than the two outlined above. Even so, the simple distinction between scattered, anonymous populations of potential users, and those which are more organised and which commission or consume research on a regular basis helps us to understand what constitutes relevant social science and how it is used.

The case studies considered in part two illustrate the practicalities of undertaking research projects in four research situations, the generic features of which have been outlined above.

PART 2 RESEARCH SITUATIONS

In reflecting on the institutionalisation of research production, we have distinguished between university research centres and academic departments. In the institutionalisation of "user" worlds there is a parallel distinction to be drawn between identifiable 'corporate' agencies which deliberately and routinely engage with research and researchers and those which exist as separate constellations of autonomous bodies and which only occasionally (if ever) commission research. Each favours and prohibits different forms of networking, interaction and influence. We can therefore identify four types of research situation (Table 1). The four are not exclusive; they overlap and co-exist, but the typology is nevertheless useful as a means of reflecting on strategies, models and practices.

Table 1.

		'User' communities	
		Institutionalised recognisable organisations; repeat funders/users/ consumers	Dispersed, scattered populations of potential funders/ consumers/users
University Contexts	Centres (highly institutionalised)	TYPE 1	TYPE 2
	Key individual researchers, experts and stars (less institutionalised)	TYPE 3	TYPE 4

The four types are illustrated below, drawing on examples from all six of the pilot studies.

TYPE 1. RESEARCH CENTRES AND ORGANISED USERS

The first model is one in which a formal, typically large, research centre works for external clients who regularly commission research with the aim of informing practice or policy making. In the extreme case, a centre may receiving core funding from and work exclusively for one or a small number of external clients for a specific period. More frequently, centre-user relationships evolve through a sequence of contracts from one or more external bodies. In either case, the linkage is between a research centre and a limited number of core clients with whom dense networks of key relationships have been established. The following cases illustrate Type 1 relationships.

SCIENCE AND TECHNOLOGY POLICY RESEARCH (SPRU), UNIVERSITY OF SUSSEX

"SPRU's mission is "to deepen the understanding of the place of science, technology and innovation in the global economy for the benefit of government, business and society." Its research is multidisciplinary. Only a small number of its 40 researchers are tenured, the vast majority being contract researchers. The centre is largely dependent on external funding for its research activities. As well as research councils, funders include the European Commission, the public sector and some private foundations.

This form of funding partly explains how SPRU has acquired such an extensive set of ties with government departments. More recently, with the development of new areas of research in complex product systems and manufacturing innovation the centre has begun to develop links with and solicit funds from business and industry. With respect to the exploitation of research, its main objectives are to advise those concerned with the development and implementation of science and technology policy, and to work with firms to develop the tools and techniques needed to manage technology and innovation for competitiveness.

There are several different ways in which these objectives are achieved. The SPRU Visiting Fellow programme is designed to attract individuals from business and government (as well as scholars) who wish to pursue their own research for a period of time at SPRU. Visiting Fellows become an integral part of SPRU's community. Weekly seminars run throughout the academic year. The seminars expose staff and students to new ideas and have led to continued co-operation between invited speakers and SPRU. Speakers are drawn from a wide range of backgrounds, but particularly from the public and private sectors.

In many cases the reputation and experience of SPRU researchers has led to invitations to serve as advisers on policy making committees. These include the Office of Science and Technology (OST) Foresight initiative, the EC High Level Group of Experts on Constructing the Information Society, the Institute of Energy, the Deputy Prime Minister's Construction Industry Task Force, and the Advisory Committee on the Chemical Weapons Convention. Research on IT and development has also been carried out for the Development Working Group of the United Nations Commission on Science and Technology.

NATIONAL PRIMARY CARE RESEARCH AND DEVELOPMENT CENTRE (NPCRDC), UNIVERSITY OF MANCHESTER

NPCRDC has core funding for an eight-year period from the Department of Health, in return for which it undertakes a series of research programmes agreed annually with DoH. This funding stream has enabled NPCRDC to grow to over 50 staff, including more than 15 administrative, clerical and technical support staff. Academic staff are drawn from epidemiology, geography, statistics, health economics, general practice medicine, nursing, psychiatry, pharmacy.

The researcher interviewed highlighted the enormous contrast between his earlier situation as an externally-funded career researcher within an academic department and his present position in a large research centre:

"At an organisational level, departments can't provide support for 'lone' researchers. You simply have to go wherever the money is. Departments offer you very little unless you can get a big enough group of like-minded people around you. I moved to the Centre not because the field was necessarily exciting, but because it offered security. As a career researcher, the Centre has the infrastructure, the support services and the management structures that provide exactly the kind of context you need."

This researcher drew attention to four especially relevant features. First was the range of contacts that the Centre could open up. The professional field represents a huge and diffuse audience: government departments, GPs, practice nurses, district and health nurses, users and user organisations, managers, provider trusts and the like. Pinpointing current concerns involves talking to a large range of people, and the Centre's breadth of focus makes this more feasible.

Second, and closely related, is the dissemination of research. NPCRDC has a dedicated dissemination and publicity team with a publicity officer who deals with the media and organises seminars and workshops with policy makers and practitioners. This sensitises researchers to the concerns of those whose needs are being addressed. And, in terms of outputs, it helps in developing a mix of publications spread amongst traditional academic and professional journals and trade periodicals. Awareness of the uses to which research might be put has led to a corporate commitment to development as well as to research itself. For example, the Centre is seeking to introduce innovative approaches to service delivery at a number of experimental sites. These sites provide 'test beds' for the implementation of research ideas.

Third, the Centre has a distinctive role in training and career development. As well as offering standard postgraduate programmes and courses for external users some training is geared specifically to staff within the Centre itself. The range of experience and disciplines within the centre mean that it can organise formal training and advice and mentoring for younger researchers.

There are, of course, tensions in working so closely with the world of practice and some feel the need to distinguish themselves 'researchers' not practitioners. Again the corporate structure permits a division of labour such that research outputs can be translated into practice by specialists within a project team or the wider programme area.

Finally, the multi-disciplinary character of the centre means that different perspectives can be brought to bear on a common set of issues, and that individual researchers can draw on a range of in-house expertise including that provided the visiting and postgraduate fellows that the centre attracts.

Above all, the researcher valued the benefits of relatively long-term core funding. This has brought with it the luxury of not having to jump from one project to the next. It provides scope for being able to take longer to put together the outputs of various projects and to exploit the associated added value of seeing projects develop as part of broader programmes of work. It also has the inestimable value of more readily costing-in the extra 3 months required to write-up more reflective articles. The Centre is now sufficiently well established to produce streams of applied work which meet the needs of its core-funding contract whilst also positioning its research in academic debate:

"We are now saying, well we need to get out more articles on post-modernism or whatever in the academic journals. There's scope to let people write their heavy theoretical pieces, and we can do this better because there is a big range in the background disciplines of our staff."

LEGAL RESEARCH INSTITUTE (LRI), UNIVERSITY OF WARWICK

The LRI was established in 1978 to foster research activity within the School of Law. At the time of this study, all members of the law department belonged to the LRI; however, a professor, two permanent fellows and five FTE researchers constituted a core group specialising in research. By contrast with the more traditional focus on 'black letter law' in UK Law departments, the School's research has been consistently of a socio-legal character. This niche has been especially conducive for team- and project-based work, and for responding to the increasing demand from funders for policy-oriented research. There is a clear sectoral focus within the LRI, and long-term relationships have been established with a select number of funders and users, thus enabling the creation of strong links with the world of legal practice.

The Criminal Justice Group, which is one amongst seven clusters of research, consists of a handful of specialist research staff and two senior members - the Chairman of the Law School, and a Research Professor - who have well developed reputations, contacts and networks with key commissioners in government departments and other agencies. Many projects have a strong policy emphasis; one, on Police Station Advisers (funded by the Legal Aid Board and the Law Society), was influential in bringing about policy changes with regard to duty solicitors. It also spun-off into a further project on contracting for criminal legal aid. Another project on delay in the criminal justice system was sponsored by the Lord Chancellor's Department which, in the words of one of the researchers, "*simply wrote to people working in the criminal justice sphere, and they were familiar with the work of X and Y* (senior figures in the LRI)".

A second cluster on Children and the Law is a somewhat looser collection of individuals, headed by a Professor with a strong track record and reputation. One of its specialist researchers is also a qualified solicitor. This group has been influential in defining issues for policy agendas. As the research sponsor puts it: "*that is the objective of doing the research really, to pinpoint those problems and try to either encourage or shame people into doing something about them*". The group has an especially strong long-term relationship with the NSPCC, while also carrying out work for other clients such as the Joseph Rowntree Foundation.

INSTITUTE OF CRIMINOLOGY, UNIVERSITY OF CAMBRIDGE

A small department within the Faculty of Law, the Institute has long-established contacts with the Home Office, other criminal justice agencies (the Police, the Prison Service, the Probation Service), the Department of Health, as well as the Rowntree and other trusts which have an interest in the causes and responses to crime. Such bodies not only provide funding, but also participate in the development of research agendas and dissemination strategies. Collaborative work with local authorities, and third-sector organisations such as Community Service Volunteers and the National

Association for the Care and Resettlement of Offenders has also been carried out.

Although the Institute engages in fundamental research, there is a strong applied element in its work (looking, for example, at the effectiveness of various Government policies and criminal justice practices). Whilst many of the contacts with outside agencies were initially created at an institutional level, it recognises that the relationships need to be maintained by individual academics. Their activities include participation in training events within criminal justice system agencies, as well as traditional lectures to national and international academic and professional audiences. Dissemination is also aided by the multi-disciplinary nature of some of the research, for example, involving collaborations with medical researchers and psychiatrists, as well as practising lawyers.

CENTRE FOR EDUCATIONAL SOCIOLOGY (CES), UNIVERSITY OF EDINBURGH

An ESRC project being carried out at this centre aimed to compare Scottish and English/Welsh approaches to unifying academic and vocational learning. The project has interacted with a wide range of users, each interested in post-compulsory education from different perspectives. These groups include the Scottish Office Education and Industry Department, the Scottish Qualifications Authority, the Scottish Consultative Committee on the Curriculum, Educational Institute for Scotland, the Confederation of British Industry (CBI), the Committee of Scottish Local Authorities (COSLA), as well as senior further education (FE) staff, head-teachers and teachers. While acknowledging this diversity of perspectives, the project's principal researcher seeks to influence the key policy makers. However, the scope for engaging with these organised users depends on how actively issues are being debated, so, for example, at one point policy interest in the subject was much higher in England than in Scotland.

The researcher identified several routes through which the project attempted to influence thinking and policy debate among users. The distribution of working papers to known users has been followed up with 'consultation seminars' which serve to provide feedback as well as stimulate discussion on the issues raised. The research interview process is also perceived to be significant in that it is a two-way exchange of information and ideas between researcher and interviewee.

Despite the fact that CES has a reputation and set of linkages as a unit, it may be particular researchers and their specific projects – rather than the centre, on its own terms - who come to be identified as experts, in the minds of users. The reputations of key individuals continue to be as crucial in large research centres as they are in regular departments with the lone "star" researcher.

CENTRE FOR THE STUDY OF ENVIRONMENTAL CHANGE, UNIVERSITY OF LANCASTER

The centre was set up by a high-profile member of the environmental NGO community and an established social scientist, who took on the roles of Director and Research Director, respectively. As in other centres of its kind, most other staff are employed on fixed-term contracts tied to a series of projects and consultancies. Based on an alliance between academic and policy related interests the centre's research network has evolved over the years. A major grant from the ESRC's Global Environmental Change Programme provided core funding for several years. This was supplemented by projects funded by the European Union and by a range of other smaller scale funding bodies including environmental NGOs, local authorities (Lancashire County Council), central government (the Health and Safety Executive), and private companies, notably Unilever. This spread of clients across different sectors was made possible by the combination of public and academic experience – and the networks of contacts which the two directors brought to the centre.

CSEC has created a niche for itself in the growth area of environmental social research. The themes of "cultural approaches" to the environment, and "public participation/lay knowledge" have served as the cornerstones of a trademark identity crucial to the successful marketing of ideas in a competitive context. As the former chair of a major national environmental NGO, the director's role was to insert and position the centre and its work in major public and policy debates of the day. Regular participation in government and NGO advisory committees and conferences helped not only in the diffusion of CSEC research to user groups, but also in the creation of the centre's public identity, an identity which has in turn been instrumental in generating new clients and new projects. Media participation and personal connections with members of a few select, but influential think-tanks have been especially significant in this regard. By these means, relationships with "organised" users (large environmental NGOs, government departments) have been maintained and reinforced and previously unknown users drawn into the fold.

Involvement in the national political scene has been complemented by the research director's academic networks in the field of science and technology studies, and environmental policy. These two areas of expertise have worked together and helped the Centre sustain a flow of income from research councils and other funders which value "user" engagement.

These cases illustrate the development of close relationships between research centres and organised users, built up in the context of long- or medium-term structures of funding. In this respect, such centres are similar to those programme centres funded for five- to ten-year periods by research councils for the purpose of developing and leading research in a new area.

In all such contexts, linkages between researchers and practitioners are built up over a number of years. Given the closeness of the relationships and the degree of trust and reputation that accompanies them, there is usually significant scope for researchers to influence policy. On the centre's side, the confident expectation of receiving recurring sequences of contract funding can help build up concentrations of staff with expertise in relevant fields. Research centres can become a nexus of established wisdom sought out by several external agencies, as well as a *de facto* agenda-setter for both the research field and the user community. On the users' side, prior experience in dealing with social science research as well as a particular community of researchers enables ideas to be more readily absorbed.

The internal synergy stimulated in research centres can, in turn, add to their capacity to sustain user relationships. It is nevertheless apparent that key individuals usually play critical roles in ensuring the maintenance of user linkages; and this suggests the need for centres to develop conscious continuation strategies to help create the next generation of 'stars' within them. Size and specialisation make it feasible to develop strong internal structures through which new personnel can be trained and research ideas exchanged through regular workshops and conferences.

This mode of organisation also enables genuine co-working between researchers and users. A two-way flow of ideas and research questions can develop as a result, as the experiences of the LRI (Warwick) and the Institute of Criminology (Cambridge) indicate. Again, this is more likely to happen where both parties are familiar with the culture of research and /or where users, such as those involved with CES (Edinburgh value independent judgement and an academic approach.

Yet the closeness of researcher-funder relationships may put strains on researchers' independence. There is also a danger of research sclerosis should the hegemony between users and researchers grows too dominant. In addition, research results which remain largely within the centre/user nexus are less open to critical scrutiny from the broader research community. Finally, inexperienced researchers who are drawn into these close knit circuits may lose some of their own research identity: they become anonymous cogs in an institution dominated by people with already established reputations.

Centres positively favour non-academic interaction. Where users are also organised, the situation is one in which research relevance is negotiated and research results readily absorbed by the user communities in question.

TYPE 2. RESEARCH CENTRES AND DISPERSED USERS

The second type of relationship is that between organised research centres and more diffuse user communities, none of whom are as readily identifiable as large government departments or prominent agencies. Since these dispersed users may only occasionally fund research, it is less likely that long-term research networks will form. Typical users in this category would include businesses, local authorities, and some quangos like SRB partnerships, TECs, or police forces. Such groups sometimes fund research, but where they do, this tends to be a one-off affair since research budgets are limited or exist for specific purposes or for a fixed period of time. The scope for developing sequences of contracts or for developing lasting networks is correspondingly less. On the other hand, research centres may still want to develop strategies for disseminating publicly funded research and for communicating with anonymous users, for example through extensive use of the media. The experience of IDS illustrate some of the issues involved in formulating a such a promotional strategy.

INSTITUTE OF DEVELOPMENT STUDIES (IDS), UNIVERSITY OF SUSSEX

The Institute of Development Studies (IDS) is an independent institute located at the University of Sussex. A recent review of the Institute's dissemination activities led to the development and implementation of a "Communications Strategy" which has been embedded in a programme aimed at communicating research outputs and other IDS activities effectively, and to an increasingly diverse audience. The strategy set out goals and actions to create and project a strong, clear and consistent image of the Institute; to incorporate communications as an integral part of all IDS work; to identify and reach key audiences; and to rationalise IDS outputs to increase their impact. The Dissemination Programme sought to improve communication between researchers and a wide range of non-academic audiences using print, the media and the Internet. The Institute has a full-time Head of Communications, and the marketing of IDS publications has been intensified with outputs timed as far as possible to coincide with major events in the development field.

The Institute provides a range of efficient and cost-effective dissemination channels which researchers can tap into, offering a source of expertise and advice on dissemination issues, and a level of visibility and accessibility which researchers would be unlikely to achieve on their own.

For each part of the Institute's work, audiences have been identified and prioritised, and mechanisms devised to reach the main targets. The needs and priorities of target audiences have been studied, and surveys used to assess the effectiveness of the Institute's publications. Publications are required to be professional with policy-focused summaries, consistent in style, and easy to read. The key communications tool for non-specialist audiences is a policy briefing series which targets thousands of senior policy makers in government, aid agencies, non-governmental organisations, business, the media and other non-academic audiences using direct and jargon-free language. To support the range of high quality information products, the Institute has a focal point for information and a feedback channel for user reactions.

The Institute has adopted a highly structured approach to reaching and satisfying the needs of its dispersed audiences. This action was needed to deal particularly with three inherent problems: a reduction in its core funding; a lack of strong news angles in much of the research; and the weakness of its UK or European connections. The Institute's strategy has resulted in changed attitudes and priorities within the organisation. Increased publicity and marketing have raised the profile of the Institute and helped generate income. However, the investment required to disseminate research results to dispersed users, in terms of funds and staff time, has been considerable, and the balance between effort and resources requires careful management.

THE CALL CENTRE, UNIVERSITY OF EDINBURGH

The CALL Centre (Communication Aids for Language and Learning) was set up in 1982 to study the application of new technology to the field of education, with emphasis on children's communication difficulties. Although the centre's founder has since left, two other researchers continue to do research that benefits children with special education needs. The Centre was set up with the explicit aim of undertaking action research by providing a service, then evaluating the extent and types of need by measuring and analysing the use practitioners and others made of that service. Findings were expected to feed into policy at the Scottish Office. Since then, the Centre's researchers have found that that it takes years to influence policy, that research alone is not an effective force for change.

The Centre's most high profile work is the Smart Wheelchair project. Set up in 1987, its original aim was explore how the "augmentative mobility" enabled by such an artefact would affect children's communication skills and self-esteem. Since then, the centre has proceeded to manufacture and sell several models of the artefact itself which represents a tangible outcome of the research. A great deal of supporting informative and instructive literature generated during the course of the research has been produced with the aim of helping schools make best use of the wheelchair. Advice relates to curricula needs and statutory requirements, as well as potential games and tasks that contribute to the development of children's skills in using the wheelchair. With the help of UnivEd (Edinburgh University's technology transfer organisation), a manufacturer was engaged and the first production unit appeared in 1997. Of the seven wheelchairs sold to date most have been purchased by charities or fund-raising initiatives by parents. The University has also played a part in providing bridging funding to support essential technical staff. Nevertheless, establishing co-operative arrangements with external agencies has been problematic. Earlier attempts to find a manufacturer stumbled, and the CALL Centre became a production centre. Being a small business of sorts, the simultaneous pursuit of research continues to be a challenge; the specialised nature of the product and lack of long-term employment prospects creates problems in terms of finding appropriate staff.

Users in this case were not pre-configured entities with extant needs. Rather, they defined themselves and their needs in relation to the demonstrated and emergent properties of the Smart Wheelchair. As its network of links with practitioners and other sources of expertise has evolved, the Centre has come to be regarded by emergent users as a valuable resource in this area.

CENTRE FOR CORPORATE STRATEGY AND CHANGE (CCSC), UNIVERSITY OF WARWICK

CCSC was founded within Warwick Business School in 1985 to work on strategic change processes in private and public sector organisations. It consists of a Director (who is a professor in the School), and a group of about 10 self-funded Research Fellows. Individual and centre reputations are converted into networks in a variety of ways. CCSC's Consortium of supporting organisations provides some finance through subscriptions, in return for a series of workshops and a high-profile annual conference which also acts as a "shop window". The consortium also acts as a sounding board to help identify emerging questions for future research. Apart from an annual report, few other media strategies are used; however, during the time of this study, the centre was experimenting with the idea of hiring a marketing consultant to help with development of its business.

Partly because of its cross-sectoral focus and its own funding needs, the centre interacts with a wide spectrum of users, some more well-defined than others. A subgroup of staff have established a good relationship with those who commission NHS research and development. By contrast, the private sector is much more diffuse: "*in a sense we can't ask the question 'who are they?', we just know that they are out there*". With the exception of a consortium of organisations which provide continuing support, short-term funding structures are the norm. Combined with the short-term orientation of users (in the words of one corporate user: "*issues for us last one or two years; issues for academics last three to ten years*"), this situation makes for serious difficulties in the construction of a long-term academic career. Staff often work on several projects at the same time as well as on new proposals, even as they are still seeing out old projects. On the other hand, staff turnover opens the way for flexibility in terms of the rise and fall of substantive research areas.

While IDS (Sussex) represents an example of a centre with a declining number of organised bodies providing core funding, both the CALL Centre (Edinburgh) and CCSC (Warwick) have generated links with a few prominent users even as they attempt, with varying levels of success, to link up with other, more scattered players. For IDS, the aim has been develop promotional strategies that help to position its work in the market and ensure the visibility of its research. It has been very successful in setting up a highly organised plan for these purposes, with targeted circulation of promotional literature, and sustained tapping of different media. Researchers are also given a great deal of assistance in dealing effectively with the external world.

Contacts with dispersed users are often created through use of the media in a generalised 'scatter gun' approach to research dissemination. Other routes to new users may be through umbrella bodies - for example, the Local Government Association, professional bodies representing private companies or other intermediary organisations. Another strategy is to invite selected users to sit on management boards or advisory committees. Though unlikely to generate a steady flow of repeat contracts, this kind of network building is nonetheless useful in that it allows centres to project an image and extend a reputation based on existing work within the field of cognate users.

Even though interaction with dispersed users is more of a lottery, the potential *impact* may, ironically, be somewhat greater than in the first model. The CALL centre (Edinburgh) is a good illustration of this. A range of users has emerged over time, most of whom hold the advice and findings of the centre in high regard. On the other hand, centres that rely almost wholly on an irregular stream of contracts tend to have serious problems with staff recruitment or with staff capacity to develop long-term career trajectories. Since employment on fixed-term contracts is typical, staff turnover is often high, resulting in a loss of accumulated knowledge and experience.

As these examples show, centres which need or want to relate to dispersed populations of users and consumers have to develop and deliberately design appropriate communication strategies.

TYPE 3. RESEARCH EXPERTS AND ORGANISED USERS

The third model is of individual researchers working outside the context of formal research centres yet responding to organised users. Researchers' reputations depend on the density of their non-academic networks and the 'thickness' of their address books. Managing long-standing user relationships is a key to success. This generally depends on reliably producing relevant research 'deliverables' which meet client expectations in terms of timescale and quality. Maintaining a high profile also means appearing at significant conferences and events, being quoted in the press and appearing on TV, being involved in Select Committee hearings, and supplying – often at short notice - advice and reactions on a widening range of issues. Providing productive individual researchers can maintain their networks, they can expect to be widely known amongst users and to be called upon and used, over and over again.

The anonymised examples below illustrate such situations.

SCHOOL MANAGEMENT

Three researchers had carried out an ESRC-funded comparative study of devolved school management (DSM) in England and Scotland, based on a series of case studies of schools in Glasgow, Edinburgh, and Newcastle. The Scottish Office (SO) was interested in the success or otherwise of this form of school management within Scotland, and in 1996, toward the end of the ESRC project, a civil servant in the Scottish Office Schools Division asked the researchers to carry out an evaluative study in Scotland 'to find out how DSM was being implemented, how useful it was proving to be, and what it was actually doing in schools'.

The researchers built on their earlier ESRC work by continuing with six of the eight schools already studied in Strathclyde and Edinburgh, adding three further schools in what was then Tayside region. In their view: *"the SO really got value for money by using a team that was already in place, and paying for only an extension albeit with a change of emphasis"*.

None of the SO research unit staff worked with the researchers in carrying out the investigation, but the civil servant who had approached the team was as a member of the project's advisory committee. The role of the committee was not to steer the research but to help the researchers through the process, and ensure that the research stayed focused on the task. This civil servant sees the steering committee as a standard research management device, but finds it 'difficult' because, although he has commissioned independent research, he also sits on the research team's steering committee. He finds these two positions to be 'incompatible', but can think of no better alternative to achieving both independence and relevance. It heightens the importance of all parties being aware of the delicate balance between customer control and researcher freedom.

A summary of the final report was circulated by the SO to education authorities and secondary school head teachers. The researchers do not know whether the research had any impact on policy, but in the eyes of the civil servant, the research will be used in light of the government's commitment to develop DSM. He feels that, since this piece of research is very specific, and stands alone, it is likely that there will be clear links between eventual policy initiatives and particular recommendations made by the research.

The researchers would have preferred closer engagement with policy-makers, but felt that the SO were operating with an arms-length model in which they as policy-maker/customer specified the problem, and expected their researcher/contractor provides an answer.

SMOKING

A longitudinal study on adolescent smoking commissioned by the Department of Health (DoH) gathered survey evidence from approximately 5,000 adolescents and conducted focus groups with girls drawn from the sample. The research was both quantitative and qualitative in nature. The researchers sought to apply a new approach, that of social representations and social identity, to the recurring problem of adolescent smoking. The study's findings provided important indications of which kinds of anti-smoking interventions are likely to be effective. The researchers suggested how anti-smoking campaigns should be re-evaluated to take account of these factors throughout the school curriculum.

The survey evidence showed that adolescents create, and are influenced by, complex images of smokers and non-smokers. Psychological dimensions such as the social environment, family, peers, stress and coping, body image and mood were also explored. This finding provides a powerful indication of what kind of anti-smoking campaign is likely to be effective. Specifically, interventions need to be much more closely linked to the age of the adolescent targets, and need to be differentiated between smokers and non-smokers. Furthermore, advertising campaigns highlighting the health risks are likely to be ineffective. Instead, sharply addressed messages downgrading the 'image' of smokers and smoking and boosting the appeal of non-smoking were argued to be more effective. For instance, a message that implied smokers were less attractive to the opposite sex would be more likely to succeed than one that provided data on cancer or bronchitis, risks which the target audience have probably discounted already.

The results have been reported directly to the government's Scientific Committee on Tobacco and Health (SCOTH), and were an input into a major policy report produced by the Committee on public intervention with respect to adolescent smoking. The DoH also financed the preparation of text for a book on smoking. Furthermore, the survey data have been published as a textbook aimed at teachers, youth workers, and others involved in Personal, Social and Health Education (PSHE).

The production of 'anti-smoking' classroom material illustrates the researchers' attempt to facilitate the diffusion of their findings to organized users, particularly, the educational/academic community, and adolescent smokers. However, the researchers have been disappointed by the lack of DoH funds, to date, to conduct further work that would have enabled them to prepare more materials for use in the classroom, especially a video.

LABOUR MARKETS

Non-academic users often target an individual with known expertise in a relevant field. Such was the case with an *"entirely policy-oriented"* project: *"UK micro labour markets"* funded by a Government Department. A senior Professor in the Labour Economics Group said: *"They said they wanted to set up this group to give them advice on particular topics. We told them what we'd be interested in working on. They selected from that list and paid for it".*
Shared research interests had already led to personal contacts being established between those chosen for the project. All had occasionally given talks at the Government Department in question, and had previously advised the Department on an informal basis. In addition, the labour economists had attended ESRC-funded conferences also attended also by key civil servants. In this case, personal contacts based on academic prestige and expertise were already in place.

ECONOMETRIC MODELLING

This case draws on the experiences of a researcher in econometrics, much of whose work is done for a government department. His initial contacts with the government department were based on his having earlier worked as a research assistant on a major government-funded project led by a senior

academic within his department. Much of his subsequent work has been involved collaboration with one or two other colleagues and has entailed large-scale model-building. He sees his network of civil servant contacts as vital. They have been built up partly through involvement in the Economics Society, some of whose meetings civil servants attend, and through ex-students who now work in the government department:
"Most of my links are very personalised. In particular, there's one man in the government department with statistical expertise and an interest in large data bases, so I send things to him. But he's now retired. The more personalised the links, the stronger and more effective they are, but the more the risk of losing them when people move on to other posts."

He drew a sharp contrast between his experience with research-council projects and government contracts. The former give him great latitude – "even with the research programmes, there's really only an obligation to turn up at some of the programme workshops". For the latter, there was the advantage of having real commitment from the funders and the benefit that:
"...we got access to personnel and data and insights into part of the process that generates the data we were trying to model. There were constraints, of course. One was we had to deliver a particular product and if, after two years, it was obvious that we should approach it in a different way that wasn't really an option. Also, the policy needs keep changing faster than decent research can deliver."

One specific piece of work he had done happened to coincide with the furore about BSE and since his work appeared to be in a relevant field it was seized on by journalists and caught up in "a media feeding frenzy". This – and subsequent similar experiences - left him somewhat shell-shocked and perhaps illustrates some of the tensions between the imperatives of 'pure' academic research and the more instantaneous demands of a user market:
"You can earn brownie points through the media, but it all takes time and what you end up with – the 30-second sound bites – makes you wonder about its value. The extent to which journalists can misread and misinterpret your finely-honed 2-page press release makes you wonder if it's a reasonable communication exercise. It's difficult to summarise in a couple of sentences the narrow technical stuff we do. I realise now that you have to write something that they can lift directly, and with the radio you have to prepare your 30 seconds regardless of what the question is."

In practice, it is rare for individual researchers to work entirely outside some form of team context. Most work collaboratively with colleagues in their own or some other university and employ research assistants on external 'soft' money. To this extent, much 'individual' work is conducted within invisible colleges or virtual centres. But, in some disciplines, such as which law, history, and anthropology the 'lone' researcher is by no means uncommon. When it comes to user interaction, the pattern here is one in which individuals have to make a name for themselves in order to gain access to and the respect of relevant non-academic communities.

There are dangers in this. Users often assume individual researchers to be experts across a swathe of territory far broader than the substance of their work would warrant. This puts researchers in a difficult position: either they confirm the limits of their expertise and so disillusion potential users, or they court disappointment of another kind should their advice prove to be ill-founded. They also risk losing the respect of academic colleagues should they trespass into fields in which they are not considered to be experts. The tendency for the organised user community to link ideas, work and expertise to one (or a very few) individuals also means that it is difficult to 'bring on' more junior researchers. The focus on one or two known figures generates further problems since the informal groups which develop around these core reputations are always vulnerable to the loss of the individual stars at their centre. Conscious strategies are required to foster the reputations of less well known colleagues for example, by publishing joint papers and involving them in face-to-face discussions with funding bodies. The same danger is, of course, present within formal research centres built around one or two core researchers. The difference is as much one of scale as of kind but it is generally easier for centres to develop a corporate reputation which extends beyond the orbit of even its most established researchers.

TYPE 4. RESEARCH EXPERTS AND DISPERSED USERS

The fourth context is that of the individual researcher interacting with dispersed user communities. As in the second model, the user population is by definition elusive and often anonymous.

In this situation, the linkage between researchers and users depends, more than in any other context, on individual reputation. The effective broadcasting of skill experience and reputation is what underpins user interaction. Exposure at user/researcher conferences, in the media and elsewhere is especially critical to the process of becoming known amongst a dispersed population of potential users.

The serendipitous nature of this process means that if individual researchers were to actively seek such contacts they would have to adopt a scattergun approach, the returns of which are inherently uncertain. No wonder, then, that many adopt an essentially passive approach, relying on their reputations spreading as a result of their publications and word-of-mouth recommendations, and responding as circumstances require to the unsolicited telephone call or request for research-based help.

This (and the third) model have the considerable benefit of retaining a measure of distance between the goals and aspirations of researchers and those of their actual and potential users. The two parties are initially unaware of each others existence, a feature which makes it more likely that research will be informed by the traditional structure of academic scholarship. This relies on informal networking between scattered researchers working within a common field. It is this model of informal individual interaction on which claims for innovativness and free-thinking are conventionally based. It is difficult to sustain the view that new paradigms and ideas are best developed by individuals working in contexts relatively unconstrained by time deadlines, by the need to generate follow-on projects, or to ensure a stream of soft money to retain research assistants. Yet there is sufficient substance to it to suggest the essential symbiosis between individual and group-based work.

WASTE PAPER MANAGEMENT

This example draws on a specific ESRC project that looked at the application of the EC Eco-labelling scheme based on LCA in the Forest Products Industry. The research team engaged with a variety of users in the course of the study, in some cases seeking particular user groups, while at the same time being sought out by hitherto unidentified users. These included the EC (DG XI, Environment; DG III, Industry), paper industry associations (e.g. the British Federation of Paper Manufacturers), environmental groups (e.g. Friends of the Earth), consumer associations, paper companies, local authorities, consultants.

The project generated most controversy, and widespread media interest, around the third topic, waste paper management. They argued that recycling contributed more to global warming than incinerating paper, and furthermore, that the latter would offer some energy recovery. Paper incineration was more environmentally friendly than recycling. Their findings, first presented at an academic conference, were taken up by the newspapers, TV, and radio. For weeks after the conference the principal researcher was on the interview circuit.

The researchers take credit for questions being asked in the British Parliament, and the principal researcher has met a stream of local government officials seeking his opinion and advice. Local councils, responsible for recycling schemes, were confused. They were contacting the research team because central government was directing them toward achieving recycling targets, and yet here was research implying that such a policy was wrong.

RESEARCH TRENDS

In 1995 a bibliographic evaluation of sectoral scientific trends, which tracked the publications output of research institutions, laboratories and industry, and which identified publishing trends, was completed by researchers based at SPRU, University of Sussex. The study was sponsored by three research councils and three government departments. The researchers published their findings in two definitive reports to the sponsors, and in academic papers.

However, the work was recognised as newsworthy and a press release was circulated to a number of media contacts through the SPRU Information Office. This proved to be an effective channel for the dissemination of the research findings to a wider, non-specialist audience. More than 20 articles based on the research appeared in newspapers and popular magazines, and some of the findings were broadcast on radio. The interest generated by this coverage led to the researchers being invited to make presentations to different audiences. Additional copies of the reports were sold, and some further consultancy work was commissioned. The research findings were also posted on several web sites, so generating further enquiries.

This unexpected interest created difficulties for the researchers involved. They had to spend a considerable amount of time writing non-technical summaries of their work, dealing with enquiries from non-specialists, and seeking authorisation to disseminate their research findings. Without additional funding, they were unable to accept all invitations to present their work. Nevertheless, their willingness to engage in wider dissemination activities generated additional publicity for SPRU and had certain benefits for the researchers themselves.

YOUTH POLICY

This case involves a researcher in the voluntary and community sector who works in the area of youth services, an area populated by a vast array of relevant organisations; government departments, local authorities, umbrella organisations, lobbying groups, and individual clubs and societies. His entrée to this world was through a national youth agency on one of whose committees he was invited to sit. This provided a kind of apprenticeship through which he could achieve a measure of recognition and trust. After some five years he was invited to chair a committee on applied research and this produced a report drawn from evidence taken from meetings around the country in which he was involved as chair. The committee's report ultimately led to a major grant from the then Department of Education and Science to establish a unit on youth work and to a number of small research projects for the researcher himself. The key stages in this process were: first the networking through which the researcher's name was established and, second, the building up of trust as a result of which the research was translated into practice. At both steps, the role of the national agency was critical, as was the rapport established between the researcher and a full-time worker who acted as product champion and helped establish the researcher's credentials within the wider community.
"The fact that I chaired various groups and committees was vital. You had to be there all the time to get credibility. At the meetings I could talk to the heads of various organisations and to the professional factions in the local authorities. You had the sense that there might be a dozen or so key institutional players and you had met them all in the course of chairing a meeting or being a member of a committee. You got into a whole set of reciprocities – they'd say, 'Can you do our annual conference', and I'd say, 'Yes, if…'."

Such reciprocities are more readily achieved in a field that is itself trying to establish its own credibility. Using an academic's name on headed notepaper, having researchers contributing to journals and speaking at meetings can all give legitimacy to embryonic or marginal fields that are trying to establish themselves. And what the astute academic can bring is not only research expertise but also skills in chairing meetings and in talking to conferences.

Establishing networks within so dispersed a field requires time and persistence. One weary researcher recalls:
"All those times I've spent on train stations. And all those evening meetings. I can't justify it in terms of today's dominant ideologies, with research assessment and notice being taken only of publications in recognised academic journals."

LABOUR MARKET SKILLS

This example comes from a 'lone' researcher in the field of labour markets and skills, working for a range of bodies including individual TECs. His user community has shifted from government departments to a more broadly defined population of think tanks and lobbying groups. This has entailed changing relationships and making new links. The researcher's strategy was work with an intermediary lobbying organisation which had political influence and which could provide access to bodies otherwise difficult penetrate as a lone academic:

"Academics can provide cheap (or even costless) analysis for such bodies and they can produce articles and short pieces that give them the ammunition that they need. The quid pro quo that I get is access to people who I couldn't otherwise approach."

This researcher required a diet of small grants to facilitate travel, to meet people, to engage in policy debate directly, and to develop the whole range of 'outputs' in the form of newspaper articles and briefing reports as well as papers in academic journals.

ACCOUNTANCY

A further example is that of a researcher in the field of accountancy. Commercial accounting firms have too short a time horizon to fit the typical tempo of academic research. In this case, the solution lay in making use of intermediary bodies such as professional accountancy associations. These organisations provided two types of research funding, some to support longer-term academic research, some to pay for the work involved in responding to instantaneous requests related to highly specific issues and problems. Much of the former type of work could as well have been done through formal ESRC-type contracts, but the advantage of working directly with professional bodies was the 'street credibility' and the contacts that accrued:

"One of the advantages is to gain access to commercial companies for interviews and the like. Working for the professional bodies carries a certain professional and commercial credibility amongst the people in practice."

This researcher's frustration was that it proved extremely difficult to develop jointly funded projects which combine support from commercial firms and research councils. While he had succeeded in establishing one such joint project, the process had proved exceedingly time consuming and he argued the need for greater readiness on the part of bodies like ESRC to develop more flexible deadlines and a more open stance on such joint funding.

For all such researchers, working outside the context of formal research centres, establishing networks and developing research across dispersed communities can present many difficulties. For those working in policy-related fields, one recurring problem was the fact the social science community is spread across the country whereas key decision-makers are all in London. While this may be no different for researchers working within centres, it presents special problems for individual researchers who have to advertise their expertise and establish trust on a one-to-one basis. There was also a strong sense of such researchers being unsupported in much of what they did. For example, one was particularly critical of the support facilities within his university. The research support section was, in his view:

"...too front-end, too much bothered about initially getting contracts. It then does nothing about the middle and end of projects. It gives you the daily unfiltered gobbledegook about EU funding and the like that you have to wade through to find one or two possible nuggets. Once you have a project, you're on your own. You have to fudge things like xerox costings and guess at

where your budget stands. It's like a cottage industry, having to run around and do everything yourself."

The irony in this is that university research support functions are normally geared to offer greatest help to those least in need of assistance – that is research centres and groups with large and regular research contracts. Researchers operating on a much smaller scale have particular problems with recruiting and retaining research assistants, maintaining oversight of a number of individually small budgets, and producing 'publicity' materials and in-house publications. The inevitable emphasis on bureaucratic practices makes it difficult to accommodate the more fluid needs of "cottage industry" researchers of the type described above.

Commentary

These model contexts are not randomly distributed within the social sciences or across universities. Some are more frequently found in certain areas or disciplines than others, some co-exist along side each other. For example, research areas that depend on more quantitative techniques such as modelling or the analysis of large data sets tend to operate through centres or groups and work with organised external clients.

Whatever the context, a number of principles appear to emerge.

- The creation of dense networks - and the maintenance of these networks through repeated contacts, the offer of advice and reinforcement through informal chats, telephone calls and the like - are vital to the researcher/user interface. For researchers with established reputations, the maintenance of such networks (especially with organised users) may present few problems. Indeed, it is likely that their reputations will spread amongst related communities of potential users. For inexperienced researchers starting up from scratch, the creation of networks is a strategic challenge that demands conscious effort and a deliberate investment of time and energy.

- Research centres have considerable advantages in promoting their skills and expertise and this can benefit all the researchers involved. Equally, universities that are seen as having strong research reputations can confer something of this generalised reputation on individual researchers who work within them.

- The arguments for research centres are by no means all one sided. The cases considered above suggest that there are real benefits to be gained from a mixture of specialised centres closely related to one or more non-academic communities, and more isolated researchers pursuing more independent lines of enquiry.

PART 3 CONSTRUCTING RELEVANCE

The cases summarised in part two show how projects are organised, managed and promoted in different research situations.

Though useful in its own right, this is a misleadingly static analysis. In this part of the report we focus on the evolution of research situations; on how researchers and users move between one setting and another in the course of a career, and on the dynamics of influence and interaction. These movements are significant since we argue that interpretations of relevance depend on how projects are positioned within the longer term trajectories and evolving ambitions of both researchers and users.

Changing settings

Reading all six reports together one gets the impression that research activity is more formally institutionalised in some disciplines than in others but that disciplinary tradition is not the only consideration. Given the significance of sub-institutional settings it is important to reflect on the conditions under which research centres develop and flourish.

The ability to establish a recognised and durable research centre depends on being able to carve out a research agenda and a niche of expertise, which others are willing to fund and support. In many of the cases observed, centres grew out of, and around, the expertise and contacts of a single founding figure, a star in his or her own right. Not all research issues and not all researchers have the necessary magnetic attraction, nor the necessary constituency of willing supporters and potential users. Neither do all centres require the same level of initial investment. In some areas of social science it is possible to undertake relevant and worthwhile research on an extremely small budget, and with almost no collaboration. In other cases, for instance where researchers rely on expensive data, specialist infrastructure or dedicated hardware, it is impossible to work in anything other than a group or collective environment. there are two points to note here. First, the nature of the topic has implications for the way research relationships are managed and institutionalised and for the sort of investment involved. Second, the development of a research centre generally requires a mixture of academic and non-academic support, at least to the extent that the venture is seen to be relevant and worthwhile.

The changing landscape of research groups and departmental environments has direct and indirect implications for the structuring of academic and non-academic interaction. As considered below, reputations and identities are sustained, consolidated and renewed in different ways within and between research environments. The following sections explore the social organisation of academic and non-academic relationships and the negotiation of relevance starting with the question of how researchers and users first encounter each other.

Building networks

The routes through which individuals become known in non-academic circles and the processes of network building are extremely important both in terms of how research is subsequently promoted and for researchers sense and understanding of relevant work.

Centres, contracts and contacts

Experienced researchers who work in soft-money research centres tend to acquire extensive networks of non-academic contacts. Such network building is part of the job for it is often the case that knowing people and becoming known is a precondition for the effective flow of ideas and contracts. Looking back over a career, it is sometimes hard to reconstruct the gradual evolution of these connections, or to follow the interweaving of personal relationships. One project leads to another and new links are forged along the way.

New recruits to the world of contract research are, by contrast, confronted by an immediate, often urgent, need to make new links in new fields. Approaches to induction varied yet the heads of the Lancaster and Manchester research centres who met to discuss user interaction agreed on the importance of introducing new staff to relevant contacts, and of encouraging them to extend and develop networks of their own.

Detailed strategies were revealing. Where important relationships were at stake, or where established researchers had a reputation to maintain, new recruits were kept in the shadows, hanging on to the coat-tails of more experienced centre staff and only rarely initiating new contacts in their own right. In other circumstances, for instance where research was being developed in an unfamiliar area, or where different management styles prevailed, new researchers struck up user relationships on their own account.

Either way research group heads faced what amounted to a constant, though sometimes productive, tension between the identity and reputation of the centre as a whole, as constructed by the total cast of people with whom it interacted, and the personal networks, identities and reputations of the individuals within it. The process of nurturing, managing and distributing non-academic relationships is vital to the life of such centres, especially where research groups rely on one or two key players, or where there is a high turnover of short term contract staff. In the world of contract research there is an inevitable circulation of staff as people take on new roles or as short-term contracts end. For the purposes of this discussion, individual entrances and exits are significant in that they reconfigure the network of links and contacts which sustain the group as a whole.

There are three points to highlight here. First, new recruits and experienced researchers interact with non academics from unequal starting points. It is important to remember that the research community is itself divided and differentiated. Second, the existence of a good non-academic network is increasingly important for the life and health of research groups and centres. In this context, there are real incentives for investing time and energy in cultivating non-academic contacts. Third, the group environment generates means and opportunities for sharing and extending networks not available to those working in more isolated situations, based in teaching departments, or preoccupied by peer recognition within a bounded academic domain.

Again it is important to recognise the diversity of forms involved: research groups and centres come in all shapes and sizes and even where they have established identities of their own, the concept of the individual expert remains important. One of the paradoxes highlighted by the six studies was the value placed on individual expertise *and* the importance of research centres and groups in developing and promoting reputations in the wider world.

The "star" system

Becoming an expert is part of becoming known in the outside world as well as by your own peers. In disciplines such as management, those who have guru status also have considerable influence. Though the criteria for "becoming known" or for "being a star" were somewhat elusive, the pilot studies confirmed the fact that certain figures stood out and were recognised and constantly referred to as experts in their field. These few people were actively sought out by non-academics and the more they were used in this way, the better they became known.

In reflecting on this phenomenon it is important to take note of the problems which non-academics have in making sense of the university system and the research which goes on within it. Lacking any obvious guide or map of research excellence, or any easy way of finding out who is working on what at any one moment in time, it makes sense to rely on the short-hand of reputation - even if that is based on qualities not entirely relevant to the problem at hand. Woolgar and Latour's discussion of the "credibility cycle" (1979); that is the cycle in which research funding is converted into academic papers which in turn enhance individual reputation and so the chances of further research funding, is if anything even more relevant when it comes to the construction of expert status in non-academic circles.

Of course not everyone can be an expert or a "star" brilliant enough to pull in research resources and respect. As in the movie industry, the star system systematically distinguishes between those who are the focus of attention, and a cast of others who fulfil supporting roles. Research worlds which revolve around centrifugal cycles of credibility consequently generate and depend on a similar division of status and labour. As we have seen, new and unknown researchers get drawn into social networks and non-academic relationships which others have already developed.

Though such hierarchies of influence play an important part in structuring patterns of academic and non-academic interaction, disjunctions between the social organisation of the research world, on the one hand, and of what proved to be extremely varied user communities, on the other, were generally just as significant.

Small worlds and long shots

We need to be cautious when reflecting on the social organisation of non-academic relationships for the six pilot studies focus on researchers' experiences of encountering non academics and so tell us relatively little about the other side of the equation, that is how and why such relationships are initiated from the users' perspective. How do researcher-relationships develop and evolve over the course of a user's career, and how does the research landscape appear from the other side of the fence?

In some cases, we know that user-funders look for research providers from university and other sources, perhaps by open invitation to tender or a more selective search process. Well known individuals, like well known research centres, are approached in this way and just as academics become familiar with a network of users, so users build up their own web of research links. Small worlds of the type described by David Lodge clearly do form around research areas and sources of research funding.

Paradoxically, the pilot studies also emphasised the haphazard and random nature of user interaction. Descriptions of opportunistic encounters, of people meeting at conferences or even on trains, and accounts of one thing leading on to another added to the sense that user relationships could not be policed or systematically engineered. This element of uncertainly was reinforced by the very common experience of building relationships with one part of an organisation only to find that structures changed or that key contacts moved on. Of course users also face the same problem. Having invested time and energy in getting to know an individual or research group they are left high and dry when research priorities evolve or when researchers set aside established interests and existing friends in the search for new funding opportunities. Strategically detaching from research networks is as important as starting them up and as the studies remind us both processes are marked by the relative power of the parties involved, and by the currencies of reciprocity and exchange on which such relationships depend.

While the six pilot studies reveal quite a lot about how networks are formed and contacts made and maintained, they are much less informative when it comes to the substance of the relationships themselves. How well do users and researchers really know each other, how much should they know, and where are the lines drawn?. How much time do users invest in research relationships and in what ways are these valued? We know really very little about the kinds of conversations and interactions which constitute the fabric of the research networks documented in the pilot studies.

Though universities had a part to play in fostering non-academic linkages, for instance in providing funding or support for travel, conference attendance, and participation in non-academic meetings etc. there were few examples of more deliberate involvement in brokering relationships or creating new situations in which users and researchers might encounter each other.

To summarise, the institutional contexts of research (research groups and academic departments) structure opportunities for user interaction and define the terms in which that takes place. Such situations have different implications for new and established researchers and for the opportunities and incentives which individuals have to construct non-academic reputations and networks.

Positioning projects

Research agendas do not stay still. In thinking about the dynamics of our four research situations it is useful to think about how research questions evolve and to reflect on the part which non-academics and research funders play in that process. In the discussion which follows we distinguish between the direct negotiation of relevance and the more elusive but still mutual process of defining worthwhile research. We also reflect on how researchers and research groups develop longer term programmes of enquiry through the strategic assembly of relevant projects each designed in response to someone else's agenda.

Constructing research agendas

Soft-money research groups have to secure a reasonably steady stream of project income if they are to survive for any length of time. Exactly how much depends on the size, ambition, and purpose of the group itself. Research is conventionally funded in project sized bites: problems are organised in this way, and research careers are structured accordingly. If there is a common challenge facing social science research groups and centres, then it is probably that of finding ways of linking projects together, one after another, whilst also developing a coherent and intellectually robust research trajectory. Longer term agendas have to be constructed and ambitions realised out of a patchwork of discrete projects, studies and associated research relationships.

This generates a range of typical dilemmas. In order to survive and thrive, research groups have to respond to external requests (for example for consultancy work or research) whilst setting their own course and maintaining a distinctive identity; they have to move into new areas whilst also accumulating credit in the key currencies of money, reputation, people and ideas; they have to generate academic publications from work which is no longer funded whilst also chasing after the next contract, and so on.

The precise configuration of problems and opportunities depends on how the centre (or individual) stands in terms of reputation and experience, and on the characteristics of the research area, or "market", in question. Large centres with a long history have to keep the money flowing in, and have to do so in the fields for which they are known, and in ways which continue to distinguish them from their competitors. Centres which have only recently sprung up or which move into uncharted territory have less to draw on, but have much more room for manoeuvre. They can define their own identity through the work they do, and can create new niches of activity and influence within the research landscape.

Constructive responses

No wonder, then, that the six pilot studies provide evidence of such contrasting strategies when it comes to defining and setting agendas. At one extreme, researchers respond to users' needs and react as best they can to requests which come through the door. Even here, there is some order to the flow of enquiries, and to users' expectations of the capacities and skills on offer. There is some sense of what potential research providers are good at and so some pre-filtering or ordering of research agendas. At the other extreme, researchers undertake work on their own initiative and then search for potential consumers or users. This way round researchers' set the agenda but do so with reference to a sense of the potential relevance and worth of the work they undertake.

In practice most of the funded projects described in the pilot studies lie somewhere between these two extremes. What is perhaps more important, and certainly more relevant for the long term evolution of research capacity and academic enquiry, is the question of how discrete projects fit together within the worlds of actual and potential users, and within the world of the research provider.

Projects and programmes

Again the studies tell us more about researchers than users. Time and again researchers explained that they sought funding from different sources to pursue their own goals. They frequently underlined the point that research careers develop through sequences of formally discrete projects, and that academic reputations are based not so much on individual studies, as on the papers, books, and articles which grow out of what are often longer term programmes of work.

Whether reflecting on individual careers or the career of a centre as a whole the common ambition was to piece together a coherent portfolio of research projects each of which contributed to an underlying research strategy. This longer term agenda was always defined by the researchers themselves, rather than by the sponsors of individual projects. Indeed those who defined and funded component projects were only sometimes aware of the part they played in this bigger picture. As might be expected, researchers and research groups differed in the extent to which strategic direction and mission blended with opportunism and flexibility, and in how reconstructed histories of past work informed more deliberate forward planning. Yet the common thread running through all these experiences was an expectation of intellectual, social, and financial accumulation. Research group leaders explained how they assembled projects around themes of their own making, and how pursuit of these themes lay at the heart of their group's identity. Similarly, individual researchers were at pains to show how ideas first developed on one study had fed into another, and how coherent streams of thought were fuelled by what at first seemed to be unrelated projects in other areas.

The need to hop from one project to the next is often a fact of contract research life and research centres undoubtedly search for ways of piecing funding together to facilitate cross-subsidy as well as cross-fertilisation of ideas. But descriptions of research experience suggest that there is more to it than mere survival. It is the creative management of ideas, resources, and people which makes it possible to ratchet up academic and financial capital and, bit by bit, acquire a sense of longer term achievement within what is in other respects an essentially fragmented and short term environment. These, then, are the means by which researchers set their own course, shape their own agendas, interpret relevance, and in their own terms make an impact.

Questions and answers

Individual research projects also have a place within the longer term goals and agendas of users and funders. Where users are also funders, commissioned research is likely to fit into a programme and an agenda of questions and issues of which research providers are only dimly aware. Similarly, researchers often have no idea why a particular study should suddenly become relevant, or of why their research fits - or fails to fit - into what is to them the largely mysterious world of users' agendas.

If we step into the users' world, we can begin to see how problems and issues intersect at particular moments and how research slips in and out of the limelight of relevance. Non academic preoccupations also have trajectories, careers and histories: questions and answers unfold in particular ways. Interpretations of relevant knowledge and intelligence change accordingly. In government and in industry, such definitions typically reflect potential users' capacity for intervention and action and again this is something which varies over time.

The formulation of user-driven research agendas - necessary for organisations which commission research, and important for those which scan the literature for useful insights - requires some understanding of what is already known combined with a sense of the history and context of the problem or problem area in question.

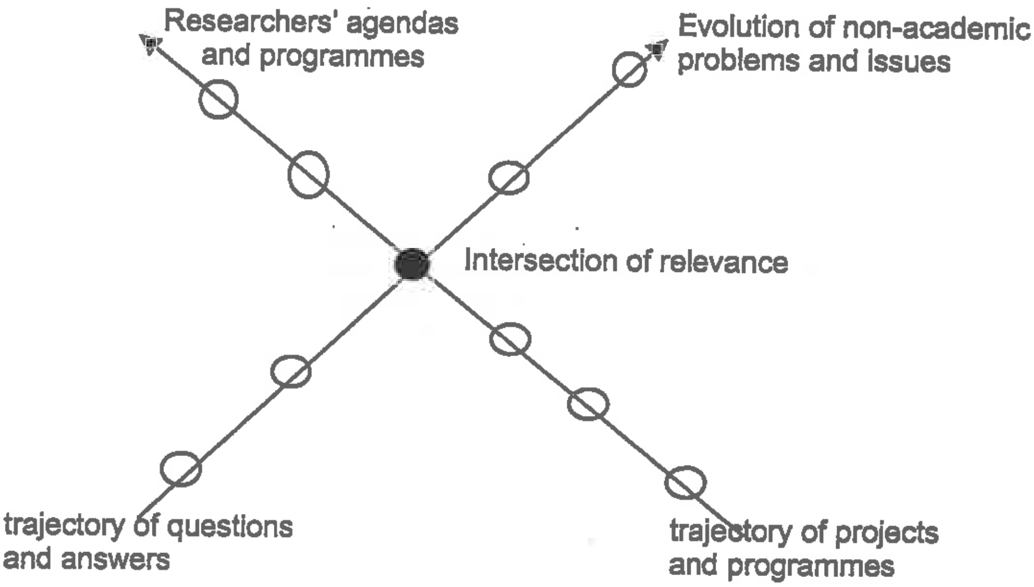
Intersections of relevance

From an academic perspective, relevant projects are those which contribute to researchers' own agendas. For users, relevant project are those which address the issues of the day and which generate realistic, plausible and convincing insights and intelligence. The challenge, for both parties, is to position projects at the intersection of these typically divergent agendas and priorities.

Recognition of the double role of project - as bounded pieces of work commissioned, funded, defined and managed as such in their own right, and as part of longer term programmes whether defined by users or researchers - helps make sense of otherwise confusing observations about the shaping of research agendas.

Individual projects may be defined and undertaken in close collaboration with research users. However close the collaboration, such projects are likely to form part of what remains an essentially researcher-defined agenda (when viewed from the researchers' perspective) and of what remains an essentially user-defined agenda (when viewed from the users' perspective). Though the intersection of researcher-user trajectories is sometimes accidental, as when users trip over "relevant" research or when researchers find their work suddenly "taken up" by unanticipated audiences, the more common situation is one in which the criss-crossing of pathways is deliberately sought and engineered. Figure 1 illustrates this pathway model of relevance.

Figure 1 Intersections of relevance



The pilot studies and associated descriptions of the lives of those working in academic departments and research centres suggest that efforts to define and position relevant projects take different forms. Where researchers are closely involved with specific research communities, interpretations of relevance emerge through detailed face to face interaction, debate and negotiation. More commonly, researchers rely on previous experience and judgement in developing what they hope and expect to be useful and worthwhile projects. In these situations research is designed with reference to a diffuse sense of what is wanted, and of what would constitute timely and appropriate knowledge. More subtly still, researchers' visions of imagined users are embedded in the text of their research proposals: in outlining their work they usually outline a world in which their effort makes a difference and in which something changes as a result.

To summarise, researchers and users are locked together at every step of the way. The ability to sustain something like a research centre depends, in part, on the ability to make a convincing case for its relevance and value. The ability to develop a research career also depends on the ability to establish non-academic networks as well as academic credentials, and to trade effectively between these two domains. Academic projects and non-academic problems have their own histories and futures. Where mutual knowledge exists, and where there is room for interaction and negotiation, researchers and users work together to position individual projects at what we have termed the "intersections of relevance". Even where potential users are dispersed or unknowable researchers still seek to generate what they take to be worthwhile and relevant work. In designing projects researchers incorporate images of the non-academic world and of the problems and challenges it, and they, face.

PART 4 INTERACTION AND INFLUENCE: INDIVIDUALS AND INSTITUTIONS

Going full circle, we conclude with our opening statement: social science researchers have always interacted with those who use and benefit from their work.

Now, as ever, securing external research funds involves constant negotiation. As the six pilot studies show, researchers spend much of their time positioning projects and developing programmes relevant research. This is a demanding operation for academic and non-academic understandings of relevance reflect the typically divergent priorities of building a coherent research programme, and of addressing an emerging agenda of practical or policy related questions.

Though the challenge is common, what differs, and what is changing are the contexts within which university researchers operate. In this final section we reflect on trends and developments which affect the part which universities play in structuring the potential for academic and non-academic interaction and influence.

Partitioning and professionalisation

In reviewing the evolution of networks and contacts and in reflecting on the histories of research groups and centres we have commented on the somewhat organic way in which sub-institutional forms develop. Many research centres have been built around the careers of individual research entrepreneurs: stars have drawn others into their orbit and have, in the process, created something which is more than the sum of its parts. Bit by bit, centres can acquire an identity and a status of their own. In so doing they transform the working lives and reputations of the staff involved and - depending on size and context - make it possible to develop enduring research programmes related to the needs of one or more user communities.

The likelihood of such development depends on the wider university culture and on an array of down to earth details like the management of overheads and the ins and outs of research accounting. Though the six pilot studies represent a snapshot in time, they capture a moment in which at least some universities are positively encouraging centres and centre-like formations.

This makes sense in the light of what we have said about the generally positive role which centres play in fostering non-academic interaction and generating not just income but also reputation and credit. In practical terms, this means that universities are partitioning themselves and distinguishing, more clearly than ever before, between departments and centres.

The extent to which financial and other responsibilities are devolved to centres is striking. Intellectual and financial planning, the development of research trajectories, the hiring of staff and their career development: these and other functions increasingly fall to centres which are effectively in command of their own destiny.

These concluding observations reflect the priorities and problems of university based researchers. As such they pay scant attention to other equally important developments within the worlds of those use and consume their work. Whether based in a centre or in a department, researchers' ability to interact and influence also depends on how non-academics view social science research, and on how user communities are themselves organised and structured. As we have seen, moments of relevance come and go in ways which are difficult to anticipate but which reflect the ebb and flow of non-academic priorities, problems and possibilities.

They are institutions within institutions. The case studies provide examples of centres which have their own administrative structures: their own financial expertise, their own media experts; their own publications officers, consultants, advisors and so on. The details vary from case to case, but the general picture is one in which centres operate with a relatively high degree of autonomy within the parent university.

Being devoted to research (though of course some also run PhD programmes); centres are able to concentrate on the professional delivery and management of the services and skills they offer. They can specialise in ways which are simply not possible for teaching departments or other sub-institutional forms within the university. The ability - even the need - to listen and respond to non-academic requests and to build up long term relationships with advisory groups, clubs of collaborators, and networks of supporters, sponsors and allies is an important factor. So is the capacity to establish, develop and retain relatively specialised forms of expertise. In this respect, centres play an important role as centres of accumulation within the wider world of knowledge production.

The partitioning of research activity within universities and the active fostering of centres as a means of harbouring and exporting expertise, has permitted the more systematic management not just of research but also of non-academic interaction and the professionalisation of influence.

People and programmes

If the goal was to increase non-academic interaction and foster links with high profile users, universities would be well advised to encourage the development of specialised research centres. But to do that effectively, they would have to pay close attention to the careers and reputations of active researchers. As we have seen, centres frequently form around individual "stars". Developing this idea, universities would do well to identify and encourage research entrepreneurs capable of establishing centres and groups and of generating research activity and spinning research networks which extend beyond the confines of individual reputations.

Spotting such opportunities also depends on spotting the potential for constructing long term research programmes by means of sequentially assembling individual projects and studies each designed for other purposes and each funded on its own terms. In short the challenge seems to be one of building programmes from projects and centres from people and in that way establishing a mutually reinforcing portfolio of research and research relationships.

If that is the case, what do the pilot studies have to say about how universities might respond? The message from all six reports is that this is the wrong question. Or at least it is the wrong question in so far as it implies that the university is the relevant actor. The one thing which universities can do is to recognise the limit of their contribution and to acknowledge their role not as research institutions in their own right, but rather as institutions which shelter a range of strikingly different research settings.

Though universities can make a difference to patterns of interaction and influence, their role is indirect. The real action lies within centres and departments for this is the level at which research happens and at which non-academic relationships are formed and shattered.

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