Enhancing the Engagement of Higher Education Academics in Knowledge Transfer through a Rewards and Incentives Scheme Using an Action Research Approach

Volume 2

Appendices

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1.0. The emergence of KT and its taxonomy

1.1 The knowledge economy

'Knowledge' in this context is used in a broad sense to include all forms of tacit and explicit knowledge generated within and by an organisation, including from interaction with external entities. 'Tacit' is taken to be knowledge that is undocumented, informal and internalised within the understandings and actions of an organisation (Polanyi, 1966). Schön (1983) built on this in terms of the recognition of knowledge developed in professional practice; the 'knowing how' rather than just 'knowing what'. The concept of 'exchanging' knowledge between knowledge creators and 'holders' with 'users' of that knowledge is a key element of this project.

Since Peter Drucker's much-referred to ideas on the changing nature of economies, moving from a past industrial heritage to an economy largely characterised by organisations harnessing their knowledge base, the term 'Knowledge Economy' become the *lingua franca* amongst politicians, theorists and academics alike (Drucker, 1968). This concept has been at the heart of many UK Government national and regional strategies for economic development. The UK Government Department for Business Innovation and Skills (BIS) referred directly to the interpretation of Knowledge Economy by Dahlman and Andersson (2000, p.32), who stated in a report addressing the future economic needs of South Korea that a successful Knowledge Economy was:

> "one that encourages its organisations and people to acquire, create, disseminate and use (codified and tacit) knowledge more effectively for greater economic and social development".

Dahlman and Andersson (ibid) went on to define what they called the 'four pillars' of the knowledge economy:

> 1. "an economic and institutional regime that provides incentives for the efficient use of existing knowledge, the creation of knowledge and entrepreneurship

> 2. an educated and skilled population that can create and use knowledge

3. a dynamic information infrastructure that can facilitate the effective communication, dissemination and processing of information

4. a system of research centres, universities, think tanks, consultants, firms and other organisations that can tap into the growing stock of global knowledge assimilate and adapt it to local needs and create new local knowledge."

1.2 Higher education's role in the knowledge economy agenda

The philosophy of the state utilising university research to stimulate and/or enhance regional and national commerce and wealth generation is not a new one. As far back as the Morrill Acts of 1862 and 1890 in the United States of America, which set up the Land Grant colleges with a brief to bring technological advances in agriculture and the mechanical arts into society (Morrill Acts 1862, as referred to in Cross, 1999), the state has attempted to seek social and economic benefits from leveraging its research and development funding. Again in the USA, the Smith Lever Act of 1914 created a system of agents to take university technological research output into the agricultural community to improve production levels and yields.

Funding of universities and research, whether by the state, trust funds set up by wealthy patrons such as the Joseph Rowntree Trust or the Welcome Trust or religious bodies, is usually provided as an expected antecedent to change and/or impact within society. The Research Council's UK statement (RCUK, 2014a) clarified what is meant by 'economic and societal impacts' required from funded research:

"The demonstrable contribution that excellent research makes to society and the economy. Economic and societal impacts embrace all the extremely diverse ways in which research-related knowledge and skills benefit individuals, organisations and nations by:

- fostering global economic performance, and specifically the economic competitiveness of the United Kingdom,

- increasing the effectiveness of public services and policy,

- enhancing quality of life, health and creative output."

Successive UK Governments over the past twenty years have sought to develop policies that focus UK higher education on its economic role in society. This has been a movement repeated in many European countries. Etzkowitz et al. (2000) detailed the rise in policies expecting universities to play an active role in stimulating economic prosperity and competitive advantage for the UK. They noted that universities were being increasingly assessed not only

by the value of their research outputs but how, for science research, this was transferred into commercial opportunities that have impacted on society. Supporters suggested that universities have willingly embraced this opportunity for economic and social development as a mission (Etzkowitz, 1998). Johnston et al. (2010) noted that this had impacted on the UK HE sector, generally regarded as inward-looking. Universities had developed a greater focus on a more "proactive, enhanced and interactive role in influencing and transforming their local communities and regions" and, further, that such an approach "has encouraged many HEIs to shed the image of the 'ivory tower', reaching outwards towards a more interactive multi-level partnership working in the delivery of policy-relevant research activity" (ibid, p.542). Ozga and Jones (2006), in their work on how national policy impacts at a more regional level in a Scottish context, noted the demand from policy makers for "more and better transfer of knowledge locked up in research " (p.3), and that the "commercialisation agenda in HE is part of the continued and accelerated *economising* of higher education" (p.4) and, further, that "commercialisation and the growth of private sector interest in HE has been developing and growing since the 1980s" (p.4). Indeed, Ozga and Jones proposed that this milieu of engagement with the knowledge economy had become the key driver of change in higher education.

Lam (2011) noted that universities had responded to the UK government's desire to exploit the scientific knowledge base for innovation and economic competitiveness and that many have become willing contributors to that policy, particularly as public funding has been more constrained. Lam (ibid) suggested this led to an alternative model of academic entrepreneurship that encouraged commercial exploitation of research. D'Este and Perkmann (2011) noted that policy makers have implemented laws allowing universities to exploit their IPR (notably the Bayh-Dole Act in the USA in 1980), encouraging universities to engage in partnership with industry and support business/industry interaction through the employment of technology transfer staff. In terms of expectations of universities in recent recessionary/recovery times, Hughes and Kitson (2012, p745) noted that they (universities) are "perceived to be key economic drivers of the 'knowledge economy', stretching beyond the twin core missions of teaching and research to play a key strategic third mission through a range of wealth-creating impacts based on the commercialization of knowledge". D'Este and Perkmann (ibid) pointed to a number of researchers who believe that the entrepreneurial university could lead to a shift from basic science to applied science, with industry dominating the research agenda and a restriction on the dissemination of knowledge due to commercial confidentiality.

The value of collaboration between universities and industries was based on "the crucial role of universities in the national innovation system" and, further, policy makers' commitment to the "generation, diffusion and deployment of knowledge and innovation to support economic growth". (D'Este et al., 2013, p.484). For a judgment to be made on the impact and value of the entrepreneurial university to society, one has to understand the individual motivations for engaging with KT (Siegel et al., 2007a).

1.3 The emergence of Knowledge Transfer

Knowledge Transfer (KT) has been described as "a process of systematically organised exchange of information and skills between entities in order to facilitate and strengthen links between them" (Wang et al., 2004, as sourced from May et al., 2006, p.16).

The discrete academic area of KT (also sometimes referred to as Knowledge Exchange) as recognised by the Higher Education Funding Council for England (HEFCE) is a relatively new phenomenon compared to well-established funding provision for research and teaching. Of course, many universities have for decades enjoyed strong relationships with commercial and not-for-profit organisations, whether in terms of the development of curriculum and courses leading to employment, career progression and professional recognition or as partners in some form of joint research and development relationship (e.g. bio-pharmaceutical developments, innovative engineering solutions, etc.). In addition, many universities, particularly the ex-polytechnics, have positioned themselves as being a part of the local economic community and have seen the generation of business links as a core objective. However, apart from a few exceptions, it would have been rare to have found explicit mention of KT in most universities corporate mission statements some years ago – and now most have clear areas of their web portals dedicated to this activity.

There has been a greater recognition of the impact that effective collaborative relationships can have on the development of new forms of knowledge. Gibbons et al. (1994) recognised this by proposing two 'modes' of knowledge formation from HE activity: Mode 1 was mainly university-based, 'pure', disciplinary, expert-led, supply driven and peer-reviewed. Mode 2 was applied contextually, usually outside of the university, was demand-driven, entrepreneurial and tested in real-life situations.

Hargreaves (1999) took this further and suggested that Mode 2 was knowledge that can be utilised by government and industry and evolves, based on practice. Perhaps the most visible approach to stimulating KT between the HE sector and industry has been the establishment of

specific centres for that purpose. In a European context, the German Fraunhofer institutes based within universities are perhaps the most developed in terms of Technology Innovation Centres (TICs). Although a network of semi-independent institutes, there is a central organisation that makes the following claim:

> "Fraunhofer is Europe's largest application-oriented research organisation. Our research efforts are geared entirely to people's needs: health, security, communication, energy and the environment. As a result, the work undertaken by our researchers and developers has a significant impact on people's lives. We are creative. We shape technology. We design products. We improve methods and techniques. We open up new vistas. In short, we forge the future." (Fraunhofer, 2014)

Following the Hauser report to the UK Government (BIS, 2010), the UK Technology Strategy Board (TSB) (now Innovate UK) used this approach for a number of UK-based 'TICS' in order to stimulate 'innovation' (www. Parliament.UK, 2012).

The field is complicated by the variety of terms used to describe the interaction between a Higher Education Institute (HEI) and the broader community, whether public, commercial and/or voluntary sector. The activity area has undergone many changes in description over the last ten years or so as it gradually started to be recognised as a discrete academic endeavour. Business links, business engagement, commercial activity, business and community initiatives, business outreach are all terms used commonly to describe the area, with perhaps the strangest being 'third stream' simply because the funding was not research or teaching/learning! Indeed, HEFCE provided targeted funds to allow some universities to 'make third stream funding their second', with an overview report provided by Quotec Ltd. and the Science and Policy Research Unit at the University of Sussex that was commissioned to conduct interim and then final evaluations of the experimental projects in 2007 (HEFCE, 2008).

KT, as a term used by HEFCE, includes all types of knowledge exchange between universities and other sectors. The term KT implies one direction for the direction of knowledge but it is meant to recognise that new knowledge development and its application are the result of partnership between HEIs and the wider commercial, public and civil sectors. Meyer-Krahmer and Schmock (1998) recognised this by emphasising that the exchange of knowledge between entities was more appropriately considered as a bi-directional flow.

As Hagan (2008, P.118) noted:

> "There is quite a different way of seeing university–business relations. If one views university–business relations in the far wider, more mutually beneficial context of knowledge exchange, then the relationship is not simply one of the supply-side issue of commercialising research, IPR management and the other concerns (all legitimate) of the last two decades. It is also about demand-side issues of human resource capacity, partnering, trust and collaborative culture. This is less tainted with an entirely research-driven agenda and it better expresses the 'collaborative' model of knowledge transfer which is all-encompassing. Viewed as knowledge exchange, a university can focus on a spectrum of activity which includes research, but which stretches beyond to encompass consultancy, CPD and learning and teaching at all levels".

The intent at government level to incorporate this bi-directional flow was captured by the Economic and Social Research Council (ESRC, 2014a) statement:

> "Knowledge Exchange is a two-way process where social scientists and individuals or organisations share learning, ideas and experiences."

Further, ESRC (ibid) noted that "creating a dialogue between communities, Knowledge Exchange helps research to influence policy and practice." Indeed, most research councils now accept a degree of 'co-production' of knowledge through these connections. HEFCEs referred to this area of academia as '"Knowledge Exchange and Skills" and refined its intent as:

> **"**We are committed to enhancing the contribution higher education (HE) makes to the economy and society**".** (HEFCE, 2014a).

1.4 Taxonomy of KT

Research undertaken by Abreu et al. (2009) involved a broad-based survey of close to 22,000 academics working in a variety of university types, ranging from Russell Group to new universities (post-1992). They established that there was a culture of supporting KT across all universities, usually with the purpose of enhancing research capabilities. However, their research highlights that there are differences in emphasis of KT by university type (Figure1).
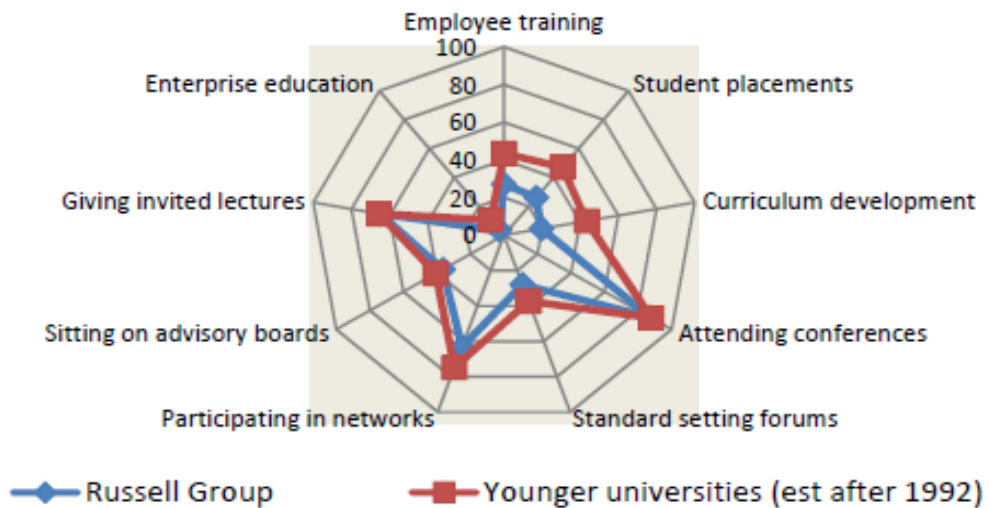
Figure1. People based activities by institution (% of respondents) (Abreu et al., 2009, p.44)

This illustrates that the focus of post 1992 Universities differs in that there is more KT activity focused on employee training, placements and networking related areas, in particular its role in developing new curriculum.
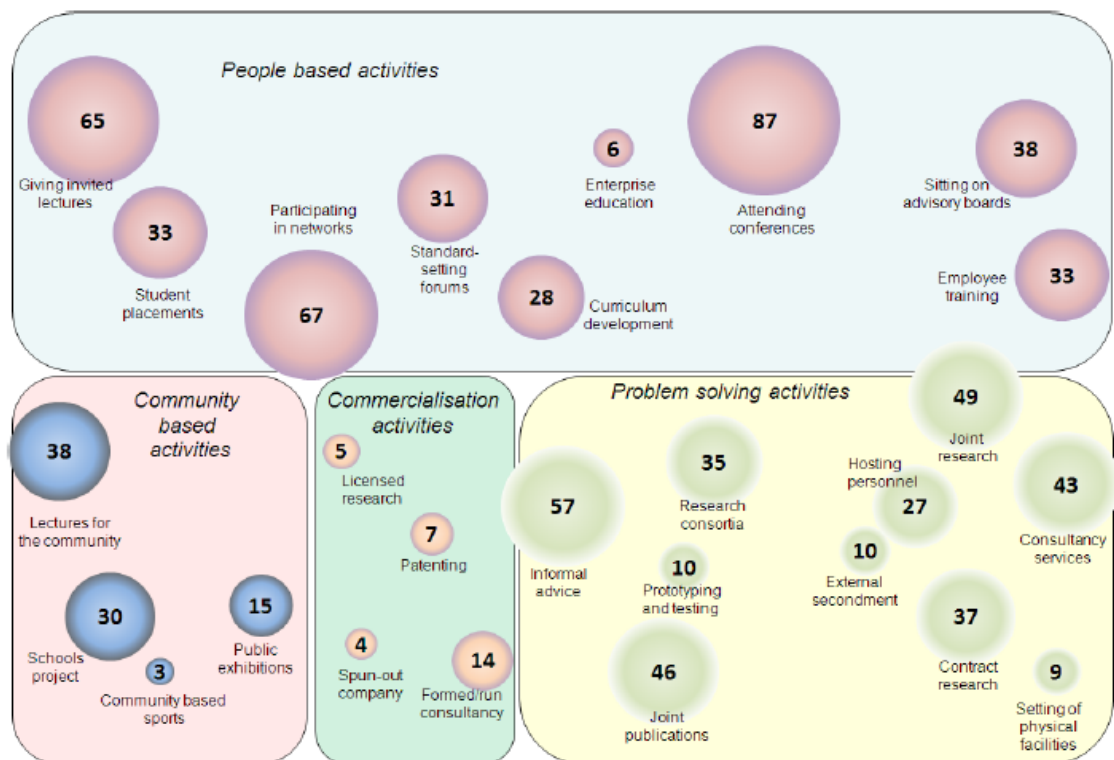
Figure 2. KT Activity by Type and Scale (Abreu et al. 2009, p.21)

Abreu et al. (ibid) determined that there were four main KT activities, as represented in Figure 2. Within these they identified various specific parameters and represented scale by the size of the circle. One can see that by far the least popular area was 'commercialisation activities'.

Olmos Peñuela et al. (2013) provided a useful review of the taxonomy of knowledge transfer undertaken by universities noting the work by Abreu et al. (ibid) at the Cambridge UK innovation research Centre which identified 23 types of interactions between academics and external organisations and the suggestion by Abreu and Grinevich (2013) that these could be grouped into three categories of entrepreneurial activity: formal commercial activities; informal commercial activities; and non-commercial activities. Olmos-Peñuela et al. (ibid) drew reference to several studies to demonstrate their views on the difference in the types of KT between science and social sciences suggesting that consultancy, contract research and training courses are perhaps more important in the social sciences. In considering these various references and from their knowledge of the work of other researchers in the field, Olmos Peñuela et al (ibid, p.698) provided a summary of taxonomy of KT activities relevant to the social sciences:

- **Consultancy** - technical advice services commissioned by non-academic organisations that do not involve original academic research

- **contract research** - original research activities carried out by academics and commissioned by nonacademic organisations

- **joint research** - original research activities involving formal collaborative arrangements to conduct research undertaken by both academic and nonacademic organisations

- **training** - learning activities, such as courses, offered by the academic community (or demanded by nonacademic) which are tailored to socio-economic organisations' needs (business, government and professional groups). This activity was different from traditional and formalised courses such as masters degrees

- **personal mobility** - flow of academics to other social environments (e.g. secondments to firms and public organisations).

From similar research at the Centre for Business Research at Cambridge as Abreu (ibid), Hughes and Kitson (ibid) based the assessment of the typology of knowledge exchange into four key areas:

- **people based -** covering a range of interpersonal and people based relationships such a student placements, CPD and training and forums

- **problem solving interactions -** contract research, consultancy, physical facility use, informal advice

- **commercialisation -** taking out patents, licensing, spin out companies running of a specific consultancy group

- **community based interactions -** public exhibitions, community lectures and presentations.

1.5 The nature of KT - Commercialism v academic engagement

The debate over terminology for knowledge transfer/ exchange continues into recent times. As indicated by Olmos Peñuela et al. (ibid), academics from certain disciplines are not comfortable with the term KT. Other researchers note that the key focus in academia has been on the transfer of technologies, usually in the form of commercial exploitation of IP and inventions (such as through patenting, licenses for inventions, spin out companies etc.). This has led to large-scale developments such as incubation units and science parks based at universities. But there is a higher level of activity by far involving knowledge-related collaboration between researchers and non-academic organisations which has been referred to in different ways. Link et al. (2007) referred to this as informal technology transfer, although the term informal is slightly misleading as these relationships might well involve some form of contractual agreement.

Perkmann et al. (2013) preferred to use the term 'academic engagement' which involved a variety of relationships between the University and the non-academic organisation, but was not necessarily built on specific commercial exploitation of a patented invention where there was often an objective to reap financial rewards. Common types of academic engagement include; consultancy, contract research and sponsored research. Perkmann et al. (ibid) noted that there have been few efforts to underpin this concept of academic engagement through research, which they believe "stands in contrast to commercialisation where entrepreneurship theory has been applied" (p.424).

Of course the situation is not quite as clear-cut in terms of trying to define these two areas of knowledge management because there clearly are important links and overlaps. Traditional KT involving some form of commercial exploitation may precede or follow-on from other forms of academic engagement.

1.6 Does the term KT encompass all forms of potential engagement?

An issue that emerges in terms of the UK policy of focusing so much on the role of universities in supporting science innovation and, as a consequence, contributing to economic growth has been a concentration on certain types of commercial knowledge transfer:

> "Yet much of the discourse remains narrowly focused on promoting 'technology transfer' from universities concentrating on the commercialisation of science through such mechanisms as patents, licenses and spin outs". (Hughes and Kitson, ibid, p724)

This restricts policy focus on other forms of knowledge exchange which are perhaps more prevalent and have a substantial impact on the economy. Commercialisation activities through knowledge transfer are an important aspect of knowledge exchange but they don't represent the full range. Indeed many businesses have been found to value other forms of knowledge exchange above this commercialised KT which have a greater impact. (Abreu et al., ibid; Hughes and Kitson, ibid).

D'Este and Perkmann (ibid) noted that the focus on the entrepreneurial university had primarily been on academic engagement involving licensing, patenting and spin-offs, but the vast majority of engagements with industry are not of this nature. D'Este and Perkmann (ibid, p.319) referred to these other forms of academic engagement as being:

- Collaborative or joint research

- Contract research – research that is directly commercially relevant, ineligible for public support

- Consulting – research or advisory services provided by individual academics to a specific client and usually commissions directly by 'industry'

To some extent it is potentially easier to focus on the roles of science and technology and KT as this leads to the use of metrics which can be more readily gathered (such as numbers of licences, numbers of patents, numbers and spin out companies, income generation etc.). As Hughes and Kitson (ibid, p727) reported:

> "the focus tends to be narrowly concentrated with how science and engineering can improve the innovative performance of businesses through technological developments that will lead to new products and processes".

The key gain was likely to be the establishment of relationships with knowledge users and the opportunity to benefit research outputs through access to private financial funding that may complement, or not, public funding sources (D'Este and Perkmann, 2011).

Hughes and Kitson (ibid) made a case to broaden the traditional econometric view to judge the impact of research within society from other disciplines than science and technology. They proposed three main reasons why this should be the case:

- The claim that science and engineering prima facie led directly to innovation was false in that for the new technological advance to be successful in business there was a need to consider a whole host of other factors such as design, marketing and business practices.

- Businesses often wished to relate to the University sector for academic support for reasons not necessarily directly related to innovation and also around business performance.

- Many academics were involved in knowledge exchange with impacts to the public and third sectors rather than the private business sector. "The public sector is a major part of the innovation system in most advanced economies" (ibid, p728)

Cohen et al. (2002) found that amongst their sample of research and development executives in US firms, contract research, collaborative research and consultancy were more commercially relevant than licensing.

In summary, recent espoused views would suggest there is increasing recognition that a more traditional approach to KT, a predominantly linear approach where universities produce intellectual property which industry utilises on a commercial basis for the development of patents or products, is an out-dated model and that a more 'open innovation' approach is needed whereby universities and 'society' (private, public and civil sectors) equally share research and development to stimulate innovation of mutual interest.

Johnston et al. (2010) supported this revised model and are critical that simple knowledge transference models predominate. Their research has shown that there needs to be greater focus on key 'social processes' if overall KT ambitions are to be realised. The key social processes they determined were:

- the importance of network intermediaries – such as match-making approaches, or the use of individuals/arrangements that assist in 'boundary spanning' between universities and business

- flexibility and openness of network structures – a need for established networks but with fluidity characteristics to support the free flow of innovative ideas and creativity

- encouraging network participation

- building trusted relationships based on mutual understanding

- active network learning – ensure that all parties learned from the networking experience – e.g. from success and mistakes

- strengthening cooperation through capacity building

- cultural change – in particular the structures and practices with the HE sector which are often more bureaucratic, risk averse and restrictive – all potentially stifling innovation

Deborah Lock then at Kingston University has produced a useful summary which captures the essence of the flows of knowledge and consequent impact. (Figure 3).
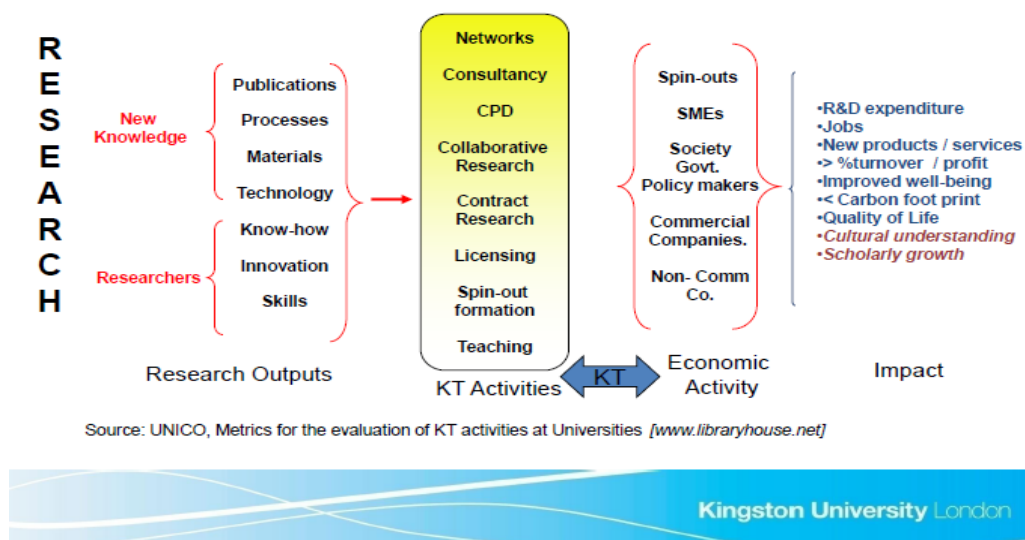
Figure 3. Conference Presentation by Deborah Lock, Executive Director, Southbank University titled "UK Perspectives of KT", 2011

2.0 UK Government Support of KT

2.1 Governmental intervention to facilitate KT

Early examples of Government funded initiatives to support KT included the Higher Education Reach-Out to Business and the Community (HEROBAC) Fund which was introduced between

1999/2000 by HEFCE, with Department of Trade and Industry (DTI) involvement, to facilitate a more strategic approach to the interface between HEIs and business:

> "The long-term aim was to recognise and entrench a third core area of professional work in universities, alongside teaching and research, that encouraged HEIs' engagement with business and the community to support the growth of a strong economy. This third core activity is now also known as the "Third Leg" or "Third Stream"' (House of Lords 2002/3, Chapter 5, Para, 5.35).

Other more specifically targeted funds have also been made available for this purpose such as Knowledge Transfer Partnerships (KTP) (KTP, 2014), where the Government will co-fund an Associate undertaking a project within a company/organisation under the auspices of an HEI. This scheme has been available in a similar form since the early Teaching Company Schemes established in the mid-1970s by the DTI. KTPs aim to:

> "support UK businesses wanting to improve their competitiveness, productivity and performance by accessing the knowledge and expertise available within UK Universities and Colleges." (KTP, Ibid)

In 2003 the then Government commissioned a review of the university/business interface chaired by Richard Lambert (Lambert, 2003). The review's objectives were to:

- investigate how UK universities could enhance and 'open their doors' to new forms of collaboration to support the research and development needs of business
- identify role models of businesses that had good working relationships with universities
- through active consultation across the sector offer a range of ideas, stimulate debate and make recommendations to shape policy

In particular, the review report identified declining research and development investment in UK business as a whole and provided ideas, models and recommendations as to how business might access Intellectual Property within the higher education research base and release potential given the UK's high standing internationally in terms of applied research. One of the concrete legacies of this review was a set of standard contracts designed to provide models for collaborative partnerships, 'The Lambert Toolkit'. (Intellectual Property Office, 2010). Richard Lambert (2003, p.1) in his introduction stated:

"In addition, there has been a marked culture change in the UK's universities over the past decade. Most of them are actively seeking to play a broader role in the regional and national economy".

The actual and potential role of UK universities to provide a research and development base for British business was emphasised by Lord Sainsbury's review of Science and Innovation (Sainsbury, 2007) The final reported noted:

"There has been a dramatic increase in the amount of knowledge transfer from British universities and we are beginning to see the growth of exciting high-technology clusters around many of our world-class research universities." (p.1)

However, the report also noted that there were further opportunities to build on successes.

The review's recommendations included:

- identifying a leading role for the recently formed Technology Strategy Board (TSB), the UK's innovation agency (TSB, 2014). It was suggested that the TSB should work closely with the then Regional Development Agencies and the Research Councils and Government departments to co-ordinate public sector support for technological innovation, leverage public sector resources and simplify access to funds for business

- build on success in Knowledge Transfer through targeting Government funds to business-facing universities

Since 2002, all Governmental funding via HEFCE for KT has been coalesced into the Higher Education Innovation Fund (HEIF) which establishes an annual budgetary allowance to all HEIs based on a complex performance related formula (HEFCE, 2014a).

In February 2012 the Wilson Report commissioned by the Government to review Business-University collaboration was published (BIS, 2012). Although Wilson's report covers the whole range of Business-University interactions, it comments on several areas of KT such as:

"Networking between universities and the business community is a critical component of an efficient innovation ecosystem" (p.2) and in addition states, "Universities are an

integral part of the supply chain to business – a supply chain that has the capacity to support business growth and therefore economic prosperity" (p.1).

The report (ibid, p.4) noted:

"The UK has made huge progress in business-university collaboration during the last decade; those who have been engaged in this field over that period have noted both the cultural change and the outcomes that have been achieved. But the challenge is to attain world leadership in this field, and further change is needed."

Wilson then commented specifically:

"Sustained improvements are best achieved through cultural change: promoting behaviours that may be supported or inhibited by reward, structures, regulations and procedures." (ibid, p.4).

In 2013 the Government asked Sir Andrew Witty to consider the Wilson report and recommend how some of the ideas therein could be implemented. The Witty report (BIS, 2013) "Encouraging a British Invention Revolution", in terms of the role of universities in supporting business, recommended:

"Recommendation 1. Universities have extraordinary potential to enhance economic growth. Incentives should be strengthened to encourage maximum engagement in an enhanced Third Mission alongside Research and Education, and universities should make facilitating economic growth a core strategic goal. Universities should report their Third Mission activity, for inclusion in an annual report to the Government which also identifies impediments to this activity, with recommendations as to where the Government could act to remove these. Each year the Government should publish its response to these reports and recommendations". (p.6)

Further, amongst other recommendations, of particular relevance to the support of SMEs:

"Recommendation 5. Universities should put in place a single point of entry for SMEs that 'triages' their needs and directs them to the relevant part of the university. This

point of entry should also look to drive up SME demand and engagement, and work with external partners across the locality, as well as within the university. University business schools should be incentivised to prioritise working directly with local businesses on workable solutions to practical problems". (P.9)

Critical within these recommendations was the suggestion that universities should be in some way incentivised to engage in supporting innovation in business.

A summary chronological chart of Government 'sponsored' activity in KT is provided in Figure 4. It should be noted that there are numerous other specific schemes that have been introduced to encourage the interaction between business and universities and that this figure summarises the key documents/reports.

KT –Timeline of Governmental Interventions
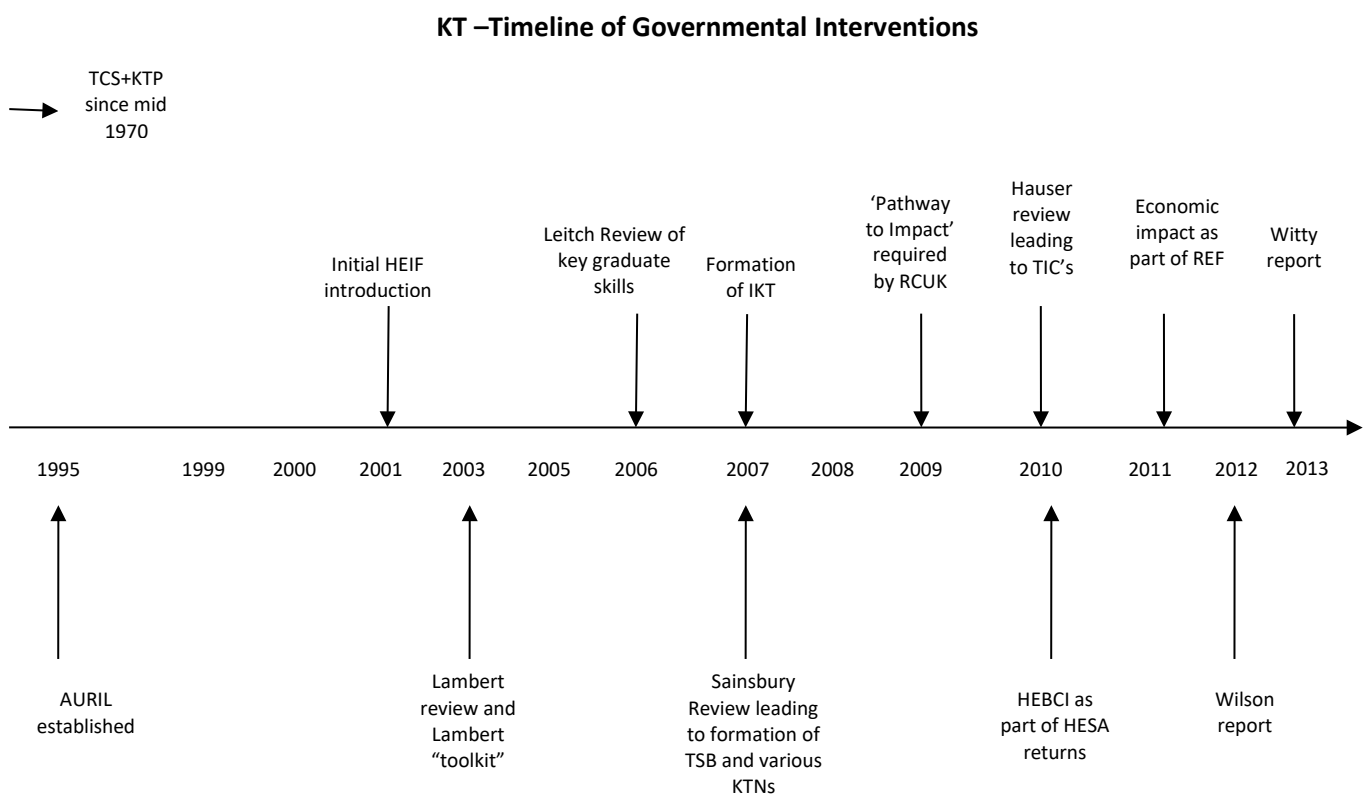
Figure 4: Timeline of major Government and quango KT developments

HEFCE now recognises various aspects of KT in the guidance accompanying the annual Higher Education Business and Community Interaction Survey published by the Higher Education Statistics Agency (HESA, 2014) as activity which includes:

- Research related – collaborative and contract
- Business and community services
- Regeneration and development
- Intellectual property aspects
- Social, community and cultural engagement

Such activity would normally:
- not include core teaching provision or funded research, but may build upon them
- likely to have an economic impact or community/social impact that goes beyond the existing benefits of meeting the teaching and research expectations
- Should produce outputs that benefit a wide range of customers, public and private

Further, the guidance defines what should be considered as KT and this includes:

- collaborative research involving public funding and funding from business (e.g. CASE awards and KTPs)
- contract research for business and non-commercial organisations, where business/non-commercial public organisations (e.g. NHS) are commissioners of the work
- consultancy contracts
- CPD, continuing education and other courses (excluding NHS funded courses for businesses, non-commercial businesses and for individuals employed by them)
- funded regeneration activities
- disclosing and filing of patents and other activities associated with IP protection/exploitation
- granting technology licenses for exclusive or non-exclusive use by business or non-commercial organisations
- income from all other sources of intellectual property (e.g. sale of shares in spin-offs)
- spin-offs with some HEI ownership
- formal spin-offs involving no HEI ownership
- staff and student business start-ups
- social, community and cultural engagement by means of free and chargeable events

2.2 The Response of the UK Higher Education Sector to KT Expectations

2.2.1 KT as a recognised HE activity in the UK

The establishment of KT as a recognised and valued academic pursuit has (and continues to be for some) a challenging development, not helped by a perception in some academic circles that the overt message promulgated by Government since the Lambert and Sainsbury reviews for research to be focussed around business need, most directly championed by Witty (ibid), was part of a continued movement towards the commercialisation of the HE sector. Although academics have for decades worked in close partnership with commerce to support research, or directly as consultants or simply to seek funding, such overt links caused, and continue to

cause, consternation that the impartial nature of research could be questioned if paid for by business or validity of research outcomes sullied in some way.

However, over recent years there has been a growing expectation that Government funded research would lead to some form of 'economic impact' defined in very broad financial, social, political, environmental etc. parameters. Gradually, each of the main UK Research Councils began to recognise KT as a key and vital expectation of research and was reflected in each of the Council's web sites which began to have pages devoted to KT such as 'working with business' (Economic and Social Research Council, ESRC, 2012a), 'connecting with business' (Engineering and Physical Sciences Research Council, EPSRC, 2012) and Research Councils UK (RCUK) developed a dedicated Knowledge Transfer Portal (RCUK, 2012). Additionally, HEFCE developed a 'Business and Community' section and Universities UK provided publications on the role of HE in generating commerce and business (e.g. Creating Prosperity: the role of higher education in driving the UK's creative economy (Universities UK, 2010)). Of particular note was the development by research councils of the codification of the assessment of Economic Impact (e.g. ESRC, 2012b) and the inculcation of this into the Research Excellence Framework (REF) assessment 2014 where Economic Impact carried a weighting of 20% of the overall assessment (HEFCE, 2011). Further evidence of the full establishment of 'impact' in the process of obtaining grants is the requirement for most UKRCs bids to now include a 'Pathways to Impact' statement demonstrating how the proposed impact will be managed and evaluated. Most Universities also started to make statements about how they viewed establishing impact from their research work (e.g. Demonstrating the Impact of our Research, Southampton University, 2014).

As others have noted in supporting the role KT can play in demonstrating impact of research outcomes within society:

> "commercialisation is considered a prime example for generating academic impact because it constitutes immediate, measurable market acceptance outputs of academic research." (Perkmann et al., 2013, p.423)

The RCUK has now provided a 'toolkit' to assist academics in providing 'Pathway to Impact' information and for securing impact from research. (RCUK, 2014b) including a diagram as in Figure 5 as an illustration.
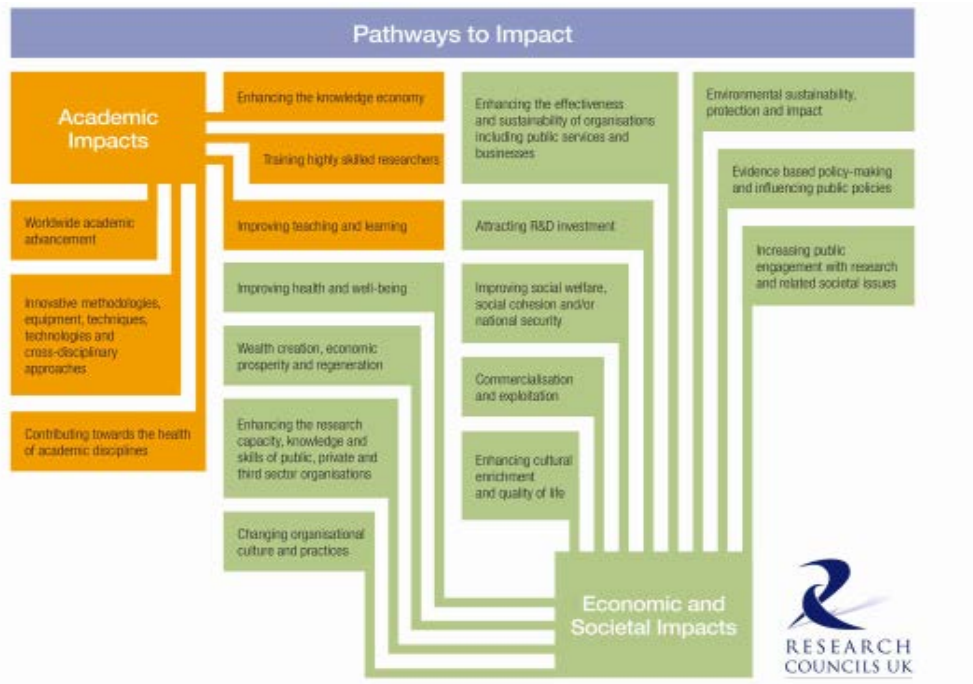
Figure: 5 Pathways to impact, RCUK 2014c

The impact of this direction of travel, together with the continued prevalence of the need to demonstrate 'impact' from research fixed in most academic's minds by the REF exercise, has led to notable changes in how the research councils now treat KT and this continues to evolve. There appears to have been significant change in that KT is now integrated within each Council's web 'presence', with no need to have separate landing pages. Access to 'specialist' KT pages does remain but they are far more integral to other landing pages such as research. For example, Knowledge Exchange support for the ESRC is now contained within a landing page entitled "collaboration" (ESRC, 2014b). HEFCE now does not have a Business and Community page but builds KT into several areas, retaining Knowledge Exchange as a separate page (HEFCE, 2014b). The EPSRC now terms this 'Working with Businesss' and provides a range of funding mechanisms to support KT (EPSRC, 2014).

2.2.2 Engagement of the higher education sector in KT

As a member of several groups and associations representing KT in England and London (e.g. AURIL and Knowledge London) I have attended many conferences and symposia considering KT issues and staff development. Whilst it has to be accepted that the 'profession' of KT in the HE sector is still in development my experience is that KT remains as an adjunct to other academic endeavours in many Universities. The University sector is also not consistent in its approach to KT in at least two clear ways:

a. Some have fully embraced the concept, indeed some applied to HEFCE under a call for interested parties some years ago to make KT their 'second' stream of activity (HEFCE, 2008) (all of which were teaching intensive universities such as the University of Hertfordshire). This variation can be seen in the funding table in Annexe A of the Higher Education Innovation Funding HEIF allocations 2011/16 (HEFCE 2014a) which is based on previous performance and, in that context, provides some evidence of the difference in scale of activity and the large variations of same between universities. (Note however that not all KT activity, e.g. community engagement, can be recorded using financial descriptors which drive the HEFCE assessment of performance).

b. There appears to be a fairly significant split between those universities with very strong commercial contracts exploiting IP through patenting, licensing and spin-off companies (e.g. UCL which has set up UCL Business (UCLB, 2014) or Imperial College which has set up Imperial Innovations (Imperial Innovations, 2014)) and those largely involved in the 'people focused' elements of KT such as consultancy, CPD and community engagement (e.g. Staffordshire University (Staffordshire University, 2014) or Birmingham City University (Birmingham City University, 2014)). The former tend to be research intensive universities, the latter more teaching focussed, although this is an oversimplification.

2.2.3 The possible broader influence of organisational behaviour on KT

Organisational characteristics unrelated directly to KT 'promotion' will influence the engagement of academics within a university setting. According to Wilson (2010), classical views on organisational behaviour would identify various aspects as being relevant including: Leadership, Motivation, Personality issues, Organisational Learning, Teams and Team-working, Structure and Culture. Buchanan and Huczynski (2010) classify organisational behaviour into:

- organisational context – Environment, Technology, Culture

- individuals in the organisation – personality, communication, perception, motivation

- groups and teams – group structure, individuals, team working

- organisational structures

- management processes – leadership, decision-making, change management

Apart from noting the importance of these issues, it is not intended to focus at length on any particular organisational behaviour aspect – these emerged from the research project. Each has its own rich tradition of research based on a variety of cognitive and behavioural considerations, largely influenced by a multi-disciplinary approach involving psychology, sociology, management and, more recently, computer simulation. Johnston et al. (2010), BIS

(Wilson) (2012), PACEC (HEFCE, 2009) have all commented on the influence of culture on the engagement of HE in KT. 'Culture' in this context could be interpreted widely from dominant values in the HE Sector, the 'business' environment within which universities operate, the corporate objectives of a specific university, sub-groups within a university (e.g. Faculties and/or Departments) and individuals within them. Schein (2004, p.12) defined organisational culture as:

> "The pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members".

Kotter et al. (1992, p.4) referred to organisational culture as;

> "Values that are shared by a group and tend to persist over time even when group membership changes; and to the behaviour patterns that new employees are automatically encouraged to follow by their colleagues".

The organisational culture in a university will clearly influence the overall engagement with KT. However, researchers have also raised the issue of how sub-cultures within the organisation influence approaches. Johnson et al. (2006) identified that within a large organisation, such as Middlesex University, there are several sub-cultures that may be present which might include:

- departmental
- professional area
- management (responding to)
- organisation wide
- sector
- national

As an example, within H&E research approaches will be culturally influenced by; the Department to which academics belong, their Research Cluster (REF Unit of Assessment), potentially a professional body membership, their research collaborative links and membership of any research 'discipline' organisation. To some extent the variety of sub-culture in HE is indicated by the variations evident in the assessment methodology in the REF Panel Criteria and Working Methods guidance (HEFCE, 2012) for different research disciplines.

The importance of leadership is evident from research studies and theories relevant to organisational behaviour. Such theories have moved through different phases:

- the early work of Stogdill (1950 as referred to in 1974) who defined leadership as a process of influencing the activities of an organised group in setting then achieving goals and whose focus was on the traits exhibited by successful 'men'

- to more leadership behaviour related emphasis (e.g. Katz and Khan's (1976) focus on employee and job-centred behaviour, as sourced from Buchanan and Huczynski 2010)

- to situational leadership theory proposing leadership styles should be based on the maturity level of followers (Hersey and Blanchard as sourced from Bratton, 2007),

- to theories around emotional aspects such as 'emotional intelligence' as proposed by Goleman (2000)

- to Burns 'transformational leadership' proposition. This proposed that there was distinction between the transactional leader, providing returns to followers based on their achievement of required tasks, and the transformational leader, charismatic individuals who inspire and motivate others to perform 'beyond' contract (Burns, 1978 as sourced from Wilson, 2010).

This is not meant to be an exhaustive history as it ignores more recent theories that focus more on the role of sex and race in leadership which challenge male dominated views. Contemporary proposals suggest that in many organisations there is now more of a 'distributed' or 'shared' leadership approach, particularly where several individuals are working as a team within a large-scale project where each can act in a leadership role (Buchanan and Huczynski, 2010). This may be more relevant to the research approach of this project where participants had an active role.

It is worth noting that Schein (2004, p.5) suggested:

> "It can be argued that the only thing of importance that leaders do is create and manage culture; that the unique talent of leadership is to understand and work with culture; and it is an ultimate act of leadership to destroy culture when it is viewed as dysfunctional."

This would indicate very clearly that my leadership role is critical in the successful achievement of organisational KT objectives.

3.0 Scale of engagement in KT in the UK

In 2009, HEFCE commissioned Public and Corporate Economics Consultants (PACEC) and the Centre for Business Research, University of Cambridge, to undertake a major review of the impact of Government funding for KT entitled, 'Evaluation of the Effectiveness and Role of HEFCE Third Stream funding' (HEFCE, 2009).

This report also focussed on the organisational attributes that should be considered in order to extend the KT role of HEIs. The report noted (ibid, p.7) that:

> "Implementing strategic change in a large organisation such as an HEI can require more than simply announcing new strategic initiatives, modifying incentive structures and committing resources to develop infrastructure and supporting organisational structures. The persistence of existing routines, norms and values can impede the new strategic direction from being achieved. To fulfil the third stream role demanded of HEIs therefore requires a cultural shift to one that embraces not only teaching and research but also their transformation into benefits for the economy and society".

This report found that there was strong support for KT activities within universities primarily in terms of achievement linked to core activities, such as the positive impact on research capability and capacity, and overall corporate objectives. In comparison to 2001 when a similar survey showed 61% of academics showed a positive attitude to KT, in 2008/9 that figure had risen to 70%. There appeared to be a wide acceptance that:

- the HE sector had a key role to play in the competitiveness of UK Business
- that stimulating entrepreneurship was vital for the economy
- HEIs needed to give more priority to KT

The research undertaken for the report identified several indicators of academic motivation for involvement of academics in KT. Various case studies were undertaken and these identified quite clearly that motivation was not stimulated significantly by personal financial gain. However, these same case studies also identified that, overall:

> "there has been a modest change in culture among academics towards a more positive attitude to engaging in third stream activities. Neither the process of cultural change nor its embeddedness is complete, although significant progress has been made. (ibid, p8)"

This 'progress 'was acknowledged in the RCUK's (RCUK, 2011) review of the Impact Strategy (joint with Technology Strategy Board) which noted:

> "Several Research Organisations have reported that the introduction of Pathways to Impact has helped to breakdown prejudice about knowledge exchange and encouraged researchers to work with support services (i.e. knowledge transfer and technology transfer offices) to explore the potential for impact from their work. It has also encouraged enterprise and knowledge exchange to be taken into account as an integral part of the research, rather than a separate activity."

D'Este and Perkmann (ibid) noted that almost half of researchers in physical and engineering sciences engaged in some form of collaborative research contract research or consulting at least once over a two-year period. In the overview of the extant literature on academic engagement, Perkmann et al. (ibid) suggested that less than 10% of academics had been involved in some form of commercialisation KT activity. They reported Lissoni et al.'s 2009 review of three European countries where it was shown that the number of individual academics who filed a patent was 5% or less. The conclusion was that a significant proportion of academic staff were involved in academic engagement without necessarily exploiting relationships developed for commercial ends.

Hughes and Kitson (ibid, p734) showed that the proportion of academics taking out a patent was 7% with even lower percentages for those taking out licensing or spinning out companies. They noted that it was the STEM subjects that dominated in terms of patenting, licensing and company formation whereas those in the humanities rarely undertake such hard commercialisation. Their research suggested that although there was clearly an opportunity for the commercialisation of STEM subject research the majority of interactions with business and the community were not as a result of these hard commercialisation approaches. The overall pattern actually showed that these were a distinct minority and that the most frequent forms of interaction were associated with people based activities (75% of academics) followed closely by problem solving activities (57% of academics) and with over a third being involved in some form of research consortia or contract research. A focus purely on commercialisation activities, as often used by HEFCE and others:

"massively understate the extent to which academics in health sciences, the arts and humanities, and social sciences are involved in intensive interactions in other modes" (Hughes and Kitson, ibid, p.738).

4.0 Problems of using science based measures of impact of KT as opposed to social science research

Commercial activities (i.e. licensing, spin-offs) are often used to measure knowledge transfer (Olmos Peñuela et al., ibid). Problems arise when trying to measure the impact of social science and humanities research given the outcomes are not the same as science based disciplines. Outcomes of KT in the social sciences do not necessarily lead to the same type of technological knowledge transfer seen with the sciences. Evaluating and measuring the impact of social sciences and humanities creates greater problems because of its less tangible and measurable results (Olmos Peñuela et al., ibid). The technologically-based sciences together with natural sciences tend to provide these more commercially recognised KT arrangements unlike the social sciences and humanities that have been classed as largely relational in terms of their impact (D'Este and Perkmann (ibid) and Perkmann and Walsh (2007).

D'Este et al. (ibid, p.484) noted that:

"there is a strong argument for moving away from a narrowly based criterion of citation counts to include the contribution of publically funded research in order not to unfairly penalize university research units that undertake research geared towards potential utilization by user communities"

This has led to some suggesting that the KT debate in a national context has been dominated by a focus on commercialisation of technological solutions and biased to the sciences leaving social science research rather marginalised (Cassity and Ang, 2006).

This is particularly the case when considering the significant impact universities have in meeting the KT needs of the public and civil sectors. Much of the focus in reporting on KE is on commercialisation opportunities with the private sector. But a highly significant level of KE interaction is with the public and civil sectors. Hughes and Kitson (ibid) found that 53% of academics interact with the public sector, led by the health sciences (most likely with the NHS).

44% of the academics surveyed in this research interacted with the 'third 'sector', slightly higher than they found interacted with the private sector.

5.0 HE BCI Survey

This annual survey HE BCI (Higher Education Business and Community Interaction), published on behalf of HEFCE by HESA, considered both the nature and extent of KT activities in the UK University sector reported a continued growth over the past years. Table 1 taken from the latest HE BCI report available for 2012/13 show growth in all but the regeneration aspect since 2011/12. The latter is possibly due to the disbandment of Regional Development Authorities and a hiatus before alternative regional development approaches are in place.

Table 1: KT Growth Indicators (HEFCEc, 2014, p.3, income in £1000)

	2011-12	2012-13	Change	%
Collaborative research*	871,347	951,126	79,779	9.2%
Consultancy	397,800	399,738	1,938	0.5%
Contract research	1,093,343	1,166,038	72,695	6.6%
Continuing professional development and continuing education	640,894	653,305	12,411	1.9%
Facilities and equipment related services	138,751	141,514	2,763	2.0%
Intellectual property income	79,269	86,640	7,371	9.3%
Regeneration and development programmes*	179,980	172,069	-7,911	-4.4%
Grand Total	**3,401,384**	**3,570,430**	**169,046**	**5.0%**

* Denotes data not disaggregated by partner

Figure 6 shows the relative income streams by KT 'type' of activity. Given the discussion above about the domination in research literature of the commercialisation of IP and the focus of this on science based subjects, it is interesting to note how the most significant income generators were Contract Research, Consultancy and CPD. The public and third sectors were key client groups across the sector with SME engagement remaining limited. Of course, these categories were biased to those that can be measured by financial indices – one must recall the taxonomy discussion in that much of KT had no obvious immediate financial measure outcome.
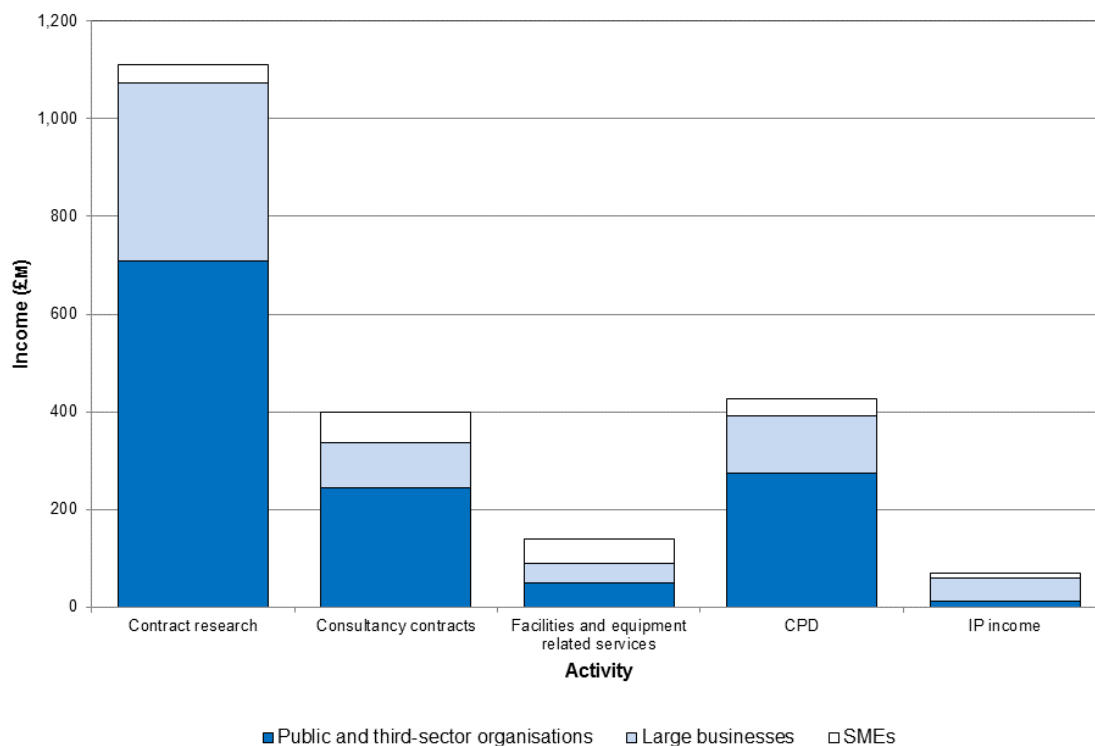
Note: 'CPD' = 'Continuing Professional Development'. Source: HE-BCI Part B Tables 1, 2 and 4c

Figure 6: Income by activity and partner 2012-13 (HEFCEc, 2014, p6)

6.0 How has Middlesex University and the School of Health and Education responded?

Within MU, this engagement with KT has been reflected in a variety of ways. Initially, the University chose to establish a centralised service, MUI (Middlesex University Innovations), itself containing MU Solutions Ltd, MU Ventures Ltd and MUEx (MU External). This development was largely funded through initial HEROBAC and the subsequent first round of HEIF. However, it was found that there was too greater a dislocation from this central service and the academic source of Intellectual Property development. In time this resulted in the rise of Directors of Business within academic Schools and thence Associate Dean Business, positions I held for the School of Health and Social Sciences (HSSc). Eventually, the emphasis shifted from a central service to Schools being responsible for the area supported by the commercial company, MU Ventures Ltd. and a central Research and Knowledge Transfer Office (RKTO) and a Director of KT. In 2008/9, the area of KT was allocated to the remit of the newly identified post of Deputy Vice Chancellor Research and Enterprise. In HSSc, I eventually developed and managed the formation of a Business Development Unit which, at its peak, employed four administrative staff and an International Developments senior manager. This provided all the support services needed to grow and establish KT within the School, which

increased total annual contract values from less than £200,000 in 2002 to £3.5m in 2009. These resources were then centralised to the RKTO.

Following a further reorganisation in 2012, six main Schools were formed including the School of Health and Education. The senior leadership teams were reduced significantly and the role of Associate Dean Business ceased. Following interviews I was appointed as a Deputy Dean for the new School of Health and Education. Within my remit remained responsibility for KT. At an Executive level, the Deputy VC Academic became responsible for all KT aspects. The University embarked on a new corporate strategy that aimed to build its research profile. As part of this strategy, as has been noted above, the University has prioritised developing KT income and relationships with external industry. In addition, academic role descriptors and profiles were significantly reviewed including for an expectation that academic staff will be able to demonstrate progress in KT development.

Whilst not overtly referred to in the Corporate Plan as KT, the same plan seeks to encourage community engagement, income generation and courses demanded by stakeholders – all aspects of KT (Middlesex University, 2014a). A key objective was to raise the level of research and KT income and to develop stronger links with industry. In some ways, KT would also directly and indirectly influence other corporate objectives such as Enhancing Student Achievement (through building links with employers and placement opportunities) and research growth (assuming earlier research demonstrating KT leads to research developments). From 2007/8, the University has required that each School establish KT targets on an annual basis. The area has now also been reflected in the common template for all Schools as part of the annual planning process.

7.0 Challenges/barriers to engaging academics in KT

One could determine, therefore, that KT has been accepted as a valued part of the academic endeavours of both the HE sector and Middlesex University. However, that would not be the case as there remained a significant difference in the acceptance of KT amongst academic groups, even within H&E a School that has been responsible for up to 70% of the total annual University turnover for Schools. Interestingly, given the findings of Perkmann et al. (ibid), D'Este et al., (ibid) and Hughes and Kitson, (ibid), the typologies of KT mainly follow academic disciplines; those with a very strong research base in the social sciences tend to be less engaged than those with a strong technical/scientific research background (where, for

example, patenting of IP is more common), or areas with very strong vocational/professional practice backgrounds (e.g. Nursing/Midwifery) where academics have for many years been used to working on a contractual basis with an external stakeholder. In my experience, for those areas where there is a lack of engagement there are multi-fold reasons including; suspicion that 'monies' are being siphoned away to the 'centre', that overbearing indirect costs are being applied, worries about commercialisation of research, concerns that KT is somehow not a valued 'academic pursuit' and that valuable staff resources are being deflected away from work programme hours needed for teaching and/or research.

This experience is supported by Ozga and Jones (2006, p.7) who, in referring to the linear approach of the past to KT (research developed IP leading to a direct commercial output) suggested that this showed policy-makers had a lack of understanding of the nature of knowledge and that "this limited commercialised discourse may distance rather than attract academic engagement with KT, especially in social sciences, arts and humanities".

In its evaluation of the incentives to staff to engage in business and community interaction, HEFCE identified barriers (see Figure 7).
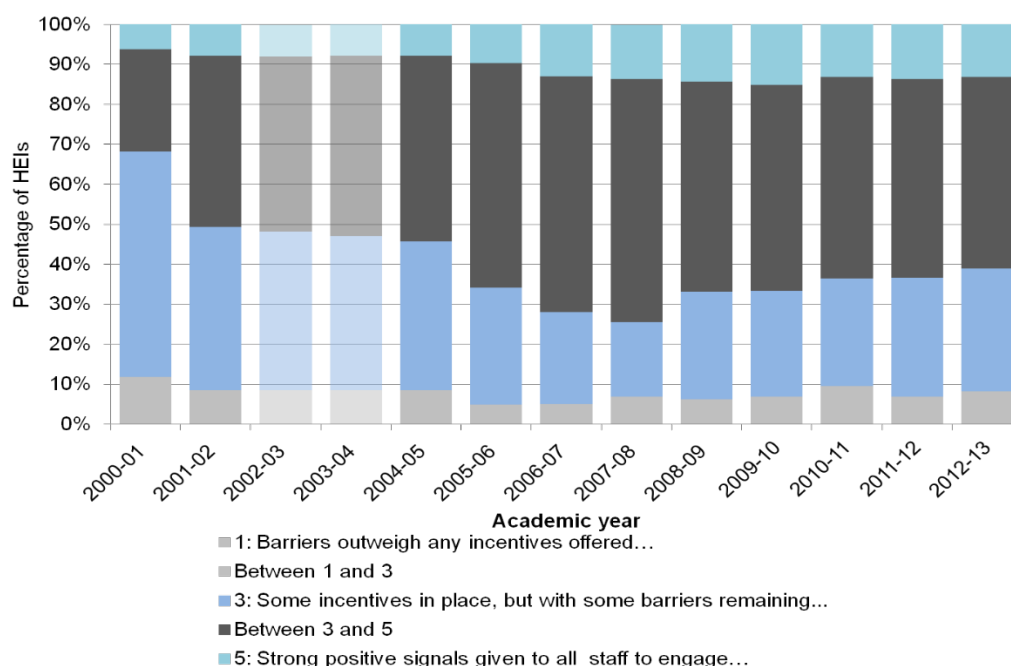
Figure 7 : Incentives for staff to engage with business and the community 2000-13 (HEFCEc, 2014, p.12)

Those responding to the survey are asked how the institute encourages engagement, as follows:

"assessing themselves against a five-point scale where '1' represents barriers outweighing incentives and '5' suggests strong incentives in place. The numbers of HEIs reporting strong staff incentives to engage with external partners have declined slightly by 2 per cent from the previous year. There has been an increase since 2010-11 in the proportion choosing option '3', that there are some incentives in place but with some barriers remaining but, overall, 62% of HEIs report more incentives than barriers." (HEFCEc, 2014, p.13)

There is little discussion as to what these barriers might be and the survey is competed by a senior manager responsible for KT in the organisation and, as such, can only be taken as a litmus test and maybe not representative of the whole academic community. Lockett et al. (2008) identified a number of 'barriers' that deterred academics from being KT active, these included:

- lack of time to become involved

- mismatch between time-scales expected by clients/partners to achieve objectives

- lack of incentives for academics to become involved

- KT's status as 'third mission' – suggested it was somehow a lesser academic endeavour

- concerns and confusion about the determination of IPR

- perceptions that KT is not 'cutting edge'

Within the same paper, these authors also noted that it is challenging to provide definitive evidence of outcomes of some KT activities – i.e. the lack of ability to determine direct outcomes remains an issue. It was noted that the current drive to financial metrics was not appropriate for more intangible benefits such as the positive outcomes of KT to local communities and society as a whole.

Francis-Smythe (2008) also determined that such barriers operated at an institutional and individual level. These were identified as:

1. Institutional,

   - lack of reward/incentives (for example to the Faculty/Department)

   - lack of investment in core academic research/ KT staffing

   - concerns over the bureaucracy involved in KT (form-filling, contracts etc)

2. Individual,

- lack of dedicated academic time in work programmes

- when time is made available it is often too fragmented

- lack of rewards/incentives

- mismatch of academic/commercial timescales.

It is interesting that there are great similarities between this research and that of Lockett et al. (Ibid). It would appear that both research outcomes identified the lack of rewards/incentives as a barrier at both institution and individual levels.

Referring to work on case studies in China, Wang and Lu (2007) considered examples of commercialisation projects by Tsinghua University and found that critical to success was the institutional support of an entrepreneurial spirit and the appointment of specific, targeted KT academic positions at professorial level. They also identified the need for incentives schemes to attract academics to KT activity.

In considering the issue of how to engage academics in KT activity, it is worth focussing on the need for appropriate competencies. Francis-Smythe (ibid) identified these competencies as being:

- presenting and communicating information

- relationship development and networking

- delivering results and meeting customer expectations

- entrepreneurial and creative thinking

- planning and organisation

The challenges in engaging some academics in KT and Francis-Smythe's competency range might suggest that KT 'professional' positions in HE can be developed and recruited to.

Bicknell et al. (2010) undertook detailed research on the nature of those academics that become active and supportive of KT. They introduced the term 'Knowledge Transfer Academic (KTA)' and explored what personal values system motivated them to engage with KT. These were summarised as:

- values in practice – particularly a belief that research should have direct impact in society

- motivations and "buzz moments" – an additionality to their "more prosaic aspects of teaching" (p.492)

- purposive activities – attraction of challenges and innovation and an enjoyment of proactively networking

- remaining part of an academic context – feelings of wanting to benefit both the individual and organisational academic objectives – are seen as 'intrapreneurs' rather than 'entrepreneurs'

- the journey of the KTA – notably many respondents ended up as KTAs by serendipity rather than as part of a career plan. But this may simply be a sign of the developing nature of KT in HEI

- pedagogy and KT – application of KT experiences into the teaching role is perceived to support and prepare students for the world of work

- perceptions and attitude to risk – KTAs seem to have a more positive attitude to risk; they find an attractive level of "frisson" (p.495)

Some researchers (Tartari et al., 2012 and Perkmann et al., ibid) referred to original work by Merton (1973) who considered institutional norms of science and identified what were believed to be strong differences between academics and industrial scientists and engineers. (Merton considered that the key goal of academics was to discover and communicate new knowledge the primary reward being recognition within the scientific community). They and other researchers from their group have termed this as 'Mertonian barriers' to knowledge exchange between universities and industry.

In their review of barriers between industry and universities Tartari et al. (ibid) noted two main types of potential 'cost' as perceived by academics: orientation barriers (differences in expectation between business and university) and transactional barriers (how universities cope with the KT process). Hughes and Kitson (ibid) found that in their survey the most common constraints for academics that restricted engagement with KE were: lack of time (cited by 65.9%), university bureaucracy (31.2%) and insufficient rewards from an interaction (28.7%). Interestingly, the same research investigated barriers *within* businesses and found that the most cited challenges were: internal capacity (they lacked the resources to deal with universities), the lack of ability to identify possible partners and 'insufficient rewards' as a lack of incentive. Thus, lack of incentives and rewards appeared as a constraint to both academics and businesses.

D'Este et al. (bid) summarised a number of researcher's findings to suggest that there are critical reasons for lack of academic engagement with business:

- the main focus on publications and the perception that to engage with business will negatively impact on this performance measure

- those interested in pure research may be more disinclined to be engaged in KT activities

- reluctance to disclose new inventions and ideas may delay publication

- hostility to any restrictions imposed by commerce on the breadth of research (I.e. being directed to a specific path of research)

Perkmann et al. (ibid) found that participation in commercialisation had positive effects on research productivity, that engagement in KT did not seem to have an impact in terms of refocusing research to more applied topics and there was limited evidence that relationships with industry led to necessarily to restrictions in the publication of research findings. In breaking down these barriers, Tartari et al. (ibid) suggested that there were different factors that might stimulate an academic to engage with KT:

- professional experience - where the academic has a hybrid work experience of academia and industry

- previous research collaborative experience

- an established development of networks and relationships with industrial partners which has built important levels of trust

On the issue of whether involvement with KT in some way restricts the opportunity to further other academic objectives, for example publications due to confidentiality, Perkmann et al. (ibid) suggested that there is some evidence in their literature review that commercialisation is seen quite distinctively as a 'business' activity and that those involved in scientific research, which the academic believes leads to a public good, are less likely to follow this route.

8.0 The growth of KT representative bodies

In addition to wider recognition at Government, quango and institutional level, there has been a gradual growth in organisations which represent KT activity as semi-independent bodies. Often these resulted from communities of likeminded individuals with interests in KT which transmuted into more formal arrangements (often through external funding support such as 'West Focus', a group of universities and businesses in the West of London which was supported through Government Knowledge Exchange Funding, although closed in August 2014,

West Focus, 2014). Perhaps the most obvious sign of the 'arrival' of KT in this context was the establishment of the Institute of Knowledge Transfer (Institute of Knowledge Transfer, 2012), a body now offering professional status for those engaged in KT, including a common competency framework and a number of recognised CPD courses and events. In addition, there are specific educational courses available to meet the demand for knowledge, skills and competence development within the KT field such as are available through PraxisUnico (PraxisUnico, 2014). There are also now third party organisations and associations formed to represent the KT professionals' interests. Perhaps the best known of these is the Association of University Research and Industry Links (AURIL) which aims to enhance opportunities for joint, co-production developments between the HE and business sectors (AURIL, 2014).

9.0 An international dimension to KT

Many universities, such as Middlesex, have a business model that relies on a global presence. In addition, the HE sector has traditionally welcomed a strong international flavour to both curriculum development and research. As employability remains high on the policy agenda for HEIs, there is every reason to suppose that there will be an expansionist approach to international KT as students seek work on a global basis. An interesting issue that has been the focus of some research work is how KT translates in terms of cultural differences between countries. Hofstede (2001) (as sourced in Buchannan and Huczynski, 2010) identified five dimensions of national culture:

- social orientation – such as an individualistic versus collectivist approach
- power orientation - in particular whether a fixed hierarchy is accepted or power based on more egalitarian approaches
- uncertainty orientation – positive responses to uncertainty or a preferred desire for firm structures
- goal orientation – whether society is aggressively pursuing goals or more passive and accepting
- time orientation – long or short-termism

Within this work the issue of 'power distance' was proposed. Societies with loose power distance were more likely to share power, hence control and status and those with high power distance were seen to have significantly more unequal members in society. It was noted that in some global partnerships, there could be noticeable differences between senior managers of equal rank in different countries in their attitudes and approaches to hierarchy and bureaucracy. Wilkesmann et al. (2009) considered the implications of Hoftsede and other

writers in terms of the impact of these cultural aspects as they relate to successful KT activities. In this case study focussing on KT activity between Germany and Hong Kong, key cultural influences were identified as impacting on whether a KT project would be successful: performance orientation, uncertainty avoidance, group collectivism and power distance issues.

Interestingly, the findings of this study were augmented by Liu's (2010) study in China that suggested that cultural differences in views on hierarchy and bureaucracy (linking to the 'power distance' concept) were a key issue to consider for successful KT.

Appendix 2: DBA Action Research Conceptual Framework

1.0 Research paradigms in context

In setting the context for my DBA project, it is appropriate to briefly identify the main research paradigms and how these influenced the approach to research underpinning the thesis. Costley et al. (2010) provided a useful summary of key research terminologies and a brief overview of the main paradigms that could be considered. Key terms utilised include: *Ontology* – What is there to be known? In this respect, Coghlan and Brannick (2010, p.41) describe this as the "nature of the world", i.e. it is a philosophical approach that defines a researcher's view on the framework of the world (society, environment, relationships, scientific 'facts' etc.). Within any ontological position, a researcher is likely to consider various *Epistemologies*. Epistemology is described by Costley et al. (ibid, p81) as being "the nature of knowledge and how we know what there is to be known". Coghlan and Brannick (ibid, p.41) describe this as the "grounds for knowledge."

A research *Paradigm* is a positioning which describes a deep-rooted set of objectives that includes an ontological and epistemological position defining a set of values as to how the world can be viewed. In science based research areas, researchers tend to follow one paradigm whereas in social sciences it is more likely one will encounter researchers using a variety of approaches. Costley et al. (ibid) and other authors have suggested there has been a chronology of development of research paradigm 'positions' over the centuries, accelerated in the 20th century due to the development of phenomenological approaches, an "umbrella term covering styles of research that do not rely on measurements, statistics or other things generally associated with the scientific method". (Denscombe, 2010, p.93). Costley et al. (ibid) described the key positions as:

Positivism – reality is objective and knowable. 'Value based issues' are rarely raised in this approach and the methodologies used are largely quantitative. There is a strong notion of reproducibility of method and results. This would typically describe pure science based research.

Post Positivism – Reality as objective but not perfectly knowable. This approach espouses development of knowledge through continued 'testing' of a theory/position rather than

proving or disproving a hypothesis. The researcher might be interested in qualitative as well as quantitative methodologies.

Critical theory – Proponents suggest that reality has been shaped over time by social and cultural values – accepted knowledge is therefore subject to individual and cultural construction. Methodologies tend to be focussed on dialogue and dialectics.

Constructivism – Supporters suggest reality is individually and culturally derived – but that knowledge can be subject to consensus. The researcher is an involved participant giving voice to the subjects of that research. Methodologies are varied but tend to focus on authentically reflecting participants' views.

Coghlan and Brannick (ibid) simplified this to three main forms of research paradigm:

1. Positivism
2. Hermeneutics (a 'conversation' through written texts originally, but now encompassing all forms of text, artefact or event) and post-modernism (enhanced reflexivity and deconstruction of one's own research practice)
3. Critical realism and action research

Coghlan and Brannick (ibid) also provided a useful differentiation that divides research paradigms into two alternatives: On one side there are 'Objectivists' (or realists) and on the other 'Subjectivists' (or relativists). Johnson and Duberley (2000) suggested that an objectivist accepts a theory-neutral language – one can assess the external world independently. The objectivist position suggests that the key focus is on improving methodologies. An objectivist views that social and natural reality operate independently of human recognisance whereas a subjectivist assumes that we take reality as an output of human cognitive processes. Johnson and Duberley (ibid) referred to critical realism as a third approach, suggesting this follows objectivist ontology but a subjectivist epistemology. This may well offer a useful compromise to those that wish to operate within a more scientific, positivist framework but recognise the reality of the researcher developing their approach within a practice environment, focussing more on reflexivity.

Burrell and Morgan (1979) devised a model to demonstrate these paradigms, suggesting that radical humanist and interpretive research that had developed within the 20th Century to investigate relationships and attitudes, by its very nature, resulted in a subjectivist research position.

Coghlan and Brannick's paradigm taxonomy is most likely an oversimplification as there are significant differences between some of these paradigms that have been categorised together. In particular, many researchers would be concerned about joining critical realism with action research. Some writers, e.g. McNiff and Whitehead (2011, p.47), noted the nature of critical research in that it recognises that social situations are constructed and deconstructed by people therefore it is important to understand a situation in order to change it. Action Research grows from this approach but goes further as it also aims to lead directly to solutions to change that situation and, therefore, to undertake action as part of the research. In addition, importantly the researcher is part of the change process not an observer, external to the change. Yet it is interesting that Coghlan and Brannick (ibid, p.42) suggested that, as protagonists of Action Research, they saw critical realism as aligning "with our concept and understanding of action research." It is also noteworthy that, in their 2010 version, Coghlan and Brannick (ibid, p.40) appeared to acknowledge AR with a 'science' base (although this is reviewed and reformatted in the 2014 edition, Coghlan and Brannick, 2014). Perhaps this was more indicative of a concern that subjectivist based research could be seen in some quarters as not being equivalent in status and stature as objectivist approaches and that these authors chose to try and justify their subjectivist approach in objectivist terms.

McNiff and Whitehead (ibid) attempted to simplify matters and provide a useful summary by categorising research as being:

- Technical rational (empirical) research
- Interpretive research
- Critical theoretical research

This summary does have attractions in that it attempted to appease many of the protagonists of the various views, but is then perhaps too broad to be practically useful except in a generalist way. However, the literature clearly indicates great tribalism within research academics, many developing their own nuances of a certain paradigm to suit their own philosophical, political, social and other theoretical agendas. Whilst many researchers will take a firm stance on their own position, there are others that recognise that some research requires the application of various paradigms to achieve the intended objective. This is increasingly the case as researchers tackle large complex topics with significant scientific and sociological variables and with the current trend for the construction of inter-disciplinary/ collaborative research teams. From a personal professional perspective, this 'pluralist'

approach would appear to be a more useful position given many of the challenges I have experienced, for example investigating the efficacy of health interventions which can obviously have medical/clinical aspects (e.g. a new clinical technique/drug) together with sociological issues (such as inequities in access to that technique, or negative attitudes/behaviours in taking advantage of that technique/drug). Johnson and Duberley (ibid) suggested that the dominant research paradigm for organisational management studies has been an objectivist approach (realist ontology and epistemology). They argue, however, that such research should take a phenomenological (or subjectivist) paradigm approach as it is inevitable that a researcher working with an organisation is a key influencer in the results of that research, i.e. the nature of the enquiry is inherently value laden. This is an interesting point. It is difficult to envisage how even in pure scientific research the researcher would not influence the research outcomes, perhaps not necessarily intentionally but by perhaps bringing a knowledge base and preconceived set of values to the experimental work. Of course, a method of inquiry is devised to try and ensure reproducibility in such 'experiments', but one could argue that even then it is challenging to achieve without some form of impact by the researcher(s).

1.1 A research approach applicable to the thesis

My academic and professional career has been largely focussed on science-based subjects. I have taught: methods of environmental impact assessment, air pollution and impacts on health, acoustics and noise control, all based on a pure or applied science background. In this way, my academic background, teaching and research, has been based on a largely objectivist /realist tradition. In addition, I have experienced significant success in developing KT from within the then School of HSSc which retained a significant part of the University's traditional science base. However, importantly my professional career as a public health specialist required me to utilise this scientific knowledge and background 'in the field' but within a social context as the key objective was to improve the health of the community. This often involved a significant element of social interaction around potential solutions to public health issues in practice. In addition, whilst initially my research into the impacts of air quality and health was extremely objectivist in nature, towards the end of this period I was part of collaborative teams considering public attitudes to air quality. As part of this research the team compared actual air quality measurements with attitudinal surveys. This then blended the objectivist initial scientific measurement of air pollutants with more subjectivist assessment of attitudes. This marries well with Johnson and Duberley's interpretation of a critical realist's approach.

Whilst there is, of course, inherent and understandable value in devising research paradigms as part of academic theoretical perspectives, in terms of practical solutions to real world problems such taxonomies and categorisations can, at times, become self-serving rather than problem oriented. Fractious arguments based on paradigm positioning do remind me of some of the left wing political parties of the 1980's in the UK. Often sharing common overall goals, former allies disintegrated into various factions. This desire to champions ones research 'truths' above another's is confronted by Lake (2011). Ultimately, the majority of funders of research expect outcomes that can be applied in a practical context, particularly in the UK as we have seen with the need to show economic impact. In this respect, I am drawn to those who are un-aligned and choose the most appropriate research paradigm for the issue under investigation. Lake (ibid) supports this position in that he believes that the time is ripe for the research community to focus on the most appropriate epistemological approaches for the major phenomena that societies face and to collaborate to ensure the best mix of research approach for the complex situations these present. In my own experience, as indicated previously, complex research issues involving large scale, multi-disciplinary teams are likely to need to utilise various research paradigms. Often, this can lead to a 'mixed methods' or a pluralist approach which may combine a number of alternative approaches within one research project. Denscombe (ibid, p.138) summarises the approach as:

- the use of qualitative and quantitative approaches within the same project
- an explicit focus on triangulation between the approaches
- pragmatic – an emphasis on practical approaches to research problems

The use of triangulation approaches is particularly appealing as it allows researchers to compare the findings from different methodological approaches and draw appropriate conclusions plus test the validity of the various methods. The concept of the professional doctorate is to undertake projects which reflect and complement the researcher's work-related tasks. A key focus of my current work is to manage and lead academic endeavours across a large number of disciplines and in a collegiate approach with a variety of academics and other administrative professionals. I am also undertaking this doctorate as a sponsored employee with a requirement that project work will impact beneficially on my own objectives and targets as well as meeting personal development needs. Pragmatically, it will also be important that the project(s) will lead to some form of action that will impact positively on School and University performance whilst at the same time contribute to the broader need to add to the knowledge base within the sector and professional area. Due to the nature of my

own leadership style, it was a personal desire to identify a research paradigm that led to a collaborative approach with colleagues within the School. This led me to consider less realist and more relativist paradigms. Key barriers to enhancing KT performance appear to be around culture, leadership, and behaviours. The nature of this type of inquiry is likely to be around relationships, attitudes and understandings which will most likely lead to a subjectivist approach. Whilst there will be potential opportunities for 'technical' research, the predominant method of inquiry is likely to be more qualitative.

2.0 Formulating the research aim (question)

Whilst the justification for the project was developed in MBS5060, a refinement of the key research aim assisted in defining the research methodology. As Robson (2011, p.59) noted, focusing on the research question:

- defines the project
- sets boundaries
- gives direction
- defines success.

But equally the nature of certain research approaches, largely qualitative, are likely to require more flexibility as research question(s) may develop from the research itself. This highlights one of the key differences in the relationship of 'theory' to the nature of the research paradigm. The traditional view of a positivist paradigm is that the research will largely serve to verify proposed theory, whilst qualitative research approaches tend to be "theory generating…. Quintessentially shown in Grounded Theory" (Robson, Ibid, p66).

Bryman (2012, p90) suggested criteria for evaluating research questions;

- they should be clear
- they should be researchable
- there should be at least some connection with established theory and research
- research questions should be linked together in some form of common theme
- there should be the prospect of original contribution to the topic
- they should be neither too broad nor too narrow.

Flick (2009) also emphasised the flexibility inherent in defining research questions in qualitative research as the process progresses and recommended the researcher uses a reflexive mode to evaluate the appropriateness of that research question on an iterative basis. The research question refinement is thus seen as a process that can be influenced through

different phases of the research: formulation of research question, selection of research groups, selection of research methods, collection of data, evaluation and reformation of research question, analysis and formulation of findings. Robson (ibid, p.47) developed this conceptual framework further in suggesting that:

> "Real world research often focuses on the solving of problems and is frequently concerned with change and improvement in practice".

In this way, it is often challenging to apply this sort of practice-based research within a theoretical perspective. But, of course, that practice-based conceptual framework is influenced by the researcher's existing beliefs, experiences, assumptions etc. and is formulated through an understanding of previous research, the researcher's own presumptions and theoretical position.

3.0 Research design

"Design is concerned with turning research questions into projects" (Robson, ibid, p70). The design chosen will depend on various factors in particular the purpose of the research, the conceptual framework, the appropriate methods etc. but at the core is that the design should enable the researcher the opportunity to utilise the most appropriate approach to address the research question.

Bryman (ibid, p.46) suggested that the research design:

> "provides a framework for the collection and analysis of data. A choice of research design reflects decisions about the priority being given to a range of dimensions of the research process."

Bryman (ibid) suggested important aspect of design would include; consideration of relationships between variables, the opportunity to generalise beyond the small sample of the research, understanding behaviour and in the social context it occurs and an appreciation of the phenomena studied within a temporal focus.

Rather than utilise the traditional concepts of quantitative or qualitative Robson (ibid) preferred to use a more pragmatic approach suggesting some designs were 'fixed' and others were 'flexible'. The author was particularly focussed on allowing the researcher the ability (perhaps permission) to utilise the best methods to achieve the intended outcome without being too transfixed on a linear decision-making approach to design. This flexibility recognises that in many approaches to research, the methods and process themselves emerge through

the research and are reflexive and iterative in nature. Within this there was recognition and guidance as to the 'likely' nature of some common research approaches. Thus, in an evaluation of the value of an intervention, an outcome focus is likely to favour a fixed design with more emphasis on quantitative methods whereas an emphasis on process is likely to favour a more flexible design. Put more simply, on p76, Robson (ibid) suggested that if the research is to determine how many? Or how much? It was likely to be fixed if it was to evaluate why do they have that opinion? Or what is going on? It tended to be flexible.

Various authors, such as Flick (ibid) and Robson (ibid), proposed 'checklists' for assessing the appropriateness of a research design. The overarching principles coalesced around:

- develop criteria to signpost the appropriate design (e.g. Flick, ibid, p.142-143, Table 12.1 "Comparison of Approaches for Constructing a Research Design")
- compare and contrast the various basic designs – e.g. in qualitative approaches these may include: case studies, comparative studies, snapshot studies, longitudinal studies etc.
- choose the best design(s) to achieve answers to the research question(s)
- test the chosen design
- adapt, refine thereafter

Within this general framework, Robson (ibid) also supported these criteria with additional important practical suggestions:

- the researchers should be comfortable and confident with the research approach chosen
- is the method appropriate to gain the data needed from the target group?
- is there scope to contend with the unexpected?

On the nature of the methodology itself, Flick (ibid) provided a useful summary of the key components:

- the goals of the study should be clear
- theoretical framework should be identified
- in terms of the research questions, these need to be 'concrete', broad enough to elicit new knowledge, ideas and theories but not too broad as to be unmanageable
- the sampling approaches should be appropriate
- the researcher should be required to adopt appropriate methodological procedures
- thought needs to be given to the degree of standardisation and control required – are there defined boundaries to the research areas or is the ground much more open?
- generalisation goals – ensure any generalisation claims are relevant to project boundaries

- that sufficient attention has been given to the temporal, personal and material resources needed to achieve the research outcomes

4.0 The Action Research 'Thesis'

4.1 Summarising Action Research.

As discussed within MBS 5060, Action Research (AR) has been chosen as the research approach. This is particularly as the research forms a key part of my role as senior manager at MU and there are expectations that the research will lead to action, or rather defined outcomes, relevant to my position. In this way, the researcher is researching 'within action' and is part of that action research rather than as a traditional researcher providing an objective view point as an external reviewer. This approach as an 'insider-researcher' lends itself to Action Research.

As Robson (ibid, p.188) described AR:

> "it adds the promotion of change to the traditional research purposes of description, understanding and explanation. *Improvement* and *involvement* are central to action research. There is, firstly, the improvement of a *practice* of some kind; secondly, the improvement of the *understanding* of a practice by its practitioners; and thirdly, the improvement of the *situation* in which the practice takes place." (author's italics), and further, "Its protagonists maintain that practitioners are more likely to make better decisions and engage in more effective practices if they are active participants in educational research." (p.189)

4.2 Action research – the theoretical concept, context and characteristics

The most predominant view is that AR has origins in the work of Lewin (1946), a founding social psychologist publishing theories and research outcomes based on his pioneering work on organisation and group dynamics. Lewin believed that employees should have a say in how their work environments were managed and was particularly interested in applying this to the role of minorities. There are those, such as Reason and Bradbury (2001), who argue that the key components of AR were evident before this period. Reason and Bradbury (ibid, p.1) define AR as:

> "a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory world view. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities."

This rather impressive, all-encompassing definition manages to summarise quite concisely a broad range of views from many key writers. In trying to encapsulate Lewin's key ideas, and reflect on these in a modern context, Argyris (1993) identified four key themes:

- the process of research involves the integration of theory and practice
- that research should be designed to frame the whole subject then to differentiate the various elements
- that research should acknowledge that the researcher is an intervener and has an impact on research outcomes
- that social science research is a key part of the democratic movement.

Argyris (ibid), who coined the term Action Science, goes further to suggest that Lewin's approach to AR resulted in certain acknowledged characteristics:

- AR should focus on resolving problems, seeking solutions for the 'client'
- that there were likely to be iterative cycles of problem identification, planning, acting and evaluating
- that an AR project is likely to lead to changes in patterns of thinking of individuals and groups in the 'researched' organisation
- that the research process may challenge the status quo from a participative perspective
- it is intended to add to social science knowledge base and practical solutions to organisational challenges.

The iterative cycles that Argyris mentions also align to Kolb's (1984) theories of Experiential Learning, in that they reflect the lifelong circle of learning and reflection in the creation of new knowledge and that the new knowledge itself can be technical, academic or experiential. An important element is that the AR process generates knowledge about a social system but also, importantly, the researcher can have a direct and positive impact in supporting organisational objectives. Being relativist (subjective) in nature, AR can offer a creative and participative approach to the creation of theory.

"Action research has this self-transforming capacity. Practitioners can show how they have contributed to new practices, and how these new practices can transform into new theory. When researchers claimed that they have generated new theory, they are saying that they have created knowledge that never existed before. Perhaps pieces of knowledge existed, but what practitioners do with that knowledge and how they have reconfigured it in relation to their own contexts can be seen as their original theorizing. This capacity for ongoing creativity contributes greatly to the theoretical evolution." (McNiff and Whitehead, ibid, p.22).

And on the concerns that action researchers struggle in demonstrating how they are contributing meaningfully to theory as they improve practice "……your personal – collective theory of practice. There is nothing esoteric about this" (ibid, p75). There are clearly strong links between the development of AR and positions taken on the formation of understanding of 'knowledge' and subsequent thoughts on the kinds of 'learning' that exist. Zuber-Skerritt (2009, p.31) suggested that there were:

"at least three kinds of knowledge:
- propositional or theoretical knowledge which is taught traditionally in schools and universities
- practical knowledge taught mostly in institutions of technical and further education or polytechnics
- existential knowledge which is the realm of action learning"

These then led Zuber-Skerritt (ibid, p.31) to define three kinds of learning,

- theoretical learning (learning what)
- practical learning (learning how to)
- existential, experiential learning (learning why)

The author (ibid) proposed that AR was clearly linked to theories around adult learning based on a 'learner centred and problem-oriented' approach. Thus the development of knowledge and the application of that knowledge was firmly rooted in both the theoretical and practically applied sense. Zuber-Skerritt (ibid, p.32) argued that the epistemological premise of AR in academic research is that:

"knowledge is not created through objectively and systematically testing hypotheses but rather is a product of people learning about learning: what it is and how to do it".

It is posited (ibid) that people involved in AR are capable of:

> "creating knowledge on the basis of concrete experience by reflecting on this experience and formulating concepts and generalisations, then testing these concepts in new situations that provide new concrete experience and a new cycle of generating experiential knowledge".

This engagement of AR with people (professionals) 'in practice' remains a fundamental aspect to many, forming a socio-political justification for its value:

> "By doing your research, you can claim to have generated your living theory of practice, that is, you can say with confidence that you know what you're doing and why you are doing it. You are showing that you are acting in a systematic way, not ad hoc, and that you are developing Praxis, which is morally committed practice." (McNiff and Whitehead, ibid, p.23).

A clear difference for AR is that in some ways the focus of the research outcomes is on the personal practice of the researcher. As McNiff and Whitehead (ibid, p.31) noted:

> "the object of inquiry (some people call it the unit of inquiry) refers to the focus of the research. In self-study action research, the focus of the research is you. You study yourself, not other people. The questions you ask of the kind," what am I doing? How do I improve it?" Not of the kind," what are they doing? How do they improve it?" You aim to show how you hold yourself accountable for what you do".

The focus on the 'self' as the researcher is evident, but the AR researcher has a duality of roles in that there is an interest in both developing research skills and abilities together with a management interest in the positive outcomes of the resultant 'action'. Several researchers align AR with a critical theoretical stance. This has some commonalities with constructivist views in that AR focuses on the integration of a variety of inputs from those people involved and meanings derived are thus social constructs. The theory also suggests that to be able to understand a particular situation one has to be immersed within it. Where it could be argued action research goes further than some views of critical theory is that the research aims to make a change hence the term 'action'. The view that AR is based in the world of practice and that research outcomes generated in this way are as equally valid as more traditional 'academic' (perhaps predominantly realist) paradigms are reflective of Gibbons et al. (1994) who argued for a new form of research, 'mode 2'. This is produced in the context of application, moving away from a more traditional situation where it is embedded in the

expertise of 'researchers' independent of the organisation. In this respect, Gibbons et al. (ibid) considered that AR was a way of seeking solutions to real-life challenges which also added to the development of knowledge. That knowledge was based on 'practical knowing' – that knowledge influencing day to day actions. This dovetails with Schön's (1983) ideas of tacit, 'in practice' knowledge development but, importantly, moves this on to use the research process to create a positive outcome for the organisation and not just the individual. In this way not only should my AR thesis lead to practical solutions to problems facing the organisation but also generate new 'knowledge' for practice and the profession at a meta level.

This latter point differentiates that there are several 'audiences' that might be involved and benefit from AR – the individual (in this case, myself as the researcher), the relevant group to which I apply my management and leadership (i.e. the School) and the wider environment (i.e. the University, the wider HE community and, potentially, the KT professional community). Coghlan and Brannick (2014 referred to this context of 'First, Second and Third person' as a conceptual framework. In terms of potential organisational change one could define this as three 'orders'; change to the activities of the individual, change to the organisation in which individual works, and potentially theoretical perspectives that could change the wider environment beyond the organisation. There is clearly variance in agreement on the nature of AR in terms of ontological and epistemological stance. Coghlan and (2010) appeared to seek to address AR in more scientific terms, perhaps choosing to wish to justify a potentially controversial research paradigm with the approach of more traditionally accepted ones. Yet others such as Koshy (2010) express a clear view that the theoretical underpinnings of AR approach are constructivist. Koshy referred to Lincoln (2001, p.130) who has written extensively on the subject and suggested:

> "much of the epistemological, ontological and axiological belief systems is the same or similar, and methodologically, constructivist's and action researchers work in similar ways, relying on qualitative methods in face-to-face work, while buttressing information, data and background with quantitative method work when necessary or useful."

Koshy (ibid, pp.1-2) provided a useful summary of the tenets of AR which would include the following features:

- it involves action, evaluation and reflection and, based on gathered evidence, changes in practice or implementation

- it is participative and collaborated; it is undertaken by individuals, with a common purpose
- it is situation based
- it develops reflection based on the interpretation made by participants
- knowledge is created through action, and at the point of application
- action research can involve problem solving, if the solution to the problem leads the improvement practice
- in action research findings emerge as action develops, but they are not conclusive or absolute.

The Welsh Assembly Government review of AR (2003), proposed three main typographies of AR:

- Technical Scientific and Positivist – in this sense more traditionalist scientific method approaches would be adopted – in effect the AR process would be used to test a predetermined theoretical position
- Mutual-Collaborative and Interpretist - policy makers, researchers, practitioners come together within the research to investigate a particular problem and consensus on a possible range of solutions/interventions
- Critical and emancipatory – in many cases this type of AR results from community based decision making involving all stakeholders but without an agenda driven by external researchers.

Coghlan and Brannick (ibid) identified several broad characteristics that define AR:
- research is 'in action' rather than research 'about action'
- the research is a collaborative democratic partnership – members are participants rather than subjects such as might be in a traditional research approach
- the research is undertaken concurrently with action
- the process itself is a sequence of events and, in itself, an approach to problem solving.

This more clearly sets out the relationship of AR to resultant 'action' – it is emphasised that the research approach itself is an integral part of the action, rather than the researcher being an external observer making recommendations that are then acted upon separately. There is specific reference to the approach being one of 'problem solving' which would again align well with the overall aims and objectives of this thesis.

Zuber-Skerritt (2012) suggested that AR is an alternative to traditional forms of social science research in that it is:

- practical - based in a theoretical understanding but with practical outcomes

- participative and collaborative - the researcher is not an outside expert considering subjects but an active participant undertaking research for with an on behalf of all of the participants
- emancipatory and egalitarian - it is liberating and not hierarchical, all participants are equal
- interpretive-a former social inquiry where research validity is provided through the confirmation of the participants involved
- critical-in that participants act as critical and self-critical agents of change.

Zuber-Skerritt (ibid, p.10) recognised that there are many different definitions of AR. She referred to proponents gathered at the 1989 International Symposium on Action Research in Higher Education, who derived a composite view of the definition of AR which was still in common use. This was fairly loosely defined, and indeed in an action sense as:

if yours is a situation in which;

- people reflect on or improve or develop their own work and their own situations by tightly interlinking their reflection and action, and
- also make their experiences public, not only to other participants but also to other persons interested in and concerned about the work and situation, that is, their (public) theories and practices of the work and the situation

and yours is a situation where increasingly:

- data gathering is by the participants themselves (or with the help of others) in relation to their own questions
- there is participation of the participants (in problem posing and in answering questions) in decision-making
- there is power-sharing and the relative suspension of hierarchical ways of working toward industrial democracy
- members of the group collaborate as a 'critical community'
- there is self-reflection, self-evaluation and self-management by autonomous and responsible groups or persons
- researchers learn progressively (and publicly) by doing and making mistakes in a 'self-reflective spiral' of planning, action, observing, reflecting, replanning, etc.
- reflection that supports the (self) reflective practitioner.

then

yours is a situation in which **action research** is occurring.

Like McNiff and Whitehead, there was a socio-political stance evoked and possibly a pseudo-religious positioning in terms of expectations for communities coming together for social 'good' and an individual's role in society (see 'favourite' religious quotations in Zuber-Skerritt,2009).

Here AR is seen as an open, community-led and absolutely co-productive in nature. There are clearly areas where a researcher is galvanising a community to be engaged in a common cause where the action researcher is at the centre of that approach, but this was different from my own situation, particularly where I was attempting to create change as a senior manager within my own organisation.

What is interesting in this development of AR is that it is commonly linked with Action Learning (AL). Indeed, there is some argument as to whether AR is a part of AL or vice-versa. This eventually has led to a small but influential group called the Action Learning and Action Research Association (ALARA). Indeed, many of these protagonists argue that ALAR should now be considered as its own research paradigm.

Zuber-Skerritt (2012), proposed a theoretical framework for the interrelationship between action learning in action research. This posited that the worlds of AL and AR coalesce within the realms of four main theories:

- Grounded theory – the generation of theoretical positions and meaning through emersion in the social interactions of people
- Personal Construct Theory – all people are able to be active constructors of knowledge – they are able to understand and interact with their environments. In this sense practitioners are able to personalise knowledge of theory, interpret, synthesise and create actions which are then relevant and integrated with their own practice
- Critical Theory - on the basis that within a team all have some knowledge, skill, understanding or capability that can be useful, this theory requires researchers to be both critical of the situation involving other 'participants 'and, importantly, self-critical. Carr and Kemmis (1986) identified various forms of enquiry, ranging from technical (the application of an outside experts knowledge base), to practical (the encouragement of participation in self-reflection within a team or by a professional individual) to emancipatory (where traditional power structures and hierarchies are disbanded so that all participants are able to contribute equally to the transformation of an organizational system). An important concept was introduced by the author in that it is proposed for all AR facilitators/researchers that participants involved in an AL/AR project should provide constructive scrutiny and act as 'critical friends'
- Systems Theory – AR and AL utilise the main tenets of this theory in that all members/participants of a team focus on looking at an issue in the round and in particular the various connections between important issues and other factors.

Typically within organisations this encompasses participants within action learning being able to recognise how the individual elements and structures within the organisation linked together in holistic way- participants begin to see the whole of the problem rather than the individual parts

The focus of Zuber-Skerritt's 2012 book is to utilise AR approaches, coupled with a strong emphasis on participation, to suggest that such a theoretical positioning could be used in many situations to promote environmental sustainability and sustainable development. The book was born out of a group of academics in the field who met at the Eighth World Congress of ALARA in Melbourne in September 2010.

4.3 The 'family' that is action research

Coghlan and Brannick (ibid) break down AR into a family of different research approaches:

a. Classical AR - e.g. Lewin - the researcher and client are involved in collaborative cycles of planning, action and evaluation. The aim is to solve problems and generate new knowledge

b. Participatory AR- this empowers members of community to be involved in the research – often completely outside of the organisation sponsoring the research

c. Action Learning – this uses a task as the vehicle for learning. Usually managers engage with real life situations and learn directly from them,

d. Cooperative enquiry - the whole group is involved in the research process – participants are co-researchers and co-subjects

e. Clinical inquiry/research - a professional clinician will assist clients in the action research process (The main proponent being Schein)

f. Appreciative inquiry – here the researchers recognise and build on what already works well in an organisation. A key supporter of this approach was Cooperrider (e.g. see Cooperrider and Srivastva, 1987) and it is built around four phases:
   1. Discovery – best of what is
   2. Dream – envisioning what could be
   3. Design – co-constructing what should be
   4. Destiny – sustaining what will be

g. Learning history – a 'Learning historian' helps an organisation provide an on-going narrative which documents the history of the organisation's development

h. Reflective practice -following Schön's work where the focus of reflection is largely on the individual rather than the organisation

This is not a complete list but provides an indication of how researchers have utilised the basic tenets of AR (collaborating, with members of an organisations, addressing real problems and seeking solutions through the (research) action, leading to the generation of new knowledge) and adapted this to specific needs and environments. Undoubtedly, the background of the researcher (i.e. their personal academic/professional journey and their values/beliefs) and the

object of the research have also led to these variants. Each could have application to the types of smaller project cycles that emerged as my thesis developed and most included for a hybrid of these approaches. It was also possible that more than one could be used on a single project intervention. I would, for example, suggest that the *Classical* AR is indeed implicit in all the other variants and is the core approach underpinning AR. To some extent, *Reflective practice* would also be expected to be part of a researcher's approach in general, although the focus on the individual may not entirely suit an overall project aimed at benefitting the organisation. *Appreciative inquiry* would have certainly be an approach worthy of consideration for the evaluation of previous strategies I have introduced within the School in order to improve KT performance. The potential impact of this approach would have diminished due to the University's restructure as many strategies that had been introduced were now based in other Schools. *Co-operative enquiry* research was not viewed to be ideal for the purposes of this doctorate as I took the lead for the research process and my role as a Deputy Dean reduced the opportunity for all members of a particular project to feel they had an equal contribution as co-researchers. *Participatory research* was utilised for elements of the research. *Action learning* sets have, in my experience, required considerable commitment on a long term basis from group members and often fail as a result. The *Clinical Inquiry* approach held some attraction given it would suit the nature of the new School of Health and Education where the academic focus is the development of professional qualifications and research in a clinical/professional setting. In summary, there was no clear approach that defined this AR thesis, indeed several of these options were used as part of the ongoing research approach.

4.4 The component parts of AR

As seen in MBS5060, unlike more traditional linear processes of research, AR can be viewed as a series of stages or cycles (Zuber-Skerritt & Perry, 2002): *Planning – Acting – Observing – Reflecting* with each stage/cycle feeding into the next. This can be simplified to *Look, Think, Act* (Stringer, 2007).

Coghlan and Brannick (2010) put forward their nuance of the approach in Figure 1 as:

A pre-cycle context (or 'pre-understanding' of the subject for the research), feeding into a cycle made up of the following four stages:

- Construction- agreeing with subjects/members involved in the research the formats
- Planning action
- Taking action

- Evaluating action – outcomes of the action are evaluated – did they match expectations with the construction phase? How might this influence further cycles?
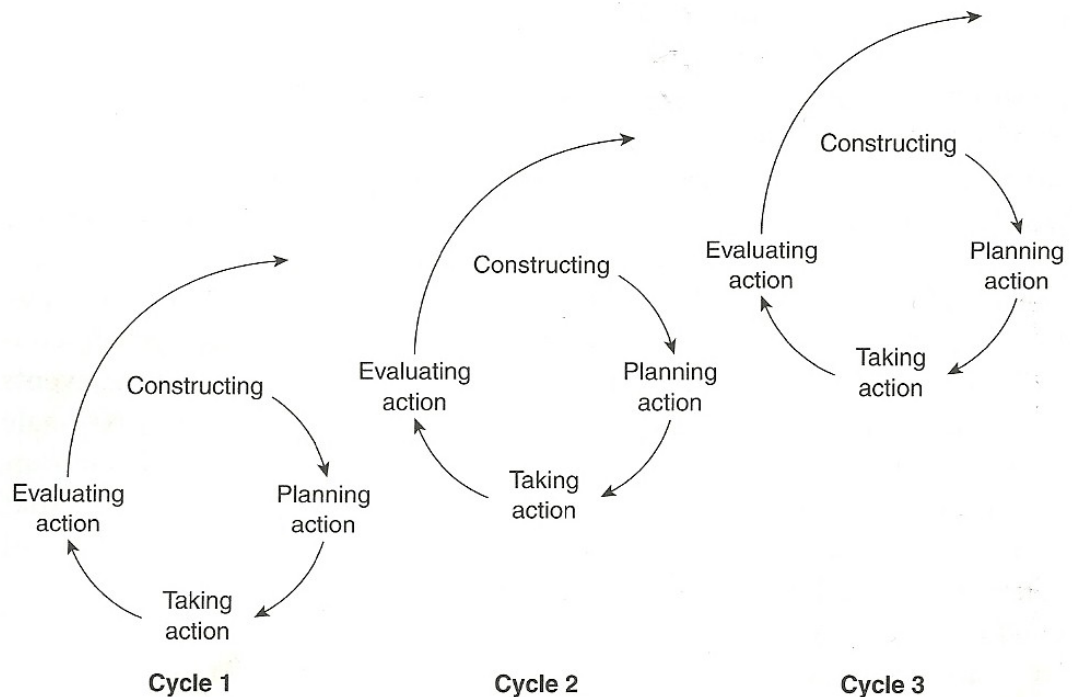
Figure 1: Action Research Cycles (Coghlan & Brannick, 2010, p.10)

4.5 Conceptualising Action Research as part of Doctoral Studies

Authors in the field caution that AR can clearly be used as a management 'tool' and for specific project interventions but the academic utilising the approach has to be cognisant of the need to consider how the overall project will lead to advancement in knowledge and theory within the AR field in the broader sense other than related to the specific issues of each individual project cycle. There are therefore, crucially, both the Cycles of individual projects underway and a higher level/plane of theory development encapsulating all Cycles.

A proposal for the overall theory of AR and how successful this approach might be within an organisation has been suggested by Shani and Pasmore (1985), as found in Coghlan and Brannick (ibid), covering four components:

- the context of the research - how are individual goals balanced against organisational goals, what resources are available for the research, what is the history of the research topic within the organisation, what formal and informal cultures exist within the organisation? - all of these will affect an organisation's 'responsiveness' to AR. Linked to this, external as well as internal environments might be critical
- the quality of relationships between the researchers and subjects/members – levels of trust, concern for others, equality of influence, common language etc.

- the quality of action research process itself – are the duel links between inquiry and action well established?
- the outcomes – new knowledge, self and organisational development

The concept of developing theory and new knowledge as part of the AR process has been stressed previously but it deserves even more focus in a project leading to a doctorate award. It is critical to the researcher undertaking a higher academic qualification at the same time as leading the Cycles of intervention as a manager. Zuber-Skerritt and Perry (2002) focused on this issue arguing that the normal AR cycle needs to be placed within a context of a Thesis Action Research Cycle (see Figure2).
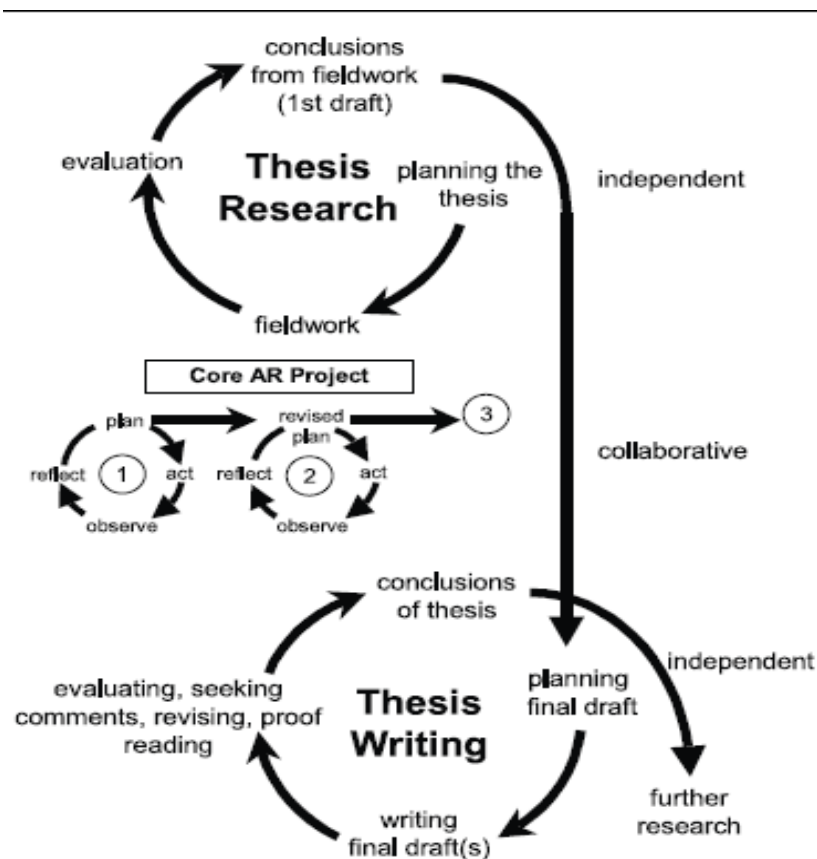
Figure 2: Thesis Action Research Cycle (Zuber-Skerritt and Perry, 2002, p.177)

This demonstrated that there were two key aspects that need to be considered whilst utilising an AR approach for a doctorate project. There was a need to focus on the various cycles of the 'core' AR projects (1 and 2 above) which lead to the final action outcome(s) in 3. The researcher may well be undertaking this as a collaborative action approach with other colleagues. However, in addition the researcher studying for a doctorate will also be running

an independent overall Thesis Research Cycle which requires a constant reflection of the methodology, methods of inquiry used and revisiting of the four key steps of the AR process to note what is being learned. A neat separation between the core and Thesis Research cycles appears rather ambitious. Indeed, one could argue that separating the two 'core' and 'meta' Cycles goes against certain principles of AR whereby a position could be taken that the Thesis Writing cycle should be undertaken conjointly with the thesis research cycle. Perhaps using the 'thesis' term is inappropriate as it seems to then tie too closely with a more 'traditional' PhD approach rather than a practice/action based 'project' hence creating an uncomfortable use of terminology with the ideals of AR. Figure 2 also seems to suggest that the Thesis Writing element is itself cyclical in the same manner as the AR cycles and Thesis Research cycle. Whilst clearly the writing up stage will lead to significant synthesis and learning from the process itself, I would propose that this is perhaps more linear than is suggested. As the researcher, I often needed to occasionally step back to ensure that the learning process towards the overall DBA project was given focus as well as attending to the needs of the individual AR cycles. Coghlan and Brannick (ibid) class the thesis writing as 'meta learning', i.e. that there is a greater learning for the researcher and the academic community (and most likely professional bodies) from the entire project than just the individual component AR Cycles. Thus a key element for the academic researcher using AR is to consider and plan for dissemination of the overall thesis project outcomes through appropriate routes. But as Coghlan and Brannick (ibid, p.13) warned "attending to the action research cycle and the Meta cycle may involve more than simply attending to behaviour". Baskerville and Pries-Heje (1999), suggested that it might be appropriate to use various techniques usually associated with grounded theory in terms of collecting and analysing data and reporting the results and as long as the research cycle and meta-cycle attributes are clearly differentiated. Mezirow (1991), as part of developing theories in Transformative Learning recommends three distinct forms of reflection:

- Content – the issues developing in the overall research
- Process – consideration of the process, strategies and how things are being done – how constructing is undertaken, how actions follow, how evaluations are conducted
- Premise – critique underlying assumptions and perspectives – assumptions, attitudes and behaviours e.g. culture and subculture

Coghlan and Brannick (ibid) adapted this by fusing the AR cycles and Mezirow's reflective processes into a new model. They propose their model of the four components of AR (i.e. Constructing, Planning action, Taking action, Evaluating action) but to demonstrate the

academic 'thesis' based research (as opposed to the individual project) each of these is enclosed by circulating satellites (my words) of :

- Experiencing
- Understanding
- Judging
- Taking action

Coghlan and Brannick (ibid) then go on to provide a model where this complex group of components and their satellites is underpinned by Mezirow's three forms of reflection: Content, Process and Premise (see Figure3).
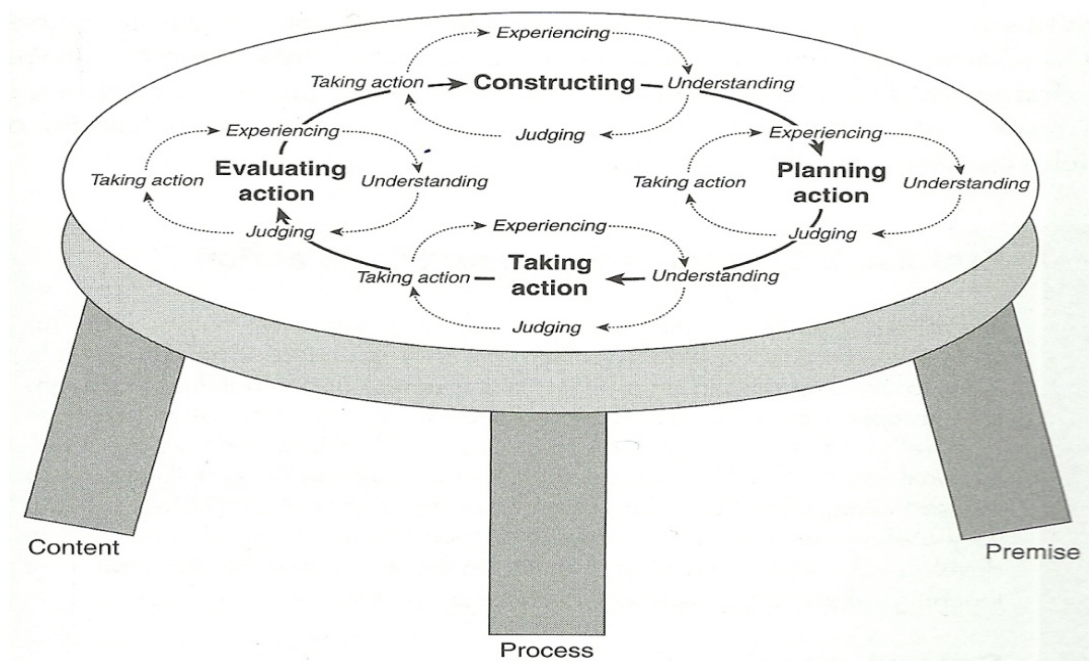
Figure 3: The Complex Dynamics of Action Research (Coghlan & Brannick, 2010, p.31)

4.6 The conceptual model used for the DBA project

After due consideration of the literature review, the research proposal made as part of MBS5060, and the need to devise a research project that recognised the realities of my role and responsibilities within the organisation, a framework model for AR was devised consisting of the following main elements:

- The project considered a key overall research aim relevant to the researcher and the organisation, based on a number of 'Cycles' each with their own aims and objectives but forming part of the 'whole'.

- The main conceptual model used was that as proposed by Zuber-Skerritt and Perry (ibid), in that there were project AR Cycles that were undertaken, feeding into thesis research and thesis writing stages (as in Figure 2 above).

- The AR Cycle structure as suggested by Coghlan and Brannick (ibid) of *Pre-understanding; Constructing; Planning; Acting;* and *Evaluating* was used. However, this was adapted so that 'Pre-understanding' recognised personal pre-existing tacit knowledge and experience. This pre-understanding element was accommodated in the form of a 'transition phase' statement helping to form a bridge between the adjacent 'Cycles. 'Construction' was adapted to focus more on the assimilation of tacit knowledge with relevant background literature to recognise the doctorate level of study. 'Taking Action' was then the application of the research method of inquiry.

- At each stage of the Cycle, consideration was given to additional reflection as suggested by Coghlan and Brannick (ibid) - *Experiencing; Understanding; Judging; Taking action*. This fed into a meta-level interpretation, as recommended by Zuber-Skerritt and Perry (ibid) to create meaning and theory. This was termed **'Learning in Action'** and is indicated in the full report after each section. 'Taking action' was renamed 'Acting' in my research to avoid confusion with the main Cycle stage of that name.

- Wrapping around this model, Mezirow's underpinning criteria of Content; Process; Premise were used to provide a structure for the higher, meta-level reflection.

Appendix 3: Antecedents to academic engagement in KT

Antecedents to engagement of academics in KT appear to be influenced by individual, organisational and institutional factors.

Individual academics

There are strong advocates of collaboration with the commercial sector, as beneficial to the HE sector through the production of high quality research (Etzkowitz, 1998). A key approach to engagement by academics in KT often cited, in that it impacts positively on individual research opportunities:

> "collaboration with industry often encourages a better understanding of the academic context of application of the fundamental research, to access resources and skills that aren't available at universities, and to get inspiration from blue sky research." (Tartari et al., 2012, p657)

Perkmann et al. (2013) noted that individual characteristics can play an important role in predicting academic engagement with KT. It was suggested (ibid, p.427) that profile and academic success, possibly through peer review processes, may also be correlated with propensity to be involved in academic engagement in KT:

> "It appears that scientist productivity and success in fund raising acts as a signal for private companies when identifying potential collaborators, leading to more opportunities and consequently more engagement activities."

However, others do not find such strong correlations. D'Este et al. (2013), following detailed research amongst high ranking UK research universities as drawn from the results of the RAE 2001, found that there was little evidence to suggest that engagement with industry through KT was either positive or negative regarding stimulating enhanced research outcomes.

D'Este and Perkmann (2011) found that 50% of the respondents to their research reported involvement in at least one collaborative research relationship (consultancy, collaborative research and contract research). 74.5% of their research subjects (academic scientists) rated the 'applicability of research' as a highly important motivator for industrial collaboration, whilst only 16% that 'access to personal income' was highly important.

Lee (2000) established that in certain science and engineering faculties in the USA there were two predominant reasons why academics seek external relations:

- to provide additional resources relevant to their research in the form of funds or equipment except
- to provide opportunities to 'test' the results of research in the field.

In a similar study in the UK of engineering and physical sciences it was found that academic engagement was driven by research considerations, whilst commercialisation was more likely to be motivated by direct financial rewards (D'Este and Perkmann, 2011).

Organisational

Perkmann et al. (2013) found interesting differences between commercialisation activities of universities. Contrary to what had been predicted, based on commercial KT activity, there appeared to be little correlation between the research profile of a university and the level of academic engagement with the community. However, there were some important organisational factors influencing an individual's propensity for external engagement, such as existing KT activity in their research group and peer influence.

Perkmann et al. (ibid) also proposed that the lack of correlation between high performing research universities and academic engagement would seem to suggest that some academics in what could be called lower ranked institutions, where there may be fewer research resources available, seek these resources through engagement with knowledge exchange and this had motivated those individuals. D'Este and Perkmann (ibid) also showed academics in lower ranking research universities were engaged in consultancy whilst those in high ranking research universities were more engaged in contract research.

D'Este et al. (ibid) noted numerous previous studies that demonstrated that the role of organisational and institutional structures and the culture within university were important factors in how KT was embraced by the academic communities. If the institution did not set a clear agenda, backed up by appropriate management and leadership, it was likely to have a negative impact on the prevalence and attention of academics to KT.

Institutional context – role of academic discipline

Perkmann et al. (ibid) noted that the academic discipline seemed to affect levels of engagement in KT. Engineering areas were found to be far more engaged in entrepreneurial activities, whilst biomedical sciences were more involved in patents, licensing and contract

research, and in the social sciences KT was mostly through personal contacts and 'labour mobility'. Further, D'Este et al. (ibid) noted that scientific excellence does not necessarily lead to high impact in society as some research may, at that time, be theoretical and may not relate directly to an opportunity to exploit the outcomes for KT purposes. Nightingale and Scott (2007, in D'Este and et al., ibid) noted that highly cited research may be valued within academia but perhaps not within society more generally, if there is no direct beneficial impact, and vice versa: research that is viewed to be 'poor' may lead to impact yet would not be valued within academia.

Appendix 4: Cycle 1 survey design – theoretical perspectives

This appendix outlines critical reading that assisted in creating the Cycle1 Survey.

As Bryman (2012) noted, for the type of on-line survey used in Cycle 1, each participant receives exactly the same interview questions and these questions are specific and offer a fixed range of answers (i.e. they are predominantly closed). In this way the researcher seeks standardisation with both questions and recording of answers.

Bryman (ibid) suggested some advantages of closed questions in that they:

- are easier to process answers
- enhance the compatibility of answers
- clarify the nature of answers expected of the participant
- are relatively easy to complete
- reduce variability

Robson (2011) also considered the advantages of such surveys suggesting that they:

- in comparative terms, are a simple and straightforward way of eliciting relevant information
- can be generalised to the wider population
- provide a high level of data standardisation
- are efficient at deriving large amounts of data in a short time at limited cost
- allow anonymity (on line/postal)

However, both Bryman and Robson identified disadvantages in the fixed survey approach:

- data can be affected by characteristics of participants – even how they feel that day
- social desirability response bias can be an issue
- the nature of the methodology may result in low response rates
- it is critical that questions are clear and unambiguous
- the researcher is trusting that the target respondents are completing the survey in good faith and with their full attention
- there can be a loss of spontaneity
- the answer list may not be exhaustive
- there can be variation in interpretation of questions by participants
- participants can become irritated by not seeing the set answers they would want included
- there is no opportunity to build rapport

As Robson (ibid, p.239) concluded:

> "Reliability and validity of survey data depend to a considerable extent on the technical proficiency of those running the survey."

In this respect there can be internal validity problems, for example if questions are not understood and external validity issues if the sampling is poor.

Guidance from Robson (ibid) on survey designs suggested:

- question and fixed responses should allow accuracy of response to the question
- the possible responses should be exhaustive to allow for all options
- where possible, answers should be mutually exclusive
- answers are on a single dimension

In designing the questions, where possible, reference was made to the rules created by Bryman (ibid):

- relate questions to the overall research question
- ensure questions are clear and ask exactly what is required
- avoid ambiguous terms in the question
- try to avoid long questions (although this is offset by the need to have comprehensive answer options)
- avoid double barrelled questions
- avoid questions including negatives
- avoid using technical terms (although in this case all should be familiar with any terms used)
- ensure answers are well-balanced
- where possible, force a choice rather than tick all that apply
- try to avoid 'don't know' style options

Appendix 5: The nature of qualitative research

This appendix includes key reference sources considered in developing my thinking about qualitative research approaches.

A predominant feature of qualitative research is that theories are probably generated as a result of the research itself and the 'reality' is constructed by the participants of that research. Bryman (2011, p.380) describes qualitative research as having an interpretist epistemology and a constructionist ontology, where social properties are the outcome of interactions between individuals. In exploring the theoretical positions Flick (2009) suggested that these are:

- symbolic interaction – subjective meaning is derived by individuals attributed to their activities and environments from philosophical tradition of American 'Pragmatism'
- ethnomethodology – how people create social reality through interactive processes, which Flick argues is becoming more focused on conversation analysis
- cultural framing of social and subjective reality – cultural systems of meaning frame the perception of subjective and social reality

Further, Flick (ibid) proposed that all have in common:

- *verstehen* as an epistemological principle – the research investigates events/phenomena from the interior
- reconstructing cases as the starting point – start with a case study then grow with others to create typographies
- construction of reality as basis – reality is constructed by the different 'actors'
- text as empirical material – reconstruction and interpretation of the research topic relies on texts gathered from different approaches

These are rather bold statements by Flick, as some of these commonalities are actually stronger in certain research approaches than others, clearly such as the role of 'cases' in case studies and 'texts' in hermeneutics, and absent in others. Looking specifically at social research, Askey and Knight (1999, p.10) consider the advantages of qualitative research in that it:

> "gives authentic accounts of human thought, feeling and actions, recognizing that those accounts do not apply to all people and that they do not allow predictions to be made in the way that they are made in the positivist natural sciences" .

Robson (2011) prefers to consider such participant-focused approaches as 'flexible' research that can adapt and change as the research progresses, and suggests some guiding features:

- multiple qualitative data collection techniques are used
- the nature is of an evolving design
- the researcher is a part of the process
- participants' views are the main focus
- the researcher uses existing traditions of research and can combine more than one
- the project starts with an idea or problem that the researcher wants to understand, not a causal relationship of variables or comparisons of groups. Relationships and comparisons emerge as the research progresses
- a rigorous approach is used for data collection, analysis and writing up
- researchers often use multiple layers of analysis, going from the particular to the general
- the output is often accessible and reflective of the complexities of real life

The nature of qualitative research is ever-evolving alongside cultural, social, political and financial changes in society. The early sociologists from the Chicago School at the turn of the 20th century were perhaps the instigators of a movement that would challenge the traditional positivist paradigms that predominated. Indeed, as noted in my MBS 5060 project report, the battle for the high ground between qualitative and quantitative researchers continues to lead some, such as Gage (1989), to have termed this the 'paradigm wars'. Various authors have attempted to categorise and identify the various movements within qualitative research. Bryman (ibid) utilised Denzin and Lincoln' work (2005) to create his own chronological history, or nine moments:

- Traditional period – early sociologists in the Chicago School in 20th century
- Modernist phase – post-WW2 up to 1970s – tendency towards positivism
- Blurred genes – 1970-86 – Beginnings of questions over overtly positivist approach and birth of interpretism
- Crisis of representation – mid-1980s Social researchers became far more 'self-aware' of their own impact and a deeper questioning of mapping positivist attitudes to qualitative work
- Postmodern – mid-1990s – different ways of representing participants. Reluctance to agree that there is a definitive version of reality – a tendency to stress the notion of reflexivity – questioning of our capacity to know anything definitively
- Post experimental query – focus on interdisciplinary work
- Methodologically contested period – 2000-04. In particular research quality criteria in relation to qualitative studies
- Now – 2005 to present day. Backlash in policy circles to qualitative research – values of traditional science reasserted
- The fractured future – a rather unclear vision.

Even within these movements specific paradigms emerge. Within interpretism, Denzin and Lincoln (2008) refer to; constructivist, feminist, Marxist, Cultural and Queer theories. Bryman

(ibid) and Robson (ibid) propose that the key issue is to establish the general approaches and establish categories of methods that could be utilised. Bryman (ibid) suggests there are five main methods:

- Ethnography/participant observation (with "roots in anthropology, involving immersion in the particular culture of the society being studies so that life in the community can be described in detail" (ibid, p.142)
- Qualitative interviewing
- Focus groups
- Language based approaches – discourse analysis/conversation
- Texts and documents

Robson (ibid) narrowed this down to three main methodological approaches:

- Case studies
- Ethnographic studies
- Grounded theory

Grounded Theory is of interest as it is at the same time viewed by some to be a qualitative analysis technique and a paradigm in its own right by others. As a manager of research bids, I often see Grounded Theory used as a proposed methodology, or strategy for research. Developed initially by Glaser and Strauss (1967) it is perhaps the epitome of theory emerging from the data as a process. As Askey and Knight (ibid, p.164) clarify:

> "the discovery of theory from data analysis is interwoven with data collection, a process of finding, analysing and theorising. Each stage of data collection helps to form and shape categories"

Perhaps a useful summary of what is qualitative research is provided through Bryman's (ibid) description of the preoccupations of qualitative researchers:

- The focus is on the interpretation of society by people – i.e. people attribute meaning to their environments. It is the social interactions between humans that result in social knowledge. Many researchers thus claim to see an issue through the eyes of their respondents/'subjects'. The data is grounded in the perspective of the ones being researched – often called abductive reasoning.
- Researchers focus a great deal on understanding and clarifying the context of social settings. This is often termed thick description (social settings, events, individuals) (see Geertz, 1973).
- The research focuses on the behaviour of participants/subjects in particular settings.
- There is an emphasis on process – often examining and elevating changes over time. Ethnography typifies this, but it can also be evident in interviewing methods through asking participants to reflect on the past.

- Flexibility or limited structure – given one is researching through the eyes of society, researchers rarely want much structure as that would be too confining and suggest a fixed vision of what might transpire. Also, this might restrict emergence of key issues from the social group under study in the researcher's eyes. It is not uncommon, therefore, to have only a broad research focus but not specific research questions (participant observation is a good example).
- Theory and concepts are grounded in the research data

Of course, these approaches lead to potential challenges in terms of validity, ethics and reliability of data, particularly from quantitative researchers. The inherent flexibility can lead to accusations that the research cannot be replicated, thus no generalisations can be determined. This view is also supported by the focus on behaviours in certain settings. However, as Bryman (ibid) suggests, the generalisation is to theory rather than to broader populations. There have also been accusations that, by its very nature, such research is potentially subjective and there is a lack of transparency. Another is that certain approaches, e.g. ethnographic, can lead to an overtly empathetic viewpoint of the researcher – this has been particularly levelled at the Feminist paradigm. Askey and Knight (ibid, p.15) challenged the issue of subjectivity by proposing that qualitative research is:

> "systematic enquiry, and that the picture presented is grounded in a careful study of a social phenomenon or situation"

As seen earlier in this submission, some advocate the use of mixed methods-joining and utilising the best-of quantitative and qualitative approaches (Denscombe 2010, p.138) But others are rather dismissive of such suggestions. Denzin and Lincoln (2008) who term qualitative research as 'cultural and interpretive studies' (ibid, p.3) remain unclear of the validity of mixed methods:

> "The theoretical *bricoleur* (adept at perfuming a wide range of qualitative research approaches) reads widely, and is knowledgeable about the many interpretive paradigms (feminism, Marxism, cultural studies, constructivism, and queer theory) that can be bought to any particular problem. He or she may not, however, feel that paradigms can be mingled or synthesized. That is, one cannot easily move between paradigms as overarching philosophical systems denoting particular ontologies, epistemologies, and methodologies." (ibid, p8)

Appendix 6: Cycle 1 Survey design

The Engagement of Academics and Professional Support Staff in

Survey Introduction

Dear Colleague

Thank you for considering taking part in this short Survey Monkey questionnaire that should take no longer than 10-15 mins.

I am undertaking a personal research project the key focus of which is to establish approaches to engaging academics in Knowledge Transfer (KT) activity. The overall research project is based on an Action Research approach which will include the analysis and evaluation of various intervention approaches.

This survey is designed to provide background information which will then sign-post me to potential interventions that will aim to enhance engagement in KT.

The information you provide will form part of the action research project. It may also be used to influence future strategy and policy decisions. In both cases, the information will be anonymised and all questionnaires will be treated in strict confidence and will be securely stored. Your participation is voluntary, and you have the right to withdraw at any time. Your individual responses will only be accessed by myself, although the overall survey results may be accessed by others using the Survey Monkey licence at Middlesex University.

It is important that I advise you that, under Federal Law of the USA, for matters viewed to be of national security, the CIA has the right to trace all Survey Monkey inputs back to their original IP address. I have to say that I can't envisage a situation where this particular survey would pose a risk to the national security of the USA (!)

This study, and the research project of which it forms part, has been considered and approved through the relevant Ethics procedures of the University.

I hope you will feel able to assist me in completing this survey and would welcome volunteers willing to help me further with personal interviews. (See e-mail address at the end of this questionnaire).

Once again, thank you to those willing to help me in this research work.

Kind Regards

Richard

Page 1

The Engagement of Academics and Professional Support Staff in

The nature of this survey and your consent

This survey will ask you to respond to a series of questions about KT. Before completing the questionnaire you need to read the statements below and tick the appropriate box to indicate your consent to take part.

• I voluntarily agree to complete this survey.

• I have read and understood the information above.

• I understand that all personal data relating to participants is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998). I agree that I will not seek to restrict the use of the results of the study on the understanding that my anonymity is preserved.

• I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice.

• I confirm that my anonymised data can be used for the purposes of Richard Beaumont's research work and any subsequent publications.

• I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study.

I confirm that if I have any concerns or queries I will raise these directly with Richard Beaumont at r.beaumont@mdx.ac.uk or telephone number 0208-411-6330

Please tick 'yes' at the first question to confirm your consent

*1. I have read the above information and consent to take part in this survey

◯ Yes

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✱2. Current academic role - please tick the appropriate box that best describes your role:

- ◯ Head of Department
- ◯ GTA
- ◯ Lecturer
- ◯ Senior Lecturer
- ◯ Principal Lecturer
- ◯ Research Assistant
- ◯ Research Fellow
- ◯ Senior Research Fellow
- ◯ Reader
- ◯ Professor
- ◯ Professional support
- ◯ Head or Director of a KT/Business Unit

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Question 2

*3. Length of academic employment - please tick the appropriate box indicating the total length of your employment in higher education:

○ Less than 1 year

○ 1-5 years

○ 6-10 years

○ 11-15 years

○ 16+ years

*4. How relevant is Knowledge Transfer (KT) activity (also called Business and Community Interaction, Third Stream or Business Outreach) to your ideals of what Higher Education should be focusing on? (Please choose from one of the following)

○ Highly relevant

○ Mostly relevant

○ Partially relevant

○ Not relevant

*5. In your opinion, how relevant is KT activity to the corporate objectives of Middlesex University? (Please choose from one of the following) :

○ Very important

○ Quite important

○ Of little importance

○ No importance

*6. How relevant is KT activity to your own work at Middlesex University? (Please choose from one of the following):

○ Very relevant

○ Quite relevant

○ Of little relevance

○ Not relevant

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*7. Within the last academic year (2011/12), were you involved in any of the following KT activities? (Please tick all that apply):

☐ Arranged community access to University facilities and/or space

☐ Provided lectures to public gatherings (not University staff or students) as part of your role at Mdx

☐ Provided symposia/conferences at the University – no fee to attendees

☐ Provided symposia/conferences at the University – fee payable by attendees

☐ Delivered employee training – perhaps as CPD

☐ Provided consultancy for an external client

☐ Undertaken contract research (a specific research activity for a single client as part of contract for which a fee is levied)

☐ Patented some form of IP as a Middlesex University employee

☐ Formed a University-based company (lead or part of a team)

Other (please specify)

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8. If you have participated in activities with external organisations during the last academic year (2011/12), which of the following were your motives? (Please indicate the importance of each by grading each 1-5, 1 being of no importance, 5 being of high importance).

	No importance				High importance
Gain insights in the area of my own research	○	○	○	○	○
Keep up to date with research in external organisations	○	○	○	○	○
Test the practical application of my research	○	○	○	○	○
Further my institutions outreach mission	○	○	○	○	○
Secure expertise of researchers in the external organisation	○	○	○	○	○
Secure expertise of those who can teach on programmes at Middlesex	○	○	○	○	○
Gain knowledge about practical problems useful for teaching	○	○	○	○	○
Secure access to specialist facilities/equipment	○	○	○	○	○
Create student project opportunities	○	○	○	○	○
Develop and secure student employment opportunities	○	○	○	○	○
Secure funding for support staff	○	○	○	○	○
Source of personal income	○	○	○	○	○
Source of additional income for the Department (or Institute 'Centre') within which I am based	○	○	○	○	○
Look for business opportunities linked to my own research/teaching	○	○	○	○	○

Other (please specify)

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＊9. Were you granted a research allowance as part of your work programme arrangements in the last academic year (2011/12)?

◯ Yes

◯ No

◯ Not applicable

If 'yes', how many hours?

[   ]

＊10. Were you granted a KT allowance as part of your work programme in the last academic year (2011/12)?

◯ Yes

◯ No

◯ Not applicable

If 'yes' how many hours?

[   ]

＊11. Within the last academic year (2011/12), have you worked with the University's Research and Knowledge Transfer Office (RKTO)?

◯ Yes

◯ No

◯ Not aware of the RKTO

If your response was 'No' or 'Not Aware', please go to Qu.14.

[   ]

12. If your answer to Q.11 above was 'yes', what was the frequency of your contact with the RKTO during the academic year 2011/12? (please tick the most relevant box)

◯ Frequent (>= 6 times per year)

◯ Occasional (3-6 times per year)

◯ Rare (once or twice)

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13. If your answer to Q.11 above was 'yes', in terms of your contact with the RKTO, how would you rate the experience in terms of your motivation to engage in more KT activities?

◯ Very positive experience

◯ Positive experience

◯ May engage again on certain conditions

◯ Not inclined to engage

◯ Definitely would not engage again

14. Considering your work in the academic year 2011/12, what impact has KT had in enhancing your research outcomes? (please tick the most relevant box):

◯ Of high impact

◯ Medium impact

◯ Limited impact

◯ No impact

◯ Not applicable – not research active

15. Considering your work in the academic year 2011/12, what impact has KT had on your development of new teaching/learning opportunities? (please tick the most relevant box):

◯ Of high impact

◯ Medium impact

◯ Limited impact

◯ No impact

◯ Not applicable – not teaching active

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16. According to previous research, the following aspects are considered to be institutional barriers impeding engagement with KT. Please indicate, in your opinion, how much of an impediment these aspects are at Middlesex University at institutional level by grading each statement on a scale of 1-5: 1 being no impediment and 5 being a very great impediment (based on work by Francis-Smythe, J., and Lockett, N., et al.):

	None				Very Great
Lack of reward/incentive for Department (area)	○	○	○	○	○
Lack of investment in core staff to undertake KT activity	○	○	○	○	○
Bureaucracy required to engage in KT activity	○	○	○	○	○
Difficulty in finding replacements for academics 'bought-out'	○	○	○	○	○
Limited KT opportunities in certain disciplines	○	○	○	○	○
Lack of notification/communication about KT opportunities	○	○	○	○	○
Lack of clarity of strategic importance to the institution of KT activities	○	○	○	○	○
Institutional aversion to risk	○	○	○	○	○
Unclear institutional processes for supporting KT activity	○	○	○	○	○
Lack of flexibility in pricing structures for KT	○	○	○	○	○
Lack of encouragement to pursue KT at Departmental level	○	○	○	○	○
Lack of institutional track record of KT success	○	○	○	○	○
Lack of institutional reputation in specialist areas	○	○	○	○	○
Non-standardised processes for KT across the institution	○	○	○	○	○
Lack of investment in up-to-date equipment to facilitate KT	○	○	○	○	○
KT perceived as less academic and less value than teaching	○	○	○	○	○

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	None			Very Great	
KT perceived as less academic and less value than research	○	○	○	○	○
Concerns over the determination of Intellectual Property Rights	○	○	○	○	○

Please specify other impedments not covered above or advise me if you don't class yourself as an 'academic'

[text box]

*17. According to previous research, the following aspects are considered to be impeding barriers to an individual's engagement with KT. Please indicate, in your opinion, how much of an impediment the following are at Middlesex University individual engagement by grading each statement on a scale of 1-5: 1 being no impediment and 5 being a very great impediment (based on work by Francis-Smythe, J., and Lockett, N., et al.):

	None			Very Great	
Academic's time to engage in KT is too fragmented - significant periods of focused time are required	○	○	○	○	○
Lack of time to engage in KT	○	○	○	○	○
Lack of individual reward/incentive to be engaged	○	○	○	○	○
No clear opportunities to gain promotion through KT activity	○	○	○	○	○
Mismatch of academic and commercial timescales for delivery of outcomes	○	○	○	○	○
Lack of individual motivation to be engaged in KT	○	○	○	○	○
Preference for teaching and research activity before KT	○	○	○	○	○
Lack of track record of industry/commercial experience	○	○	○	○	○
Academics' lack of confidence - fear of the unknown	○	○	○	○	○
Level of flexibility expected by the client is unreasonable	○	○	○	○	○
Mismatch in needs of clients with academic's	○	○	○	○	○

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expertise					
Lack of academic's reputation in specialist area	◯	◯	◯	◯	◯
Lack of mentor support for academics wishing to be involved in KT	◯	◯	◯	◯	◯
An individual's aversion to risk	◯	◯	◯	◯	◯
The academic contract does not include for KT activity	◯	◯	◯	◯	◯
Why should I bother if others don't?	◯	◯	◯	◯	◯
Reluctance to 'give away' individual know-how.	◯	◯	◯	◯	◯
Engaging in KT has a negative impact on an academic's career	◯	◯	◯	◯	◯
Peer group pressure not to engage	◯	◯	◯	◯	◯
Lack of specialist technical and administrative support to facilitate KT within the Department	◯	◯	◯	◯	◯

Please specify other impediments not covered by above

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✱18. In considering how to engage academics more in KT, please grade the following potential interventions, 1 being of no help in enhancing academic engagement and 5 being very helpful. (Please feel free to add additional intervention suggestions in the options box.):

	No help				Very helpful
Client relationship management support (helping to maintain data bases, communications, networks and coordinating responses)	○	○	○	○	○
Staff development to improve knowledge of the nature of KT	○	○	○	○	○
Incentives and rewards to the Department/area resulting from KT activity	○	○	○	○	○
Personal incentives and reward resulting from KT activity	○	○	○	○	○
Mentoring and coaching to support KT activity	○	○	○	○	○
Departmental level specialist KT supporting 'Business' Units where level of activity justifies	○	○	○	○	○
Specific support on sales and promotion from central marketing services	○	○	○	○	○
Champions appointed to represent KT within Departments	○	○	○	○	○
Closer relationship between KT and research, specifically in terms of economic impact	○	○	○	○	○
Work Programme allocations to support KT activities	○	○	○	○	○
Specialist administrative support	○	○	○	○	○
New equipment and facilities to attract external contracts	○	○	○	○	○
Support to identify opportunities for KT (e.g. funding streams) in your academic discipline	○	○	○	○	○
	○	○	○	○	○

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Positively encourage KT as a credible academic endeavour	◯	◯	◯	◯	◯
Clarify Intellectual Property Rights over invention of services and products	◯	◯	◯	◯	◯
KT activity clearly recognised as an appropriate route for promotion	◯	◯	◯	◯	◯

Please feel free to add any other suggested interventions:

[text box]

*19. Age - please tick the box within which your age falls:

◯ </= 30

◯ 31-39

◯ 40-49

◯ 50+

*20. Gender - please tick the box corresponding with your gender:

◯ Male

◯ Female

◯ Prefer not to disclose

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✱21. Ethnic origin : I would describe my ethnic origin as:

○ Gypsy or traveller

○ Black or black British - Caribbean

○ Black or black British - African

○ Black -other

○ Asian or Asian British- Indian

○ Asian or Asian British - Pakistani

○ Asian or Asian British - Bangladeshi

○ Chinese

○ Asian - other

○ Mixed - White and Black Caribbean

○ Mixed - White and Black African

○ Mixed - White and Asian

○ Mixed - other

○ Arab

○ White British

○ White 'other'

○ Other Ethnic background

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Conclusion of survey and thanks

Thank you for your responses to these questions.

If you would be willing to attend a short and confidential interview as part of the next stage of this project, this would be appreciated. If so, please could you send me an e-mail indicating your willingness to be involved further to r.beaumont@mdx.ac.uk

Richard

Appendix 7: Cycle 1 Introductory statement and consent agreement for the on-line survey

Dear Colleague

Thank you for considering taking part in this short Survey Monkey questionnaire that should take no longer than 10-15 mins.

I am undertaking a personal research project the key focus of which is to establish approaches to engaging academics in Knowledge Transfer (KT) activity. The overall research project is based on an Action Research approach which will include the analysis and evaluation of various intervention approaches.

This survey is designed to provide background information which will then sign-post me to potential interventions that will aim to enhance engagement in KT.

The information you provide will form part of the action research project. It may also be used to influence future strategy and policy decisions. In both cases, the information will be anonymised and all questionnaires will be treated in strict confidence and will be securely stored. Your participation is voluntary, and you have the right to withdraw at any time. Your individual responses will only be accessed by myself, although the overall survey results may be accessed by others using the Survey Monkey licence at Middlesex University.

It is important that I advise you that, under Federal Law of the USA, for matters viewed to be of national security, the CIA has the right to trace all Survey Monkey inputs back to their original IP address. I have to say that I can't envisage a situation where this particular survey would pose a risk to the national security of the USA (!)

This study, and the research project of which it forms part, has been considered and approved through the relevant Ethics procedures of the University.

I hope you will feel able to assist me in completing this survey and would welcome volunteers willing to help me further with personal interviews. (See e-mail address at the end of this questionnaire).

Once again, thank you to those willing to help me in this research work.

Kind Regards

Richard

The nature of this survey and your consent

This survey will ask you to respond to a series of questions about KT. Before completing the questionnaire you need to read the statements below and tick the appropriate box to indicate your consent to take part.

• I voluntarily agree to complete this survey.

• I have read and understood the information above.

• I understand that all personal data relating to participants is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998). I agree that I will not seek to restrict the use of the results of the study on the understanding that my anonymity is preserved.

• I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice.

• I confirm that my anonymised data can be used for the purposes of Richard Beaumont's research work and any subsequent publications.

• I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study.

I confirm that if I have any concerns or queries I will raise these directly with Richard Beaumont at r.beaumont@mdx.ac.uk or telephone number 0208-411-6330

Please tick 'yes' at the first question to confirm your consent

Appendix 8: Assessing the relationship between the Cycle 1 Survey and School H&E data

As noted in the body of the thesis, an attempt was made to compare the participant personal descriptors/characteristics as recorded within the Cycle 1 Survey (referred to as C1) with the same characteristics within H&E. As noted, at the time of the research only data for the previous School of Health and Social Sciences (HSSc) from February 2012 were available in the same form for comparison. The reliability of some of characteristic information was limited due to incomplete information and errors. I was not able to obtain 'ethnic origin' data for HSSc that was sufficiently reliable. However, it was thought of interest to see how the Cycle 1 participant personal descriptors/characteristics might compare with those of HSSc, given that one might expect a similar breakdown of academic staff between H&E and that of the previous HSSc.

A Chi-square test allows the analyst to assess whether there is any relationship between the two categorical and/or classified variables. Robson (2011) refers to the Chi-square test as showing whether there is a significant difference between expected and observed frequencies of one or more variables. It is based on the differences between the frequencies from research data of two variables and those that you would expect to see if there was no relationship. Thus, the higher is Chi-squared then the less likely there is a direct relationship between the chosen variables. Chi-square alone does not provide a full picture. Robson (ibid, p.446) refers to the 'p-value' test, widely used to assess the probability of a relationship between two variables:

> "it tells you how likely it *would be* that you would get the difference you did (or one more extreme) by chance alone, if there really is no difference between the categories represented by your groups in the population from which you drew your sample. This assumption of 'no difference' is referred to as the 'null hypothesis'. In other words, a statistical test 'tests' the plausibility that the null hypothesis – no difference between the population means – is true." (author's italics)

It is common to use a significance level to be a p- value of 0.05. Table 1 provides a breakdown of the various participant descriptors/characteristics within the C1 Survey sample compared with those of the School, together with information on preparation for use of Minitab analysis. Table 1 also notes the inexplicable difference at School level of the number of staff recorded against each personal characteristic. This may be because of choices staff made whether to declare certain information or issues with School-held data. To assist with the validity of Minitab analysis and aid comparisons, due to the smaller numbers involved in the C1 Survey, a multiplying factor (MF) was used based on the number of staff recorded within each personal characteristic within the School data. The MF is shown as a bracketed number in the C1 Survey (n) column in each table.

Table 1: Preparation for Minitab analysis of data comparing participant personal characteristics of the C1 Survey with HSSc

Role	C1 Survey %	C1 Survey (n) (n total = 56)	School %	School (n) (n total = 200)
Lecturer	14.3	8 (28)	10	24
Senior Lecturer	42.9	24 (86)	52	120
Principal Lecturer	25	14 (50)	17.7	42
Reader	3.6	2 (7)	1	3
Professor	8.9	5 (18)	2.9	7
Head or Director (SM)	5.4	3 (11)	10	4

(Multiplying Factor (MF) to provide valid Minitab data point for low C1 counts @ 200/56 = 3.57)

Employment length (yrs)	C1 Survey %	C1 Survey (n) (n total = 46)	School %	School (n) (n total = 236)
<1	8.7	4 (20)	0.4	1
1-5	10.9	5 (26)	36.5	86
6-10	13.0	6 (31)	20.3	48
11-15	28.3	13 (67)	18.3	43
16+	39.1	18 (92)	24.5	58

(MF: 236/46 = 5.13)

Age Group	C1 Survey%	C1 Survey (n) (n total = 46)	School %	School (n) (n total = 236)
21-30	2.2	1 (5)	7.6	18
31-39	15.2	7 (36)	10.6	25
40-49	28.3	13 (67)	25.4	60
50+	54.3	25 (128)	56.4	133

(MF: 236/46 = 5.13)

Sex	C1 Survey %	C1 Survey (n) (n total = 46)	School %	School (n) (n total = 236)
M	35	16	31	72
F	65	30	69	164

(no MF required)

Notes

1. Roles: The role descriptor question appeared as the second question of the C1 Survey where 56 responded. For all other questions on personal characteristics n=46. For HSSc, data from Human Resources Services suggested different total staff numbers for each characteristic, varying between 200 (roles) and 236 (age) persons recorded against the categories used in the C1 Survey.
2. A MF was not necessary for sex.

Chi-Square and p test for significance of participant personal characteristics

Tables 2-5 were created using Minitab version 15 to assess whether there was any direct relationship between the respondents of the C1 Survey data and the HSSc data base of employment criteria. The analysis showed if there was any statistical significance, in other words to ascertain if the C1 Survey participants were representative of the whole School as the total population.

(In each case row 1 = C1 Survey and Row 2 = HSSc 'School' data)

Academic Roles

	Lect	SL	PL	Reader	Prof	Head/Dir
C1	28	86	50	7	18	11
School	24	120	42	3	7	4

Lect = Lecturer
SL = Senior Lecturer
PL = Principal Lecturer
Head/Dir = Head of Department/Director of Unit

Table 2: Comparison between C1 Survey participants and HSSc - Academic role

Chi-Square Test:

	C3	C4	C5	C6	C7	C8	Total
1	28	86	50	7	18	11	200
	26.00	103.00	46.00	5.00	12.50	7.50	
	0.154	2.806	0.348	0.800	2.420	1.633	
2	24	120	42	3	7	4	200
	26.00	103.00	46.00	5.00	12.50	7.50	
	0.154	.806	0.348	0.800	2.420	1.633	
	52	206	92	10	25	15	400

Chi-Sq = 16.322, DF = 5, P-Value = 0.006

Expected counts are printed below observed counts

Chi-Square contributions are printed below expected counts

The Chi-squared and p-test results of Table 2 would suggest that the participant sample of C1 was not representative of 'academic roles' of HSSc staff as of February 2012.

Length of service

	< 1	1 - 5	6 - 10	11 - 15	16+
C1	20	26	31	67	92
School	1	86	48	43	58

Chi-Square Test:

Table 3: Comparison between C1 Survey participants and HSSc - Length of service

	C3	C4	C5	C6	C7	Total
1	20	26	31	67	92	236
	10.50	56.00	39.50	55.00	75.00	
	8.595	16.071	1.829	2.618	3.853	
2	1	86	48	43	58	236
	10.50	56.00	39.50	55.00	75.00	
	8.595	16.071	1.829	2.618	3.853	
Total	21	112	79	110	150	472

Chi-Sq = 65.935, DF = 4, P-Value = 0.000

Expected counts are printed below observed counts
Chi-Square contributions are printed below expected counts

The Chi-squared and p-test results of Table 3 would suggest that the participant sample of C1 was not representative of 'length of service' of HSSc staff as of February 2012.

Age

	21-30	31-39	40-49	50+
C1	5	36	67	128
School	18	25	60	133

Chi-Square Test:

Table 4: Comparison between C1 Survey participants and HSSc - Age

	C10	C11	C12	C13	Total
1	5	36	67	128	236
	11.50	30.50	63.50	130.50	
2	18	25	60	133	
	11.50	30.50	63.50	130.50	
	3.674	0.992	0.193	0.048	
Total	23	61	127	261	472

Chi-Sq = 9.813, DF = 3, P-Value = 0.020

Expected counts are printed below observed counts
Chi-Square contributions are printed below expected counts

The Chi-squared and p-test results of Table 4 would suggest that the participant sample of C1 was not representative of 'age' of HSSc staff as of February 2012.

Sex

	Male	Female
C1	16	30
School	72	164

Chi-Square Test:

Table 5: Comparison between C1 Survey participants and HSSc - Sex

	C22	C23	Total
1	16	30	46
	14.35	31.65	
	0.189	0.086	
2	72	163	236
	73.65	162.35	
	0.037	0.017	
Total	88	194	182

Chi-Sq = 0.328, DF = 1, P-Value = 0.567

Expected counts are printed below observed counts
Chi-Square contributions are printed below expected counts

The Chi-squared and p-test results of Table 5 would suggest that the participant sample of C1 was representative of 'sex' of HSSc staff as of February 2012.

Appendix 9: Contextual review of literature supporting the Cycle 2 development of an R&IS

1.0 The context of Rewards/Incentives and theoretical conceptions

Reward management encompasses how an organisation puts in place arrangements to recognise the value of employees' contributions to achieving objectives and, importantly, the contribution each individual makes (Armstrong, 2012).

The consideration of rewards within the commercial sector is nothing new. As Cox et al. (2010, p.249) stated:

> "North American inspired concepts of pay and reward strategy have been influential in some parts of Europe (in particular, the United Kingdom) and regarded increasingly as normative "best practice".

Katz and Kahn (1976) noted that there were two kinds of rewards that could be made within an organisation. These included system rewards, which are given to individuals often as part of their employment rights or benefits, and individual rewards, which are provided on the basis of some form of performance related measurement. Kerr and Slocum (1987) identified that two key aspects of organisations that motivate and drive members towards accepting new strategy, and therefore achieving the objectives were issues of culture and formal rewards. However, Lawler (1990) suggested that rewards have to be designed to fit the organisation's business strategy, although that can be difficult particularly in large organisations where it might be challenging to identify actually what that strategy is (Wright, 2004).

Rewards can be defined clearly within an organisation or they can be implicit through the actual activities of that organisation. According to Armstrong (ibid), there are several contextual factors that affect rewards. There are internal contexts that may include the nature of the organisation's culture, the organisation's business sector, the nature of the professions and occupations within that organisation, the organisation's business strategy, and the internal political and social climate. External contexts might include the impact of global influence on that organisation, common rewards and pay levels within the marketplace relevance of the sector societal views, employment legislation and trade unions.

The nature of 'reward' structures has, in many ways, changed over time. Modern views of rewards would consider that they can be made-up of a variety of factors: base pay levels, variable pay

arrangements (payment on value to the organisational objectives), benefits (provision of car, maternity/paternity leave), pension arrangements, specific performance related pay, improvements to work environment etc. (Perkins and White, 2009). Initial rewards schemes were largely financially based – i.e. the reward was expressed by the organisation in some pay-related way. However, experience in the introduction of such schemes, often seen to be perilous to introduce and manage (Shields, 2007), combined with the introduction of a variety of theoretical perspectives, have caused academia and practitioners to reconsider the principles of the reward environment. As Armstrong and Brown (2006, p.21) suggest:

> "There was a time when the organization's reward package was more or less straightforward. But this era in which reward was just about cash and benefits is gone forever."

Perkins and White (ibid, p.31) noted that theoretical positions on rewards may derive from:

- an economist view - the use of market forces to assign rewards, usually related to pay and performance
- an industrial relations position – for example wage setting as a result of collective bargaining (e.g. through union activity)
- the occupational psychologists stance – the processes that influence the motivation of an individual – human 'drives'
- the political forces at play – the relative power to extract effort from employees within economic value-creating environments
- an organisational sociologist position – the values that individuals and groups bring, with a strong focus on fairness and equity
- strategic HRM views - with a closer focus on the use of rewards against organisational objectives

Each can overlap considerably but all have, or continue to develop, strong champions and disciplinary influences on an organisation's position and stance.

2.0 The development of total reward

The challenges in devising workable reward schemes are illustrated by the annual Chartered Institute of Personnel and Development (CIPD, 2009) report on the prevalence and nature of reward practices in the UK that found that less than 30% of those surveyed had some form of explicit reward strategy in place and that one of the most cited difficulties were the management problems in the introduction of such schemes. Cox et al. (ibid) noted that the UK has been particularly quick in business to follow the US into devising pay related performance rewards. However, quoting a survey by the CIPD's 2007 survey, they noted that only 35% of the 500 organisations responding had some form of written reward strategy and that 91% of managers who had been survey believed that implementing reward strategy was difficult or extremely difficult (CIPD, 2007). As Armstrong (ibid)

noted, many schemes that focus on financial rewards have been seen to be too bureaucratically problematic. This is perhaps best summarized by Shields (2007) who noted that, in the worst cases, a poorly conceived scheme can lead to active endemic organisational misbehaviour, particularly by focusing employees too much on specific goals at the expense of those equally as important. This also led to concerns that some reward schemes were so restrictive so as to limit creativity within the organisation (Armstrong, ibid).

From this developed what some have referred to as the 'new' approach of the 'total reward' concept (Armstrong and Brown, 2006). This concept is well-illustrated in the Towers Perrin model of total reward, as sourced in Armstrong and Brown, ibid, Figure 1.
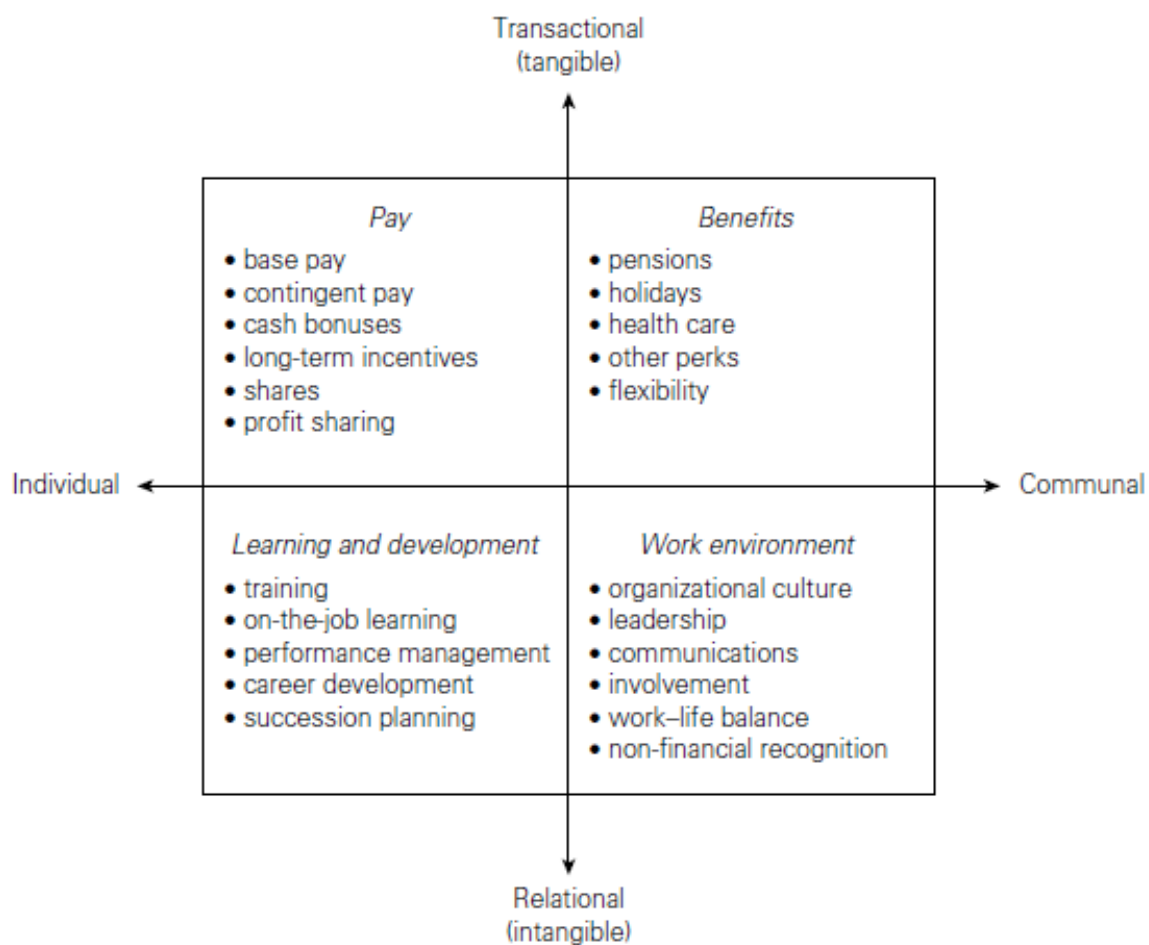
Figure 1 – Towers Perrin model of Total Reward

This demonstrated the various categories of reward that might be considered within any scheme and their description as either *transactional* (mostly financial in nature and can be used to recruit and retain staff) and *relational* (non-financial and tend to focus on other motivational drivers).

Armstrong and Brown (ibid) suggested that relational rewards are more likely to be those that differentiate the organisation from the external environment (competitors).

3.0 Rewards and performance management

It is common for appraisal schemes within organisations to include some form of reward based on performance. In this way reward schemes often become intrinsically linked to performance management. Ultimately, although some organisations might act in an altruistic fashion to improve the environment for their workforce, or in some way to meet their social corporate responsibilities, it could be argued that organisations would expect to see some form of improved performance as a result of the introduction of a rewards package/scheme. However, the term 'performance' in itself is a tricky one to grasp. An initial stance might be to look at success in performing assigned tasks. However, Campbell et al. (1993), Borman and Motowilde (1993) and Fletcher (2001) noted (as sourced in Armstrong (ibid)), when looking at performance it is normally common to go beyond task completion and view the employees overall contribution to the organisation. In this way performance also includes the behaviour of that employee which could include such things as cooperation, enthusiasm, citizenship, loyalty, team spirit, etc. A more common view is now to consider the role of outputs and behaviour in some form of overall assessment of performance.

As emphasised in the leadership programmes I have undertaken at Middlesex University, in discussions on enhancing performance, a key factor which was identified was the contribution that individual motivation makes (Vroom, 1964).

4.0 Rewards/Incentives and Organisational Culture

Bushardt et al. (2011, p.58) provided a useful summary of the way in which organisational culture is commonly defined.

> "In cognitive terms, organisational culture is often broadly defined as the shared values, beliefs, ideologies, and norms held by organisational members that influence their behavior. (McKenna, 1992: Sackmann, 1991: Schein, 1992: Schultz, 1995). In behavioral terms, organisational culture can be defined simply as a set of contingencies of reinforcement applicable to members of an organisation who share a common knowledge (Skinner, 1971). Organisational learning is defined as the addition to or change of the shared common knowledge of the organisation's culture."

Bushardt et al. (ibid, p.58), suggested that:

> "whilst top management can control the organisation's formal reward structure it can only influence the organisational culture".

Further following review of the literature they suggest that:

> "strong cultures exert great influence over individual members of an organisation and tend to negate the formal reward structure when the two are in conflict. When formal reward structure and culture are in harmony, they tend to exert an even stronger influence over the organisation members behaviour." (ibid, p60)

It was, therefore, important that any rewards, and/or incentives scheme developed in Cycle 2 had to be in sympathy with prevailing cultures within the organisation and that the two were mutually conducive.

5.0 Rewards and Incentives for KT within the HE sector

Abreu et al. (2009), Lockett et al. (2008), Francis-Smythe (2008), Hughes and Kitson (ibid) and Ozga and Jones (2006) comment on the possible motivators for engaging academics in KT, including the role of rewards and incentives.

One of the key barriers to KT activity amongst researchers has been suggested to be that the activity is not fully recognised as being an appropriate part of the scholar's objectives. Jacobson et al. (2004) found that in a study in Canada that KT was not recognised as a "legitimate form of scholarship" (ibid, p.248). Of particular note was the identification of rewards and incentives as being a key barrier to engaging Higher Education in KT activity:

> "Chief among the barriers described in the literature is the reward and incentive scheme of the academy (i.e. promotion and tenure), a system that, in general, continues to value traditional types of within-group activity (e.g. publication in peer-reviewed journals, presentation at disciplinary conferences, receipt of research grants from federal agencies) over the more broadly directed outreach and production activities associated with Knowledge Transfer." (ibid, p.249)

Much of the key work to understand approaches to engaging Universities and academics in KT was undertaken by US researchers in the early to mid-2000s. Much of this was undertaken by economists seeking to explore the contribution that universities do, could and should make to regional economies. Chatterton and Goddard (2000) identified that to engage universities in regional development and community projects, incentives to academics might be part of an internal mechanism. Friedman and Silberman (2003) reinforced this view through demonstrating a link

between enhancing technology transfer and direct rewards to 'faculty' involved in such transfer (but not in the form of pecuniary rewards to individuals). Siegel et al. (2003) undertook research in several universities in the USA using econometric and qualitative research methods. Siegel and colleagues were interested to assess and 'explain' the relative productivity of 113 US University Technology Transfer Offices (TTOs). The authors supplemented their econometric analysis with qualitative evidence, derived from 55 structured, in-person interviews of a hundred university technology-transfer stakeholders (i.e. academics, university administrators, and managers/entrepreneurs) at five research universities in Arizona and North Carolina. The qualitative analysis identified key impediments to effective university technology transfer. One was informational and cultural barriers between universities and firms, especially for small firms. Another was insufficient rewards for faculty involvement in university technology transfer. This includes both pecuniary and non-pecuniary rewards, such as credit towards tenure and promotion. Some respondents even suggested that involvement in technology transfer might be detrimental to their career. Link and Siegel (2005) focussed on the *royalty distribution formula*, which stipulated the fraction of revenue from a licensing transaction that was allocated to a faculty member who developed the new technology. The authors found that universities allocating a higher percentage of royalty payments to faculty members tended to be more efficient in technology-transfer activities. Organisational incentives for university technology transfer appeared to be important.

Siegel and Phan (2005, p.4) noted that:

> "universities are increasingly being viewed by policymakers as engines of economic growth, via the commercialization of intellectual property through technology transfer."

The authors contended that there was evidence that KT was a critical component of academia but that a more strategic approach was required at institutional level to maximise activity levels. It was found that royalty distribution was an important incentive for academics to be involved in KT. The higher the percentage of royalties provided to academic inventors, the greater the level of KT in the organisation. Lach and Shankerman (2004) applied a complex econometrical research approach to consider the engagement of Universities in KT. Their conclusion was that licensing income is significantly increased when the direct monetary rewards to the inventor, in the form of royalties, are raised. Lach and Shankerman (2008, p.419) conducted more detailed research amongst USA universities and re-enforced earlier findings that:

"royalty shares have a positive incentive effect on license revenue for private, and possibly also for public, universities. The estimated effect is strongly significant and large in private universities, but smaller and less precisely estimated in public universities. The point estimate implies that a one-percentage point increase in royalty share would increase license income by 4.5% in private institutions. This large incentive effect is one of the main empirical findings of this article. It confirms the basic economic intuition that high-powered monetary incentives do matter for university research activity. In view of all the other determinants for which we control, it is encouraging that we can still find an empirical relationship between license income and royalty shares."

"The incentive effects appear to be larger in private universities than in public ones, and our survey evidence suggests this may be related to differences in the use of performance pay, government constraints, and the importance of local development objectives in technology licensing offices." (ibid, pp.427/8)

The suggestion that enhanced royalty share arrangements seemed to be linked to KT engagement was supported by similar studies in northern mainland Europe. Debackere and Veugelers (2005) (as quoted in Siegel et al. 2007a) found that incentives and organizational practices are important. Specifically, they report that royalty payments do lead to effectiveness in technology transfer. Siegel et al. (2007b, p.497)) recognised that incentives and rewards are critical to engaging academics within KT:

"it is also critical to design the appropriate incentives for faculty members to become involved in entrepreneurship", and further, "there is a need both at a systemic level and within universities to adapt their promotion and remuneration systems so that commercialisation activities are valued" arguing that KT should be seen as an important component and core part of an academic portfolio."

Lai (2011) noted that previous research suggested that there are incentives for universities to be involved in entrepreneurial initiatives within the local economic context because industry may gain unique knowledge and technologies from the universities whilst the universities gain financial support for their research. Lai (ibid) found that senior researchers, particularly professors, were motivated to be engaged in entrepreneurial activity through the application of incentives that recognised their part in the development of new knowledge and technologies.

This linear relationship between rewards and incentives and increased KT output is not a shared perspective of other researchers. In an Australian context, Stilwell (2003, p.51) noted:

> "Commercial criteria are being increasingly used for restructuring higher education. They influence both broad policies and the incentive structures facing individual academics. However, the underlying presumption of an association between efficiency and competitive market processes is problematic. The 'economic rationalist' model is shown to be inappropriate for higher education."

In terms of scientific research being 'hi-jacked' by commercial pressures, Stilwell (ibid, p.52) argued that:

> "it is sometimes a case of commercial interests more or less directly determining the nature of the scientific research undertaken in the universities" and goes on to suggest that "universities are not – and perhaps cannot be – insulated from the processes of globalisation, structured economic change, and the pressures of an increasingly competitive economic environment."

Stilwell maintained that the gradual engagement with the market-place had encouraged university managers to adopt performance-related criteria for internal funding choices and this was a mere reflection of how governments were biased in their funding for teaching and research on similar approaches. Whilst recognising that there were some opportunities to use incentives, e.g. to switch teaching to support developing areas, Stilwell did not find them effective due to:

- Technical problems in developing appropriate structures of reward based on merit – how could this be measured and in what circumstances was it appropriate? This is an issue which has also been debated at Middlesex University. For example, if we reward KT, why not teaching and Research? Others argue that rewards for research and teaching are already there through promotion and tenure routes.
- Conceptual problems – are academics "income-maximisers" (ibid, p.53)? Or are they more likely to be driven by other factors such as enjoyment of teaching and/or research? Stilwell argued that academics were drawn to a profession that was not "notably well paid in comparison with the private sector" (ibid, p.53) and suggested that economic forces were not a determining factor.
- The libertarian aspects of free market that lay behind this commercialisation argument were undermined by the need to develop a new academic management class who "encourage, cajole or force change" (ibid, p.54), which was then counter-productive.

- Lack of legitimacy of the performance measures themselves – leading to academics focussing on the measures rather than the whole academic experience.

Stillwell also referred to work of others regarding 'fabrication' – in that managers focusing on 'performativity' led to scepticism amongst academics. Stillwell referred to Ball (2000, p.10), where he (Ball) talks of "blizzard of hype, (pseudo) information and impression management that contributes to opacity rather than transparency."

In a related and interesting evaluation, Lucas (2006) considered the validity of rewards and incentives as an approach to growing KT 'within' an organisation. This suggested that the success of KT was pre-disposed by:

- reputation – employees perceptions of each other
- culture
- incentives

Lucas (ibid) argued that for organisational culture to contribute to the knowledge transfer process, it must have a strong set of core values and norms that encouraged the sharing of information and active participation of employees in the process. This culture of sharing and participation involved employees seeing knowledge as an organisational asset to be shared with their colleagues. There could be similarities here with the UK government's desire for universities to share their research outputs with regional and national 'business' so as to support wealth-generation. Lucas (ibid) identifies the role that incentives could play and categorised them in two main ways:

- outcome based – received when achieving set objectives
- behaviour based – motivating employees to share information and knowledge about practices that can lead to organisational performance improvement

The argument was that managers are better focusing on incentives that will encourage high levels of participation and thence support a desire to exchange knowledge. The evaluation found that use of incentives did not correlate well with enhancing KT engagement within the organisation.

This argument was counter-balanced by others that do see a positive influence of allowing for incentives to encourage KT in higher education, most specifically amongst staff employed to support KT activities, usually as part of a centralised Technology Transfer Office (TTOs) (University TTOs – (UTTOs) in the USA). Belenzon and Schankerman (2007) (as quoted in Siegel et al., 2007a) found that amongst TTO managers, "bonuses raise licensing income by increasing the quality of transacted inventions" (p.648 of Siegel et.al.). Macho-Stadler and Pérez-Castrillo (2010) also found this in a Spanish context.

Interestingly, Markman et.al. (2004) found differences in the effect of incentivising KT activity amongst academic staff and UTTO staff. This large-scale research looked at incentives (payment of royalties to academic staff and/or their departments, and salary enhancement linked to the performance of UTTOs) on entrepreneurial output. The latter as assessed according to: 1. Level of equity licensing within the university, 2. Setting-up incubators to grow businesses through partnerships with the university and, 3. university based/sponsored company start-ups. Qualitative (interviews) and quantitative (federal published data and Web site sources) data from 128 Universities in the USA accounting for 60% of federal and industry research support and 70% of licences executed were analysed with a 92% response rate. The authors, from an economics department, expected that 'agency theory' seen in other industries would provide a correlation between incentives and KT success, i.e. in this case that pay policies would motivate scientists to invent and disclose those inventions. However, their research suggested no direct correlation between incentive payments to academic staff or their departments and KT output. But they did identify pay-related incentives for staff within UTTOs and that relationship was stronger with licensing activities. One key aspect raised was that the inherent delays in publication required to maintain commercial confidence was off-putting to academics who, "might be more interested in academic achievement and publishing their research" (ibid, p.361).

There appear to be conflicting opinions as to the impact of incentives and rewards on KT engagement, particularly in the USA. In the UK, the lack of rewards and incentives as an impediment to engaging academics in KT activities has been a significant conclusion of research outcomes. Francis-Smythe (2008) and Bicknell et al. (2010) are just two examples of research in the UK that established that the lack of reward mechanisms, benefitting either the individual or their relevant department/faculty, were highly important impediments to enhancing KT. Similar detailed econometric research studies as have been undertaken in the USA are limited in the UK.

It is worth considering the work of Osterloh and Frey (2000) who considered the management of motivation to encourage knowledge transfer, again, within an organisation. The authors noted that in managing motivation, employees were motivated intrinsically and extrinsically in terms of traditional social psychological theory. The authors considered how knowledge transfer within an organisation, particularly tacit knowledge, could be better managed with an understanding of the impact of using these motivational theories. It was proposed that there had been an increasing approach to run firms as if they were markets in themselves which resulted in predominance of financial payments for performance. "Employees are extrinsically motivated if they are to satisfy their needs indirectly, especially through monetary compensation" (ibid, p.539). This was closely

related to 'transactions cost theory' – that individuals were motivated by personal financial rewards. However, employees were also motivated through intrinsic goals where there was value obtained from the activity itself – i.e. "the ideal incentive system is in the work content itself, which must be satisfactory and fulfilling for the employee" (ibid, p.539). This was a behavioural view of motivation. However, the authors stressed that managing intrinsic motivation was difficult and that most managers automatically gravitated to extrinsic approaches. Osterloh and Frey (ibid) considered the different perspectives of the economist and the psychologist as to the value and application of incentives to generate KT internally within an organisation. I posit that a good manager would use both approaches in some form of balance to motivate their staff. Osterloh and Frey's (ibid) final judgement was that tacit knowledge exchange was probably better achieved within an organisation through intrinsic motivational approaches and suggested these should include:

- participation as a coordination mechanism
- promoting personal relationships – "establishing psychological contracts based on emotional loyalties, often called team spirit." (ibid, p.543)
- contingency of reward on performance suggesting that there is "overwhelming empirical evidence that there is generally no valid connection between pay and performance" (ibid, p.544)

Lepper and Greene (1978) adopting a psychological perspective, suggested extrinsic rewards could be damaging due to the 'crowding- out effect', where the effect could corrupt workers in that an initial reward for performance becomes an expectation for the future (Frey, 1997).

Appendix 10: The Interview as a method of inquiry

1.0 Advantages and disadvantages of interviews

Askey and Knight (1999, p.2) provided a focus on the benefits of interviews in establishing the views and attitudes of individuals,

> "Interviews may provide data on understandings, opinions, what people remember doing, attitudes, feelings and the like that people have in common (survey interviews). They may be more exploratory and qualitative, concentrating on the distinctive features of situations and events and on the beliefs of individuals or sub-cultures."

This is very much a constructivist view of research, i.e. research is based on human constructs operating within cultural boundaries and not on objective facts to be established. In this way interviews do have a strong part to play in research which seeks to really establish the beliefs, values and attitudes of certain issues. But they are not appropriate in making judgements as to how people might actually respond in terms of actions they may take to various stimuli. As Askey and Knight (ibid, p.15) noted:

> "they are not necessarily good at examining what people do – as these two can diverge. This can be an issue when people reflect on what they did years ago, or even yesterday!!"

Askey and Knight (ibid, p.33) summarised why the interview can be a good approach for data development:

- it is a method of investigating peoples' thoughts which we might not be able to observe ethnographically
- qualitative interviewing is a way of uncovering and exploring the meanings that underpin people's lives, routines, behaviours and feelings etc. (Rubin and Rubin, 1995). It allows exploration of the interviewees understanding of a phenomenon rather than confirming the interviewers understanding via questionnaire etc.
- in interviews one can seek clarification
- interviews can allow for more depth of questioning
- they can allow people to be explicit about their implicit feelings, thoughts and consequent actions.

Robson (2011) also provided an overview of advantages and disadvantages in interviews:

- interviews can be flexible and adaptable
- face to face interviewing allows more detailed enquiries and ability to follow-through areas of enquiry that emerge
- the researcher can consider non-verbal aspects (body language etc.)
- there is the potential for providing rich material/data
- the interviewer needs to have the right skill and competency
- lack of standardization (particularly in unstructured interviews) can lead to concerns about reliability
- the interviewers own biases are difficult to rule out
- can be time consuming
- transcribing and coding can take significant lengths of time

This focus on the richness of data retrieved and the flexibility was also supported by Fontana and Fret (2008, in Denzin and Lincoln, 2008). These authors also raised the interesting issue that some interviewees find the interview process stimulating so might volunteer more information. However, Fontana and Fret (ibid) also agreed that the skill of the interviewer (or moderator in their words) is critical and that results can't be generalised. As a note of caution Scheurich (1997, p.62) suggested that interviewing was "persistently slippery, unstable, and ambiguous from person to person, from situation to situation, from time to time."

2.0 The interview as a neutral technique

The very nature of the interview technique brings into question the authenticity (validity) of the results. Whilst Fontana and Fret (ibid) recognised the predominance of the interview for all aspects of the modern life, a situation they coin the 'interview society', they also recognised its value,

> "it has actually become the most feasible mechanism for obtaining information about individuals, groups and organisations in a society characterised by individuation, diversity, and specialised role relations." (ibid, p.120)

But the same authors note that the interview is "intrinsically and unavoidably historically, politically and contextually bound" (ibid, p.116), i.e. interviews can't be seen as obtaining objective data.

This point is emphasised by Houtkoop-Steestra (2000) (as referred to in Robson, ibid, p.279),

> "interview results can only be understood as products of the contingencies of the interview situation, and not, as is usually assumed, the unmediated expressions of respondents' real opinions."

This 'theme' that the interview actually becomes its own drama either within or possibly quiet apart from the main research theme is the focus of some debate, "Every interview is… an interpersonal drama with a developing plot" (Pool, 1957, p.193). Atkinson and Silverman (1997) (as referred to in Fontana and Fret, ibid) suggested that the researcher does not establish this almost mythical in-depth, richness of data but actually creates a new version of reality with the interviewee. Fontana and Fret (ibid, p.144), themselves advocates of the interview, summarised this well:

> "There is a growing realisation that interviewers are not the mythical neutral tools envisioned by survey research. Interviewers are increasingly seen as active participants in an interaction with respondents, and interviews are seen as negotiated accomplishments of both interviewers and respondents that are shaped by the contexts and situations in which they take place."

This is important as it moves far away from the idea of a 'rational' type of interviewing that relies on the skill of the interviewer extracting knowledge and data from participants. In this way any interview is a social encounter. Silverman (presentation at Middlesex University seminar, Oct 2012) has significant concerns about the interview being a good method for data development. His concerns were that interviews did not carry the level of authenticity often claimed and that the process in many cases was mere journalism and not detailed research. Fontana and Frey (ibid, p.148) recognised these issues and suggested:

> "we need to proceed by looking at the substantive concerns of the members of society while simultaneously examining the constructive activities used to produce order in everyday life and, all along, remaining reflexive about how interviews are accomplished." (drawing on views of Gubrium and Holstein, 1997)

3.0 Assessing whether interviewing is the most appropriate approach

Flick (2009) evaluated in some depth the role of the interview as a data gathering approach. He recommended the use of a checklist for this purpose (ibid, p.215):

- research question – is interview the most appropriate to provide possible answers?
- interview type – are the methods applied appropriate for the target audience?
- interviewer – able to apply the method?
- interviewee – is it appropriate to the participants?

- scope – is the method appropriate to ensure interviewees have full scope to provide data?

In this study the interview was appropriate to the respondents as most would be undertaking research of their own using this technique; it would also assist in providing the necessary data to contribute to answering the research aims and the questions as designed would allow for a full scope of the topic – and for additional aspects that would be revealed in the process.

4.0 Interview techniques

Flick (ibid) also provided in Table 16.1 a useful summary of the main interview techniques: from interviews with individuals (focussed, semi-standardised, problem centred, expert, ethnographic), to group interviews (group discussion, focus groups) to narrative techniques. Whilst useful, the degree of overlap between these techniques is considerable and perhaps the differentiation between some is difficult to perhaps justify for some practical situations (e.g. in this research between the expert (as the established academic), a semi-structured approach and certain narrative approaches).

Robson (ibid) grouped interviews into either open (unstructured) or closed (structured). In the latter, the interviewer follows a set format of questions and does not deviate from that, often with a fixed set of answers (rather akin to a survey). Open interviews, as the name suggests, can be designed so as to give no restrictions on the nature of answers. They can be more flexible, encourage better rapport and may allow for unexpected responses. The most open interviews are those where the researcher has no set questions in mind and the interview is mostly like a conversation. A key issue is how much structure does the researcher want in their interview? Askey and Knight (ibid, p6) noted that in unstructured/open interviews:

> "the researcher will have decided only in general terms upon the main themes and topic areas to be explored, but will be flexible in the approaches used to explore them."

In open interviews an important issue is that the interviewees govern what is discovered – much of the nature of the research is taken away from interviewer, as opposed to a structured approach where he/she sets the detailed agenda through pre-set questions. Semi-structured interviews are commonly used and combine the structure provided by closed approaches but allow the interviewer to probe and ask follow-up queries around main questions. Indeed,

Askey and Knight (ibid, p.98-99) suggested that the importance of prompts is often not fully acknowledged:

> "devising the appropriate probes and prompts with which to press the interviewee is at least as important as developing the core questions."

Whilst unstructured interviews vary widely:

> "Traditionally the interviewer is involved in an informal conversation with the respondent; thus, the researcher must maintain a tone of "friendly" chat while trying to remain close to the topics of inquiry that he or she has in mind. The researcher begins by "breaking the ice" with general questions and gradually moves on to more specific ones whilst also – as inconspicuously as possible – asking questions intended to check the veracity of the respondent's statements." (Fontana and Fret, ibid, p.139)

In addition to the techniques of designing and asking questions, as important are the non-verbal techniques within the interview process. Gorden (1980) (as sourced in Fontana and Fret, ibid) categorised these as:

- Proxemic – use of interpersonal space and to communicate attitudes
- Chronemic – use of pacing of speech and length of silence in conversation
- Kinesic – any body movements or postures
- Paralinguistic – all variations in volume, pitch and quality of voice.

Given my personal preferences and my current experience levels, the limited time and resources available to the researcher and the participants, the need for some level of structure to aid rapid and smooth analysis to the action phase of the project, and the general acceptance by colleagues of their relevance, semi-structured approaches were chosen for the interview phase. Robson (ibid), Bryman (2012) and Flick (ibid) suggested that an 'interview guide' is useful to assist the researcher. This provides a framework within which to construct the interview although it is common that the researcher may answer questions in varying order depending on the nature of responses. In addition some interviews may stress certain points more than others.

5.0 Sampling for the interviews

Within the largely quantitative Cycle1 Survey, the initial intention was not to sample but to survey all academics, i.e. a census approach. In effect, a self-selecting sample was derived given that only a percentage of staff responded.

Within qualitative research whilst some largely statistical sampling approaches can be used (for example probability sampling to provide generalisations about population profiles) sampling tends to be 'purposive' – selected in a strategic way so that represents the needs of the research question (Bryman, ibid). Within this generalised approach, Bryman (ibid) noted various categories of purposive sampling:

- theoretical sampling - driven by theories as these emerge in the research
- extreme case sampling – unusual or at far ends of dimension spectrum
- typical case – exemplifies a dimension of interest
- critical case – it is envisaged that a case will allow a theory to be tested
- maximum variation – as wide a variation as possible
- criterion sampling – sampling all units meeting a criteria
- opportunistic
- stratified purposive – typical cases or individuals within subgroups of interest
- snowballing – initial sampling leads to identification of other sample respondents/participants

Theoretical sampling is perhaps most associated with Grounded Theory where the research itself determines the sample as part of an iterative and reflexive process. Individuals and groups are selected on the basis that they will provide insights into the theories being developed (Glaser and Strauss, 1967). Some even argue that this is not sampling but data selection (Flick, ibid). Sampling/data collection continues until the point of 'theoretical saturation' i.e. when there is no further data being sourced which is of value.

In particular, interviews can also offer a greater level of depth and analysis which might justify smaller sample sizes. The Cycle 1 Survey sought volunteers to be interviewed on an anonymous basis. Although not in any way statistically significant, by chance those volunteering were at least representative of the various academic grades/positions within the School. In some ways one could describe this as a convenience or 'self-selecting' sample. One has to consider why those volunteering for interview had done so. It may be that they had a particular interest in KT that would suggest the sample may not, for example, be representative of those will little knowledge or interest in KT.

I needed to be aware of this in terms of undertaking a highly reflexive approach to my research journal and research memos so as to address authenticity and reliability. It was noted that generalisability may well have been limited.

6.0 Specific ethical/'rights' Issues for Interviews

Askey and Knight (ibid) highlighted specific issues around ethical, political and 'rights' as part of an interviewing process. They identified the commitment required by the participant and that, through this very personal process, significant emotional aspects might emerge. The participant is also very much part of the research process and intimately involved. Indeed, the same could be said of the interviewer as the process can be emotionally demanding and tiring. Fontana and Fret (ibid, p.143) contended that, "a growing number of scholars feel most traditional in-depth interviewing is unethical" because of the implicit desire of the interviewer to manipulate the participant, treating them as a subject. Clearly, as with all research, there is a need to respect the participant's views and protect their interests. The research has utilised guidance from Askey and Knight (ibid), Bryman (ibid), Robson (ibid) and Flick (ibid) to establish a framework of approach in terms of the manner in which interviews were undertaken (see the discussion on the nature of interviewing above) and a pre-interview briefing note was provided together with a consent form which was signed by each participant. This covered: providing information about the nature of the research, consent to utilise the data provided, rights, anonymity and confidentiality, future use of data and dissemination.

The issue of anonymity was paramount to gain trust but at the same time general information was collated regarding the participants in terms of age, role in the organisation, etc. As such, a separate sheet was provided to each participant requesting such information which was linked to the interview but enabled the individual to remain anonymous.

Appendix 11: Theoretical aspects to the interpretation of the data

Depending on the nature of the research, the processes/methodologies used, the paradigm the researcher tilts toward, the research question to be considered and the situation within which the data is sourced/accessed, there are a variety of potential analytical approaches and methods.

As Bryman (2012, p.578) identified, common approaches for interviews include, "grounded theory, critical discourse analysis, qualitative content analysis and narrative analysis".

Fontana and Fret (2008, p.140) rejected that researchers' interpretation of data is, "unbiased, neutral and invisible". They argue that this is not the case and that the process needs to be more 'reflexive', "More recently, sociologists have come to grips with the tremendous, if unspoken, influence of the researcher as author" (ibid, p.140). Some have taken the process to new levels through 'deconstructing' their own interpretations to take account of their own biases, moods and attitudes. Reflexivity can be seen as a powerful tool in recognising the importance of the researcher's own position. Askey and Knight (1999, p.164) also agree with the influence of the researcher in the analysis which, "involves the exercise of judgement about the meaning and significance of data".

Robson (2011) suggested three main approaches to qualitative data analysis:

- quasi-statistical – e.g. content analysis
- thematic coding – data is labelled through coding and similar labels then gathered together to form a 'theme'. Themes then serve to aid further analysis
- grounded theory – a form of thematic coding where codes arise from interaction with data. Theory is grounded in data.

Grounded Theory, or derivations of it, is perhaps one of the most common techniques used in qualitative data analysis. Bryman (ibid) summarised the key components of grounded theory first proposed by Glaser and Strauss (1967):

- theoretical sampling is used
- the data is broken down into component parts which then involves a coding process. That coding is undertaken as part of the ongoing analysis (i.e. unlike quantitative data where codings may be preconceived – in Grounded Theory codes emerge as does accompanying theory)
- codes are combined to create categories which themselves have clear properties

- coding continues until theoretical saturation is achieved – both data collection and coding into categories has reached completion
- constant comparison of categories that are emerging
- ongoing construction of theory – the categories form together to provide a framework that might help to explain a phenomenon. In this way the categories and theory are grounded in the research concepts (Askey and Knight, ibid)

The coding process tries to identify component parts of the data that appear to have a theoretical importance. Codes are constantly reviewed in a state of flux throughout the process. Coding emerges from the data but in Grounded Theory has three types of process (Glaser and Strauss, 1967, as adapted by Strauss and Corbin, 1990):

- Open coding – process of breaking down, examining, comparing, conceptualising and categorizing data (Strauss and Corbin, ibid)–codes are brought together in categories
- Axial coding – data put back together from open coding by making connections between categories
- Selective coding – a process of selecting the core category which is the central issue or focus around which all other categories are integrated – the central storyline

Alongside the various processes of coding many researchers also write memos, personal notes taken as the data is analysed that start to identify key issues that are emerging. Miles and Huberman (1994), Ryan and Bernard (2003), Flick (2009) and Bryman (ibid) provided guidance on how to code and advise on the process. In essence, the coding process:

- provides labels (codes) to words, groups of words or paragraphs
- allows the researcher to make summary comments and memos as the data is analysed so that it is 'live'
- identifies similar phrases, patterns, themes, relationships, sequences and differences between data sources
- uses these patterns and themes to focus on further data collection and analysis
- provides a process whereby a set of generalisations start to emerge that integrate the subgroups of codes (categories) to form theories about the research topic
- links these emerging concepts to the extant body of knowledge

A common way is Thematic Coding, although some would suggest it is simply coding in a Grounded Theory sense. Here the researcher is encouraged to begin the analysis of categories and themes as soon as possible and during the research:

"there is nothing to stop you starting the analysis with predetermined codes or themes, perhaps arising from your reading of the research literature and/or research questions you are interested in." (Robson, ibid, p.475)

But there is a counter-view that this may just enforce pre-conceptions and lead to bias to focus on certain areas of data. Others suggest that this may help sensitise the researcher to data they may have otherwise missed. Robson (ibid) suggested Thematic Coding is particularly useful for participatory research paradigms and is useful where the researcher is dealing with masses of information and provides guidance on the phases of coding (p 476):

- familiarise oneself with data – note down initial ideas
- generate initial codes
- identify themes – collating codes and gather data relevant to each
- construct thematic networks
- integration and interpretation

Bryman (ibid) identified 'themes' as:

- a category identified by the analyst through data
- relating to the research focus
- building on codes identified in transcripts
- providing the researcher with the basis of a theoretical understanding of data that can contribute to theory

One can see from these interpretations/guides that most thematic approaches do adopt aspects of Grounded Theory. In terms of deriving meaning from data, one has to exercise some caution, given the context of the data collection and analysis process. As noted above, interviews are only a snap shot in time and the interviewer and participant's performance on the day is highly relevant. The researcher may have preconceptions, indeed in most approaches this is very likely given they will have undertaken a literature review and be aware of existing conceptual frameworks. The analysis also brings in to play the judgement of the analyst, their preconceptions and guiding frameworks. This subjective element is often the key criticism by quantitative researchers. In particular Askey and Knight (ibid) drew attention to the risk that some qualitative researchers may derive causal relationships from their data. This they warn against and suggest that qualitative research can only really, "postulate on relationships" (ibid, p.151).

Appendix 12: Cycle 2 Semi-structured interview guide

Intervention 1 – Rewards/Incentives

Interview Guide

Introduction

- Nature of research – overall research question – linked to action/intervention at school level
- Confidentiality and anonymity
- Format and length of interview
- Recording and analysis
- What will happen next
- Opportunity to be involved further

Experience and Views

- Experience in externally facing activity with business, public & civil sectors
- After explaining what KT is:
    - o Specific knowledge/experience in KT?
    - o What sort of KT involved in?
    - o How relevant to your role?
- What do you think might be the reasons why academics would be engaged with KT?

Specific questions on KT and Incentives

This project seeks to understand what interventions/actions might be initiated that would encourage academics to enhance their engagement in KT.

In the recent survey to which you responded, one aspect which was identified as an intervention was to provide rewards/incentives to academics for being active in KT.

The nature of rewards/incentives

- In this context, what might you understand as being appropriate rewards/incentives?
    - o P. do you see any difference between 'rewards' and 'incentives'?
    - o P. could you please give examples?

The link between rewards/incentives and motivation to engage in KT

- What are your views on whether rewards/incentives motivate academic staff to undertake their academic duties?
  - o P. if not, explain…..
  - o P. could incentives/rewards be a demotivator?...
  - o P. would this be relevant to KT?

Rewards/incentives to individuals and Groups

- Do you think there is any difference between rewarding/incentivising staff individually or as a group (e.g. Dept)?
  - o P. If you feel rewarding/incentivising individuals is important, how might that be done?
  - o P. If as a group, how might that be done?

Issues raised by use of rewards/incentives

- Do you see any particular issues in rewarding staff for being involved in KT?
  - o Prompt (P) – payment to individuals?

Experience of the impact of rewards/incentives schemes

- Have you experience at Middlesex or another institution of benefitting from similar rewards/incentives?
  - o P – how was this organised/arranged?
  - o P - how satisfied were you with the arrangement?

Elements of a successful rewards/incentives scheme

- What key elements of a rewards arrangement would need to be present to make it successful?
  - o P – management/control
  - o P - arrangements/procedures/controls
  - o P - nature (e.g. financial) and how provided
  - o P - Would this have encouraged you to have undertaken more KT activity?

Impact of rewards/incentives on teaching or research

- Do you think the introduction of rewards for KT activity would have an impact on research and/or teaching activity?

Other issues

- Is there anything else you might wish to add that might be relevant to this subject?

Appendix 13: Interview information and consent forms for participants

The role of rewards and incentives in enhancing academic engagement in Knowledge Transfer

Study Information Sheet

Thank you for agreeing to be part of interviews forming the next phase of my research following your kind completion of the recent Survey Monkey questionnaire into the engagement of academics in Knowledge Transfer activity within the School of Health and Education. I hope this information sheet will provide you with sufficient background information about the interview to come.

As you may recall, part of the previous Survey Monkey questionnaire asked you to rank a number of interventions at institutional and individual level that might enhance the engagement of academics in KT. One of the most popular interventions that was highlighted was related to *rewards and incentives* which mirror previous similar research in the UK and the USA.

In order to explore your views in more detail, I would like to interview you as I believe this will assist Middlesex University and myself in further understanding this phenomenon. The interview will last approximately one hour and will be audio recorded. I will also be interviewing a number of other colleagues and it is then my intention to analysis the recordings using NVivo software in order to 'code' for categories that may emerge.

The information provided by you is being used solely for these research purposes and it will not be used in a manner which would allow personal identification of your responses. The recordings will be kept securely locked within a cabinet within my office which is itself locked when I am not present. Transcribers will undertake an initial analysis of recordings but will not be aware of names of individuals.

The anonymised results and other related information will be part of a broader research project and there is the possibility that it could be used in subsequent publications. Any information provided in such a way will be anonymised.

This research has been considered and approved by the relevant Ethics Committee within the University.

Can I thank you again for helping me by taking part in this research – it is greatly appreciated. I would be grateful if you could please sign and date the consent form below.

Kind regards

Richard Beaumont

Interview Consent Form

- I, the undersigned, have read and understood the study information sheet provided.
- I have been given the opportunity to ask questions about the research study.
- I understand that taking part in this research will involve an interview which will be recorded.
- I have been given an opportunity to consider whether to agree to take part on this research.
- I understand that the research results will be anonymised and that my name and position in the organisation will not be revealed.
- I agree by signing this document that quotes from my interview may be used on the assumption that personal details will not be revealed such that I could be identified.
- I agree to assign any copyright I may have to the interview materials to Richard Beaumont.
- I understand that I may withdraw from the survey at any time and will not be pursued for further comment as a result of such a decision.

Name of participant………………………………………………………………………………………..

Signature…………………………………………………………………………………………………..

Dated…………………………………

Signature of researcher…………………………………………………………………………………..

Appendix 14: Interviews - Participant personal profile

Ref: Interview No: **Date:**

Enhancing the Engagement of Academics in KT

Interview sessions – background information of interviewees.

Dear Colleague – it would be helpful if you could please answer the following ticking the most appropriate choice.

This information will be held in confidence and anonymity preserved.

Current academic role

○ Head of Department

○ GTA

○ Lecturer

○ Senior Lecturer

○ Principal Lecturer

○ Research Assistant

○ Research Fellow

○ Senior Research Fellow

○ Reader

○ Professor

○ Professional support

○ Head or Director of a KT/Business Unit

Total length of academic employment

○ Less than 1 year

○ 1-5 years

○ 6-10 years

○ 11-15 years

○ 16+ years

Age - please tick the box within which your age falls

○ </= 30

○ 31-39

○ 40-49

○ 50+

Sex

○ Male

○ Female

○ Prefer not to disclose

Ethnic origin: I would describe my ethnic origin as:

○ Gypsy or traveller

○ Black or black British - Caribbean

○ Black or black British - African

○ Black -other

○ Asian or Asian British- Indian

○ Asian or Asian British - Pakistani

○ Asian or Asian British - Bangladeshi

○ Chinese

○ Asian - other

○ Mixed - White and Black Caribbean

○ Mixed - White and Black African

○ Mixed - White and Asian

○ Mixed - other

○ Arab

○ White British

○ White 'other'

○ Other Ethnic background

Appendix 15: Transcription specification

EPP – Insert name of transcriber

Description of Services-

Enhancing Academic Engagement in KT – Specification for Transcription Services

- To provide a detailed and standardised, word by word full transcription services for interview audio recordings – to include appropriate recognition of pauses, changes in voice emphasis, interconnecting sounds (e.g. um, ah, etc).
- Transcription to be provided electronically in a suitable format to be automatically downloaded into NVivo software (e.g. as an electronic word document).
- It is anticipated that there will be between 10 and 12 interviews in total.
- Each recording will be approximately 1hour in length although there may be some variation depending on the interviewee's responses.
- It is anticipated that each recorded interview will take approximately 6 hours to transcribe, and no more than 8 hours, although that will be kept under review between the consultant and the project leader on an ongoing basis.
- The interviews will take place during March and April 2013. It would be expected that transcription would be continuous through this period such that the project leader could review and assess satisfaction with the transcription services provided.
- Following dispatch to the transcriber, each interview should be transcribed within 5 working days of receipt. It is envisaged that all interviews will be completed by the 12th of April suggesting the 19th of April as the final date for return of all transcriptions (to be reviewed).
- The consultant transcriber will, at the completion of the work and following confirmation of satisfaction from the project leader, which will not be unreasonably withheld, submit a full invoice for the services rendered.
- Should the project leader not be satisfied with the quality of transcription, the contract may be cancelled with immediate effect. In such unlikely circumstances, the consultant will be advised as soon as reasonably possible and all outstanding fees paid in full for services provided to that point upon receipt of invoice.

Appendix 16: Cycle 2 Coding by nodes (Main and daughter) Introduction of a Rewards and Incentives Scheme

Node Name	Sources	References
Culture	**11**	**62**
• Of HE	4	4
• Of organisation	9	27
• Personal aspects	8	18
• Relative to indiv as academic	10	13
Ethical issues	**8**	**13**
• Confidentiality for payment	2	2
• Level playing field	5	6
• Need for transparency	2	3
• Not elitist	2	2
Experience (Knowledge base)	**11**	**44**
• KT	10	20
• Previous use of R&I	11	17
• Satisfaction level	4	7
Impact on Teaching or Research	**11**	**16**
• Negative impact	5	5
• Positive impact	7	11
Individual and group	**11**	**21**
• Negative views of rewarding individuals	1	1
• Place for both	4	4
• Positive on individual reward	4	6
• Positive on rewarding group	6	7
• Reward need to be meaningful if part of grp	2	2
• Stimulating KT through group dynamics	3	3
Key components of a desirable R&IS	**11**	**75**
• Financial aspects on reward/incentives	9	15
• Organisation of scheme	10	38
• Other rewards/incentives	10	22
• Memorable quotes	11	31
Motivation	**10**	**25**
• Already motivated to do KT	1	1
• Career progression	3	6
• Doing different things	1	1

•	Ego boost for individual – gratification	1	2
•	In certain circum may act as a demotivator	5	6
•	Positive about motivation role of KT	7	10
•	Rewards alone not a motivator	2	2
•	Team spirit generates motivation	1	1
•	Vocation or job	1	1
Nature of R&I		**9**	**16**
•	Money is key	1	2
•	Money isn't everything	6	9
•	Relationship between R&I	8	12
Problems and challenges for a R&IS		**8**	**19**
•	Inequity of provision of R&Is	4	6
•	Institutional support problems	4	8
•	Need to guide and inform academics on Development of KT	2	3
•	Negative impact on other academic areas	2	4
Values and beliefs		**9**	**19**
•	Desire to be acknowledged and recognised	7	8
•	Personal values and 'making a difference'	7	12
Work programme organisation		**8**	**15**

Appendix 17: Cycle 2 NVivo report node

(See accompanying CD)

Appendix 18: Cycle 2 NVivo coding summary by source

(See accompanying CD)

Appendix 19: NVivo word frequency analysis in interviews

able academic academics actually also always anything around ask back bit clear come department different done emphasis even example experience get getting give go going gonna good got group incentive incentives

individual individuals involved issues just kind know knowledge level like lot make maybe mean might money much need now ok one overlaps p part pause people person place probably programme project put question quite really research reward rewards right scheme see sense something sort staff stuff take teaching terms thank thing things think thinking time transfer

uh um university use want way well whatever within work working yea yes

Appendix 20: Cycle 2 Use of word 'recognition' in interviews

Type	Name	In Folder	References	Coverage
	Interview 130312_001	Internals\\Interviews	1	0.03%
	Interview 130314_001	Internals\\Interviews	5	0.25%
	Interview 130318_001	Internals\\Interviews	3	0.13%
	Interview 130319_001	Internals\\Interviews	1	0.04%
	Interview 130319_002	Internals\\Interviews	2	0.11%
	Interview 130320_001	Internals\\Interviews	7	0.44%

Appendix 21: NVivo search 'money'

Type	Name	In Folder	References	Coverage
	Interview 130327_001	Internals\\Interviews	12	0.21%
	Interview 130312_001	Internals\\Interviews	8	0.13%
	Interview 130313_001	Internals\\Interviews	14	0.20%
	Interview 130313_002	Internals\\Interviews	8	0.11%
	Interview 130314_001	Internals\\Interviews	14	0.32%
	Interview 130318_001	Internals\\Interviews	3	0.06%
	Interview 130319_001	Internals\\Interviews	35	0.59%
	Interview 130319_002	Internals\\Interviews	8	0.21%
	Interview 130320_001	Internals\\Interviews	5	0.15%
	Interview 130321_001	Internals\\Interviews	9	0.19%

Appendix 22: NVivo classification demography study

Person	Academic Role	Age Group	Ethnic Origin	Length of Academic Employment	Sex
Nodes\\Cases\\Interview 130327_001	Senior Lecturer	31-39	White British	1-5 years	Male
Nodes\\Cases\\Interview 130312_001	Senior Lecturer	31-39	White British	6-10 years	Female
Nodes\\Cases\\Interview 130313_001	Professor	40-49	White Other	16+ years	Female
Nodes\\Cases\\Interview 130313_002	Professor	40-49	White British	16+ years	Male
Nodes\\Cases\\Interview 130314_001	Principal Lecturer	50+	White British	16+ years	Female
Nodes\\Cases\\Interview 130318_001	Senior Lecturer	50+	Asian Other	16+ years	Male
Nodes\\Cases\\Interview 130319_001	Head of Dept	50+	White Other	11-15 years	Female
Nodes\\Cases\\Interview 130319_002	Senior Lecturer	50+	White British	Less than 1 year	Female
Nodes\\Cases\\Interview 130320_001	Senior Lecturer	50+	White British	11-15 years	Male
Nodes\\Cases\\Interview 130321_001	Head of Dept	50+	White British	16+ years	Female
Nodes\\Cases\\Interview 130410_001	Head of Dept	50+	White Other	16+ years	Female

Appendix 23: NVivo memos created from parent nodes (summary)

Name of memo
Culture - Personal aspects
Culture - Relevance to Individual
Culture of HE
Culture of Organisation
Elements of a good R&I Scheme - Financial aspects
Elements of a good R&I Scheme - organisation
Elements of good R&I Scheme - Other R&I ideas
Ethical Issues
Impact on Teaching and Research
Knowledge Base - In KT
Knowledge base - of Previous use of R&I Scheme
Knowledge Base - Satisfaction with R&I Scheme
Motivation
Nature of Rewards and Incentives
Problems and challenges
R&I to Individuals or Groups
Values and Beliefs - Personal acknowledgement
Values and Beliefs - Personal values
Work Programme issues

Appendix 24. NVivo Example of memo content, Cultural - Individual Aspects

- Use networking and relationship building skills
- Enjoy iterative nature of process of developing contracts - very different from 'cold' research bidding process
- Belief in doing public good and paying back to society for investment in my areas
- KT note 'core business' - need to spend all energies on programme management
- Huge relevance as responsibility for income generation (HoD)
- Bringing in income to develop other things but also leads to reputation and profile building
- Has to be 'based in academia'
- Use to build partnerships relevant to all academic activities
- Some areas of work are more relevant to KT - some teaching lends itself to CPD development
- Very relevant as HoD role for which there are significant expectations, plus takes up a great deal of personal time so is very relevant
- Made more relevant by pointing out that some significant work was KT but academics just didn't realise
- High relevance if have specific KT responsibility
- Bringing in income adds value to Dept
- Improves CV for internal and external positions
- Professionally relevant - work with external bodies
- Builds research profile

Appendix 25: Summarised analysis from NVivo results from Cycle 2

For each parent node created within the NVivo evaluation, the key issues that emerged were noted together with the number of sources (s) and references(r). From this, the memos created to interpret the findings allowed a summarised analysis and selected quotes are provided for illustrative purposes. Where appropriate, some memo categories have been combined. The number of sources and references refer to the nodes identified within the first evaluation of transcripts and provide some idea of the 'coverage' between sources.

Experience (Knowledge Base) of Participants (main node 11s, 44r)

Of KT (Daughter node 10s, 20r)

- wide range of experiences – some had specific KT related roles, others had undertaken consultancy at other HEIs and outside of SH&E. HoDs had responsibility for KT targets
- a significant number of participants have used KT to develop strong relationships with external bodies/agencies that have benefitted other academic areas (teaching and research).
- some KT relationships have not been based on a financial basis (i.e. fee based) but have resulted in other benefits (e.g. access to data for PhD students)

Of R&I Schemes (Daughter 11s,17r)

- general lack of knowledge of R&ISs
- financial 'returns' provided by the School for KT used to buy products and equipment – initially for those responsible for income, now more broadly available to others
- can be ring-fenced for certain purposes – e.g. Early Career Researchers (ECRs) support, PhD students
- used as an opportunity to benefit the Department
- current arrangements within Department not clear (chaotic)
- R&I should support staff who go 'above and beyond' normal duties
- staff should not be paid additionally for what should be expected as a part of normal duties.
- satisfaction levels impacted upon by:
    - insufficient early announcement of scheme – too little time to spend
    - application process daunting
    - process unclear
    (Note limited number of sources referring to 'satisfaction' of a previous R&IS' 4s, 7r)

Nature of Rewards and Incentives (Main 9s, 16r)

- various comments on the difference between R&I;
    - incentive is known prior to event, reward is post event and unknown
    - reward allocated according to commitment will incentivise further KT work
    - incentives work over short term, rewards over long term (Temporal aspect)
    - incentives would be arrangements (time, infrastructure) to support KT, rewards would be after and mostly financial
    - incentive is the motivator, reward the benefit
    - incentive is aspiration, reward the benefit:

    "you're basically saying to staff um it it's a sweetener if anything are you saying to staff 'Look we recognise that this may be something that is over and above what your are already doing um and we'll either pump prime with initiatives funding to enable you to undertake to release you from work to enable you to branch out' or with a rewards scheme we're actually saying 'We recognise that your work programme may be full but if you were able to undertake this additional work then we would be able to reward you over and above your normal salary." (130410.001)

- R&I could be provided in other ways than financial e.g. time remissions on WP. (Daughter 'money isn't everything 6s, 9r). Time was regarded by one participant as "the greatest reward" (This supports research outcomes by Siegel et al., (2003) in terms of non-pecuniary rewards being important):

    "they can feel more involved in research because otherwise those people never get to go to conferences and become part of that community so that was very enabling for them and I think they valued that very highly so I felt the strength of having those people going to the same thing as a group um was much more motivating that um if I'd just said you can all have £300 and go to something that you'd like to go to. " (130321.001)

- small initial 'pots' that allow bids for larger funding in the future were really useful and opportunity to meet broader University objectives
- the main incentive was to remain employed (matches research findings by Jacobson et al., 2004 and Siegel et al., 2003)
- rewards need to be meaningful
- significantly, many suggested financial rewards were critical (9s, 15r daughter 'key components of a successful R&IS'):

> *"unfortunately money speaks or fortunately whichever way you want to think*
> *about it." (130312.001)*

In another case when I introduced the subject of various incentives, I was interrupted with:

> *"overlaps] would be money... [laughs]" (130314.001)*

> *"People do like money." (130321.001)*

Rewards and Incentives to Individuals or groups (Main 11s, 21r)

Positive views on 'rewarding groups', daughter 6s, 7r, almost equally matched by positive views on daughter 'rewarding individuals', 4s,6r, (but note overlap with positive responses to 'Nature of Rewards and Incentives' in the previous sections). 4s, 4r felt there was a place for both approaches within a scheme.

- positive competition as a result of rewarding one group and not another
- subsequent developments at Departmental level show value of R&I
- value needs to be meaningful in scale/amount
- need for clarity and transparency
- if group shared common interests, reward to group would work
- need to have ability to reward individuals
- rewarding groups may assist in forming good 'teams'
- requires freedom to use rewards to benefit groups or individuals in a Dept.

Problems and challenges (Main 8s, 19r)

- 'Challenges of support within the organisation' (daughter 4s, 8r):

  > *Referring to the effectiveness of the RKTO:*
  > *"there are some good people but there are you know putting business cases*
  > *together seems to have become very bureaucratic um some of it is useful but*
  > *some of it is quite difficult to do at speed and the other thing is that it can be*
  > *quite difficult to plan in advance for a lot of the kind of requests that we might*
  > *get in to deliver bespoke projects for example and to try and pull things*
  > *together at speed can be difficult." (130410.001)*

- if R&IS exists but one is not successful in a bid, it may act as a demotivator
- barriers and myths about KT need to be addressed

- clarity and appropriateness of scheme including decision making (note link with equity and appearing here with 4s, 6r)
- needs KT Champion to take more responsibility for supporting staff
- R&I can destabilise teaching team (see Stilwell (2003) on counter-productive nature of R&I)
- WP hours need to be fully utilized before offering R&I
- if team responsible, all members should be rewarded
- have to use R&I allocations to supplement equipment costs
- demotivating when staff have no space in work programme to undertake KT (similar to findings of Hughes and Kitson (2012): Bicknell et al. (2008) and Francis-Smythe (2008)):

> *"I think it can be a frustration um where staff realistically cannot see space um in order to be able to take up the opportunity and where you've got programmes that run from more or less the beginning of September to um the end of July sometimes the middle of August there is no space." (130410.001)*

Cultural - Personal Aspects (8s,18r) and Relevance to academic as indiv (10s, 13r)

- high relevance of KT to the individual was significant at 10s, 13r
- use of KT to support professional and academic career development (note link to Siegel et al., 2003 who found similar). This area has strong overlaps with Personal Values such as personal 'recognition' both within and outside of the organization (7s, 8r), and Career Progression within the' Motivation' parent node. (3s, 6r):

> *"I do believe that quite often if they can see that the professional benefit of what they're doing and how it will enable them to further their career and but I will say this that I do belong to quite a young department not that that should be any different but I believe everyone is very committed to their careers at the moment and and the stars are the limit at the moment for a lot of us with what we want to achieve. " (130327.001)*

- contribution to society – making a difference, sharing knowledge (Note link to similar findings by Osterloh and Frey (2000) and Markman et al. (2004). Note also overlap with daughter node, 'Culture – Personal aspects' with 8s, 18r):

> *"I would argue if it doesn't what the hell are you doing all day every day if you can't make a link to something in society somewhere what what's going on like um but yes I think there are differences in culture within our department I think*

that [pause] parts of that might be to do with the individuals who've led those different area and but I do think part of it comes back to this issue of if people have predominantly been teachers as opposed to researchers or people have predominantly been researchers." (130312.001)

"Yea yea [pause]its about and about the rewards sometimes is social rewards isn't it's not so much kind of and uh and uh because as an organisation we're all kind of a social entity it's about having this social reward whereby people are sort of recognised by the by the organisations um as being you know an making sort of you know sort of you know and uh working for the for the good name of the university that is what is good about being part of a group of people who is in the business of of of getting recognition beyond the university." (130318.001)

"I think it's important I think it I suppose it's part of the s- [pause] it's a social agenda I suppose it's about about the big questions about what is what are universities for why do we do what do is it entirely inward looking do we do it just because it increases the sum of human knowledge and that's a good thing or [pause] do we look for there are times you know it's it's not it's difficult to define exactly what it would be but there's an engagement and it's engaged with what's going on around us ." *(130320.001)*

"I just think it's an obligation sort of a moral obligation almost given the way we're funded but I think it's a painless one given the benefits are obvious you just get all these interesting connections particularly in behavioural sciences and social sciences whatever you're doing with other people is data so surely you have to be interested in that so why aren't you why would you why would you shy away from it." (130313.002)

- contribution to university – e.g. income generation
- development of personal attributes – skills (e.g. negotiation, knowledge of KT and procedures to facilitate, positive attitude to risk)
- reputation and profile building
- building partnerships and networks
- relevance to current and potential role in University

Culture – daughters HE (4s,4r) and Organisational (9s, 27r)

- KT not appropriate term – should be KE (Knowledge Exchange) (similarities to research of Perkmann et al., 2013: Olmos-Peñuela et al., 2013: Hughes and Kitson, 2012). KT is a two-way process
- KT supports our response to the Big Questions in society – it's about being engaged and engaging with society. Assists in developing good in society and challenging societal harms (see similarities in research findings of Lucas (2006) and Markman et al. (2004))
- need for greater clarity at MU as to the value of KT in the academic portfolio and this 'tone' needs to be set by all academic leaders. That sets the organisational culture in a context. (It is noted that some academics are actively against the notion of KT). (Note similarities with Jacobson et al. (2004)):

> *"Potentially you could argue that yea I think I think from some members of staff but then it's very difficult because if if you look at maybe the 10-15% of staff that that might reflect the reality of it is that you could put a bomb under their chair and they're still not gonna jump up and actually do something because they're they're stuck doing what they've always done and you know I do think whatever institution you go to there will always be that 10-15% that you know 'It's not on my contract I'm not gonna do it I do what I do."* (130327.001)

> *"I can't see any major negative outcomes I can see the argument which I think is a sterile one whether academia is supposed to be an academic institution it shouldn't sort of um it shouldn't dirty it's hands with engaging too much in the market place or whatever but I think surely that argument has been put to bed years ago hasn't it by now particularly here I mean this isn't we're not an Oxford or a Cambridge and even if we were they they'd be doing the same thing."* (130320.001)

- the balance between KT, research and teaching:

> *"Absolutely I personally think in terms of um the buying up of staff hours to release them from teaching if I'm honest with you I don't think a lot of the time the teaching staff want that to happen because a lot of them get into the teaching because that's what they enjoy doing therefore to come out of hours*

to actually do the project would mean they're not doing what they've necessarily always wanted to do." 130327.001)

"I think it can be a frustration um where staff realistically cannot see space um in order to be able to take up the opportunity and where you've got programmes that run from more or less the beginning of September to um the end of July sometimes the middle of August there is no space. "(130410.001)

"a lot of people if they see that they're most of their time is being spent on teaching they don't necessarily want to branch out they're established teachers they've been here for a long long time they've got into a routine don't necessarily see it as a future I do think you need an entrepreneurial streak and maybe that's something that I don't know we have a very sort of is it an old work force an established work force and it can be quite hard to change their mentality." (130410.001)

- institutional support is critical – significant concerns about RKTO operations and desire for School based support
- HE is a competitive environment and that can be used to great effect to promote KT (conflicts with Stilwell, 2003):

  "I think that's why creating a supportive environment is very difficult because fundamentally actually in the academic environment you have [emphasis] to be massively [emphasis] ego driven and determined because it's so [emphasis] much more competitive than other places." (130312.001)

- KT can be utilized to support ECRs - e.g. in bid writing, small initiation funding etc.
- specific issue for NHS Contract where well developed KT is often then used not for additional income but to infill underspend

  "we might start out doing a project which was funded externally the following year or for subsequent runs it suddenly becomes part of our under spend for our CPD contracts so its its actually a burden." (130410.001)

Values and beliefs (Main 9s,19r)

- should not need R&I, as should be an expectation of an academic's role

- by some margin the major value expressed was that of a desire for personal recognition, at Departmental, School, University and professional level (7s, 8r)
- kudos from being involved
- 'making a difference' in society (daughter 7s,12r), allows validity in what we do

> *"so you want to engage in that process to ensure that your research or evaluation whatever it is doesn't sit in a journal in a textbook and never get read or used by anybody but again it really feeds back I think a lot to self-promotion as well and actually that sense of satisfaction that you are making a difference ."(130312.001)*

> *"it's got an intervention at the heart of it and so this this is all about doing some good for people ." (130313.002)*

> *"I want to make a difference." (130318.001)*

> *"I still was managing to remain very in touch with teachers and children and seeing the difference this this programme was doing for these children. " (130319.002)*

> *"I think it lends validity to a lot of things that [coughs] that we do in an academic setting it lends more validity sometimes it breaks down the tendency for academic activities to drift off into entirely close private world of their where the gap between what we do academically and and the non-academic world becomes so wide that the validity of what we do academically can be subject to question." (130320.001)*

- money may not be key driver (note contradiction with other findings where financial rewards are critical) (daughter 'money isn't everything' 6s, 9r). (See similar findings of Osterloh and Frey, (2000))
- support colleagues in developing skills/knowledge within the new direction towards greater research profile at MU
- recognise that KT may only be possible as staff time release dependent on others 'holding the teaching fort':

> *"it's almost like you know the restaurant scenario you know you've got the*
> *people who deliver the food at the front but actually and you know they get*
> *the tip but what about the kitchen workers you know who are actually so it's a*
> *bit about that recognising that um as part of the whole there are some parts*
> *who perhaps won't shine as big but they are essential to the overall um uh*
> *system." (130319.001)*

- sharing knowledge is sufficient reward (Correlates with findings of Osterloh and Frey (2000), Markman et al. (2004), Stilwell (2003))
- maintaining employment (similar to findings of Siegel et al., 2003)

Ethical Issues (Main 8s, 13r)

R&IS needed to be fair, transparent (daughter 2s, 3r) and with equity of opportunity (daughter 5s, 6r)

- possible strains introduced through availability of R&I need to be managed so as not to create disenfranchisement, unhealthy competition etc.
- to avoid issue where academic may be fully committed, R&I should only be available when full WP evidenced
- if additional to WP, academics should have choice whether to be involved or not

Motivational Aspects (Main 10s, 25r)

(Note: many respondents focused on motivational aspects of KT rather than an R&IS and there were significant positive comments on the motivational value of KT (daughter 'Paoitive about motivation role of KT' 7s, 10r)).

- payments to individuals:

    "I think where people really are overstretched and their work programmes are right up to the line and they'll say 'yea I can do this' and to actually be able to say to them 'Look if you could do this we would be able to reward you' I think that that's it is very motivating I think especially in the current financial climate." (130410.001)

- enhances career development and promotional prospects – enhances current professional knowledge

    "so for me it's kinda two sided it's one that you're bringing in income which is good because it helps you develop other things you can then use that money to perhaps feed it back into further development and so forth but also it builds up your credibility and reputation so it's got kind of two elements to it so for me it's hugely important." (130319.001)

- peer pressure and team sprit equally important as motivators

- ego boost and personal standing, reputation and profile – within and outside of MU
- sense of satisfaction that making a difference
- there was significant concerns that an R&IS could be demotivating if it was not run fairly and equitably, allowed access to all and did not impact negatively on other academic work (daughter 'demotivation' 5s, 6r)
- R&I alone will not catalyse cultural change towards KT
- rewards – are applicable for people who always do extra

Impact on teaching and research of an R&IS (Main 11s,16r)

- care needs to be taken not to divert resources away from hard-pressed teaching areas – buy-out could have a negative effect. Similarly for research. (daughter 'Negative aspects' 5s, 5r)
- researchers don't contribute sufficiently to teaching and a R&IS would make this worse
- R&I may allow more engagement but many academics' WPs are already full
- 'positive responses' (daughter 7s, 11r)
    - Assists in development of new courses and energises teaching
    - Nurtures new teaching and research opportunities:

    "people have seen knowledge transfer as being a box that impinges on their research and their research is what they're judged by once they realise that that's not the case and these things can be mutually um beneficial uh then I think they're more willing to engage in it." (130313.001)

    (Note similarities with findings from Perkmann et al. (2013) in terms of impact on research)

    - enhances networks and relationships who will generate more business

Work Programme Issues (Main 8s, 15r)

(also note that work programme issues arose in many other areas such as 'Motivation' and 'Culture – Organisation')

- commodity of time is important – time remission on WP as reward for KT activity towards research/teaching development is one key area
- an appropriate methodology to setting work programmes is essential – lack of consistency across Depts. and Schools a major issue
- staff should use their full WP availability before gaining a reward
- level playing field needed for teaching, research and KT – KT should be built into WPs
- very difficult to build KT into work programmes:

> *"it's not necessarily that people's work programmes are enormous it's just the spacing means that there's no recognisable time out for people to engage."* (130410.001)

Components of Rewards and Incentives Scheme (main 11s,75r)

Management and organisational arrangements (daughter 10s, 38r)

- process of how R&IS operates must be clear and written down
- the arrangements will need to be well planned and positively managed within a Department:

> *"but it does require management I don't think I mean you can [emphasis] do it as a free for all and just see what happens but I I think it will be a longer journey you know that would be a more natural evolutionary thing and I don't think this is I think this is a case of artificial selection rather than natural selection you need to kind of um you do need to plan it and you really need to know things about the people who you're working with."* (130313.002).

> *"well I suppose if I'm honest um I think to use the term interested in is probably um I think most people are not interested in it um and one of my um strategies that I needed to to work on was to get staff involved in and we well I coined the term 'Become BCI Savvy'."* (130321.001)

- the allocation process for R&I should be transparent – staff should know what is available before commence KT work that is being rewarded
- R&I should be available to all – no favouritism or privilege
- the Scheme should operate to published timelines
- there should be flexibility and responsibility at a local level (Departments?) as to how rewards are managed and invested – some say University/School level management
- reward is made soon after delivery of the task
- possible introduction of a level of independent adjudication – e.g. for any disputes
- celebrating success across the Department, School and University.

Work Programme issues

- KT needs to be integrated with teaching and research objectives, particularly in maximising external networks

- R&I should not be allowed unless WP is fully utilised
- significant issues in actually finding space in WPs for KT with level of teaching required
- concerns regarding building in KT into WPs as too risky given unpredictable nature – unless the work is planned:

> *"it's too risky to do it at the beginning of the year I mean my first priority has to be to cover our main contract which is teaching if people have capacity over and above that then yes I will allocate but I won't put it in right at the beginning because it's too uncertain it's way too uncertain" (130410.001)*

- individuals would be expected to have demonstrable full WP before additional payments are made available. KT is a core academic endeavour and should be built into WPs where possible
- individual can gain direct reward (of whatever kind) for undertaking KT duties outside of WP. This will be built in as a cost on the project.

Appendix 26: Cycle 2 NVivo experience by academic position
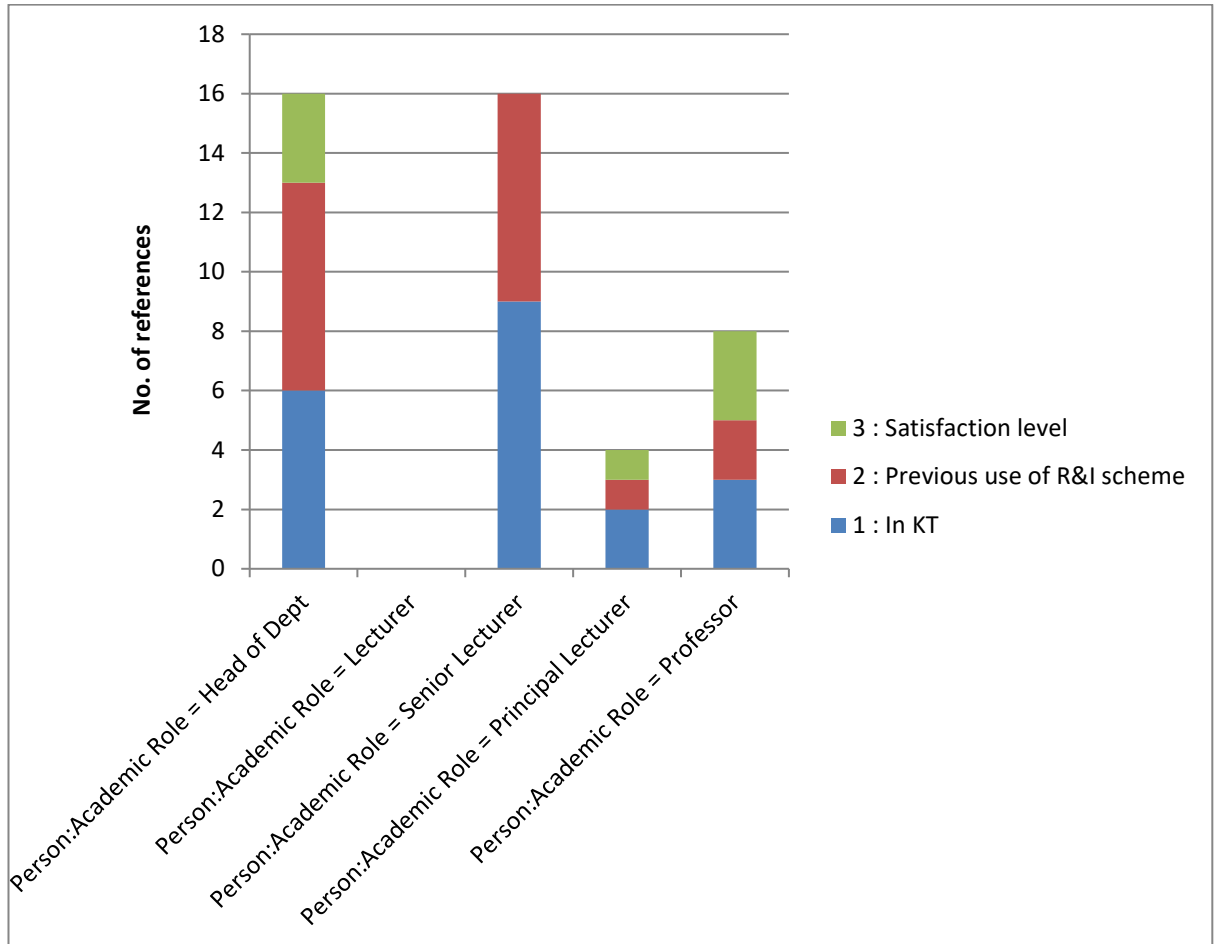
Appendix 27: Cycle 2 NVivo cultural aspects by academic position

Chart showing No. of references by Academic Role with three series:
- 1 : Of the organisation (blue)
- 2 : Personal aspects (red)
- 3 : Relevance to individual respondent as an academic (green)

Person:Academic Role = Head of Dept: 7, 3, 4
Person:Academic Role = Senior Lecturer: 12, 9, 6
Person:Academic Role = Principal Lecturer: 2, 4, 1
Person:Academic Role = Professor: 6, 2, 2
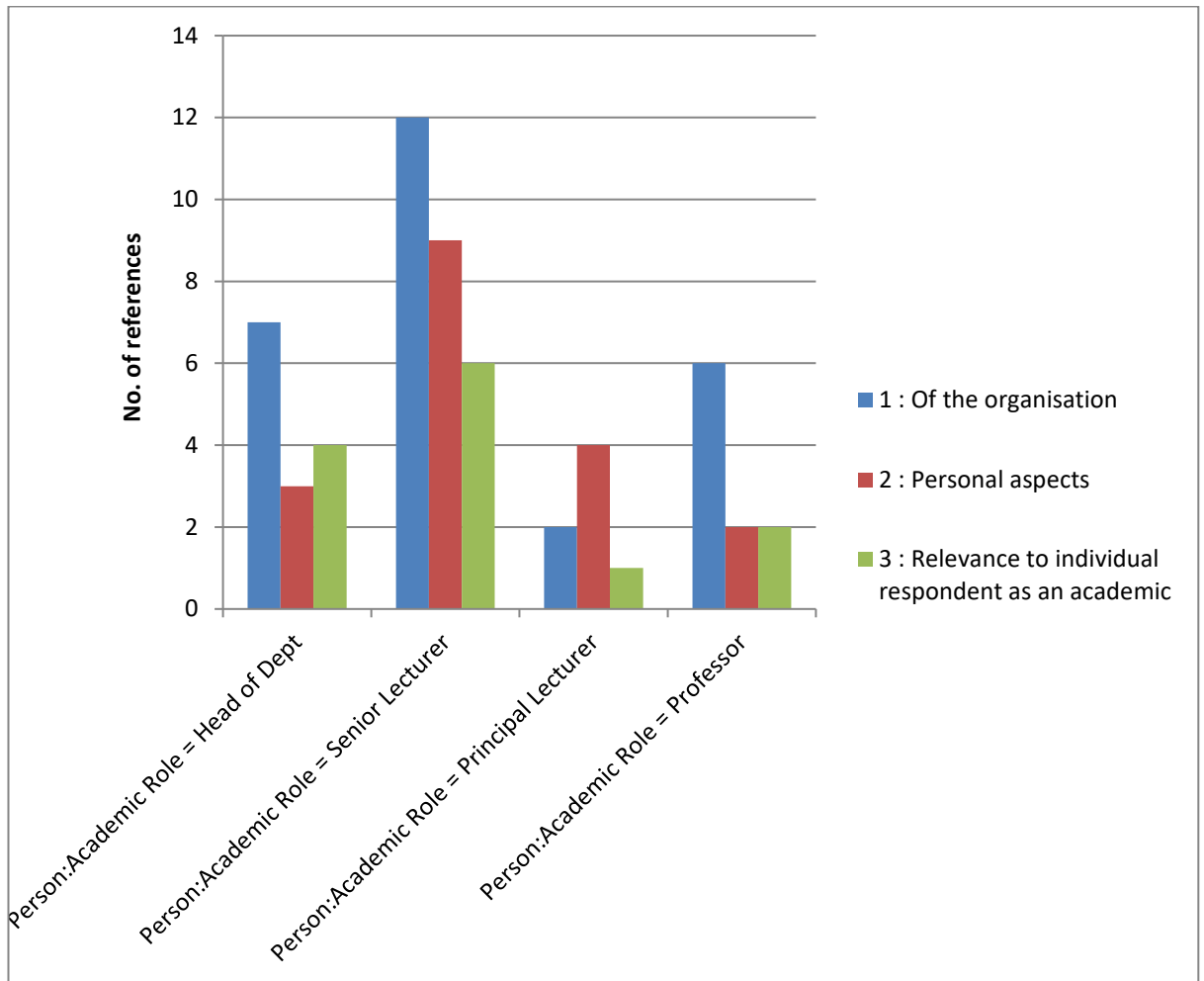
Appendix 28: Cycle 2 NVivo values and beliefs by academic position (references recorded)
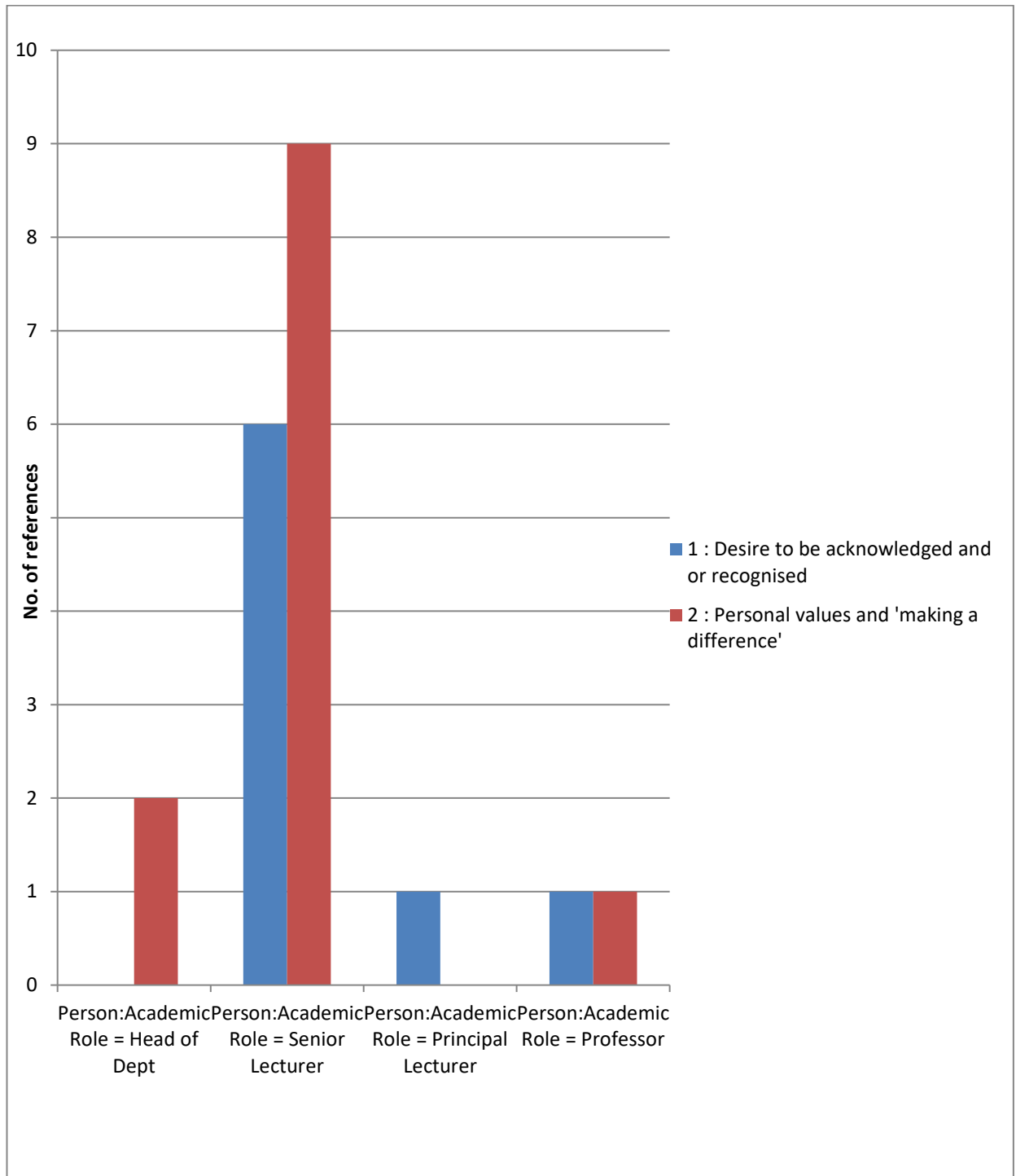
Appendix 29: Positive motivation created by the R&IS by academic position
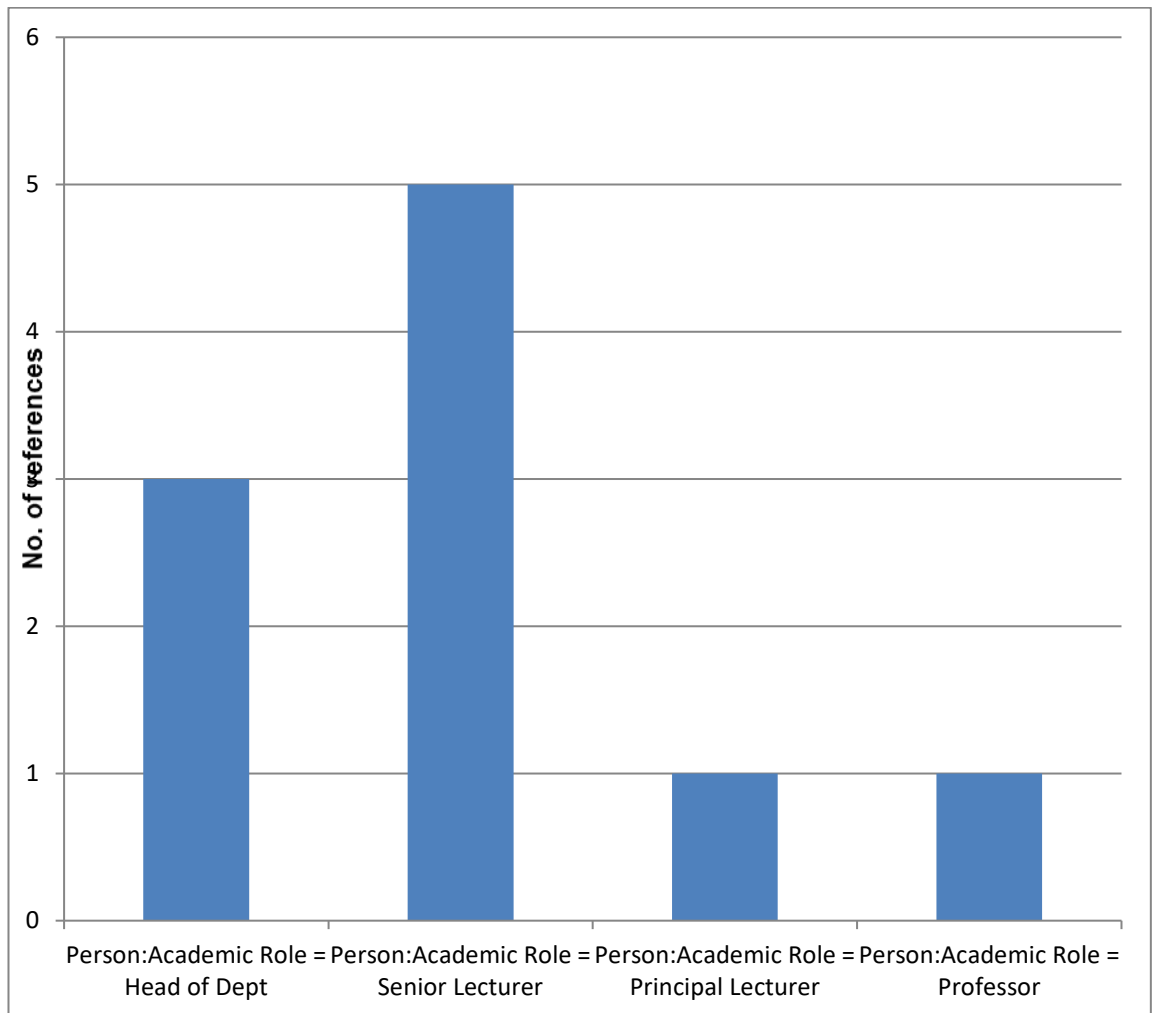
Appendix 30: Work programme by academic position
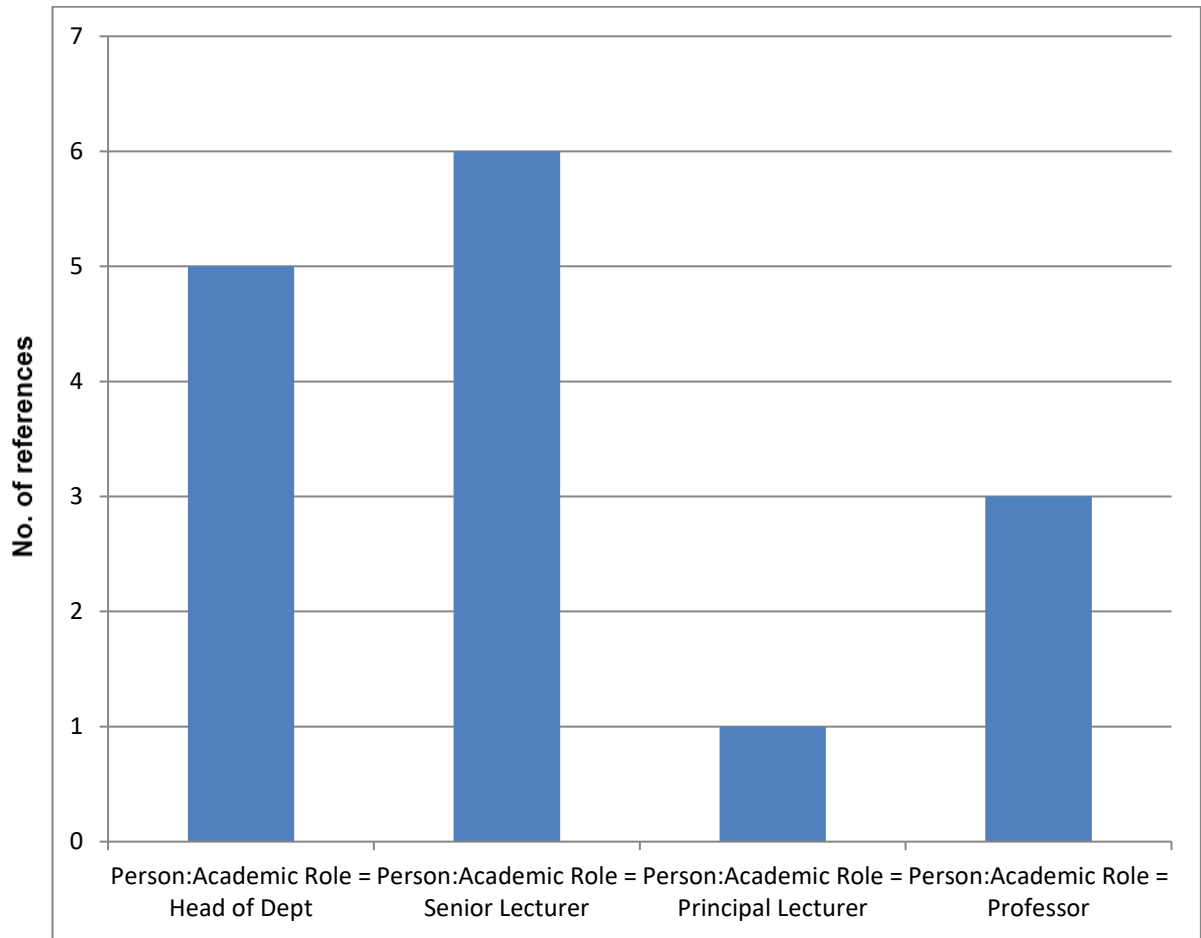
Appendix 31: Key components of a R&IS by academic position
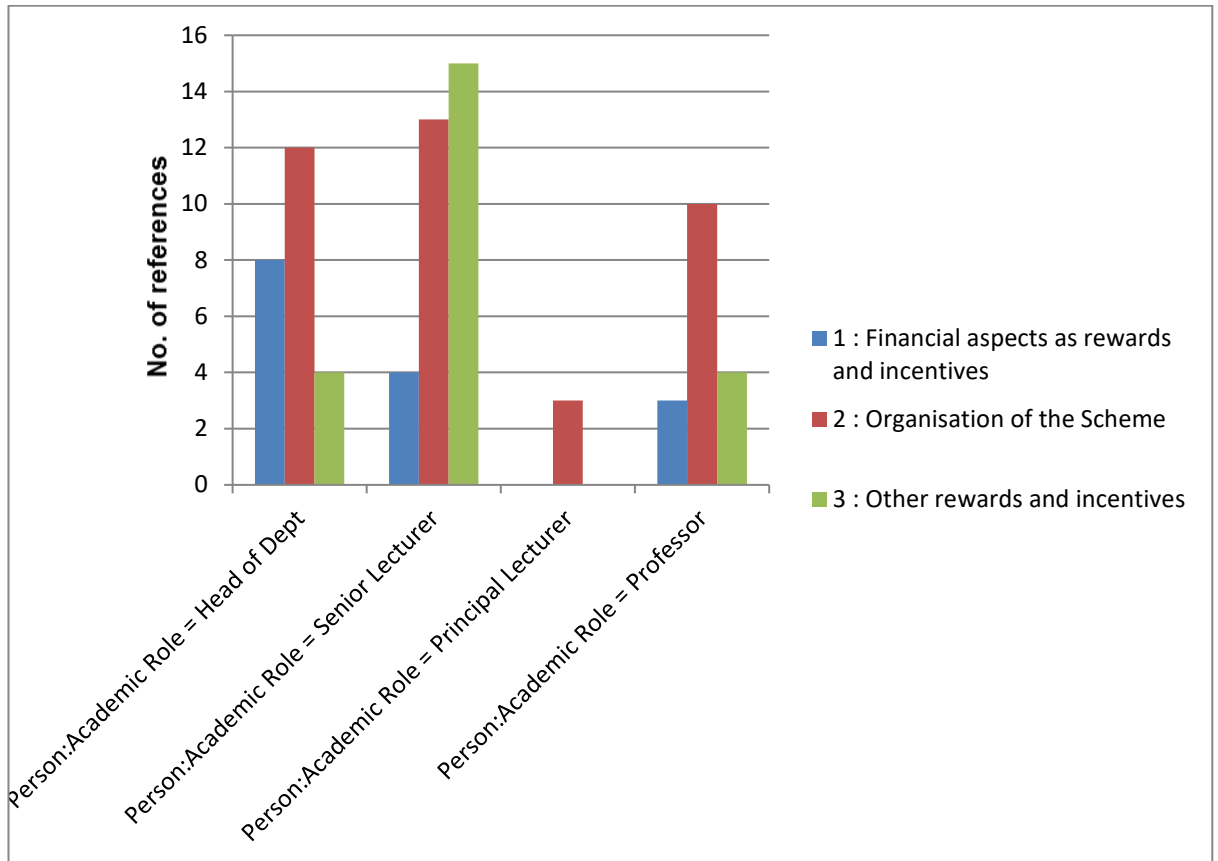
Appendix 32: School R&IS April 2013

School of Health and Education

Rewards and Incentives as a result of Knowledge Transfer/Exchange Activity

Introduction – Rewards and Incentive Schemes

There are a number of rewards and incentives schemes utilised within Middlesex University. Exceptional performance in the course of normal duties can be rewarded by an Honorarium. In addition, more recently, the University has enacted the Contribution Point scheme which will allow for recognition of exceptional performance through one-off increases within pay bands. In some respects, the annual promotions round could also be viewed as a reward scheme given that staff are expected to demonstrate ability to perform at the next level. In practice, promotion is mainly focused around high performance in teaching, research and 'contribution to the University' (often academic administration).

For more commercially oriented work, the University also recognises that staff should be able to benefit directly and financially from IP developed whilst as an employee. HRPS25 allows for staff to receive a percentage of net income, after costs, following the commercialization of IP. (Usually in the form of an invention or similar which is taken up by external parties for commercialisation, typically on a license agreement). However, across Middlesex University and within the School of H&E, such IP development (leading principally to patent registration) is rare.

Research across the trans-global higher education sector has demonstrated that one of the key impediments to developing enhanced KT activity is the lack of a suitable

rewards and incentive arrangement. To stimulate Schools to engage with, and enhance income from, KT activity, a preferential return is made on appropriate contracts running through the RKTO. In addition to any margin, Schools receive around 80% of any indirect costs back. This provides not only a significant income stream to the School but also an opportunity to provide the basis of a rewards and incentives scheme.

In the recent past, the School of Health and Social Sciences had made some returns to Departments, but recent research has shown that this was not utilised as effectively as it might. This same research has provided the basis for the introduction of a new Rewards and Incentives Scheme in accordance with this paper.

Non-Financial Rewards/Incentives

It is noted that rewards and incentives are not necessarily financial in nature. A key incentive for staff to embark on KT activity is the potential for this work to be actively considered as criterion for promotion (or, indeed, job security). This incentive has become more attractive in recent times as the University has promoted a greater focus on the value of research, which is often synergistically linked with KT in terms of potential impact. In addition, there is a clear desire amongst academic staff to 'make a difference' in society and KT is seen as one route to do so.

Other incentives for engagement in KT may include:

- Time remission in an individual's work programme to enable other academic objectives to be pursued.
- Internal and external recognition and reputation building.
- Change/redirection in academic career (and potential for movement to a business environment).
- Personal interest, development and job satisfaction – often attracting the entrepreneur or intrapreneur.
- Recognition as justification for a sabbatical application.

However, this paper focuses on the allocation of *financial benefits* within the School from KT activity.

Financial Rewards and Incentives – Core Principles

- Whilst there are clear differences between incentives and rewards (the former perhaps a motivator and inspirational, the latter a benefit gained from success), in practice the two overlap considerably.
- There are two key ways in which rewards and incentives (R&I) will be applied:

    1. To incentivise, and partly reward, Departments or similar academic groupings the School will set aside an annual budget to allocate funds to these entities on a performance related basis.
    2. There will be scope to pay individuals engaged in KT activity but within certain constraints.

- The process for the administration of R&I should be clear and communicated to all.
- All academic staff should have the opportunity to benefit from any R&I scheme.
- Decisions on the allocation of R&I should be made on a fair and equitable basis and that process should be transparent.
- The scheme should be promoted to ensure all are aware of the potential to benefit.
- There should be flexibility at local level, predominantly within Departments, to make decisions as to where and how to invest allocated R&I.
- Individual academic staff can elect not to receive individual payment where this might be due.
- Where possible, R&I should be of meaningful amounts.
- The scheme is based on KT performance given it is from this activity that the School receives returns to underpin the arrangement.
- The use of R&I needs to be carefully managed so as not to destabilise teaching and research aspirations.

Rewards and Incentives to Departments

- On an annual basis, the School will set aside a meaningful budget to support incentives.
- Each Department will have freedom as to how the budget allocated is invested, within the constraints of financial regulations etc., but it is expected that key issues to consider will be:
    - Whilst perhaps rewarding successful areas, seed-corning others – particularly those will little KT activity,
    - Supporting the annual University, School and Departmental strategies and plans for achievement of teaching, research and KT targets.
- Incentives available to each Department will be based on KT performance for the past academic year.

- Whilst the 'share' to the Department will largely be based on 'returns' (margin and share of IDC), 25% of the total School allocation will be assessed on contract values. (This is to recognise that some critical KT projects do not provide returns due to their nature but are of significant value for the School's contribution to HEBCI returns).
- The Deputy Dean will arrange for the allocated amounts to be announced to Departments each July (note this means that the R&I will not be based on an entire year of recognised income).
- Each Department will be expected to run an open invitation to all academic staff to bid for the funds available and will establish: amounts available per project, likely number of projects funded, criteria for selection, details of the selection process and timescales.
- This process should be completed no later than the beginning of November each year so as to allow sufficient time to spend the allocation.
- The HoD is responsible for announcing the results of the biding process and for providing feedback to the staff concerned.
- The Deputy Dean will consider any complaints or appeals made as a result of the decision process.
- By the beginning of November, HoD should notify the Deputy Dean of the successful projects to be funded and arrangements to ensure related objectives are met. It is the responsibility of the HoD to monitor achievement against objectives and to take corrective action where necessary.
- The Deputy Dean will provide to SLT a quarterly report of spend against allocation. Should funds not be spent by April of each year, the Deputy Dean reserves the right to claw back unused allowance and redistribute as appropriate.
- All project expenditure should have occurred by July of each year (Including delivery of goods and services by that time).

(Note; funds available for the scheme are considered on an annual basis alongside School budget construction. Future incentive arrangements cannot be guaranteed and the Deputy Dean reserves the right to withdraw the scheme and/or withhold allowances should circumstances demand).

Rewards and Incentives to Individuals

This part of the scheme identifies the circumstances and arrangements for paying individuals as part of any KT activity specifically related to this Scheme (i.e. it does not include for performance reward more appropriately dealt with under HRPS 25, the Contribution Point arrangements or payment of an Honorarium).

- Where possible and predictable, planned KT activity should be fully recognised in Work Programme development, in which case no additional payment will be considered.
- Where academic staff have spare capacity in their Work Programmes, it is expected that these hours will be utilised first for KT activity before additional payments are considered. (If a project utilises more hours than remain within a WP, those additional hours will be used as the basis for any additional payment).
- No academic will receive additional payment for KT activity unless the relevant HoD has confirmed to the Deputy Dean that their WP situation has been considered and that there is no unacceptable impact to current teaching and/or research commitments.
- No academic can normally expect to receive more than £10,000 additional payment under this scheme in any one academic year.
- Any payments due will be assessed as part of the project costings and be fully recognised in any Project Proposal Form.
- Arrangements for payment will be through the RKTO who will manage that process.
- The precise payment will be determined on a case by case basis according to the daily rate that is to be charged for an individual in respect of any particular project. This is likely to vary from project to project according to the market environment (what the market can bear) and the nature of the project (e.g. whether it is repeat business or perhaps where the School charges less than the going rate to attract in new clients). The scale of the payment will also depend on the complexity of the work to be undertaken. Where possible, payment will be based on the standard hourly part time rate for academics which will be the maximum level paid.
- Note that payment is not normally allowed for travel time to a project delivery but subsistence and necessary accommodation costs will be under the terms of the University's 'Travel, Subsistence and Expenses Policy' (http://www.intra.mdx.ac.uk/working-here/policies/Financial-Purchasing-Policies/finance-forms/index.aspx). Any allowed subsistence should be identified at project conception and built into the project costings.
- In certain circumstances, the HoD may approve the use of annual leave time to undertake KT work that results in personal payment. However, these situations are viewed to be rare and the well-being of the academic staff member must be a paramount part of that decision.
- Payments can only be made to individuals once the project has been closed off and subject to customer satisfaction.

Additional notes

- Due to the exclusive nature of full time contracts, academics should not undertake paid for activity outside of their University duties without permission of the Dean. To do so could lead to a breach of contract and possible

disciplinary action. In addition, an individual undertaking such work outside of their University contract is reminded that they would not be covered by University personal and professional liability insurance.

- It should be noted that certain activities which result in personal payment will be permitted as part of the normal expectations of an academic. Examples might include: payment for external examining, as a consultant on REF submissions, as a reviewer as part of external validations. However, all such activities must be approved in advance by the Dean and the Conflict of Interest Policy would apply.

RB. R&I Scheme May 2013

(To be reviewed May 2014)

Appendix 33: Research and KT Targets/Allowances 2013

School of Health and Education

Research and KT Targets/Allowances by Department – 2013/14

Context

- Overall combined School ambition to meet future strategy is £4.67m.
- However, specific targets have been set at £2.8m KT and £1.1m "new income" for research.
- Assuming £1.1m for research, this would suggest that (including for MISIS recognised CPD), the KT target is actually £3.57m.
- The MISIS CPD component is proposed at £1.75m;
    - £1.525m Nursing and Midwifery
    - £225k Education
- Thus, excluding the MISIS element, the KT target is £1.82m

Proposed KT Targets

The School will set KT targets based on overall contract values achieved within the year together with the 'returns' provided from this activity (Salary/ IDC/Margin). A Rewards and Incentives package of £190,000 will be allocated based on performance in the previous year in both contract value and returns. Given the University is now providing management reports within which KT performance 'income' is now based on 'Income Recognised', this will also now be adopted within the School. (Rather than 'new income' within year which we have tended to use as a target previously).

Table 1 in Appendix 1 provides a breakdown of the performance of each Dept. in terms of KT for 2012/13.

The following is therefore proposed based on recent levels of performance and opportunities:

Table 2. Allocated KT targets by Department.

	Income recognised (13/14) £000	Returns (S/M/IDC) (13/14) £000s	MISIS recorded CPD(13/14) £000
Adult, Child and Midwifery	230	180	1,525*
Education	360	85	225
M.H./ SWk &IP	1,100	400	1,525*
Psychology	120	70	
LSI	100	50	
Totals	**1,910**	**785**	**1,750**

*Single target shared between Depts.

Notes

- This assumes continued success in MISIS recorded CPD. However, post graduate CPD in Nursing and Midwifery is being severely cut-back and adjustments may be necessary
- The School is over-reliant on the FAST programme in the Dept. of MH/ SWk etc. This creates a significant vulnerability and other Depts. need to increase their income to allow for contingencies.

KT Rewards and Incentives (allowances)

According to the School's Rewards and Incentives Scheme (2013), of the £190,000 available in the budget, an allowance is provided based largely on performance in the previous year (with a weighting of 25% to Contract Value and 75% to 'Returns'). In agreement with the relevant Depts., a small adjustment is then made to balance the allocations available.

The allowances allocated for 2013/14 are provided in table 1 of Appendix 1.

Note that the Rewards and Incentives Scheme requires each Dept. to establish a fair and equitable process for deciding how to invest these allowances. The majority will wish to run some sort of rapid bidding process on a competitive basis with clear criteria, managed through an appropriate process, but the key driver must be to support University, School and Departmental research/KT objectives and aspirations.

Research targets and allowances

Although a greater level of detail is available this year in order to support research target setting, it has proved challenging to adopt some sort of systematic approach given that many Depts. have only recently benefited from new research recruitment and past performance will not be a true reflection of future potential. The University has chosen to set targets based on

an average expected income per academic member of staff. This assumes that all academic staff are research active, which is not the case in H&E. Nor does it recognise variations between funding available between disciplines, the significant focus on practice related activities in H&E or 'historical' (performance) aspects. It is, therefore, not proposed to use this model for 13/14 in H&E.

RKTC had previously agreed that the main focus should be on a proportionate model, supported by a competitive component. In considering the proportionate model, key factors that might have a bearing would include: past performance, recognition of recent investments, 'expectations', funding opportunities within disciplines, total number of academic staff etc. The key disadvantage in 2013/14 is that many research staff have only recently joined the School and are yet to settle-in and become fully engaged with applying for funds. (There are exceptions of course!). However, the expectations of the University mean that it has to be assumed that new senior research colleagues will enable 'teams' to bring in significant income. In the pat, it has been expected that Professors would bring in new income at least equal to their own salary plus on-costs per annum.

As such, and in consideration of the above factors, Table 3 in Appendix 2 proposes Departmental targets for research. It is acknowledged that the development of these targets is as much an art form as science, but they are reflective of past performance and the investment of new research staff. It is proposed to review progress against these targets through the RKTC on a quarterly basis.

Table 3 in Appendix 2, also provides information on the allowances for research based on the proportion of School target by Dept. against a maximum budget allocated to H&E of £110,000.

Note that these are the only research funds available to the School from internal budgets and have to cover all relevant research costs.

Total Departmental Research and KT allowances for 2013/14

Departments may choose to combine their research and KT allowances to make one larger 'pot' for investment.

Table 4. Combined research and KT allowances

Department	KT Allowance	Research Allowance	Total Allowance
A,C&M	40,214	9,900	50,114
Education	20,000	4,950	24,950
MH/SW, IP	99,786	62,590	162,376
Psychology	20,000	25,080	45,080
LSI	10,000	7,480	17,480

If Depts. choose to do so, they should operate a similar competitive bidding process for at least the majority of the funds available.

Inter-departmental bidding opportunity

In addition to the above allowances, it is intended for the School to offer the opportunity to bid for an internal grant of £20,000 which will be focused on stimulating high quality research of an inter-departmental/inter-disciplinary nature.

RB.2. Sept 2013

Appendix 34a: Example of a Departmental R&IS process 2013

Department of Psychology Research Management Team

APPLICATION FOR RESEARCH AND KNOWLEDGE EXCHANGE (RKE) FUNDING FROM RMT

(Section A bids) We are seeking funding applications from the Department for up to £1000 (PhD students) or £5000 (academic staff). This funding is intended to support primary research, or to support data collection that will lead to a significant grant application or other activity that can be clearly shown to be of benefit to the Department of Psychology's RKE strategy. A demonstrable case for funding must be made using the forms below.

We will accept an application from any member of academic staff or grouping. A member of academic staff can only be funded by RMT as a Principal Investigator (PI) once, each fiscal year but may *submit* for funding more than once and may be included on any number of bids originating from other staff members or PhD students.

We will also accept applications from PhD students, acting as a PI, capped at £1000, again with only one successful bid as PI per fiscal year.

(Section B bids) RMT will consider bids of up to £250 to cover running costs for ongoing RKE work *for academic staff only*. These bids will be incorporated into the bidding calendar and therefore follow the same deadlines. Academic staff can only make one such claim as a PI per fiscal year.

(Other details) At the end of their grant those awarded will be expected to present to the department outlining their project, its running, outcomes, successes and future plans.

If you have any questions on this process, then please contact any member of RMT.

Please send your paperwork (below), as an email attachment, to **Tom Dickins** by 5 pm on:

7 November 2013

Please also bear in mind that all monies awarded must be spent before *31 July 2014*.

SECTION A - To be completed for bids up to £1000 (PhD students) or £5000 (academic staff):

PROJECT DETAILS

Grant Reference (for RMT use)	

CURRENT INVESTIGATOR DETAILS

Details	Principal investigator	Co-investigator 1	Co-investigator 2
Title			
Name			
Position			
Unit / Centre			

PROJECT DETAILS

Title of Project	
Total Grant Value (£)	
Start Date	
End Date	

OBJECTIVES AND RESEARCH SUMMARY

Objectives / aims / research questions

Methods summary

Results and analyses approach summary

Impact

JUSTIFICATION FOR FUNDING

Please provide your business case, indicating clearly how your proposed activity will benefit the Department of Psychology

COSTING (itemised breakdown of anticipated expenditure)

OTHER FUNDING SOURCES BEING <u>APPROACHED</u> FOR CURRENT APPLICATION (It is expected that academic staff will be seeking alternative funding sources for their projects.)

Please provide details on other funds being sought for the proposed project.

RESEARCH OUTPUTS

1) Please state how many research outputs you intend to produce assuming that the RMT did approve the funds requested.

	Journal	Conference papers	Book / Chapter	Patent	Software	Other
Total number of publications						
Number of refereed publications (if different from above)						
Number of other (e.g. non-referred) publications						

FOLLOW-ON RESEARCH AND SUPPORT

1) Please indicate any future research funding to be sought should this bid be successful. E.g. if receiving funds for a pilot study, describe what major grant funding will be sought thereafter.

FUNDING SOURCE	DETAILS	SUPPORT (£)
UK Research Council		
Other UK Funding Body		
UK Government		
UK Industrial		
Other Industrial		
European Union		
Non-EU international		
Other		

2) Please provide brief details (e.g. objectives, methods, collaborative arrangements etc) of the future research project(s) assuming RMT approved funds for the work described above.

SECTION B – To be completed by academic staff seeking support up to £250 for ongoing research projects.

PROJECT DETAILS

Grant Reference (for RMT use)	

CURRENT INVESTIGATOR DETAILS

Details	Principal investigator	Co-investigator 1	Co-investigator 2
Title			
Name			
Position			
Unit / Centre			

PROJECT DETAILS

Title of Project	
Additional amount sought (£)	
Start Date	
End Date	

OBJECTIVES AND RESEARCH SUMMARY

A brief abstract of the ongoing research project

Initial funding source for the ongoing research project

JUSTIFICATION FOR FUNDING

Please provide your case for additional support

COSTING (itemised breakdown of anticipated expenditure)

Appendix 34b: Example of Departmental bidding for R&IS 2013 (Mental Health Social Work and Interprofessional Health)

DEPARTMENT SMALL GRANTS PROGRAMME

2013/14

Guidance Notes for completing your application

Following an extremely successful 2012/13 year, the Department has been returned a significant amount of 'rewards monies' to be spent in 2013/14. On review the 'small grants programme', an initiative started in 2012/13, has been rated highly, and has facilitated a number of staff within the Department to enjoy the 'rewards', whilst supporting the wider Dept, School and University strategy to 'upskill' staff's research capabilities.

This year the grant monies have been increased to £80k.
The process for applying for a 'small grant' is the same, with additional guidance on how to complete the application form being given. There is also an expectation this year that Grant Leads will be expected to submit a mid way and a final report to the Small Grants Committee to ensure that projects are on target and that the Department does not suffer an 'under spend' at year end.

We have purposely not set key themes for proposed projects, but please note that if your application is to take forward work that was funded via last years 'small grant's' and can demonstrate that 'new/or additional funding' will ensure greater impact/outcome, than this will be viewed favourably by the Steering Group. In addition we would like to see attention being given to innovative approaches to engaging student communities e.g. use of MOOCs, and/or ideas or projects which seek to explore assessment and learning opportunities through the knowledge developed from research undertaken within the Department.

The Department Small Grant's Committee are

Dr Carmel Clancy (Chair)
Prof Rena Papdopoulos
Prof Peter Ryan
Dr Linda Bell
Dr Tan Dan
Ms Bernie Thomas

Timeline for Application Process and Results
21st November (Thursday) – Deadline for Submission of Applications to Chair of Committee

25 -29th November – Individual members of Department Small Grant's Committee to review applications

2nd Dec - Department Small Grant's Committee (DSGC) Decision Meeting on Award of Grants.

6th Dec - All Grant Applicants will be informed of outcome of Award Meeting and for successful grants, all budget codes will be allocated with final budget information.

9th Dec – Projects in Progress

4th April – Project Leads will submit a 'midway' report on progress, including budgetary spend review. A template will be provided via Survey Monkey. All reports will be reviewed by DSGC and subject to progress and spend, decisions on under spend will be taken and possibly re allocated across the Department.

25th July – Project Leads will submit a 'final' report on their projects. A template will be provided via Survey Monkey.

DEPARTMENT SMALL GRANTS PROGRAMME

2013/14

Guidance Notes for completing your application

Name of applicant

This should describe the primary individuals who will be responsible for steering the project, ensuring budget is spent, and for submitting review report (half way through project), and final report on project outcomes.

Project Team Member(s):

Your bid will be considered favourably if the project team includes a 'novice researcher'.

Project Partner(s)

This category means across School, across university, or external to university. Please supply details of partner(s), their institution/dept/school, and contact details and role within the project.

Application Category

Please tick all categories that apply.

Project Title

This should provide the key words associated with the project. Avoid titles that are very broad or very lengthy.

Project Proposal

You may wish to use the following sub-headings in your proposal (although these are not prescriptive as projects may vary in focus and style e.g. research vs KT):

- Overview/Rationale
- Key research questions or general aims/objectives
- Relevant literature
- Methodology
- Outcomes
- Timescale

Overview

It is sensible to have an opening paragraph that summarises your proposed project. It will indicate the general area of study/work to be undertaken and may give a brief indication of

why you think this research or project is timely. Part of this may briefly cover your own interest and experience in this area.

Key research questions/General Aims and Objectives

You should try to indicate what you think the key questions are that you will tackle. These may be expressed as aims and objectives (particularly if the project is within the KT aspect of the grant) but if this is going to be a specific study, providing key research questions or hypotheses will be needed.

Relevant literature /Work in the area

You are not expected to provide an in depth account of literature or work being conducted in the area you proposed to undertake your project, however it will help the panel in its decision making to have an understanding of where the project fits in terms of work already undertaken in the area.

Methodology

How are you going to undertake the project, what are the steps, if you are applying for funds to undertake a research project please include standard details on data gathering and analyses, and ethical approval.

Expected Outcomes/Outputs

In this section you should not anticipate the results of your research but you should be able to give an indication of how you think your work will move your subject area forward. Will it provide new information about a neglected area, or a new insight into an existing debate, or a new technique or procedure, or a development from existing knowledge? Your outcomes will probably reflect closely the key questions and the aims you have set.

If the output is a publication, please specify the journal(s) being targeted; if the output is a bid, please specify details of bid/collaborators/expected date of submission to funder; if output is a conference presentation please specify which conference and when.

Continuation of the project

Please provide information (if applicable) if the project is expected to continue after the period proposed in this application. Provide details on how this will be supported.

Timescale

Please ensure that your project proposal falls within the time frame set by the funding of the Small Grants i.e. all work must be concluded by 31st July i.e. work undertaken must be received and receipted so that payments can be made against your budget code. Any work/payments post 31 July cannot be honoured. It will be the project lead's responsibility to ensure that these conditions are adhered to.

Project Costs

Subject to the type of project a list of 'typical costs' that you will need to budget for is provided below:

Personnel: Research / Project Personnel that you will need to buy in or pay honorariums

Equipment: Any type of 'special equipment' that the project needs, which is not already provided via the University.

Materials and Supplies: Above and beyond expected resources that would be available to the Department.

Travel Costs: Associated with Project Personnel.

Workshop/Conference: If part of the outcomes entails presentation at a conference – travel to conference can be costed if the output from the project is to be formally presented at the

DEPARTMENT OF MENTAL HEALTH, SOCIAL WORK AND IPL (INCL. CMH)

DEPARTMENT SMALL GRANTS APPLICATION FORM 2013/14

NAME OF APPLICANT(s)   _____

_____

_____

Project Team Member(s)   _____

_____

_____

Project Partner(s)   _____

_____

_____

Which category does this application fit (please tick boxes that apply)

☐ To support making a bid application

☐ To support continuation of a 'small grant project funded 2012/13'

☐ To support capacity building (developing skills for early career researchers)

☐ To support writing a 'peer reviewed' publication

☐ To support knowledge transfer activity

Is this Project a…

Research project which you anticipate will require ethical approval?

<div align="center">Yes/No/Unsure*</div>

Is this Project a…

Knowledge Transfer project which you anticipate will require ethical approval?

<div align="center">Yes/No/Unsure*</div>

Please limit your application to no more than 3 pages.

Project Title:

Detailed Project Description

Continuation of the project

Project Time Scale

Expected Outcomes/Outputs

Project Costs

Appendix 35: Interdepartmental bidding in 2013 identifying themes from symposium

School of Health and Education

Bidding competition for Research and Knowledge Transfer (KT) Funds

In addition to the amounts allocated to Departments as part of the performance related School Rewards and Incentives Scheme, a further £20k total amount has been retained for a School-wide fund to support inter-departmental bids which will be invested in order to support themes of interest across the Health and Education spectrum.

These funds will be used to support up to 3 bids that meet the following criteria:

- Enable inter-departmental research/KT between at least 2 Departments.
- Support each Departmental research/KT strategy.
- Provide initial 'start-up' funding for emerging research/KT and, in particular, support for Early Career Researchers.
- Broaden the research and KT profile of Departments.
- Show opportunities for sustainability through generating further 'follow-on' funds.
- Demonstrate clearly the intended research outputs.
- Be able to state how the outcomes will lead either to impact, or opportunity for impact, in society.

Possible 'themes' of School interest have been suggested, but these are not exhaustive and other ideas are welcome, including perhaps building on the synergies that may have been identified at the symposium in July. Themes may include:

- ✓ educational attainment or/and achievement
- ✓ building social capital (Noting the complexities of this term)
- ✓ public/community health in its broadest context
- ✓ responses to an ageing population
- ✓ exercise as therapy
- ✓ depression and anxiety
- ✓ health and wellbeing

Bids should be provided according to the attached proforma and should not exceed 4 sides A4.

Bids are due in by 1st of November 2013 and will be judged by a small panel from the School's Research and Knowledge Transfer Committee. Funds will be distributed asap and must be spent by the end of the current academic year (end of July 2014). The form should be submitted by the closing date via email to: *R.Beaumont@mdx.ac.uk*.

Application for Research and Knowledge Transfer Funds

Proforma

Please read all accompanying information before completing.

Type or write clearly using black ink. Return the form by the closing date via email to:

R.Beaumont@mdx.ac.uk

Applicants	Investigators	
	Principal	
	CoP 1	
	CoP.2	
Departments involved		

Project Title

Project details

Funds requested

Start date:	End date:

Please describe how the proposed activity meets the criteria of this call and Dept research/KT objectives, in particular the interdepartmental focus.

Please explain relevance to the stated objectives.

Please provide a short methods summary including data collection, data management, ethical considerations and approach to analysis.

Itemised breakdown of costs

Will these monies be utilised in conjunction with other funds?

☐ **Yes** (please give details in the box provided below)   ☐ **No**

If successful, how might these funds support financially sustainable research - e.g. What other sources of funding would be applied for in the future?

Projected outputs - *please give details of projected outputs in terms of research publications, dissemination including conference papers (where the author(s) will present), reports, evaluations, systematic reviews etc.*

How might the proposal impact on society and how would the research team plan and facilitate impact deliverables?

If generating income, what might be likely projections?

Signed *(please insert electronic signature or leave blank):*

…………………………………………………………………..

Date: …………………………

……

Signed by relevant Head of Department *(please insert electronic signature or leave blank)*: …………………………………………………………………..	Date: ………………………… ……

Appendix 36: Motivation of employees and motivation of academics for engagement in KT

Organisational characteristics influence the engagement of academics across the range of potential activities within a university setting. According to Wilson (2010), classical views on organisational behaviour would identify various aspects as being relevant including: Leadership, Motivation, Personality issues, Organisational Learning, Teams and Team-working, Structure and Culture.

Buchanan and Huczynski (2010) classified organisational behaviour into:

- organisational context – environment, technology, culture
- individuals in the organisation – personality, communication, perception, motivation
- groups and teams – group structure, individuals, team working
- organisational structures
- management processes – leadership, decision-making, change management

Egan (2008) has identified that motivation to transfer learning within an organisation appears to be more closely correlated to the attitudes, beliefs and values of subcultures rather than the main organisation, and in particular the leadership at that level (e.g. in a health setting the ward manager rather than the hospital manager). This work built on that of Lok et al. (2005) who suggested that subcultures provide a common basis for employee identification and are more focussed and coherent than organisational cultures. This would indicate that academic sub-groups (School, Department, discipline, research centre membership, professional body etc.) may have an influence on the successful achievement of organisational KT objectives. Indeed, 'setting' that culture would thus seem to be a critical role of the 'leader' within that subgroup and/or organisation. As Schein (2004, p.5) suggests:

> "It can be argued that the only thing of importance that leaders do is create and manage culture; that the unique talent of leadership is to understand and work with culture; and it is an ultimate act of leadership to destroy culture when it is viewed as dysfunctional."

In their research looking at the determinants of the KT activities of research groups, Olmos Peñuela et al. (2013) established that social scientists were more likely to be engaged in knowledge transfer if it resulted in, what they termed, "societal impact" (ibid, p703). "More specifically, the likelihood to engage in consultancy activities, contract research, training and

personal mobility increases for research groups that have a strong focus on the societal relevance and impact of their research".(ibid, p703). This research, focusing on the prevalence of KT amongst humanities and social science researchers, found that within their survey period none of the research groups had been involved in commercial activities normally associated with science based KT, such as licensing patents or spin-off creation. However the overall level of KT activity was similar to that expected within a science based research community. Thus there were other types of KT activity being utilised. The most frequent KT activities in the Social Sciences and Humanities (SSH) were found to be consultancy or contract research, which are used to establish interactions with non-academic communities to help solve socio-economic problems and societal knowledge needs. The research (ibid) therefore indicates that to motivate humanities and social science researchers to engage in knowledge transfer "requires a purposive focus on the potential applicability of research in SSH fields" and further that their results point to a strong link between "an explicit focus on the societal impact of research and the higher engagement in KT activities" (ibid, p704). This might well be highly relevant to the motivation of academics in H&E.

Markman (2004, p.361) commented on the role of culture in academic disciplines and propensity for KT engagement:

> "Another avenue for future research is the role that scientists' attitudes and department-level culture plays in the university-based entrepreneurial activity – from disclosure to commercialization. Such research might also discover variability in entrepreneurial activity vis-à-vis academic fields (i.e. engineering versus life sciences)".

This would concur with my own experiences where different disciplines have varying views on the relevancy of KT. Opportunities for KT and academic entrepreneurship varied across academic disciplines (Wright et al., 2004). Whilst Van Looy et al. (2011) noted a number of studies that show some link between the presence of an engineering discipline and entrepreneurial success, they found that this antecedent to KT productivity was linked to levels of patenting and not to contract research. One might conclude that a prolific and high quality 'science' based may lead to more opportunities for patenting but less connection with other forms of KT activity. This correlates with my own experience at Middlesex University. Todorovic et al. (2011, p.130) noted that:

> "There is a paucity of research examining cultural differences between university departments and their influence on commercialisation activities".

Todorovic et al. (ibid) suggested that the majority of research considering the propensity for the commercialisation of university knowledge has been at the organisational level not at the departmental/faculty level. The authors noted the work of Braunerhjelm (2007) and Arianna et al. (2008) which identified that some departments are able to better maximise their opportunities for commercialisation than others:

> "Both identify university culture, weak incentive structures, and badly managed support facilities as barriers to commercialisation success, while noting that some departments are better able to overcome these". (Todorovic et al., ibid, p 130).

Interestingly, research by D'Este et al. (2013) found that academic 'discipline' was not a key determinant of successful engagement with business. Managerial and cultural support within each academic department was more critical.

Beyond subculture, the culture of the person as the individual academic is also a key factor. As Brown (1998) and Handy (1999) have noted, many senior academics only have a loose affiliation to their organisation, with perhaps an enhanced focus on personal career building. This individualist approach is also noteworthy for its impact on the culture and leadership within an organisation. Clearly, personality and motivation would be key components determining an individual's engagement within an organisation. McRae's (1992) 'Big Five' personality scale assisted in exploring this area: individuals can be judged (against a high or low scale) through standardised personality tests in terms of: Extraversion, Agreeableness, Conscientiousness, Emotional stability and Openness to experience. Organisational behavioural theorists have also used psychoanalysis to explore the role of personality. Whether that be Freud's conceptions on the role of the 'Id' and the personality structure that emerges (Bratton 2007), or a more Jungian approach. Jung's theories resulted in an oft used typology of personality the Myers and Briggs Personality Typology (MBTI) (Myers 1962):

> "today, the MBTI is a widely used (and abused) personal growth and development tool in further education and business" (Buelens et al., 2006, p.57).

More recently, attention was paid to 'cognitive styles':

> "the way an individual perceives environmental stimuli, and organises and uses information." (Buelens et al., Ibid. p.65)

Similarly, much has be written about the role motivation has on an individual's contribution to an organisation. As Baron and Greenburg (2008, p.248) wrote:

> "although motivation is a broad and complex concept, organizational scientists have agreed on its basic characteristics. Drawing from various social sciences, we define motivation as the set of processes that arouse, direct, and maintain human behaviour toward attaining some goal."

Earlier theorising on human motivation focus particularly on assessment of 'needs'. This suggested that people were motivated by a set of common needs which vary by priority and given situations, such as in the work environment. (Maslow's 'Pyramid hierarchy' of needs (1954), Alderfer's ERG theory (1969) and McClelland' 'need theory' (1961)). Clearly many of these 'needs' are reflected in the academic's motivation.

An alternative, and/or complementary theory suggested that humans can learn from experience and this can be used by managers to impact on performance levels. Reinforcement theory as defined by Hull (1951), suggested that achieving success or satisfaction in a particular task or role will be repeated in future situations and thus reinforce that behaviour. This is particularly the case where managers then reinforce that behaviour through recognition and reward.

Herzberg et al.'s (1959) two-factor theory suggested that there are intrinsic and extrinsic human motivators. As noted below extrinsic motivation tends to be tangible employment arrangements such as pay (indeed very often of a financial nature) whereas intrinsic motivators tend to be more about how people are satisfied in their work and the work environment. Employees are motivated by a combination of extrinsic factors (rewards and incentives, pay increases promotions, criticisms punishments etc.) and intrinsic factors which, at an individual level, is more about how the employee perceives the nature of the work and their value to it, perhaps in some cases being a 'vocation' or 'calling'. More psychological perspectives have introduced cognitive approaches to motivation theory. Significant criticism of needs theory models suggested they were a rather simplistic view of how people are motivated in different circumstances. It is suggested that the direct link between those defined needs with behaviour patterns is not as strong as postulated. Certain theorists argued that motivation is not directed purely by the pursuit of individualised needs but by more psychologically based responses such as 'instinct'. Cognitive theories of motivation suggest

that, although basic needs are important, there is also a psychological dimension that needs to be considered. As Perkins and White (2009, p.53) noted:

> "employee behaviour may be perceived as purposeful and goal directed, grounded in beliefs and expectations surrounding future events".

Thus the focus moves away from humans responding to a particular stimuli to a more conscious assessment and choice of action based on that which is most valuable to the employee.

A prime theory often quoted to support a rewards approach is expectancy theory. As Armstrong (2012, p60) reported, based on initial work by Vroom (1964), Porter and Lawler (1968) developed this theory into a model:

> "by suggesting that there are two factors determining the effort people put into their jobs: first, the value of the rewards to individuals insofar as they satisfy their needs for security, social esteem, autonomy, and self-actualisation; and second, the probability that rewards depend on effort, as perceived by individuals-in other words their expectations about the relationships between effort and reward. Thus the greater the value of a set of rewards and the higher the probability that receiving each of these rewards depends upon effort, the greater the effort that would be put forth in a given situation".

In respect of the motivational role of Rewards and Incentives to enhance the engagement of academics in KT, Osterloh and Frey (2000) considered the management of motivation to encourage knowledge transfer including the role of rewards and incentives. Whilst focusing on the subject of 'internal' KT within an organisation, there are key issues and recommendations that are relevant. The authors noted that, in managing motivation, employees respond to *intrinsic* and *extrinsic* factors in terms of traditional social psychological theory. The authors considered how knowledge transfer within an organisation, particularly tacit knowledge, can be better managed with an understanding of the impact of using these motivational theories. It was proposed that there had been an increasing approach to run firms as if they were markets in themselves which resulted in the predominance of financial payments for performance:

> "Employees are extrinsically motivated if they are to satisfy their needs indirectly, especially through monetary compensation" (ibid, p.539).

This is closely related to 'transactions cost theory' – that individuals are motivated by personal financial rewards. However, employees were also motivated through intrinsic goals where there is value obtained from the activity itself:

> "the ideal incentive system is in the work content itself, which must be satisfactory and fulfilling for the employee" (ibid, p.539).

However, the authors stress that managing intrinsic motivation is difficult and that most managers automatically gravitate to extrinsic approaches. A reward has:

> "two aspects: a controlling and informing aspect. The controlling aspect strengthens perceived external control and the feeling of being stressed from the outside. The informing aspect influences one's perceived competence and strengths the feeling of internal control. Depending on which aspect is prominent, intrinsic motivation is reduced or raised" (ibid, p.541).

The authors suggested that socio-economic relations (i.e. where there is an emotional relationship) establish implicit contracts within an organisation that go beyond transactional exchanges, including an understanding that intrinsic exchanges might, at some point expect a reciprocal arrangement – in itself motivational. In these discussions, Osterloh and Frey (ibid) identified the different perspectives of the economist and the psychologist as to the value and application of incentives to generate KT internally within an organisation. A good manager will perhaps be able to use both approaches in some form of balance to motivate their staff.

In the "hidden cost of reward", Lepper and Greene (1978) suggested that the 'crowding- out effect' of the impact of rewards could be damaging within an organisation. This term has been used by Frey (1997), a co-author of the Osterloh and Frey (2000) extracts above, where it was suggested the crowding–out effect can corrupt workers in that an initial reward for performance becomes an expectation for the future.

Abreu et al. (2009), Lockett et al. (2008), Francis-Smythe (2008) in the UK and Jacobsen et al (2004), Siegel et al. (2003), Siegel and Phan (2005), Lach and Shankerman (2008), and Debackere and Veugelers (2005) in the USA, Canada and parts of Europe, all find that incentives of a financial kind do act to enhance academic performance in KT, i.e. extrinsic rewards/incentives.

D'Este and Perkmann (2011, p.327), investigated academic scientists' engagement with industry, establishing four key motivational factors:

- commercialisation
- learning – information and feedback on industry needs, applicability of research, networking
- access to in-kind resources – expertise, equipment etc.
- access to funding

Establishing similar in their research, D'Este et al. (2013) added,

- contemporaneousness of research and teaching

Perkmann et al. (2013) found that engaging in knowledge exchange was motivated by attracting resources, obtaining knowledge or building social capital. Commercialisation activities seem to imply a much more narrow focus where there is exploitation of a particular technological advantage/invention. Lam (2011) reviewed the various different kinds of motives driving the behaviour of scientists. Using a model devised by Stephen and Levin (1992), Lam (ibid) identified three basic types of rewards which crossed a range of extrinsic and intrinsic aspects:

- 'gold'- financial rewards
- 'ribbon' - reputation and career rewards
- 'puzzle' - intrinsic satisfaction

Lam's research (ibid) utilised a social psychological perspective, in particular theories of self-determination, to examine the nature of these motives for scientists within a group UK universities with significant research profiles. As Lam noted through the work of Deci and Ryan (2000), self-determination is a critical factor distinguishing intrinsically motivated behaviour from that influenced through external regulation. Motivation is treated as the outcome of interaction between external regulatory processes and individuals' internal psychological needs for autonomy and self-determination (Lam, ibid). It was argued that this could be particularly important for academics who generally have a large degree of autonomy. Perceptions of individuals and their beliefs about potential benefits and values could be key motivators in undertaking KT activity. Even regulatory motivators could be adapted and adopted as internalised values and behaviours - extrinsic motivators ultimately becoming intrinsic. As Stephen and Levin (ibid) concluded, most academics do not fit neatly into a typology of motivation. Markman et al. (2004) did not find that financial rewards led to enhanced KT engagement amongst academics. Motivation is multi-dimensional crossing the gold, ribbon and puzzle aspects. For example many academics may be inherently intrinsically motivated but at the same time would wish to see extrinsic reward in the form of career progression, enhanced profiles for funding recognition etc.

There is evidence that financial rewards from KT activity do impact positively on the performance of Technology Transfer Offices (TTO) (Lach and Shankerman, 2008 and Siegel et al., 2007a). Government incentives to support the work of TTOs in the UK to broaden KT activity away from the traditional narrow confines of 'technology transfer' has had some success in higher levels of academic participation in business engagement (D'Este et al., 2013).

Lam (ibid) found that the majority of scientists are motivated by traditional rewards of the 'ribbon', using commercial activities as a means to generate resources for their research. Personal pecuniary gain, the 'gold' although not irrelevant, was seen as important by a much smaller proportion of the scientists. More crucially, the intrinsic satisfaction derived from commercial engagement itself, as in 'puzzle solving', emerged as a central motivation shared by many of the scientists. Lam (ibid) suggested that there is a continuum between extrinsic and intrinsic motivation factors, within which it is difficult to judge where individual academics will fall and that their position on that continuum can change both over time and in respect of particular opportunities. Scientists particularly focused on commercial or entrepreneurial activity would be more 'gold' motivated. Indeed Lam's research suggested that those engaged actively in commercialisation felt personal income gain to be more important than other non-commercial focused academics. However, Lam (ibid) determined that the majority of the academic scientists researched were some form of hybrid and that entrepreneurial scientists were often as motivated by intrinsic factors. For all scientists funding research resources appeared at the top of motivational hierarchies.

Appendix 37: Review of relevant group decision-making approaches

1.0 The nature of group interventions

As Flick (2009) noted, using groups to derive data can bring advantages to the research process. They can ameliorate the artificiality of structured interviews, engage participants in interactions that are more comparable with everyday life and allow the development of joint narratives within the group. The approach allows sharing of views and for the group to actually determine common/or opposing views. In this way the process is far more dynamic. Groups "will do more to lift veils covering the sphere of life than any other device" (Blumer, 1969, as sourced in Flick, ibid). Robson (2011) noted that focus groups were originally developed from market research practices where there was a realisation that many consumers made decisions based on group dynamics and social interactions. They can be an efficient means of achieving rich data at relatively low cost. (Flick, ibid; Robson, ibid).Van de Ven and Delbecq (1974, p605) noted that:

> "a pervasive concern of contemporary administrators is to find effective methods for making decisions when a number of people from different backgrounds and perspectives need to be involved in the problem-solving process".

Indeed, at a basic level one could argue that within most large organisations it is extremely common to have organised groups, sometimes committees, that will through some process determine policy approaches to be used by that organisation. Van de Ven and Delbecq (ibid, p605) suggested that:

> "the traditional most widely used approach to group decision-making in organizational committee life is the conventional interacting, or discussion, group".

They go on to describe this as the conventional interacting group.

Robson (ibid, pp 294-5) summarised the advantages of group approaches as:

- efficient use of time as several people provide data at same time
- internal checks and balances in group can 'weed out' extreme views
- fairly easy to assess what are the critical views in a group
- participants generally enjoy
- relatively inexpensive and flexible

- participants are empowered
- contributions can be encouraged from hard to reach groups
- they do not discriminate against people who can't read and write
- mutual discussion can help to make it possible to raise 'taboo' subjects.

Bryman (2012, p.503) noted that the use of groups offers the opportunity of allowing "people to probe each other's reasons for holding a particular view". This is suggested to offer a broadening of the data created than might be expected of narrow questioning on a one-to-one basis. It could also be argued that groups offer a way of thus minimising bias from structured questions (assuming the moderator/facilitator allows this 'freedom'). Kitzinger (1994) accentuated the additional data that could be provided through interactions within the group. The researcher is interested in "how people respond to each other's views and build up a view out of the interaction that takes place within the group" (as sourced in Bryman, ibid, p.510). There is an emphasis on the "joint construction of meaning" (Bryman, ibid, p.502).

Bryman (ibid, p.516) wrote that focus groups have,

> "considerable potential for research questions in which the processes through which meaning is jointly constructed is likely to be of particular interest".

This would seem particularly relevant to an AR approach in terms of deriving actions through group participation and engagement. In using groups, the role of the moderator is critical – particularly in judging when to intervene and when not to, how to avoid bias through their interventions and how to control the dynamics of the group, how to facilitate and not overly 'control'. Bryman (Ibid) recognises that the role of the facilitator/moderator/interviewer is challenging because the researcher will have key research questions that he or she wants to explore but at the same time a great value of the focus group is to allow participants some level of latitude to enable them to explore a situation fully and perhaps raise issues the researcher had not considered. As in chairing any meeting, a role within which I have many years of experience, there is a need for the facilitator to ensure the continued focus of the meeting and to maintain some level of control. For example, it is important to ensure that individuals do not talk at the same time as this will make deciphering of any recordings very difficult. There is also an important role for the facilitator in terms of moderating the group – dealing with arguments or strong disagreements. In some ways the researcher may obtain great value from such debate and it might be encouraged. However, the facilitator/moderator will need to ensure that any significant disagreements do not either get out of control or perhaps result in certain members withdrawing from the discussion.

Sim, J. (1998) summarised the key methodological issues of group interviews as being:

- the skills and competence of moderator exert a powerful force on data derived
- the results cannot be used to interpret individual phenomena – they are group based phenomena
- groups may provide a poor indicator of common attitudes, although they may highlight areas of disagreement
- the process can reveal the nature and diversity of views but not very well their strength
- it is very difficult to generalise from the interpretation, apart from possibly in a theoretical sense
- focus groups should only be used where they are useful methodologies to research the research question.

2.0 Group decision-making techniques

Group problem-solving procedures increase the likelihood of better solutions within an organisation than more individualistic, top-down approaches. (Shaw, 1976).

However, decision making in groups is hampered by a number of factors such as; individuals exercising too much power, non-productive repetition and digression, group dynamics, internal power struggles, 'management' presence leading potentially to poor engagement, pressures to conform and the lack of involvement of certain participants, etc.

Lane et al. (2011) focused on what they saw as the perceived dichotomy between 'scientific expertise' commonly applied to the issue of managing flood risks and that of 'local' lay expertise and knowledge. In their paper they argued for an approach which harnessed the knowledge of both the expert scientist and the informed layperson to provide enhanced knowledge of the impact of flood occurrences and how to mitigate these. Using a particular problem area in Ryedale in the UK, they formed a public engagement group called the Environmental Competency Group. In forming this group they suggested (ibid, p.24) that the approach was distinctive for five main reasons:

- there was the practice of knowledge production as well as the knowledge produced itself. This made the process distinctive from approaches to public engagement like focus groups, where the focus is on what people think or believe about the products of knowledge
- that the research was a collaborative process in which the participants worked together
- that an event such as a serious flood helped the participants to bring the key issues into sharp focus and that participants were able to make an active contribution

- that the involvement of local people, who are often involved in implementing responses to flooding incidents, means that those who had to live with the consequences were actively engaged in the evaluation process and not just responding to those with particular statutory responsibilities such as the Environment Agency
- that they had not intended to set out to form a truly 'representative group' arguing that the situation was so complex that this just would not have been possible.

The authors in particular suggested that involving laypeople gave the opportunity to create new knowledge and enhanced knowledge of the situation because of their active understanding of a particular factor. The activity of the group was 'participatory' in that participants were actively involved in the decision-making process. Lane at al. (ibid) made an interesting point in that it is difficult to create a group that is truly representative of the complex socio-economic-political composition of communities. In this case communities referred literally to those affected by flooding but one could transpose this into other situations where the community could be some form of sample. Indeed the authors argued that trying to create a representative group was itself an "act of framing around a preconceived notion of what that composition is" (ibid, p.24).

On Judging attitudes

Cross (2005) considered the issues of how to influence attitudes in terms of health education and health promotion. He noted that the term 'attitude' was important in a number of research studies but was difficult to define. In addition within various disciplines the term 'attitude' had different derivations. In reviewing thinking at that time, Cross (ibid, p.207) referred to a number of authors who had written on this theme:

- attitudes helped to form cognitive relationships, which in turn may predispose behaviours. Positive attitudes towards a topic tended to orientate the person in a positive manner towards that idea (Jonassen, 2001)
- attitudinal research indicated a strong relationship between attitudes and behaviour (Bennett and Murphy, 1997),
- whilst it may be difficult to observe attitudes, behaviours were observable and could be measured in some way
- that having an attitude suggested that people had evaluated a situation and, as a result had developed some 'feeling' about it (Simmons, 2001)
- "attitudes are reinforced by beliefs (the cognitive component) and often attract strong feelings (the emotional component) which may lead to particular behavioural intents (the action tendency component)" (Oppenheim, 1992, p.382),
- that people can 'learn' an attitude from a particular experience (for example a pleasant or unpleasant one) (Bohner, 2001).

Cross argued that current approaches to measuring attitudes, such as the commonly used 'Likert scale', have disadvantages in that participants modify their responses according to social desirability. Cross (ibid) also suggested that there was a problem in that current measures did not take into account that there was no relationship between verbal and non-verbal indicators of attitude and that some attitudes may have been be stronger or weaker than others.

3.0 Common approaches for research within groups

Focus Groups

The focus group has been used widely as a legitimate qualitative research method for some time (Bryman, ibid). As in all group interview situations, the focus group method uses the interaction generated by discussion of the participants to provide data appropriate to the research question and most likely of the nature perhaps not available through other methods. As market research, the intent is that the interaction between the participants will perhaps generate commercially relevant data. As in other qualitative approaches, the group focuses on determining meaning within a social construct as opposed to some sort of quantitative measurement. Generally focus groups are carried out when there is an opportunity to gather detailed information from people about a topic or issue where there is shared knowledge, understanding, belief etc. However, a significant disadvantage, as noted by Doody et al. (2013), is that focus groups can rarely be used to establish a consensus view. In addition they are not really designed to result in an agreed action approach to meet a particular objective. The nature of AR, with the research being embedded within the action, means that a different technique needs to be utilised which enables the basic principles and advantages of the application of group interviews/focus groups etc. to be adopted, but with some form of negotiated action forming the core objective**.**

Brainstorming

Primarily utilised in Focus Groups, brainstorming was most notably developed by marketeers as a way of generating multiple creative ideas (Baruah and Paulus, 2008: Paulus, 2000) (as sourced in Boddy, 2012). Whilst brainstorming groups are structured in nature, rather than being semi-structured or unstructured as focus group discussions often are, they are designed to be very dynamic and creative. Indeed often participants are encouraged to introduce significant amounts of humour and to actually enjoy the process (Boddy, ibid). A critical early component of the process is that there is little evaluation of ideas contributed -the emphasis

remains on creating as many related ideas of the situation/challenge is possible and participants are often encouraged to think as laterally as possible. An important element of brainstorming which helps maintain the focus whilst stimulating creativity is to be sure about what the objectives are. In a participative fashion Boddy (ibid) notes that on some occasions participants can be asked themselves to clarify what they understand as being the objectives. In this way the group is set a clear goal. Within the process it is common practice to look to competitors to see how they may be approaching the same issues or indeed to perhaps look at other industries where their experiences may be transferred into the organisation. Following the generation of these ideas they would then be sorted in some way and then coded in some form of thematic process perhaps around categories that suit the organisation (e.g., expense, work ability, practicability and feasibility depending on resources (Boddy, ibid, p8)).

It is common after this sorting stage to identify a number of agreed actions.

Boddy (2008), suggested there are four key assertions in brainstorming:

- that those involved in brainstorming should not criticise emerging ideas so as not to stifle lead generation
- brainstorming group members are advised to verbalise all their ideas as they think them without fear of criticism
- members are advised to generate as many ideas as possible without self-censorship
- contributions are encouraged to combine other ideas into their own and build on the ideas of others and develop those ideas further

Constructive Group Conflict

In this approach within a meeting of the group a statement or various statements can be released designed to create some form of debate even argument between participants within the meeting. The suggestion is that by exploring these different views and discussing diametrically opposed positions, a group will move towards more effective strategic decision-making (Schweiger et al., 1986). It is important to note that consensus is not necessarily an objective. Two commonly used approaches are Dialectical Inquiry and Devils Advocacy and both have their strong proponents. Schwenk (1990) suggested that there was a large body of research that indicated that decision-making could be improved through stimulating conflict within a group. Murrell et al. (1993, p.400) noted that the theory:

> "explicitly assumes that formal conflict will bring hidden information to light, enhance group communication, and expose flaws in strategic plans."

Without this conflict it is argued that the common desire amongst management colleagues is to seek conformity, perhaps due to the presence of more senior colleagues in the group with the result that their positions are not challenged. This can lead to some sort of 'groupthink' (Janis, 1972, sourced in Murrell et al., 1993).

Dialectical Inquiry (DI) "uses debates between diametric sets of recommendations and assumptions" (Schweiger et al., ibid, p.52). In this situation different positions around an issue are provided to the group, and participants are asked to enter into vigorous debate about the merits of each. The technique is designed to promote potential suitable alternatives. In Devils Advocacy (DA), only one set of assumptions and recommendations are provided to the group and then participants are asked to critique these positions (Schweiger et al., ibid).

Each approach has its advocates but they are both similar in that they are likely to lead to some form of conflict within the group. It is proposed that higher quality decision-making results from these approaches because they involve formally structured argumentation and debate (Mitroff and Mason, 1981). In their analysis of these techniques Schweiger et al. (ibid) identified that many senior managers prefer a more consensual approach to decision making in groups for the obvious reason that it does not involve stimulating conflict which can continue into work practices after the group meeting is over. Schwenk (ibid) undertook a meta-analysis of a number of reported research experiments at that time to investigate which of these techniques appeared to create better decision-making. This suggested that both Devils Advocacy and Dialectical Inquiry were superior in terms of decision-making to what he termed an expert based approach where no conflict was used. Interestingly, this research was intended to once and for all decide whether one was better than the other. Findings were that both DA and DI were equally as good in terms of introducing conflict into decision-making.

Whilst evidence suggests that such conflict approaches can lead to enhanced decision-making, they would seem to favour a more male competitive environment and one wonders if this would suit those participants who find the situation challenging. Indeed information might be more readily shared if a consensus decision making approach is taken. This would suggest that these conflicting decision-making techniques are not conducive to an AR approach.

Q Methodology

Cross (ibid) suggested the use of Q methodology as a positive way of extracting subjective opinion. The Q methodology involves a sort technique through a rank ordering of a set of statements from agree to disagree. Normally in using this technique a number of statements,

usually between 10 and 100 (the 'Q Set') about an issue are provided in some format (e.g. on cards, on a computer screen, photographs, etc.) and participants are asked to rank these statements according to a set scale, commonly from -5 through 0 to +5. Participants are asked to look at the statements and make a judgment as to whether they are *most like my attitude* or *least like my attitude*, with a central neutral category at 0. During the sorting process, participants are likely to have a smaller number of extreme views of their attitudes. Experience suggests that the majority choose categories predominantly around the zero ranking. As Prasad (2001 as found in Cross, ibid), noted this typically results in a normal distribution. This then allows the researcher to use a number of quantitative analysis techniques such as multivariate analysis to extract useful data. The next stage is to interpret the resulting factors:

> "Interpretation is achieved in terms of comparisons and contrasts between the positioning of items in the reconstructed Q sorts representing each factor-interpretation and may be aided by theory, previous research and/or cultural knowledge" (Stainton Rogers, 1995 as found in Cross, ibid, p 210).

Whilst proponents of Q methodology claim that it is inescapably subjective in that it is allowing participants to sort according to their own views, opinions and ultimately attitudes (Brown, 1996), critics suggest this is not the case because the researchers are creating the statements/descriptors and thereby driving the views of participants. Ways around this could be to ensure that the basis of the statements are thoroughly researched and, importantly, that they are phrased in a way that does not lead to ambiguity or bias. One can see the advantages of using such a methodology in the AR approach as it allows for a quantitative assessment of attitudes and thus enhances analysis of data under that paradigm. For AR, one solution to the above criticism could also be to try and involve participants in the development of the descriptors. To avoid validity issues this would perhaps need to be undertaken in another sample group representative of the eventual experimental group. However, one could also suggest that this is another example of those wishing to apply quantitative methods in a social construct environment where qualitative approaches are perhaps more appropriate.

The Delphi Technique

Delphi technique originates from research undertaken on behalf of the US air force by the Rand Corporation in the early 1950s. Indeed it was originally designed as a way of judging the most efficient number of atomic bombs that would be required to reduce US industrial output to a desired level from the viewpoint of the Soviet Union (Linstone and Turoff, 1975). The Delphi process is designed to bring together the views of a range of so-called experts on a

particular topic (Booto Ekionea and Fillion, 2011). A research team devises a questionnaire around a particular topic and this is sent out to a range of experts in the respondent group. Once the questionnaires are returned, the research team summarises the results and, based upon these, develops a further questionnaire for the same respondent group. The respondent group is able to see the overall group responses and are then allowed opportunities to re-evaluate original answers based upon the group's response. This process continues until consensus is reached (Green et al., 1999). In practice, as Keeney et al. (2006) note, because many of the experts are busy, the number of rounds is often restricted to between two and four and then 'consensus' is achieved through either some form of polling or a mathematical average of some sort.

This original form of the Delphi is a combination of a polling procedure and a conference procedure (Linstone and Turuff, ibid). Key to this whole process is effective communication practices. Keeney et al. (ibid) note that the Delphi technique is often used for researchers who are seeking judgment consensus on an issue. It is suggested that this technique is increasingly being used within the health sector. The key features of Delphi which distinguish it from other group communication techniques are, according to Booto Ekionea and Fillion, (ibid):

- it focuses on the gathering and synthesis of anonymous expert opinion in a sector, and the process means that those experts don't necessarily have to meet
- information can be collected at distance
- it focuses on a limited number of experts
- it allows rich data collection leading to an appropriate understanding and consensus
- achieving a consensus is aided by consecutive questionnaires
- because there are a number of iterative steps in the process it allows participants to review their previous judgments
- it carries an advantage over other group decision-making techniques in that series of anonymous experts are used
- it can be used in a variety of sectors including management economic technical or social sciences.

Some of these distinguishing features also bring about its disadvantages, as Booto Ekionea and Fillion, (ibid) reported:

- it can be a lengthy and costly process
- some would argue it is intuitive rather than rational
- that the multiple rounds of surveying are questionable since it is only the experts that stray from the norm that have to justify their position
- the interactions between different hypotheses proposed are not taken into account indeed they are often avoided

- it is hardly representative of a social grouping but then it is not intended to be
- given the use of experts is fundamental choosing and finding those experts and ensuring they are the correct experts is critical.

Whilst recognising the strong virtue of the Delphi technique, and utilising it themselves in numerous research projects, Keeney et al.(ibid) recognised there were limitations such as how to select the so-called experts and the unrealistic expectation in many organisations that the questionnaire responses will be anonymous. Keeney at al. (ibid) also noted that there were wide variances in how researchers judged when consensus had been met. Keeney et al. (ibid, p.210) perhaps raised a significant concern about the Delphi technique in that being undertaken anonymously at distance could mean that the process favours strong willed panel members who might, "hold rigidly to their views across rounds and weak-willed panel members alter theirs". For this and various other reasons there are many critics who believe that there are significant validity and reliability issues. Nonetheless one can't ignore the fact that the technique seems to be used in a variety of sectors with reported success. Ultimately given the fact that participants are perfectly able to change their views, one cannot assume that the consensus is correct. After all a panel member that has been 'voted down' may actually have had the most significant contribution to make.

Nominal group technique

Nominal group technique was developed to:

> "maximise the benefits of group participation in problem identification and problem-solving" (Fox 1998, p.20) whilst dealing with some of the common problem areas in group work.

Originally developed by Delbecq, Van de Ven and Gustafson in the 1970s (Delbecq and Van de Ven, 1971), NGT has been modified and adapted in a number of different situations and circumstances. Claxton et al. (1980, pp.308 and 309) summarised the key components of the NGT process which has six key stages:

- a moderator provides participants with an initial statement of the topic area to be discussed
- each participant is then directed to reflect individually (and silently) on the topic and record their personal responses on some form of worksheet. This part of the process can take up to 20 minutes
- participants are asked either at random or going around the group to state one of their responses to the issue. This response is then typically written in a concise yet complete manner on a large flipchart. The participant can at this point briefly explain their

response so that the meaning is clear. This process goes on around the group and occasionally second and third rounds may be contemplated if all ideas have not been identified. As in brainstorming, participants are allowed and encouraged to express other ideas that may have arisen stimulated by the remarks of others

- there is then a consolidation review of the complete set of ideas. The moderator will put up all the flipchart sheets and each responses assigned some form of identify code, such as a letter of the alphabet

- participants are asked to provide relative importance that should be accorded to each of the response ideas. There are a variety of ways of doing this. In the original forms suggested by Delbecq et al. (ibid), participants were encouraged to name their top eight responses from the group and rank these in order on a card (often called the 3×5 card)

- the results of this ranking are then accumulated. In a very simple format participants may have ranked their top five ideas by sticking a small red or other coloured sticker-dot to it on a flipchart. The idea with the most dots might be put forward as the collective group's priority areas.

Boddy (ibid) notes that NGT is a refinement to brainstorming approaches in that there is an opportunity for individuals to privately contemplate issues which can lead to a greater level of creative ideas. The individuals are thus, only nominally in a group at that stage of the proceedings, hence the name NGT. Interestingly Boddy (ibid) reports research (Campbell, 1999 and Graham, 1977) which found that this element of silence is important. The authors noted (ibid) that silence helps activate the right side of the brain which is the part of the brain thought to be responsible for creative ideas and that the noise of verbal communication can interfere with this flow of ideas. According to Fox (ibid, p.21) the basis of NGT derives from a background of extensive applied research suggesting the following advantages:

- it facilitates the generation of ideas by:
  - encouraging participants to develop on each other's contributions as is common in brainstorming
  - delaying the evaluation of ideas until all contributions are put before the group
  - forbidding the removal of a contribution in the face of objection
  - permitting new items to be contributed before the voting process

- it encourages quality of participation and conservation of time by:
  - permitting acceptance of only one idea per person per turn
  - limiting discussion to only seeking clarification and speaking for against an item

- it emphasises ideas of equality more than the present status by:
  - discouraging identification of idea authorship
  - ensuring that all ideas remain on display throughout the meeting

- it prevents premature closure by:
    - making sure that there is full discussion on all ideas displayed before action is taken on any of them
    - allows for the reopening of discussion and second voting when first voting results suggest this might be useful.

An important aspect of the process is that the original ideas are provided anonymously. According to Boddy (ibid) this provided some advantages over the brainstorming technique where it is clearly evident who has contributed what idea. However, in practice one wonders whether this really is as great an advantage as is suggested primarily because even in an NGT situation my experience is that individuals will wish to promote their ideas and hence it might be obvious who was responsible for which. A further advantage of NGT over brainstorming and other similar techniques is that the silent writing phase allows quieter individuals who might not have their voices heard an opportunity to provide their ideas.

Fox (ibid) suggested, however, that there are some limitations, such as:

- the contribution of ideas is only at the meeting-it was suggested that if participants had had the chance to prepare and consult resources prior to any NGT, this could have led to improved input within the group
- the nature of verbal inputting - it is suggested that the way in which ideas in NGT are inputted onto a flipchart by each person in turn, can also cause problems. These may include:
    - identification of author of ideas-it is quite easy to identify who has said what
    - it is argued that this lack of anonymous authorship may restrict what people actually say
- there are challenges for leaders of groups when being involved in NGT. Often if they contribute to a meeting this can discourage others and it is also difficult for others to contribute whilst their managers are present
- limitations of group size for the approach to be effective.

Fox (ibid) provided some suggested improvements which he termed the Improved Nominal Group Technique (INGT). This allows for a number of proposed improvements to the technique:

- where meetings can be scheduled in advance there is the opportunity for inputting of ideas around the subject prior to the actual meeting. This has the advantages of being able to prepare display boards with these ideas in advance. It also allows participants to identify any further resources that might be needed at the meeting
- the provision of idea 'cards' before the meeting anonymously could allow members to provide multiple ideas and can save time in not having to do the round robin one idea per person general rule. Indeed it is suggested that several flipchart could be used at

the same time which may first of all increase the number of ideas provided and
secondly increase the number of participants

Fox (ibid) postulated that this improvement to NGT is particularly useful for the review of
documents or policies within an organisation.

Comparing NGT, Delphi and Conventional interaction approaches

Interestingly as far back as the 1970s researchers were seeking to determine the most
effective group decision-making processes. Indeed two of the main protagonists behind NGT
(Van de Ven and Delbecq, 1974) undertook their own experiment to compare NGT, Delphi and
conventional interaction. In this particular work they found that both Nominal and Delphi
groups were equally effective at generating appropriate ideas from within a group, and were
more effective than conventional interacting groups.

Appendix 38a: Letter inviting involvement with ARG/Interviews – R&IS non-funded participants

School Research and Knowledge Transfer (KT) 'Allowances' (Grants)

Dear Colleague

As you may be aware, each Department recently made decisions on how to distribute their research and KT allowances for 2013/14. A large part of the budget to support these allocations originates from the returns the School receives based on its KT performance.

Last year, I undertook research which led to the introduction of the School's Rewards and Incentives Scheme, the basis on which we make allowances to Departments from KT returns. I now intend to extend this research in order to both better understand the motivation behind those who have applied for funds and also how the Scheme could be embedded to improve its effectiveness.

As somebody who did not apply or was not awarded such funds, I would be really interested in your views and grateful for your assistance. I intend to undertake this further research through a combination of personal interviews and an Action Research Group (ARG).

The ARG will be facilitated by an independent facilitator although I will observe. It is intended that the group will meet three times in the calendar year: once on February the 12th (pm), again in June/July and finally in September. Each meeting will last no more than 2 hrs and there will be no follow-up work required from you.

Personal interviews will last for no more than 30 mins, will be conducted by myself and will occur during February to April. Please note that involvement in the ARG and interviews will be mutually exclusive. Involvement in either the ARG or interviews is voluntary and any data obtained will be fully anonymised in any future research publications.

I hope you will be able to help with this research which will further develop the Rewards and Incentives Scheme. If you are willing to be involved please contact me on R.Beaumont@mdx.ac.uk letting me know if you would prefer being on the ARG or interviewed.

Kind regards

Richard

Appendix 38b: Letter inviting involvement in ARG/Interviews – R&IS funded participants

School Research and Knowledge Transfer (KT) 'Allowances' (Grants)

Dear Colleague

I understand that you applied for, and/or were allocated, funds to support your research/KT activity proposal from the allowances made available to your Department. A large part of the budget to support these allocations originates from the returns the School receives based on its KT performance.

Last year, I undertook research which led to the introduction of the School's Rewards and Incentives Scheme, the basis on which we make allowances to Departments from KT returns. I now intend to extend this research in order to both better understand the motivation behind those who have applied for funds and also how the Scheme could be embedded to improve its effectiveness.

As somebody who has applied, or been awarded such funds, I would be grateful for your assistance. I intend to undertake this further research through a combination of personal interviews and an Action Research Group (ARG).

The ARG will be facilitated by an independent facilitator although I will observe. It is intended that the group will meet three times in the calendar year: once on February the 12th (pm), again in June/July and finally in September. Each meeting will last no more than 2 hrs and there will be no follow-up work required from you.

Personal interviews will last for no more than 30 mins, will be conducted by myself and will occur during February to April.

Please note that involvement in the ARG and interviews will be mutually exclusive

Involvement in either the ARG or interviews is voluntary and any data obtained will be fully anonymised in any future research publications.

I hope you will be able to help with this research which will further develop the Rewards and Incentives Scheme and in meeting our School objectives. If you are willing to be involved, please can you let me know at R.Beaumont@mdx.ac.uk including if you would prefer to be on the ARG or interviewed.

Kind regards

Richard

Appendix 39: Interview and ARG total responses

(See accompanying CD)

Appendix 40: Cycle 3 Interviews – sample selection

A purposive sampling approach was used to gain a level of representativeness and, as in the ARG, only those in post prior to May 2013 were interviewed. The final selection included:

Table 1: Selection for interview by Department, Grade and Sex

Department	Grade	Sex
Adult Child Midwifery	1 Prof, 1SL, 1L.	2F, 1M
Psychology	1 PL, 1L	2F
Mental Health Social Work and Interprofessional Health	1 Prof, 1PL, 1SL,1 ResFellow	3F,1M
Education	1PL, 1SL	1F, 1M
London Sports Institute	1PL,1SL	2M

Totals of the 13 selected:

Grade – 2Profs, 4PL, 4SL, 2L, 1RF

Sex – 8 Females and 5 Males

Previous recipients of R&IS funds- 7 grantees and 6 non-grantees

Inclusion of individuals personally benefitting from the R&IS

As has been noted in the main submission, in addition to the predominant focus of the R&IS in providing rewards to Departments, the Scheme also allowed for individuals to receive personal payment when working on KT projects above and beyond their work programme allocated hours. Sampling for these colleagues was a challenge as these opportunities arose on an ad hoc basis and were difficult to plan for. In addition a major issue was that no specific records were kept of payments to these individuals. In discussion with the University's HR services it was clear that there was no easy solution in identifying those who might have been paid additionally for KT work as similar contracts would have been provided for a number of employability opportunities. As such I wrote to all of the staff within the School who had received these individual payments over the last academic year requesting them to identify whether they had undertaken KT work and been paid for this above their existing contract with a view to perhaps making a separate sample. Of the colleagues written to, and who responded, the majority were receiving payments for some form of additional short-term responsibility or task unrelated to KT. This left a small pool of potential sample participants. Following responses received it appeared that 7 colleagues had received such a payment. This

in itself is interesting in terms of the scale and extent to which this part of the R&IS has been utilised. Remarkably, the majority of these colleagues belonged to one department, Mental Health, Social Work and Interprofessional Health.

Of the seven colleagues definitely identified as having received such payments, three were willing to contribute to the interview research phase. Given the small numbers available both in terms of the total potential sample size and those volunteering, I decided to include the three volunteers as part of the total number of colleagues being interviewed. Unfortunately, this would not allow their views to be specifically identified given the anonymous nature of the research process, however it was viewed to be important to obtain their views about their personal motivation and their suggestions for further developing the R&IS given their particular vantage point. In addition, just before the interviews, one of the Professors had to withdraw due to personal reasons and substitutes were made as near to the original purposive sample as possible.

Thus the final selection of participant interviewees was as for Table 2:

Table 2: Final Selection for interview by Department, Grade and Sex

Department	Grade	Sex
Adult Child Midwifery	1SL, 1L.	2F
Psychology	1PL, 1L	2F
Mental Health Social Work and Interprofessional Health	1 Prof, 2PL, 3SL, 1 ResFellow	6F,1M
Education	1PL, 1SL	1F, 1M
London Sports Institute	1PL,1SL	2M

Totals of the 12 selected, plus 3 individual beneficiary volunteers (n=15):

Grade – 1Profs, 5PL, 6SL, 2L, 1RF

Sex – 11 Females and 4 Males

Previous recipients of R&IS funds- 7 grantees, 5 non-grantees and 3 individual beneficiaries

Appendix 41: Cycle 3 Interviews participant classification

Person	Academic Position	Age Group	Ethnic origin	Length of academic service	Sex
Nodes\\cases\\RB interview 140212_001	Principal Lecturer	50+	Mixed other	16+ years	Female
Nodes\\cases\\RB Interview 140217_001	Senior Research Fellow	50+	White British	16+ years	Female
Nodes\\cases\\RB Interview 140220_001	Professor	50+	White other	16+ years	Female
Nodes\\cases\\RB Interview 140224_001	Senior Lecturer	</=30	White British	6-10 years	Male
Nodes\\cases\\RB Interview 140226_001	Principal Lecturer	50+	White British	11-15 years	Male
Nodes\\cases\\RB Interview 140227_001	Principal Lecturer	40-49	White British	11-15 years	Female
Nodes\\cases\\RB interview 140303_001	Lecturer	40-49	White British	1-5 years	Female
Nodes\\cases\\RB Interview 140304_001	Senior Lecturer	50+	White other	6-10 years	Male
Nodes\\cases\\RB Interview 140310_001	Senior Lecturer	40-49	White other	6-10 years	Female
Nodes\\cases\\RB Interview 140311_001	Principal Lecturer	31-39	White British	1-5 years	Male
Nodes\\cases\\RB Interview 140317_001	Senior Lecturer	50+	White British	16+ years	Female
Nodes\\cases\\RB interview 140318_001	Principal Lecturer	50+	White British	11-15 years	Female
Nodes\\cases\\RB Interview 140403_001	Senior Lecturer	50+	White British	1-5 years	Female
Nodes\\cases\\RB Interview 140408_001	Lecturer	31-39	White other	6-10 years	Female
Nodes\\cases\\RB Interview 140423_001	Senior Lecturer	40-49	White British	1-5 years	Female

Appendix 42: Cycle 3, Semi-structured interview Guide

Interviews of academics – those who have bid for funds and those who have not?

(Short profile form as previously used: age, sex, position, length of service, discipline)

Ask participants to provide their understanding of KT. Clarify and agree an understanding (to be used across all interviews)

1. Have you been made aware of the opportunity to bid internally (within the School/Department) for KT/research support funding? If so: (if not go to Q2)

   - P- How did you find out about that opportunity?

   - P- Do you know how the process worked?

   - P – If you did bid, what was your role in bidding for KT/research funding?

   - P - What were your views on the process used to approve bids/awards

   - P - Has the experience stimulated you to apply in future? If yes, please elaborate…

2. Apart from my sending it to you before this interview, had you at some point over the last year been made aware of the School's Rewards and Incentives Scheme?

   1. P - If so, from what source(s)?

   2. P- If so, what are your views on that Scheme?

3. In terms of the R&I Scheme, has this motivated you to engage more in KT activities? (If No, go to Q4)

   - P- What aspects of the Scheme are most attractive in motivating you to be engaged in KT? (Prompt on intrinsic and extrinsic motivation).

   - P - What could be changed in the scheme that might make you motivated (more) to engage in KT?

   - P - Are you aware of other ways in which funding originating from the scheme have been used within the Department? Would these examples motivate you to engage in the future?

4. KT and research allowances are currently returned back to Depts, as a result of previous performance levels through the R&I Scheme. Given this knowledge, would this motivate you to engage more in KT? If so, how?

- P- What are your views on performance-related returns/rewards?

5. How might the R&I Scheme be more embedded into the work of the School and what would be needed to ensure this worked?

6. What would you say motivates you most about your academic work? (prompt on intrinsic and extrinsic aspects).

- Given this response, how does the R&I Scheme fit into your values and beliefs?

7. Are you aware of other ways where the university rewards its staff with respect to academic endeavours? If so, what might these be?

8. What alternative schemes or incentives would motivate you to be more engaged in KT?

Appendix 43: Cycle 3, Interview field notes

Interview Field Notes

All interviews were undertaken with individuals in my own personal office in the Town Hall. This allowed a private space, with notices on the door to prevent interruption.

After initial period of ensuring the participant was comfortable and aware of confidentiality issues, the approach to the interview was outlined and the key objectives of the research emphasised. Participants were asked to sign a consent form and also to undertake a short tick-box assessment of some key personal characteristics.

Interview 1 – 7/2/14 (note for reasons noted in the main document, this interview was not utilized and served as an unintended 'pilot' for Cycle 3 interviews)

Although I had been introduced to the participant when she joined the University, I had not actually had an opportunity to meet for a face-to-face chat, so in this instance I knew very little about this particular participant. The interview had also been brought forward because the participant was due to undertake a period of working abroad.

After initial introductions the interview proceeded according to the interview guide and semi structured approach. The participant seemed at ease and comfortable to answer the questions and to enter into discussion on any particular points.

During the interview, and on reflection afterwards, I began to realise that the question guide was not allowing the respondents to address the research question fully. The focus was far too much on motivation around knowledge transfer than about the scheme itself (although that was covered additionally).

Therefore, after further consideration, I determined to treat this first interview as a pilot and to learn from it in terms of adjusting the question guide. In some ways this was a shame as the participant was chosen through the sampling process because she had experience of being successful in her bid for further funding and was rare within that particular department. This means that I will need to find a substitute as the interview guide questions will be slightly different.

Interview 2 – 12/2/14

The interview proceeded well, with the participant offering free and frank opinions in response to the questions. There was a need to spend some time outlining the different areas of KT as the participant's understanding was very much focused around CPD. Indeed this seems to reflect in the answers provided to the interview which remained largely relevant to CPD activities. Participant seemed relaxed and forthcoming with answers and the interview lasted 30 minutes.

Generally the interview environment seems to be working slight issues with some noise in the corridor outside the office but that didn't seem to be off-putting.

One small item was to remember to turn off my emails as occasionally there would be a small 'ping' as a message arrived.

Interview 3 – 17/02/14

The interview proceeded well, with a good dialogue being set at between the interviewer and the participant. The participant appeared relaxed and willing to give full answers to the questions. There were no interruptions and the interview lasted 35 minutes.

Perhaps of particular note, and unexpected, was when the discussion started to veer towards work programming and work/life balance issues. I became aware that the participant was becoming quite emotional. She had tears in her eyes and was clearly showing signs of anxiety. I therefore chose to not prompt any further on that issue at that time. Whilst moving onto the issues seem to allow the participant to be able to show signs of calmness returning, I did feel it appropriate to ensure that she was at ease before leaving the interview. She was clearly happy to discuss this and explain why she becomes anxious. What emerged was a highly confidential and private matter within her social life which had caused great difficulties in maintaining a work/life balance over the last year and those feelings were still quite raw. After our discussion I'm sure that the participant left the room in a more positive state. But it highlights how to want one situation if somebody is 'opening' themselves then even when not predict it emotional issues can emerge. This is an interesting issue for the researcher to be aware of and that there is some form of social contract between the participant and the interviewer which has to be respected.

Interview 4 – 20/2/14

This interview was with a participant at very senior level who I have known for many years. We have a good relationship although I do not have regular contact with the participant. In the interview proceeded well, with very little external intrusion or noise apart from a catering trolley which rumbled past the door very loudly at one point!

The key issue with this interview was that the participant actually was very verbose and it was extremely difficult to keep her focused and to respond only to the questions asked. This highlights a challenging area because there was significant amount of information that was emerging through this free discussion and I felt that it was then unnecessary to forcibly go back to the question guide and to disturb the free flow of discussion. However I did almost like chairing a committee have to draw attention back to the key questions to ensure that they were fully covered. However I think in the analysis of this interview it will be more important to look for the content within the discussion rather than slavishly follow the responses to individual questions.

Participant focused very clearly on the intrinsic motivation to undertake KT and that R&I would not change their own personal position.

Interview 5 – 24/2/14

Participant very relaxed and at ease – confident and willing to contribute opinions. Interview went well with no notable issues with flow, noise etc.

What was interesting here was that comments were made about communications and support within the particular Dept. There was concern that the R&I Scheme had not been disseminated or links to research been fully explored – this is despite this Dept having an R&I paid-for member of staff supposedly leading on KT issues!

Interview 6 – 26/02/14

Again, smooth running interview with senior member of staff with clear indications of a relaxed and genuine approach. Of particular note was the strength of 'intrinsic' motivation displayed to be engaged in KT even though not supported by any current R&I funding. In this respect, any R or I was not seen to motivate.

Interview 7 – 27/2/14

Interview ran well – participant relaxed and willing respondent. Slightly faltering start but only marginally.

Participant was fully aware of KT having been a previous lead for Business and Community Interaction. In fact, she gave perhaps the best summary of what KT is at the head of the interview!

Interestingly, this polarization of intrinsic and extrinsic motivation emerged again – on one hand wanting a 'recognition' to the dept and academic area for KT success, but also being highly motivated to undertake KT as part of normal academic duties.

Interview 8 - 3/03/14

Very difficult interview with participant reluctant to provide information and restricted answers. Completely different feeling from others and the situation did not improve despite many attempts to 'lighten' the situation.

Interview 9 – 4/03/14

Interesting interview with a participant I have not met before. Had a significant 'discipline' focused approach to KT and academia. I found I learned a great deal about his area of interest. Participant noted that being PT brought within some challenges but he felt that he was able to manage time so as to enable KT work which he felt was important –but that itself influenced how effective the R7I Scheme was given that he had the opportunity to engage in paid-for consultancy work as his 'free' 0.2

Interview 10 – 10/03/14

Enjoyable interview with participant who was very positive about the scheme and constantly referred to how it engaged her as it allowed her to build on her 'passion' for her work. Quite discipline focused but felt the scheme allowed her to collaborate within and outside of the dept which she felt was motivating. Other key areas seemed to be how the scheme provided opportunities to learn project management skills. An area she felt could lead to greater engagement with the Scheme was to provide some form of internal 'mentorship'.

Interview was longer than others and participant kept going 'off-piste'

Interview 11 – 11/03/14

Participant familiar with KT and had experience in bringing in income through practice elements within his discipline. Felt that principle of R7I S was positive but was largely unaware of how the process had been run in his dept, in particular decision making. He did not feel that the equity and parity aspects of the Scheme had been followed.

This raises the issue of whether the flexibility of how the Scheme was introduced within depts. (as demanded by HoDs) was also causing some issues of inequity of opportunity

Interview 12 – 17/03/14

Participant works within a specialist area of the School where KT is a dominate activity alongside other academic activities. Thus, motivation to undertake KT is driven by success factors related to her managerial role. This is distinctive from many other academic colleagues as it is her primary concern.

Whilst she appreciated the additional income derived from the R&I Scheme, her main motivation was affected to a less extent as she was more motivate in her desire to succeed in the main KT aspect of her role.

This demonstrates an obvious issue that not all academics have the same aims and objectives set as part of their role which will have a direct influence of motivation as a result of the R&I Scheme.

Interview 13 – 18/03/14

Interesting interview – very friendly and warm, but not particularly constructive. Participant focused more on the fact that she was not able to 'sell' herself so her potential involvement in KT was limited. I had the feeling that she was feeling she had to prove her ability to develop a research profile where none existed and kept steering away from the topic to how she can be useful for others to 'bounce' ideas off her.

Interview 14 – 31/03/14

Long-rambling interview – participant is part-time and manages her activities between being an academic and a consultant Soc Worker. This means that she has little time for research/KT – but she was involved in a major CPD/training contract and had taken a lead for a related project.

It did raise the interesting dilemma for PT staff as to whether they are motivated to undertake KT when this may actually be an opportunity for their non-MU 'hours'. I.e. by supporting MU KT, they could be reducing their own income!

Interview also came up with some very interesting ways of using new technology to promote exemplar KT activities.

Interview 15 – 8/04/14

Participant is a relatively new member of staff at lecturer grade but with significant ambitions. Interview proceeded in a very friendly manner with the participant apparently giving views freely and easily.

This participant had taken advantage of the opportunities for receiving funding over the last two years so has been relatively successful. As the interview progressed it was clear that her view was that the R&I S should primarily be aimed at ECRs given that the levels of money is available are relatively limited-relative to the larger research funds commonly available. It was her view that she has now perhaps progressed slightly beyond that early development phase and is now looking for such larger funding mechanisms. This would not deter her from applying for funds in the future but it was an interesting discussion around whether the priority of the scheme should be focused around ECR.

Interview 16 – 23/04/14 (note a replacement interview for interview 1)

The participant was a relatively new member of staff but had already completed KT activity for which an individual payment had been made.

The interview was instructive and information, with the participant clearly enjoying an opportunity to discuss views on the subject. In particular, they stressed their view that there was insufficient mentorship/supervision within her dept of staff to achieve KT objectives. Her experience would suggest this was essential.

Appendix 44: Cycle 3 Transcription specification

Contractor - XXXX

Enhancing Academic Engagement in KT – Specification for Transcription Services

Description of Services

- To provide a detailed and standardised, word by word full transcription service for interview audio recordings – to include appropriate recognition of pauses, changes in voice emphasis, interconnecting sounds (e.g. um, ah, etc).
- Transcription to be provided electronically in a suitable format to be automatically downloaded into NVivo software (e.g. as an electronic word document).
- It is anticipated that there will be between 16 and 18 interviews in total.
- Each recording will be approximately 30 mins in length although there may be some variation depending on the participant's responses.
- It is anticipated that each recorded interview will take approximately 2 hours to transcribe, and no more than 3 hours, although that will be kept under review between the contractor and the project leader on an ongoing basis.
- A fee of x pounds per hour of transcription will be provided
- The interviews will take place during February, March and April 2014. It would be expected that transcription would be continuous through this period such that the project leader could review and assess satisfaction with the transcription services provided.
- Following dispatch to the transcriber, each interview should be transcribed within 10 working days of receipt. It is envisaged that all interviews will be completed by the 30th of April suggesting the 14th of May as the final date for return of all transcriptions (to be reviewed).
- The contractor transcriber will, at the completion of the work and following confirmation of satisfaction from the project leader, which will not be unreasonably withheld, submit a full invoice for the services rendered.
- Should the project leader not be satisfied with the quality of transcription, the contract may be cancelled with immediate effect. In such unlikely circumstances, the consultant will be advised as soon as reasonably possible and all outstanding fees paid in full for services provided to that point upon receipt of invoice.

Signed (Contractor):

Date:

Signed project leader:

Date:

Appendix 45: Cycle 3, ARG sample selection and attendance

ARG sample selection

Given the restrictions on the number of participants to enable a successful group activity (using NGT) there needed to be a sample taken of the volunteers for the ARG. In addition, whilst the views of all staff would be informative, as noted previously this cycle could only include those academics who had been in post prior to May 2013 as they would have been party to the main communications regarding the R&IS. As has been described in the main body of the submission, it is common to use a purposive sampling strategy in such circumstances. A stratified sample would not be possible given that there was a limited pool of volunteers with defining categories that one might wish to include in such a process, despite a large number wishing to be involved. However, an attempt was made to try and maintain a representative sample of Departments and academic positions for both interviews and the ARG. The final selection was determined as below:

Table 1: Selection for ARG by Department, Grade and Sex

Department	Grade	Sex
Adult Child and Midwifery	1PL, 1SL and 1L	3 F
Psychology	2 Readers, 1RA	1M and 2F
Mental Health, Social Work and Interprofessional Health	1 Reader, 1 Head of Centre, 1SL	3F
Education	2Pl, 2SL and 1L	4F and 1M
London Sport Institute	1SL 1 GTA	2M

Key – PL-Principal Lecturer, SL-Senior Lecturer, L-Lecturer, RA-Research Assistant, GTA-Graduate Teaching Assistant

Totals of the 16 selected:

Grade- 3PL, 5SL, 2L, 3 Readers, 1 Head of Centre, 1 RA, 1 GTA

Sex - 12 Female and 4 male

Grantee of funds- 7 had been granted allowance 9 had not

(Note – that in the final selection, only 1 participant had been interviewed as part of Cycle 2).

ARG actual participants

Table 2: Actual participants of the ARG by Department, Grade and Sex

Department	Grade	Sex
Adult Child and Midwifery	1PL, 1SL and 1L	3 F
Psychology	1 Reader, 1RA	1M and 1F
Mental Health, Social Work and Interprofessional Health	1 Reader, 1 Head of Centre, 1SL	3F
Education	2Pl, 2SL and 1L	4F and 1M
London Sport Institute	1 GTA	1M

Key – PL-Principal Lecturer, SL-Senior Lecturer, L-Lecturer, RA-Research Assistant, GTA-Graduate Teaching Assistant

Totals of the 14 attending:

Grade- 3PL, 4SL, 2L, 2 Readers, 1 Head of Centre, 1 RA, 1 GTA.

Sex - 11 Female and 3 male

Previous recipients of R&IS funds- 7 had been granted allowance 7 had not

(Note – that the only participant who had been interviewed as part of Cycle 2 was one of the non-attendees).

The level of final attendance remained encouraging with a good cross-section of academic colleagues by discipline and academic position although biased to mainly females.

All participants were asked to complete a tick-box form that showed sex, age, position, length of academic employment and ethnic origin. Unfortunately, only 12 of the 14 attending completed this form, and one person left 'age and ethnic origin' blank. As can be seen above sex and academic position had already been determined as part of the sampling arrangements. In terms of the other attributes the following table provides an overview:

Length of Service (by % completing)	<1yr	1-5 yrs	6-10 yrs	11-15 yrs	16+ yrs
	8.3	25	25	25	16.7

Age (by % completing)	<30	31-39	40-49	50+	Incomplete
	8.3	8.3	25	50	8 .3

Ethnic Origin (by % completing)	White British	Mixed other	White other	Incomplete
	75	8.3	8.3	8.3

This would suggest a predominantly white, British, female group, relatively experienced (with the modal distribution of length of service over 10 years), at least 75% being over the age of 40.

Apart from ethnicity, this is not a surprising reflection of the School academics, many of whom will have been engaged in practice before entering an academic career due to the nature of the educational provision within the School.

Appendix 46: Cycle 3 ARG study information sheet and consent form

Study Information Sheet

The School Rewards and Incentives Scheme - Impact on the motivation of academic staff to be engaged with Knowledge Transfer (KT).

Outline of the research

Thank you for agreeing to be part of an Action Research Group forming the next phase of my research. I hope this information sheet will provide you with sufficient background information about the intended purpose and process.

I have been undertaking research into how to enhance the engagement of academics in KT. The initial phases of this Action Research resulted in a new School Rewards and Incentives Scheme which I hope you have had a chance to read previously. If not, it is attached for your information. This led to a range of financial allowances being made to Departments for investment in KT/Research and clarity as to how individual staff may be paid for KT work above and beyond their normal contracted hours.

The next phase of my research is to better understand how this Rewards and Incentives Scheme may have impacted upon the motivation of academics to engage more in KT. I am planning to do so through an Action Research Group and through individual interviews with a sample of colleagues.

Action Research Group

I wish to establish an Action Research Group to explore this issue (motivation and embedding of the Rewards and Incentives Scheme) in a group context using the Nominal Group Technique.

(If you require further information on NGT see Delbecq, A. and Van de Ven, A., "A Group-processing Model for Problem-identification and Programme-planning", *Journal of Applied Behavioral Science,* No. 7, 1971, pp. 466-91.)

The group, of around 12-15 colleagues, will be facilitated by Nicky Torrance (Director of Learning and Teaching at MU). It will meet three times in the next 9 months and it is expected that clear 'actions' will emerge that will assist the School in developing its KT interests. I will be present as an assistant to Nicky and as an observer. The meetings will last no more than 2 hours, the first being on the 12th of February 2014. Whilst I will be digitally sound-recording the sessions, the critical output will be the agreed actions that will be noted at the meeting (most probably on a flip-chart). The sound recordings of the meetings will be for my own personal use and subsequent analysis. Any quotes used will be anonymised in any future reports/papers. Any attendance records will also be anonymised simply into the profile of

academics involved. All recordings and notes of the meetings will be held in my office under lock and key and will be destroyed following analysis and assessment.

Safeguards/Confidentiality/Ethics

This research has been considered and approved by the relevant Ethics Committee within the University.

As noted above, any written reports resulting from the research will be anonymised such that individuals will not be identifiable (in accordance with data protection legislation). Views expressed at interview or in the Action Research Group will be treated with strict confidentiality.

If you have any queries, I would be happy to discuss these with you in advance of the ARG.

I hope you will enjoy these sessions and the opportunity to directly influence School policy.

In advance of the ARG, I would be grateful if you could please indicate your consent by signing a copy of the consent section below (either send this to me in advance or provide at the ARG).

Kind regards

Richard Beaumont

ARG Consent Form

- I, the undersigned, have read and understood the study information sheet provided.
- I have been given the opportunity to ask questions about the research study.
- I understand that taking part in this research will involve being part of an interview or group work which will be recorded.
- I have been given an opportunity to consider whether to agree to take part on this research.
- I understand that the research results will be anonymised and that my name and position in the organisation will not be revealed.
- I agree by signing this document that quotes from my interview may be used on the assumption that personal details will not be revealed such that I could be identified.
- I agree to assign any copyright I may have to the interview materials to Richard Beaumont.
- I understand that I may withdraw from the survey at any time and will not be pursued for further comment as a result of such a decision.

Name of participant……………………………………………………………………………..

Signature…………………………………………………………………………………………..

Dated………………………… Signature of researcher……………………………………………………………………

Appendix 47: Cycle 3 Interview nodes (main and daughter)

Nodes (themes)	Sources	References
Alternative suggestions for engaging academics in KT	**15**	**29**
Awareness of bidding opportunity	15	83
• general awareness	14	17
• how made aware	15	26
• involved in bid	13	13
• process	14	27
Awareness of KT	**9**	**13**
Awareness of R&I Schemes	**15**	**23**
• awareness of other uni reward approaches	5	6
• awareness of School R&IS	14	17
Embedding the R&IS more effectively	**15**	**46**
• clearer and fairer awards	6	8
• coaching and mentoring	3	5
• contracts of employment and similar	2	3
• guidelines and support at department level	7	12
• raising Awareness	10	13
• timeline for bidding and time for KT work	3	9
Key motivation for academic work	**15**	**41**
Motivational Aspects of R&I Scheme	**14**	**73**
• components and changes in scheme to motivate more	9	20
• enhanced benefits of R&IS	6	10
• increase in motivation through examples in other areas	8	8
• individual rewards and incentives	10	19
• to apply in future	12	16
• negative responses	2	2
• positive responses	11	12
Other rewards and incentives schemes	**9**	**12**
Performance related rewards and incentives	**10**	**19**
Summary of quotes	**12**	**182**
Time as a factor	**7**	**18**

Appendix 48: Cycle3 Node Summary

(Please see accompanying CD)

Appendix 49: Cycle 3 Coding summary by source

(Please see accompanying disc)

Appendix 50: Cycle 3. Map graph showing sources linked to node 'Alternative Suggestions'
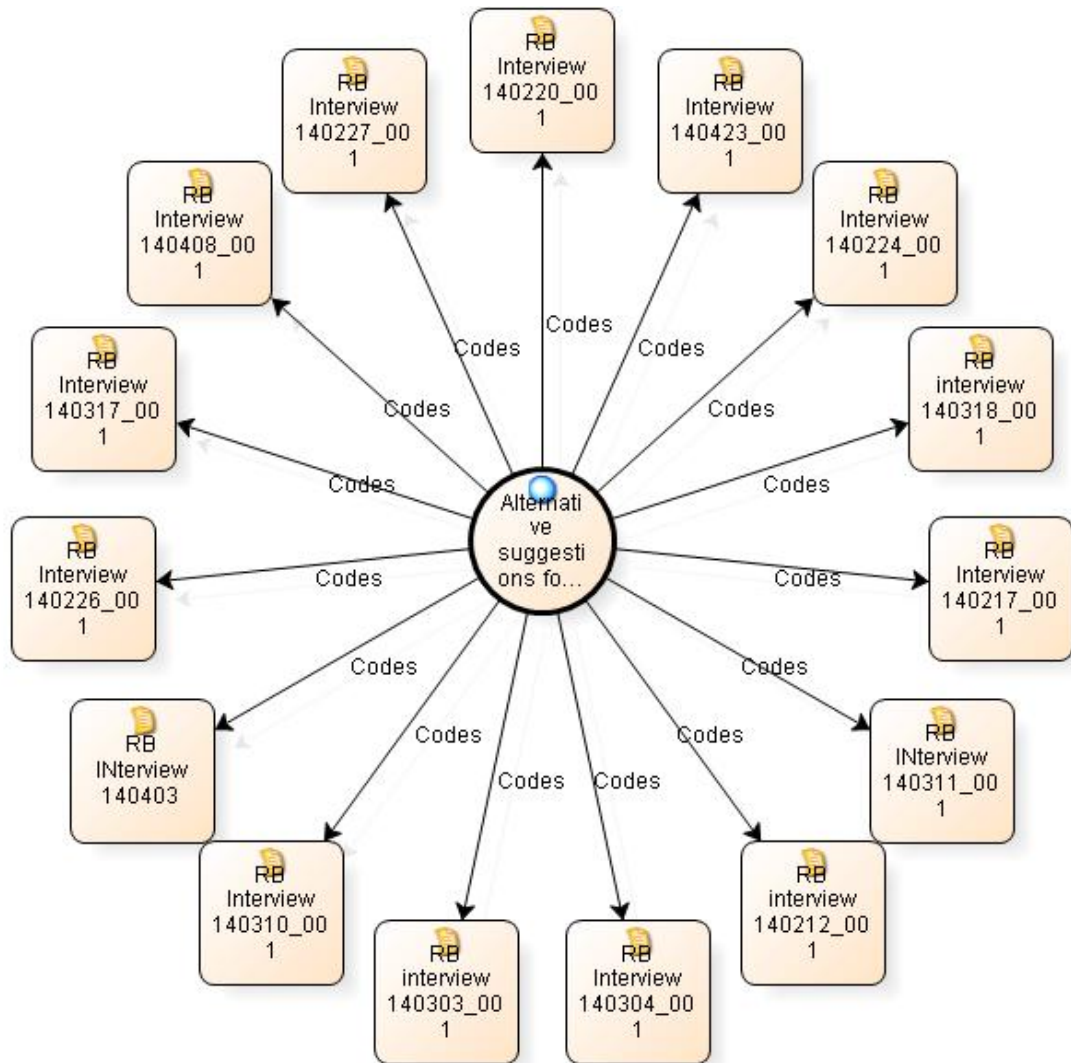
Appendix 51: Cycle 3 Word frequency assessment

001 able academic academics actually anything apply area around ask aware better bid clear colleagues department departments different end even feel find first funding funds getting give given good idea important incentive

interested interesting job just kind know knowledge kt last make maybe mean might money motivated much need new now one opportunity part people performance perhaps probably process projects put quite really related research reward rewards right role scheme school see sense small somebody something sort staff start support suppose sure teaching team terms

thing think thought time university want way

well whether within work working yeah year yes

Appendix 52: Cycle 3. Text search - time - results

Left side branches:

one way yeah I : (pause
you said earlier I : (interrupting
→)

people take on have
Programmes because there is
that because there was
→ a

known for quite
seen her for
→ a long

and why ? Because nobody has

stuff
yeah
→ but

just come
→ at the same

academia (laughs) you know
must admit I've bidded
to find stuff out
→ every

is because people are
they are not working
→ full

have to be financial or
I : um also for short
I maybe haven't pursued because
I think to give them
is just not err enough
issue that we have is
know not in a month's
like it's more but there's

I had a bit
I'm used to having
up it allows me
→ more

much dead - not much running

as well um do
you think great I
→ need

then either go bigger
time or do more
→ next

something over the course
um so the amount
was again a case
→ of

do them in their
a lot on → my
do it in
→ own

coherent R : but being
I really enjoyed working
more hours in your
part time here and
then released to provide
→ part

R : Mm I : and taking
R : Mm I : there wasn't
replace that financial aspect with

as an idea from
to basically to buy
→ some

someone do it and in
I think the
the biggest thing
→ space and

I : um R : so
um to give me
→ that

that financial award for your
that that person is given

allowance R : Mmhmm but
be that it's not
because they don't have
impossible and and by
is seeing through if
more a case of
of these things in
R : ok I : or
reminding people of when
they really haven't got
up with reminders nearer
→ the

No . Is that
of these because
→ the first

comes out the -
R : Right I :
→ the only

the same answer as last
and did you bid
thinking about this at → this
to do it by

time (slight pause) giving people
time allowance is a notional
to have the reward as
to them it might be
training course I didn't have

Center: **time**

Right side branches:

(clears throat) opens up for
slight pause) giving people **time**
→ (

ago is Debbie actually saying
allocated is a is a
allocation R : No I : attached

is a notional **time**
→ allowance
R : Mm umm I
Mmhmm but the

an energy had to go

all of that then
I people have said
in their weekends and
not being su - rather
space is really is
they are swimming and
you're like whoa hang
→ and

particular point in
reward R : Mm
→ as a

at the moment for me
because R : Right I : because

not tomorrow but maybe
um it was something
→ but

contract I : exactly R : Right
do need finances so it's
element is is a critical
expanded even a year is

so replace that financial
we would have got
→ factor

Marianna Bailey to do
people to start to
→ for

having been the BCI business
here and part **time** in
hours to release them from

do it outside of
don't know if you
gone through the long
think I understand is
would um I would
→ I

in practice because I felt
is that you know about
it doesn't yeah R : yeah

had I I err
you know I've got
→ it's

money haven't been resources haven't
or do more next **time**

like a kind of

I mean
then um
→ Mm I :

I : so the
so if if
→ Mmhmm

(slight pause) in
no that's good
→ Ok
→ R :

so you
Umm I
→ I :
ok I : because
→ Right

round ? I : No R : you
so people were given a

becomes a bit of
we have R : ok
would be a massive
→ that

that'd be the biggest thing
that's the thought in my
there was a (laughs) there
they don't have work at

actually work out and
continue to develop their
develop then I think

and you don't
it or the
that R : Mm
things R : Right
→ do

→ to

into KT R :
something together the
→ put

then get into that
we were just told fill
which it becomes difficult is
you know you go for

be thinking bloody hell
seen it when I
→ you'd

Appendix 53: Cycle 3 Text search - recognition - results preview

recognition

a good point there in
actually people are motivated by
and by the same participant "
at your appraisal it's like
doesn't get necessarily the same
err so it gave you
financial reward you could get
financially or whatever rewards or
I :
'recognised' , "   if it was just
in a monetary reward but
be in any organisation)
I'm conscious that there   is
KT ? I : I think its
mean what would attract I :
not in terms of public
it is a symbol
um what other forms   of
of public recognition but personal
on a few times that
I think
to receive   positive praise and
R : Mm I : but academic
R : Mm I : that that's
able to be um
by that " (140212 . 001) "   some
way of giving people
I : Mm R :
motivated by recognition   and   the
I can understand the
things like Ofsted " (140212 . 001)
this this is great it's

. " we work hard to make
I think it's some -
and   the recognition doesn't have
at the end of the
but personal recognition to go
by senior colleagues of their
doesn't have to be financial
even R : Mm I : if
myself not in terms
for   these particular parts particularly
from um the Deputy Dean
goes a long way um
in the team the team
it it doesn't have to
that R : Right I :
of   the extra miles that
what you are saying
perhaps R : Right I : um
and I
R : Mm I :   um I'd
Similarly to the results of
support um mentoring I mean
you're doing a good
that   you've done and you've
there um for example would
to go OK I am
um I : Mm yeah it's
would you would you think
yes you've done this this

Appendix 54: Cycle 3 Academic position sources clustered by word similarity

Sources Clustered by Word similarity

Appendix 55: Cycle 3 Memos created (summary)

Name
Free form suggestions for engagement in KT
Awareness of KT
General awareness of opportunity to bid for R.KT Funds
Awareness of R&I Scheme
Awareness of wider univ reward schemes
Embedding the Scheme more effectively
Key motivation for academic work
Motivational aspects of the R&I Scheme
Other Rewards and Incentives Schemes
Performance related returns
Time emerges as key issue

Appendix 56: Example of memo creation

Embedding the R&I S more effectively

As part of the interviews respondents were asked directly how they thought the rewards and incentives scheme could be more effectively embedded within the school's operations.

This led to a variety of proposals for consideration as actions deriving from the research;

Raising awareness

As has been seen in other parts of the research the issue of awareness of the R&I S arose in a variety of forms:

The basic need to ensure everybody is informed and understands the objectives of the scheme, as illustrated by the following respondent extracts:

> *"it's letting people know it's there and new members of staff need to know that that is something that is part of the set up" (140217.001)*

> *"make it a bit more visible?... because I'm not really that aware of it"*

and

> *"Heads of departments flagging up things that are ... coming up that people might be interested in" (140303.001).*

> *"make staff aware of it because um and maybe whether that's the case of you know discussing it at a particular meeting or something like that"*

and

> *"there's an awful lot of work was done about three or four years ago in engaging enhancing advising um and it sort of then stopped" (140408.001)*

I think this last point deserves a little focus. Here the respondent is recognising that information about the scheme has been circulated previously but that unless this opportunity is reinforced continuously it will not be uppermost in people's minds. This fits quite well also with one of the comments above about the need to ensure new staff are aware of the scheme.

In some cases it's not really about an issue of awareness but that people are aware but don't understand or comprehend how the scheme can be implemented and there is a need for case studies and examples to be more widely available. The following extracts from respondents illustrate this:

> *"if you can describe a case study of somebody who has had a fairly well had a bid it doesn't need to be a huge amount of money they've done something that looks like it's manageable to other academics and it's had a good return and so because of that they've had a reward...I think yes I think that would be I think that's something that staff need to see that that's how it works". (140212.001)*

> *"I do think some examples of how it has worked and how it can work but also what the benefit is to the individual." (140227.001)*

That to some extent the scheme will embed itself over time as word-of-mouth spreads of the types of projects that are being funded:

> *"I don't know if it's something you can achieve in a single um effort a single sort of intervention or whether it's just actually something over the course of time" (140227.001)*

That is important to get the language right. This is particularly the case for non-business academic areas. There perhaps is a tendency amongst KT professionals to utilise language which is alien to many of their academic colleagues. This is amply illustrated by the following quote:

> *"I think it needs to be set out in a way which embraces err the the fact that other people will have a different perspective if you've got people in the business department their views are going to be completely different " (140304.001)*

Earlier bidding process

There were some comments about the operational aspects of the scheme as deployed within both the school and Department's. The predominant amongst these was the need to ensure the scheme was disseminated and decisions made on funding at a far earlier stage.

> *"I mean my only issues really are that there are delays... and with all good intentions I mean we were hoping that everything would go out and be people would be the projects would be in place by the end of November so that the monies would be spent....*

> *so the amount of time allocated is a is a prescription for failure and we have to find*
> *ways that the money can be rolled over... or the time expanded even a year is really*
> *you know ideally we should have a year of activity" (140220.001)*

This had been recognised previously and indeed the scheme's intention is to make the awards is close to July as possible to allow the maximum part of the academic year to be used. However, unfortunately as has been noted elsewhere in this project, the universities financial modelling rarely allows certainty of school budgets by July.

An issue that has been debated more recently as part of this research is whether R&I S funding should be available over a two-year period rather than a single year. This will be an action carried forward.

Coaching and mentoring

Over the course of the research I have been increasingly aware of the need to establish a more effective mentoring process within departments to ensure that the key intentions of the R&I S are implemented and that there is immediate guidance available academics. As a University coach I also feel there is a role more generally for supporting academics within a coaching environment. This is definitely a personal action I would like to take forward as a senior manager within the school.

The interest in mentorship is shown by the following respondent extracts:

> *"having people more um engaged also in research and be coached and mentored"*
> *(140220.001)*

> *"that's why I think it's really important to have some kind of champion in the*
> *department" (140226)*

> *"I think this idea of having a mentor which I don't know how much that is an integral*
> *part of this" (140403.001)*

Time to develop KT

This had been recognised previously and indeed the scheme's intention is to make the awards is close to July as possible:

"having the systems that a teacher can be freed easily" (140220.001)

"sometimes if teaching load is high or you've got other things coming in and you can't respond in a hurry" (140227.001)

Elsewhere in this research the issue of Time is a key factor has been separately identified and discussed. The key actions flowing from this will be to re-examine how effective academic time is being utilised, whether sufficient allocations are being made to support KT, and how work programme hours managed.

More accessible and supportive guidelines at Departmental level

What has become clear through this research is the diversity of approach in the implementation of the scheme between departments. Whilst some flexibility is welcomed and needed, there remain issues around accessibility, understandability and transparency of the way the scheme is being introduced within departments.

"I think having some specific fundamental um guidelines um that is consistent across the school across departments um have them whether available or easily accessible" (140224.001)

"very practical who does a one sheet some Frequently Asked Questions or just examples of the kind of the things that you know err could attract just to give people some really concrete ideas " and "so you can give people real examples and clarity and just**...** just make it more sexy ...and more user friendly" (140226.001)*

"I thought the form was a good idea but me personally I like things with a bit of structure I like to have a bit of an idea about what people are actually looking for on the form whereas I think it was the explanation given was that it was left a bit open" and "transparency maybe I think maybe there's a little bit of mystique of where's it go who has the final say what's the decision" (140311.001)

"do you think at the moment it's really clear how it works?" (140403.001)

The data emerging from the research would suggest that a key action is to ensure that there is more consistency in approach between the departments with clearly devised guidance and decision-making processes.

Clearer and fairer rewards

The researchers noted elsewhere how some academics do seek recognition through direct reward and this was reflected in these interviews.

This was illustrated by the following quote which demonstrates quite clearly that the individual is seeking some direct 'return' from their involvement.

> *"financial aspects as well um do need time do need finances so it's the the need for them that does motivate me going forward..*
>
> *R : Right ok so those so the extrinsic factors like the money promotion status?*
>
> *I: I need it (140224.001)*

In some ways more interesting and perhaps controversial is the following respondent who is clearly questioning the concept of providing the rewards at departmental level for distribution in some sort of bidding process. This respondent is quite clearly of the opinion that those who have generated the reward should benefit directly.

In all honesty this has been fudged within the current R&I S which does note the need to recognise errors responsible for income generation but gives no direction on that. This is very challenging area because others view that the money should be used for the greater good. However, there is some divergence here with, for example, how REF returns might be allocated in due course.

> *"basically we've earned a certain amount of money then that money ought to come back and really other people who haven't earned it shouldn't be allowed to bid for it" (140317.001)*

Contracts of employment and appraisal

There was some discussion in the research, predominantly around the issue of work programme time available for utilising the R&I S, as to whether more formal contract management approaches may assist in embedding the scheme more effectively.

> *"we always look at the appraisals form last year and we kind of look at the objectives set against the role and the department objectives and the university objectives it could be embedded there maybe even in the job description" and it could be part of managerial supervision" (140310.001)*

The obvious example of this would be through the annual appraisal process where it is possible to claim hours for KT in terms of future work planning and objectives. This is rarely used apart from in very obvious cases where an academic has a significant amount of KT work. It is difficult area to judge because one might be predicting the nature of KT activity which may develop during a year. Given the nature of KT this is almost impossible to predict in many areas. This has led to a lack of forward planning and perhaps one action is to work with HoDs to try and better predict opportunities for KT activity and the use of the R&I S to support these.

One participant believed that the R&I scheme should be more "personalised", and this was closely linked to a key issue of 'recognition' by senior staff.

> *"I think it needs to be personalised... you can I mean everybody here is a teacher on health and social care you know emails are the enemy you know basically the emails are associated with practically bills lying on your carpet they are not ooh great I hope it' a car it's never like that um if you want people to do something you need to connect them you need to say hello you need to find a bit out about them you need to find out what their deficits are in a supportive way and plug them in and they will work "* (140423.001)

Appendix 57: Detailed review of Cycle 3 interview categories and codings

Note that in respect of quotations used, it is sometimes necessary to identify the interviewer (using **I**) and the participant (using **P**). In the text below, 's' refers to number of sources, 'r' refers to the number of references made from the main nodes of the interviews).

Awareness of KT (main node 9s,13r)

The interviews showed a remarkable variance in levels of understanding of KT. These ranged from a lack of any real understanding through to a comprehensive overview. Examples of comments that illustrate this divergent view are reproduced below:

Limited knowledge of KT:

> "Um I'd probably categorise it under CPD... I'm not sure what's happening in the other areas of education I think it's um it's really at early stages." (140212.001)

> "No I don't think I've got a detailed um underst- knowledge... quite a nebulous term I wish I'd always known whether something was KT or not." (140217.001)

> "From my perspective I don't think there is that clarity I think um it's and I think anything where that could be made clearer and definite that this is the pathway this is the process this is what could happen this is what you could get out of it if you like because people want to know that." (140311.001)

Clearer overview of KT

> "KT is really the application of the research knowledge that one err you know develops and discovers and um is it can be all sorts of in it can be transfer knowledge can be transferred in all sorts of different ways err but there is acknowledgement of I think the utility of the knowledge um transferring something that might be useful to um society to individuals err may impact on people's lives and stuff like that." (140220.001)

> "knowledge that is held within the academy err and that can be all kinds of knowledges I don't think it's just a specific form I don't think it's just theoretical knowledges I think it's a whole range of different kind of knowledges um but actually the academy um will

enter into some kind of relationship with an external body and extracurricular in a sense you know outside of itself entering into some kind of relationship with an external person body organisation um to actually use that knowledge to um actually create some some form err of new practice new knowledge new understandings which will be of benefit to both of the parties." (140206.001)

"I think KT as being academic engagement with not necessarily academic parties outside the academic community where we are taking our knowledge and expertise to work with organisations and groups to help inform their practice but that we also learn from their practice concerns and issues so it can be things like working consultancy it could be evaluation work it could be training it could be providing CPD there's a whole range of different things but we're using our expertise to contribute outside the academic world but we're also taking reciprocal knowledge ideally as well and experience." (140227.001)

The key actions here would be to improve the understanding of KT across the School. This could be achieved in a variety of ways from better dissemination of information, to enhanced engagement through workshops and surgeries to the use of case studies and exemplars. This marries very well with the actions identified from the ARG.

Actions to consider

- seek approaches to raise awareness and understanding of KT and to re-energise previous successful campaigns.

General awareness of opportunity to bid for funds (Main 15s,83r)

The theme exhibited varied levels of awareness of the opportunity to source funds from very definite and positive responses: *"yes I have been made aware of the opportunities to bid locally in the in the department last year and this year"* (140310.001) and, *"at departmental level we've had we've had several rounds actually of um bidding um in the nearly two years I've been here um and actually I've been successful with it so yes I am aware of it"* (140408.001) to a complete lack of awareness. Others were aware but not actively engaged. One interviewee took an interesting line in 'assuming' that was the case:

"Well I assumed that as the university that you would potentially support um research that I might want to undertake. Maybe that was the wrong assumption but I kind of assumed that's what universities do" (140303.001)

There may be issues as to how these funds could be used*:*

> *"there was incentive money but that was always the detail to me for another reason,*
> *um not necessarily that's the same thing that's not the I haven't been given that detail*
> *on this could be used to develop a KT opportunity" (140311.001)*

How made aware

There appear to be a variety of routes as to how a participant was made aware:

- via e-mails from Deputy Dean and Head of Department (HoD)
- through a senior research academic in the Department
- via Departmental meetings, encouraged by HoD
- raised by research Professors
- School level presentations/conferences

Some Departments had a very well organised approach through research groupings or clusters and discuss bidding opportunities:

> *"We have cluster meetings so these err invitations to bid was open to the whole team*
> *at the cluster meeting also via email by the head of department and also followed up*
> *with reminders nearer the time so people were given a time scale to express an interest*
> *and also were given the instructions of what is required to submit a bid and how it*
> *should be presented err you know there are certain forms that we need to fill in so*
> *that's the first initial invitation and the amount of money available maximum minimum*
> *per bid or per project so it was very detailed and clear but also very inviting"*
> *(140310.00)*

Others it was less clear, and by word of mouth:

> *"well I suppose the most effective way is via email although I like word of mouth*
> *because then you can chat about it find out whether or not how you would do it what*
> *you would do I think there's a risk in email that an email comes out and you think ooh I*
> *can't do that it's not going to work " (140317.001)*

Involvement

A range of levels of involvement were evident from none to leading a research cluster in coordinating bids.

Some Departments used the funds to support ECRs:

> "emphasised in the communication by the head of department was that we wanted to um encourage err and really support early career researchers to err engage in this so I think um the best way for engage early career researchers to engage would be probably with somebody who already has some experience and is another way of um err you know support mentoring or guiding and err so I did actually apply for more than one." (140220.001)

Some Departments had a lead to coordinate or offer mentorship advice, this seemed to be of assistance:

> "I think it was coming up with the initial idea um and getting a brief rationale for it and then sat with the intermediary and that that seemed to go forward or it went forward from that really." (140311.001)

Process issues

The provision of administrative support could enable access to the Scheme. Referring to a previous structure, one participant suggested:

> "there wasn't a support behind us so the bits that we could do the delivering the preparing of CPD and delivering CPD like the academic side of it we could do but the other bit we were qui- almost I wouldn't say we were prevented it was just difficult " (140212.001)

Some Departmental bidding processes were much clearer than others suggesting an action was not only to seek clarity but a more defined process in future calls:

> "the email came with the instructions that was quite clear in terms of umm how much is available sort of things and again that was quite nicely broad it wasn't too um I don't mean prescriptive but narrow it gave opportunities for different people to go for err for to go for sort of different things." (140217.001)

This participant approved the flexibility the scheme provided. Another noted:

> "yes there were attachments of documents and the guidelines and how you submit the bid if you needed further clarification who you can contact." (140310.001)

and another commented that:

> "we have research management team within Psychology who sort of circulated
> information about it well in advance actually I must say it was quite well organised in
> that sense and then a reminder and it was a briefish form to fill in." (140408.001)

What was clear was that there were differences as to how each department chose to run their
bidding from a full, involved process with clear instructions and a panel decision based on
criteria; to a lead being appointed to guide and mentor applicants; to a very laissez-faire
approach were bids were simply requested. *"the structure of it hasn't been very clear."*
*(*140224.001)

Linked to the above observation, the participants had mixed views about the bureaucratic
nature of the process for obtaining funds. Some felt that it was clear and well-managed:

> "it feels as though it's a fair process you know there is adequate academic scrutiny
> we've got a group of people who are in the research management team who look at
> these things." (140227.001) and "they made a call specifically for that rather than sort
> of research more generally um they clarified how they would do it and each application
> would be ranked and everything else and they'd sort of do it along those lines so I I
> think it's it's quite sort of a transparent process. " (140408.001)

This quote was from a participant in Psychology who had a full bidding process, defined
procedures and a panel to decide. Despite this the participant noted:

> "the entire mechanism is perhaps not entirely (slight pause) transparent isn't the right
> word because that sounds like it's not honest but I don't kind of need to know the nitty-
> gritty of every decision that is made." (140408.001)

Another participant agreed with the complexity of applying:

> "for me the process is a really complicated convoluted one so I've got money to do
> something and if I don't achieve something there's some pressure there but my ethics
> went in in September/November and they're still waiting for a review." (140423.001)

Others felt that, although the funding had been appreciated, the process was too bureaucratic:

> "that um source of funding is very useful and greatly enhanced our programmes and
> our provision and you know us as a department but how you get from A to B from my

point of view looking in at just my lack of knowledge at how you do it um seems to be

quite laborious." (140311.001)

But one needs to consider that another participant from this same Department welcomed the codified process. This lack of defined process to the approach was rather a dilemma - on one hand it allowed for flexibility, but on the other for lack of clarity and transparency:

"but in a way to me sometimes it is a little bit obscure it no that sounds odd um I know

other I can talk to people but it's a bit ethereal in the air." (140318.001).

This lack of clarity as to how the bids were considered was notable:

"nothing was written down um only via email um which was repeated in team

meetings and apart from that it was very sort of we're unaware." (140224.001)

A positive aspect of the bidding process for the R&IS had been that it could be used as staff development for ECRs to practice the process of applying for funds. This approach was well illustrated by:

"I think if I'm honest I think the whole thing was challenging to me because I've never

really done anything like this before so I mean I don't know whether you're going to

come on to ask me about that but I think the fact that it's a bit like anything if you're

offered to do something then that's an opportunity to learn um so that was useful but

it was also a little bit daunting because I didn't necessarily know exactly what was kind

of expected." (140403.001)

Actions to consider

- using a variety of approaches to build awareness and understanding of the Scheme so that it is more effectively introduced. Key here are the HoDs and research/KT leads in each Department
- focus on the key routes of information within each Department to enhance message delivery
- appoint a clear lead or champion within the Department for both KT and processing the R&IS
- whilst trying to retain some element of flexibility, codify the process for allocation of funds more effectively
- retain a structure to decision-making for the funding so that it is open and transparent but tries to reduce bureaucracy of decision-making
- focus the process on early career researchers (ECRs)

Awareness of R&I Scheme (daughter 14s,17r)

Although, as noted previously, there was more general awareness of the ability to bid for funds, very few of the participants were aware that these originated from the School's R&IS. When asked specifically about awareness of the Scheme itself the response from participants showed that, at best, some were aware:

> *"I think that I think that is actually I think that's quite well understood I think not just by me but generally in the department " (140226.001) and "I applied for last years and got it so um I think it was that anyway." (140311.001)*

But even then there was a general vagueness as to specific recollection of the introduction of the R&IS:

> *"very vaguely that's the honest answer" (140217.001) or "I think in a very vague way I think it's one of those err departmental meetings other things it will be mentioned" (140227.001). (I)"Right and can you remember seeing it actually seeing it and reading it?" (P) (pause) "no I can't".*

Others claimed not to be aware at all of the scheme or, if they were, that they had not read it, such as:

> *(I): Is that the first time you'd seen it when I sent it to you? (P): (interrupting) "Yeah "(140303.001), or "in fact even as you say it talk about the R&I I have to say you sent me the stuff and I haven't err sorry to say that I haven't read it" (140304.001)*

In itself, given that the majority of participants were aware of funding being available and were given the opportunity to respond, specific knowledge of the R&IS could be argued not to be a critical issue. By interpreting the Scheme within Departments, certainly for team related incentives, it could be argued the end result remains positive. However, without specific knowledge of the Scheme, or unless it had been specifically drawn attention to by the HoD or similar, the opportunity for individuals to benefit specifically would not have been highlighted.

This would indicate that actions derived from this research would include approaches to enhance awareness of both the specific components of the Scheme and the more Departmental, team incentive approaches currently being used.

Actions to consider

- focus primarily on the opportunity to bid awareness rather than necessarily a specific knowledge of the R&IS
- however, their needed to be more focus and engagement on the opportunity for individuals to benefit through the Scheme

Awareness of Wider University support schemes (main 9s, 12r)

(4s, 7r)

Awareness was very limited. The lack of focus and meaningful response was demonstrated by the limited number of sources and references analysed (4s, 7r). A few participants mentioned potential promotion as a reward, but usually after some prompting from me. Others looked at teaching areas such as *"teaching fellowships"* (140423.001)

At the time of the interviews many participants were anxious about the implementation of a new staff profiling process which led to a mapping exercise as part of a new grading structure. Some participants referred to how the University might see involvement in R/KT as being a positive contribution to this:

> *"I think it's I think it's now looking at the new academic structure I think its going to be very difficult for people to move from being a senior lecturer to being a principal lecturer I think that's going to be quite hard". (140212.001)*

In addition, some participants were aware of the recently introduced 'contribution points' introduced as part of the final stage of HERA. This allowed for recognition of excellent work for those at the top of their salary grade:

> *"well I'm aware of the because recently there's been a number of calls hasn't there for people to apply to um err for upgrade spinal points I can't remember what it's called actually". (140226.001).* and by the same participant *"so I was very aware of that I know the university does other things doesn't it? Honorarium and all sorts of stuff but they don't really impinge on me at all".* Others drew reference to a one off performance related allowance that had been made to all staff in December 2013 as a performance reward.

But overall there was little consideration that aspects like promotion, sabbaticals, other forms of time allowance, staff development etc. could be seen as 'rewards or incentives'. This could

be that many of these opportunities do not generally impinge on academics, as noted above, but also that they are not seen as rewards but enabling mechanisms/arrangements.

Motivational aspects of the R&I Scheme (main 14s, 73r)

Key sub-themes emerged from this main category:

To apply in future (daughter 12s,16r)

Of the sources coded the overall response was positive in terms of participants wishing to engage with the funding made available through the Scheme in the future. Examples of this are:

- **(I);** so would this the experiences of applying would that encourage you to apply

  (P): (interrupting) *"oh yeah" (140217.001)*

- *"I'd definitely make use of it" (140224.001)*
- *"yeah certainly if I've got if I've got an idea" (140227.001)*
- *"I would definitely apply again in the future" (140302.001)*
- *"oh yes definitely!" (140310.001)*
- *"oh yeah yeah definitely" (140317.001)*
- *"no yeah definitely" (140403.001)*

Others felt that the process needed to be clearer:

"yeah I think if I if maybe err if the process was explained certainly better." (140311.001).

One participant was circumspect about applying with less-experienced colleagues:

"the whole learning experience has been very very valuable and from now- I would be much more strategic in future I would look for something that supported my DProf I would look to work with people who I know are proven so in some ways I think it would discourage me from working with less experienced staff again" (140423.001)

Interestingly there was a useful comment that one Department had imposed the maximum Grant allowed under the scheme of £5000. The participant noted that this was in effect directing the funds to ECRs as more established researchers were likely to require larger scale funding and hence might not be attracted by the smaller funds. In which case their priority was

to seed-corn potential research areas. Given the University had recently stated in its mission that it wanted to develop a higher research profile and that all academic staff should contribute to that, it may give an indication that an action is to focus the R&IS on those staff (literally early career or even late career but with limited research profile) as a priority.

Enhanced benefits brought by the R&IS (daughter 6s, 10r)

What became clear as the interviews progressed was that an added motivation for engaging in both the Scheme and KT was that the benefits could be seen in a broader sense in terms of meeting overall University academic objectives. In certain cases the use of the funds supported the development of activities related to existing commitments with external partners:

> *"for example running CPD for schools which is what we would do it's to keep in touch with our newly qualified teachers and our recently qualified teachers and our partnership and the incentive is that they respond to surveys they give placement to trainees in schools." (140212.001).*

Or participants stressed the way in which the R&IS could lead to further developments by building on the outcomes of the funded activity:

> *"this idea about making one thing pay more than once so if you are going to do something then relate it to an improvement on the module you are already running or err something that you can forth with a publication or put in you know so don't just do one piece of work do one piece of work that's smart that's strategic that will then support other areas of your development." (140423.001)*

Another example of the use of the funds was to employ new staff who could then be used to support broader outcomes:

> *"the reward in the long term is is these this money can equate to you know a member of staff a help so many hours of work or somebody who can do that piece of work while you're away at a conference or engaged in this piece of work or whatever." (140304.001).*

Interestingly a further example was that the funds could be used to develop new skills including the development of confidence in bid making and applying for funds more generally:

> *"So you're learning the skills of managing a project". (140310.001) and from the same participant "managing a small project I mean start small and then build your confidence".*

In addition, as has been stressed at other parts of the interviews, the key motivation for engaging with the R&IS appeared to be the opportunity to support seed-corn funding, or development opportunities, for ECRs and those with a limited research/KT profile.

This commentary would suggest that in promoting the R&IS there should be a focus on the opportunities offered for meeting broader University objectives and not solely on the School's research and KT transfer targets.

Increase in motivation through examples in other areas (daughter 8s,8r)

Overall knowledge of other projects funded within the Department, even for those who had received funding, was limited so it was not possible from these interviews alone to support a proposition that the allocation of funds through the R&IS had led to more motivation to engage in KT from others not directly benefitting. However, there were indications from some of the respondents that they were both aware of projects that had received funding and the types of additional activities or facilities that had resulted.

> *"the funding of research within the department where I know people have had." (140227.001)*

> *"I know other people have had um sort of research assistant money and various things." (140217.001)*

> *"the clinic is an example of where that's brought in and then the incentive's gone out to the staff member running the clinic**....** um not the incentive the reward if you like....so and there's two clinics now in in the department." (140311.001)*

> *"there's an interactive whiteboard I mean other people have had other pieces of equipment." (140317.001)*

One participant did outline how the funding received by the Department had created a positive response which had energised other people to be engaged:

> **(I)**: "you mentioned about feeling positive and energised do you get the feeling that that's across a number of people in the department?

(P): *yes (140310.001)*

Given that these responses show that there could be some positive outcomes from knowledge and awareness of other impacts from R&IS funding, a key action would be to ensure the promotion of exemplar projects both within Departments and across the School to highlight the positive outcomes as a result of the scheme.

Changes and suggestions for the R&IS emerged from the interviews (daughter 9s, 20r)

Whilst not the key focus of this stage of the research, the individual interviews seemed an ideal opportunity to identify any particular issues around the Scheme that could be considered as part of its review.

Some of the key issues arising for inclusion within that review were:

- emphasise the opportunity to buy out time for research: *"so if they are then successful I think to give them time to continue to develop their research is positive". (140212.001)*
- retaining flexibility in the projects that can be funded: *"I think the flexibility is important" (140217.001)*
- focus more on the ability of the R&IS to provide seed-corn funding for small research grants to support ECRs
- utilise funds to establish some form of 'bank' of professional staff who could undertake KT work and/or teaching duties to relieve staff: *"we had kind of a bank system where we had a list of people with their skills we could match them to and the teachers " (140220.001)*
- use examples of good practice in the Scheme to demonstrate how the funds can be utilised: *"to have maybe some of those projects presented and how they went about it might be useful" (140318.001)*
- *"a really clear flow chart" (140423.001)*

Individual rewards and incentives (daughter 10s, 19r)

A key issue that arose within Cycle 2 was the potential contradiction between intrinsic and extrinsic motivational factors. In particular, whether individual academics should directly benefit (pay, promotion, new equipment etc.) at a personal level. The most controversial aspect of this was whether individual academics should be paid for undertaking KT above and beyond their work programme contracts. The R&IS allowed for this eventuality with a prime focus being on rewards and incentives to the Department but with the opportunity for individuals to claim payments as part of any particular project.

The research in Cycle 3 continued to identify a dichotomy of views on this issue and this was evident in the interviews undertaken in this particular part of the research:

"I'm not sure that financial rewards for me are massively influential." (140227.001)

"there is an opportunity to to allow them to work above their work programme and you know they will be incentivised for their input financially" (140310.001) and further from the same respondent that the rewards to individuals could act as a major stimulus*, "something to ignite them so they can they want to do something extra on top of the hours and get the rewards"*

"ultimately if it's around this area often projects are taken on by individuals they put a lot of work in and I think yeah anything that says yes you've done a good job and that's I don't I don't think that's a bad thing " (140311.001) adding that this is potential motivator*: "I think I've certainly seen the impact with staff have got or have applied and they're a lot seem to be a bit more motivated and they're well prepared to keep doing beyond what some would consider their role."*

Another participant recognised the fairly unique issues in London:

"we need to be paid enough so we're not living in fear and in London that's getting increasingly hard so the idea of having a financial reward particularly when you see your area doing well is really important." (140423.001)

Yet another recognised that some colleagues would wish to work for personal gain:

"I think I've missed that completely well I think yes obviously it would make a it wouldn't make any difference to me personally but I think it would make a difference to people generically because they would some people don't want to work as part of a team some people want to work for individual gains." (1403017.001)

One of the respondents even suggested that paying individuals more went some way, in their opinion, to making up the difference in pay between the University and private sectors:

"we could be paid much better if we were in another sort of environment and if went to the private sector and everything else so the system of incentives is still a nice extra." (140408.001)

Once again, the views on the motivational 'power' of individual rewards was mixed. One participant was not convinced it was motivational:

> *"if you can't if you don't have the skills and the confidence which is more important to put in a bid carry it through survive ethics get to a point where you can have the confidence to submit and and publish and do all that thing the money at the end is so far away I'm not sure it motivates people." (140423.001)*

Notably one participant (140413.001) who had received additional individual payments was in fact working a 0.8 FTE. In these circumstances it was difficult to make any real judgment as to whether or not individual payments had acted as a motivator to engage in KT as in effect the individual could choose to do this work outside of their contract. In this specific case that was indeed what had happened as the KT project contributed to her 0.2 FTE outside her MU contract.

As identified in other parts of this research there remained ignorance regarding the opportunity to receive individual payments as part of the scheme:

> *"I think in terms of the kind of individual R&I I don't think I think that's less well known to be honest ...I think I sort of don't it doesn't impinge on my consciousness very much to be honest.. the departmental one does but not the individual ones so much." (140226.001)*

And the same respondent noted that this maybe not just because of lack of awareness but also worked examples:

> *"I think probably because people don't really people don't have really good examples of it."*

Actions to consider

- focus the R&IS on ECRs and start-up academics
- recognise more effectively how the process of seeking funds develops skills relevant to other areas (bidding for the research funds, project management skills etc.) - as there is an important self-development aspect to engaging with the R&IS
- provide more effective examples of how the Scheme can be utilised e.g. for teaching buy-out for research
- provide more effective information on how individuals can benefit personally
- maintain the flexibility to support a broad range of projects

- consider establishing a bank of academic staff who can be used to undertake KT activities

Other rewards and incentives schemes (main 9s,12r)

Generally, there was little understanding of any other rewards and incentives schemes being utilised within the university. One participant appeared to confuse R&I with time allowance for some academic duties:

"if you have certain roles that people take on have a time allowance." (140212.001)

Whilst others did have an understanding that promotion could be used as a reward/incentive:

"well other than promotion no" (140207.001) and*: "through the long term relation of promotion." (140227.001)*

But then there were also some doubts expressed as to whether promotion was truly linked to performance:

"well if there was a clear um err err relationship between good work and getting promotion (laughing).......there is an element of of cynicism it's a terrible thing to say I feel shifty saying it." (140304.001).

In addition whether promotional opportunities were available to all:

"you could apply for you know principal lecturer or something like that... but I don't think that incentivises personally ... because I don't think the scheme (laughs) I don't think the scheme fits at all you know." (140307.001)

Promotion was also seen not as just a way of achieving a higher income but also of placing the respondent in a position to undertake more of what they would prefer to do:

"if I'm (exhales) completely honest one of the things that motivates me is actually moving into a position where I can be more research active...so in that sense promotion for me is more about getting to a point where my work programme is more about research than teaching" (140408.001)

Some respondents were aware of opportunities to receive additional, contract related rewards such as contribution points at the top of the relevant HERA grade scale:

"the contribution points… um there's that but then that that's the accelerated promotion type thing...which you have to be in the right area to be able to apply for that". (140311.001) and in terms of the senior staff: *" I thought the appraisal scheme (laughing) was supposed to be one"* (140220.001)

"believe if you are at the top of you pay scale there's potential for performance related sort of extras" (140227.001)

As in Cycle 2, one of the most important rewards academic staff valued was simply to have their work 'recognised':

"if it was just recognition that you've done and you've brought that on and this has brought this into the department then that's I think that's a good thing" (140311.001). and: *"I think actually people are motivated by recognition and the recognition doesn't have to be financial or time"* (140212.001).

One note of caution was sounded regarding paying performance related bonuses, as has happened occasionally at the university, as these could be taken in a negative way as some sort of 'sop' to those working well-above their contractual obligations:

"and then often there's the yearly bonus which everyone gets and is err received in terrible ways." (140311.001)

Actions to consider

- ensure that there is recognition within the School of how the R&IS has been used effectively and the role of individuals in this
- recognise that providing staff with time is a significant reward perhaps to enable broader University objectives and individual research profiling to be enhanced
- that when rewards are made they are both meaningful and related to success in meeting outcomes

Performance related returns (main 10s,19r)

As seen in earlier results of this research, academics vary considerably in their views on performance related returns, particularly when applied to the individual. Some whole-heartedly welcome it:

"I think people would be incentivised to do things if for example in primary there was money then released to provide part time hours to release them from some- a task... yes I think people would be very incentivised."(140212.001)

"yes they do." (140310.001) (in terms of being incentivised)

"yeah so I can see the benefits of that I mean the only reason I would be slightly ambivalent would be if I thought that everything was performance related." (140403.001)

But the implication of being engaged as what might be seen as 'commercial performance expectations' is rather off-putting to other academics:

"I suppose it would be ah I just find the whole thing quite uncomfortable it smacks of um sales and ad- you know cold calling and just makes me uncomfortable. I think you should be doing your job to the best of your ability um I would rather have extra pots of money to develop my work." (140217.001).

But within this statement is also a contradictory position that I have established within this research - that these same academics are wishing to see their research areas receive direct returns (rewards) as a result of success to enable them to progress that research further. However, there remains a resistance to rewards being returned to individuals than research groups. In some cases this is a highly significant personal 'value' as expressed by the following respondent:

"I actually find that uncomfortable when I see senior people who have within their remits to do research or KT and whatever paying themselves... it is you know um it's a matter of principle and leadership and showing good standards of behaviour because people then you know to think people are applying just for the money makes me sick." (140220.001).

But this same respondent then contradicted their position by accepting that payments to ECRs might be appropriate:

"on balance um I like it because it recognises that people you know it it kind of it's one way of giving people some recognition of the extra miles that they go." (140120.001)

This amply illustrated the way many academics are conflicted by this issue and it is wrapped up not necessarily in a monetary reward but recognition:

> *"we work hard to make sure that's successful err but having said that we we are made aware of our successes at department meetings and err and out of just a sense of (pause) out of a sense of your your personal well-being you want to do well and it's good to know that you're doing." (140304.001)*

In other cases that same divergence of view is present but was balanced by a belief that performance related 'targets' were motivating:

> *"I think it's right when I say I'm not motivated by I am not motivated personally but I think I think it is right that that happens I think it's right that we should have a target we should aim for it because then the more you the more you increase your target the more chance you'll get something back." (140317.001)*

There were notes of caution present which I believe represented a desire not to become immersed totally in a commercially oriented world and that it was critical that any performance related returns were made in an open and transparent way:

> *"it goes back to you know what is valued and what isn't valued and and you know who is making those decisions I think it's one of those things where as long as there is transparency about how these decisions are made and as long as it's clear what the criteria are" (140408.001)*

In addition, it needed to be clear what was meant by 'performance' and whether rewards were due to a level of achievement at the norm or above it:

> *"I think there are so many fuzzy lines about where your role begins and ends I think that is actually quite a difficult question either for me to answer of for the university to probably to differentiate" (140217.001)*

Actions to consider

- ensure it is clear and transparent how performance relates to rewards
- encourage the use of performance related returns/rewards but ensure these are not described in overtly commercial terms
- that it is often the recognition that is implied through the rewards that is as attractive as any funding or other specific allocation

- as elsewhere in the research any successful R&IS needs to allow for group and individual reward/incentive

Embedding the R&IS more effectively (Main 15s, 46r)

As part of the interviews respondents were asked directly how they thought the R&IS could be more effectively embedded within the School's operations. This led to a variety of proposals for consideration as actions deriving from the research:

Raising awareness (daughter 10s,13r)

As has been seen in other parts of the research the issue of awareness of the R&IS arose in a variety of forms. The basic need to ensure everybody is informed and understands the objectives of the Scheme, as illustrated by the following respondent extracts:

> "it's letting people know it's there and new members of staff need to know that that is something that is part of the set up." (140217.001)

> "make it a bit more visible?... because I'm not really that aware of it" and "Heads of departments flagging up things that are ... coming up that people might be interested in." (140303.001)

> "make staff aware of it because um and maybe whether that's the case of you know discussing it at a particular meeting or something like that" and "there's an awful lot of work was done about three or four years ago in engaging enhancing advising um and it sort of then stopped." (140408.001)

This last point deserved a little focus. Here the respondent was recognising that information about KT returns had been circulated previously but that unless this opportunity was reinforced continuously it would not be uppermost in people's minds. This supported previous comments about the need to ensure new staff were aware of the Scheme.

In some cases it was not really about an issue of awareness but that people were aware but didn't understand or comprehend how the Scheme could be implemented and there was a need for case studies and examples to be more widely available. The following extracts from respondents illustrated this:

> "if you can describe a case study of somebody who has had a fairly well had a bid it doesn't need to be a huge amount of money they've done something that looks like it's

manageable to other academics and it's had a good return and so because of that they've had a reward...I think yes I think that would be I think that's something that staff need to see that that's how it works." (140212.001)

"I do think some examples of how it has worked and how it can work but also what the benefit is to the individual." (140227.001)

That to some extent the Scheme will embed itself over time as word-of-mouth spreads of the types of projects that are being funded:

"I don't know if it's something you can achieve in a single um effort a single sort of intervention or whether it's just actually something over the course of time" (140227.001)

That it was important to get the language right. This was particularly the case for non-business academic areas. There is perhaps a tendency amongst KT professionals to utilise language which is alien to many of their academic colleagues. This was amply illustrated by the following quote:

"I think it needs to be set out in a way which embraces err the the fact that other people will have a different perspective if you've got people in the business department their views are going to be completely different." (140304.001)

Earlier bidding process (daughter 3s,9r)

There were some comments about the operational aspects of the Scheme as deployed within both the School and Departments. Predominant amongst these was the need to ensure the Scheme was disseminated and decisions made on funding at a far earlier stage:

"I mean my only issues really are that there are delays... and with all good intentions I mean we were hoping that everything would go out and be people would be the projects would be in place by the end of November so that the monies would be spent"..... "so the amount of time allocated is a is a prescription for failure and we have to find ways that the money can be rolled over... or the time expanded even a year is really you know ideally we should have a year of activity." (140220.001)

This had been recognised previously and indeed the Scheme's intention was to make the awards as close to July as possible to allow the maximum part of the academic year to be used.

However, unfortunately, as had been noted elsewhere in this research, the University's financial modelling rarely allowed certainty of School budgets by July.

An issue that had been debated as part of this research was whether R&IS funding should be available over a two-year period rather than a single year. This was considered and actioned as part of the R&IS for 2014/15.

Coaching and mentoring (daughter 3s,5r)

Over the course of the research I had been increasingly aware of the need to establish a more effective mentoring process within Departments to ensure that the key intentions of the R&IS were implemented and that there was immediate guidance available to academics. As a University coach I also felt there was a role more generally for supporting academics within a coaching environment. This was a personal action I would take forward as a senior manager within the School.

The interest in mentorship was shown by the following respondent extracts:

> *"having people more um engaged also in research and be coached and mentored. "* *(140220.001)*

> *"that's why I think it's really important to have some kind of champion in the department."* *(140226.001*

> *"I think this idea of having a mentor which I don't know how much that is an integral part of this."* *(140403.001)*

Time to develop KT

This had been recognised previously and indeed the Scheme's intention was to make the awards as close to July as possible:

> *"having the systems that a teacher can be freed easily."* *(140220.001)*

> *"sometimes if teaching load is high or you've got other things coming in and you can't respond in a hurry."* *(140227.001)*

Elsewhere in this research the issue of 'Time' as a key factor has been separately identified and discussed. The key actions flowing from this would be to re-examine how effective academic

time was being utilised, whether sufficient allocations were being made to support KT, and how work programme hours were being managed.

More accessible and supportive guidelines at Departmental level (daughter 7s,12r)

What had become clearer through this research was the diversity of approach in the implementation of the Scheme between Departments. Whilst some flexibility was welcomed and needed, there remained issues around accessibility, understandability and transparency of the way the Scheme was being introduced within Departments.

> *"I think having some specific fundamental um guidelines um that is consistent across the school across departments um have them whether available or easily accessible." (140224.001)*

> **"***very practical who does a one sheet some Frequently Asked Questions or just examples of the kind of the things that you know err could attract just to give people some really concrete ideas "* and: *"so you can give people real examples and clarity and just**... **just make it more sexy ...and more user friendly." (140226.001)*

> *"I thought the form was a good idea but me personally I like things with a bit of structure I like to have a bit of an idea about what people are actually looking for on the form whereas I think it was the explanation given was that it was left a bit open"* and: *"transparency maybe I think maybe there's a little bit of mystique of where's it go who has the final say what's the decision." (140311.001)*

> *"do you think at the moment it's really clear how it works?" (140403.001)*

The data emerging from the research would suggest that a key action was to ensure that there was more consistency in approach between the Departments with clearly devised guidance and decision-making processes.

Clearer and fairer rewards (daughter 6s, 8r)

I had noted elsewhere how some academics sought recognition through direct reward and this was reflected in these interviews. This was illustrated by the following quote which demonstrated quite clearly that the individual was seeking some direct 'return' from their involvement:

"financial aspects as well um do need time do need finances so it's the the need for them that does motivate me going forward..

(I): Right ok so those so the extrinsic factors like the money, promotion, status?

(P): "I need it." (140224.001)

In some ways more interesting and perhaps controversial was the following respondent who was clearly questioning the concept of providing the rewards at Departmental level for distribution in some sort of bidding process. This respondent was quite clearly of the opinion that those who had generated the reward should have benefitted directly.

In all honesty this had been fudged within the R&IS which had noted the need to recognise areas specifically responsible for income generation but gave no direction on that. This was a challenging area because others viewed that the money should be used for the 'greater good'. However, there was some divergence here with, for example, how REF returns might be allocated in the future:

"basically we've earned a certain amount of money then that money ought to come back and really other people who haven't earned it shouldn't be allowed to bid for it." (140317.001)

Contracts of employment and appraisal (daughter 2s,3r)

There was some discussion in the research, predominantly around the issue of work programme time available for utilising the R&IS, as to whether more formal contract management approaches might assist in embedding the Scheme more effectively:

"we always look at the appraisals form last year and we kind of look at the objectives set against the role and the department objectives and the university objectives it could be embedded there maybe even in the job description" and: *"it could be part of managerial supervision" (140310.001)*

The obvious example of this would be through the annual appraisal process where it was possible to claim hours for KT in terms of future work planning and objectives. This was rarely used apart from in very obvious cases where an academic had a significant amount of KT work. It was a difficult area to judge because one had to predict the nature of KT activity which might have developed during a year. Given the nature of KT this was almost impossible to predict in

many areas. This led to a lack of forward planning and perhaps one action was to work with HoDs to try and better predict opportunities for KT activity and the use of the R&IS to support these.

One participant believed that the R&IS should be more "personalised", and this was closely linked to a key issue of 'recognition' by senior staff:

> *"I think it needs to be personalised... you can I mean everybody here is a teacher on health and social care you know emails are the enemy you know basically the emails are associated with practically bills lying on your carpet they are not ooh great I hope it' a car it's never like that um if you want people to do something you need to connect them you need to say hello you need to find a bit out about them you need to find out what their deficits are in a supportive way and plug them in and they will work. "*
> *(140423.001)*

Actions to consider

- there is an ongoing need to ensure that staff are continuously reminded about the opportunities through the R&IS. It is evident that academics perhaps will be forgetful of the arrangements unless involved in KT on a regular basis and there are new staff who will not be familiar with this opportunity
- there is a need to provide case studies and examples of how the funds had been utilised
- care needs to be taken in how both the components of the Scheme and KT itself are described within the School. Academics find the language of KT off-putting
- the issue of 'Time' reappears constantly both in terms of time allocations to undertake KT work and be able to take advantage of the R&IS, but also in terms of providing colleagues with as much time as possible to utilise the funds
- there is a need for greater consistency of approach in terms of the way the Scheme is introduced within Departments
- ensure that the opportunities within work programmes for KT time are maximised and consider how the appraisal process can be more effective in encouraging engagement with KT

Key motivation for academic work (Main 15s,41r)

Given that a significant part of the Cycle 3 research was to investigate how the R&IS had motivated staff to engage with KT, it was interesting to build on Cycle 2 results and explore further what actually motivated academic staff more generally.

As one might expect there was significant variation and for most academics there were a variety of factors acting as motivators for their work. Considering the responses recorded under this node there appeared to be some key sub-themes that emerged.

Doing a good job

As obvious as it may seem, for many academics simply doing a good job, the best that can be achieved, ranks amongst one of their highest motivators:

> *"motivation to do a job well umm in teaching and education there's you're never satisfied so you could always do something better." (140212.001)*

> *"because it's about actually doing a very good job because you know even if I do move on doesn't mean I'm going to stop working but I might just do other things so what's important to me is actually is keeping my knowledge and skills and networks and partnerships those relationships." (140226.001)*

> *"completing something to good standards." (140227.001)*

Developing partnerships and networks

For some academics the development of these partnerships and networks is critical for their own motivation. Considering the academic nature of the School this was perhaps not surprising given that many of the programmes led to professional recognition. Invariably this required a significant element of practice education and hence the need for academic staff to build strong relationships with practice areas. Respondent's comments which illustrated this point were:

> *"maintain those networks and partnerships." (140212.001)*

> *"I do actually enjoy meeting new partners." (140311.001)*

External pressures

The need to develop strong partnerships brought with it consequent impacts on motivation through being able to meet external standards set by both professional bodies and employers. This was particularly acute in terms of programmes which led to QTS. The following respondent found this a key motivator in terms of being able to meet the standards expected by OFSTED:

"new members of staff that always reenergises the people who are already there because they bring in new ideas umm so those those are the kinds of positive motivations... the other things are that mean I don't think they are certainly not I don't find them energising but they are motivating in a different way things like Ofsted." *(140212.001)*

Recognition

Similarly to the results of interviews from Cycle 2, it is often overlooked that a key motivator for academic staff (and indeed as would be in any organisation) is recognition by senior colleagues of their activities and outputs. This is a key issue which should not be ignored when looking at performance related rewards and incentives. Whilst the R&IS attempted to provide systematically rewards and incentives to Departments and individuals, it would appear a priority to enhance engagement with KT was to ensure that managers recognised successful projects and ensure that staff felt appreciated. This suggested recognition should be not only for any KT successes but also for the specific staff responsible:

"I think lots of people are motivated by somebody senior to them making them aware that their work is appreciated I think a lot's of people are motivated by that." *(140212.001)*

"some recognition for myself not in terms of public recognition but personal recognition to go OK I am actually doing... going along the right lines." *(140224.001)*

"because I do feel quite often a lot of what I do isn't really acknowledged." *(140303.001)*

Academic Curiosity

Of course one should never ignore that the thirst for deriving new knowledge and transferring this to society is a strong motivator for academics. The majority of academics exhibited traits focused around academic curiosity and establishing meanings from investigating phenomena:

"finding out more about um a particular area asking questions not necessarily always coming up with the answers perhaps coming up with um more questions than you began with so there's a sort of curiosity." *(140227.001)*

"a massive desire to understand and know why." *(140224.001)*

"The thing that motivates me to do it is that this is an interesting thing to do this is a good thing to do this is getting our knowledge out there " and further, "I find it interesting and it's a a new way of engaging with the with wider society." (140227.001)

"I can do a piece of work which is for me is really interesting and I think is going to be really really useful that that that's the reward for me." (140304.001)

Passion/Interest

Although I have themed a separate motivator as passion/interest, it could easily be combined with the theme 'Academic Curiosity'. But I have presented them separately simply because within any organisation one would hope to have passionate and interested employees focused around the activity of that business, but this might not be out of curiosity, and vice versa. What is perhaps predictable amongst academics was a passion for not only investigating and evaluating new knowledge but then passing this on and developing others. Within the interviews there were a number of respondents who remained absolutely passionate about both their disciplines, their research and their teaching. An action is therefore to consider how this passion can be applied to KT by a broader group of academic staff:

"the bottom line is is the motivation for me comes is is personal. You know I'm interested in in in (pause) academic debate and and passing on knowledge and knowledge I'm interested myself in KT so it's coming from my motivation is from me" (140303.001)

"I love what I do and I like to wake up in the morning and say gosh I'm going to work on this today and I'm going to contact this and I'm going to meet this person and bla bla bla and so um I think if you that's that is what everybody you know it's sad to see some of the staff who are so miserable about what it is that they are doing." (140220.001)

"above all I'm quite passionate about the area that I work in." (140408.001)

"that is the motivator for me you know I have great this is where I start sounding like the enthusiastic 18 year old because I I you know I get really great trainees on my course they are fantastic they work hard harder than I work err they become great teachers and I see the ones I've trained you know working in the schools they are my

mentors now and they are HoDs moving up to senior teachers and such and they're

they're it's great to see them you know." (140304.001)

"I'm very passionate about the subject area." (140310.001)

"I am still very passionate about my work I love being a nurse I always think of myself

as a mental health nurse first um but I lo- love to work with students." (140423.001)

Making a difference

In common with Cycle 2 and the original Cyclem1 Survey results, a strong motivator for academics was to impact positively within society. It was a motivator that could be used to enhance the profile of KT given that this element of an academic's profile relates directly to economic and social 'impact':

"so there was that feeling of like you know not changing the world but trying to make it

a slightly better place so I think that's the main that's the main impetus." (140408.001)

"I love sharing and growing people um I love whether its undergraduates coming in

with nothing and going out as being a midwife or postgraduates coming in with

midwifery experience and getting to challenge them and move them on and develop

them and then to reshape care um that's fantastic. " (140318.001)

"to um develop the knowledge and skills that they need to go out there and raise the

profile of social work so that's what sort of motivated me in the beginning."

(140403.001)

And related to the role in teaching and learning:

"that adding value makes a big difference you know it's very easy to take an A grade

student see them through to Oxford and Cambridge give them an eating disorder

(laughing) and and then they're successful...but you've added nothing." (140423.001)

Development as a rounded academic

An interesting theme that developed among some respondents was the idea of engaging with KT to become a more 'balanced academic'. Clearly this research was being undertaken at a time when the University was reviewing all academic staff and mapping them to a new job description/profile. These new grading profiles specifically included for engagement with KT

and it was believed that the desire to be able to justify an individual's position against these profiles was a strong factor in the responses provided. It is perhaps a case where my role as Deputy Dean might have had an influence on the responses from some.

But it also pointed to a good opportunity for enhancing engagement with KT by linking to the new role profiles and the development programme that would be run by HR over the following two years:

> *"I confess I probably still am perhaps I hear the voice of my PhD supervisor who would always say the most important things are papers and research grants you know the gold standard being you can get any ESRC grant you can walk on water kind of thing and it's quite it is quite hard to step away from that but I'm also aware that there is more to the academic world now than that um and so for me the desire to do things like applying for evaluation work if it's relevant or doing CPD running the conference things like that partly it's interest it's just an interesting thing to do but also I'm aware that's building my profile as an academic ." (140227.001)*

> *"continually improve myself to continually learn um from my academic side of things from my job role" (140311.001)*

Actions to consider

The inputs to this node were not particularly actions in themselves. However, as part of a greater understanding of what may drive academics to be more engaged in both the Scheme and KT, there were some key messages for managers which were extremely useful.

The research would suggest that engaging academics more in KT required a focus on key aspects where academics would find the activities validating their own sense of academic worth. Key amongst these might be ensuring that KT opportunities reflect the following:

- that the nature of the KT work itself should be rewarding and viewed to be of value. It was important for the academic to feel that they were doing a "good job"
- related to the above perhaps not absolutely was that many academics were attracted by feeling they were 'making a difference'
- rather obviously, academics were attracted to the Scheme and KT if it related to the cornerstones of why they were academics - academic curiosity and passion for the discipline
- KT provides fantastic opportunities for developing and enhancing collaborative partnerships/networks

- that KT may in itself offer an opportunity to demonstrate how the discipline is meeting external expectations
- academics were motivated by recognition, most obviously by their peers and also through some forms of reward. Whilst there are some who find pecuniary rewards or promotion attractive, and very few would turn this down, the reality was that within this research there was a strong desire for simple recognition by managers of successful outcomes
- finally that undertaking KT provided an opportunity for a more rounded academic experience

Free-form suggestions for engaging academics more in KT (Main 15s, 29r)

Participants were given the opportunity to suggest alternative approaches to enhancing academic involvement in KT.

Being part of KT focused support groups

This particular respondent had been part of a group recently formed from internal academic staff and external consultants to focus on opportunities for joint research and KT. This created a collaborative approach which had inspired and instigated various bids for KT activity. The key issue being that success in one bid had led to further successes and motivation to apply for additional KT grants:

> *"having um you know a group that is set up to respond to things some of those opportunities which are KT um and not having to do it on a case by case basis I mean that would just make a life more straightforward for everybody I think making decisions on some of those um opportunities perhaps quick- quicker simpler you know you might be able to make a judgment to say well actually no it's not one for us." (140217.001)*

Use of language

As in the responses to the questions about embedding, it was clear that academics within the School found the use of business language, often used to promote KT, counter-productive:

> *"I suppose I found some of the language a bit off-putting as (laughing) you can probably gather I'm not sort of happy with marketing stuff so again I think sometimes it's about explaining what it is so that you then can hook an academic in who will say oh yeah I am actually really interested." (140217.001)*

Level and nature of support from central services (RKTO)

Surprisingly given the level of concern expressed regarding support from the University's Research and Knowledge Transfer Office (RKTO) in the past, it was notable that issues around administrative support were rather limited. The following quote is one example where a respondent believed this was an issue to be addressed:

> *"more support from um the services... Um less um kind of red tape I want people when I ring them and I have an idea I want yes people I want them to be on the other side of the phone not to tell me what I cannot do but to tell me what I can do I know what I can do but what they can do for me." (140220.001)*

Academic Support from within Departments to develop KT/R

Most notably in response to the open question on what more could be done to engage with KT the key issue was the need for additional support in a variety of forms. Given the responses previously in other parts of the research it will be no surprise to see 'additional time' mentioned again:

> *"and the disconnect often is because people are full time it's you know I've got my job to do it would be great if somebody could do this but I haven't quite managed it ." (140304.001)*

> *"time and space is really is really it." (140227.001)*

Others felt that they simply weren't getting the level of support needed:

> *"I'm getting at the moment very limited support." (140224.001)*

Interestingly as with the embedding question the issue of mentorship as an effective means of support was again highlighted:

> *"I think the mentorship scheme err for people who don't necessarily get involved in management...." "from other schools I mean the business school is doing wonderfully well I'm always kind of inspired by them particularly when I was designing the distance learning course." (140310.001)*

Staff Development in KT

And obviously directly related to providing academic support was significant commentary about staff development needs:

> *"I think some people might not feel confident" (140303.001)*

I believe of significance in this respect was the need still for development specifically around the necessary tools to be effective as a KT academic:

> *"I think it's essential to understand business skills for the future as an academic."*
> *(140310.001)*

An interesting reflection by one of the respondents was to utilise the same approaches which were being used successfully to improve the University's research profile. Chief amongst these was the peer support that was being provided through research groups and in some departments 'research 'clubs':

> *"research groups and the sort of PhD student groups that are formed um to help staff*
> *individuals like myself get involved in the research world... and I think that's really*
> *helped**...** it's really I think if there was similar maybe for KT not just for the sake of*
> *paper-work but you can bounce ideas what's your experiences?" (140310.001)*

More recognition of KT in the University

Reflecting on the research undertaken as part of Cycle 1 and Cycle 2, it was interesting to note generally that there were fewer comments about KT not being recognised as an important aspect of the University's work. There were many comments about the competing nature of the requirements to develop a research profile and how these could impact negatively on the resources available for KT (and that assumes, incorrectly, that the two were mutually exclusive). But there were few comments which suggested that KT was an afterthought. However, the following quotes from respondents suggested there was still some way to go for at least some academic staff:

> *"I think there needs to be more value put on um business enterprise um by everyone*
> *within the university not just a small amount of people a small amount of people are*
> *interested and are really interested and are really supportive you know so that's great*

um and you know you are the Dean and people like that but generally the general feeling is kind of oh you know that's business really that's not research." (140317.001)

"I also think you know if people were seen just recognised if there was a feeling that your your senior management even knew who you were and were able to say hello or were interested in what you did that would make a lot more people err interested in what they are doing and also building up skills because there are a lot of very skilled people who can't move the skill base they've got into the skill base that's needed." (140423.001) and by the same participant "recognition support um mentoring I mean I do I have got um um a mentor in the pipeline and things like that."

Different 'rewards'

Given the discussions elsewhere it was interesting to note one suggestion from a respondent that instead of cash benefits to the individual rewards could be provided through membership of bodies which would raise that individual's profile:

"like being you know having membership to particular particular societies...or things paid for because they... you know it's all very well to be able to put on your CV that you're part of the task group for this and that and the other but actually it costs money." (140408.001)

Finally on the topic of motivating individual academics, one respondent summed up the impact of how success can breed success:

"seeing that that's successful is then the motivation to then either go bigger next time or do more next time." (140212.001)

Actions to Consider

- utilise non 'business' language, or KT related 'jargon' when trying to engage academics in KT
- where possible seek to cluster internal researchers around a common discipline or theme and further to look for potential external consultants i.e. a potential internal organizational action
- explore more effective support from University services in particular the RKTO
- provide more support to academics in a variety of forms,
  - mentorship and coaching where appropriate
  - peer support groups akin to 'research clubs'
  - provision of more time in work programmes to facilitate KT

- specific KT related staff development in particular the tools needed to facilitate KT developments
- continuing to enhance the reputation and recognition of KT activities within the University

'Time' emerging as an issue (Main 7s,18r)

In the extant literature into barriers for academics engaging in KT (e.g. Lockett et al., 2008) one of the other key dominant factors was the lack of time. In particular that academic staff were already highly committed to their research and teaching, leaving little time for KT. Of course this assumed that KT was not an integral part of the academic's work portfolio. This had certainly been the case across the board at MU and, as noted, this had changed dramatically in recent years through a variety of reasons including more focus on KT, the consequent successes and the specific use of KT outputs as impact case studies in the REF. The reconfigured academic contracts also specifically identify KT expectations.

Time in this way could be seen as some sort of currency and possibly needed to be acknowledged more explicitly as an action derived from this part of the research. There were without doubt clear challenges in trying to ensure that an academic's work programme was achievable but at the same time some of these aspects might be more to do with perception or management of time. Many academics that were successful in KT managed to integrate their KT activities with research and/or teaching and learning. In addition there was a tendency for those with very large teaching responsibilities to almost hide behind that. Notwithstanding this there clearly were staff who were teaching excessive hours who really have very little time to focus on KT.

A clear action was to work with the HoDs in the development of future work programming to ensure that adequate provision was made for KT, perhaps in tandem with research and/or teaching learning objectives.

Additionally, alongside the already recognised need to better promote and engage academics with the R&IS, a key action was to identify more clearly using examples where the Scheme had released academic staff from existing commitments through buying in additional staff or staffing hours.

Within the responses to this node there appeared to be two main themes; interestingly seen as either negative parameters of time or positive. The negative connotation was primarily through seeing time as a barrier and not being able to see around that - it became almost a *fait*

accompli not to be engaged with KT. But the positive academic saw KT, and the R&IS specifically, as a way of providing time release to engage in either more interesting academic work or specifically alongside personal objectives for research.

Time as reward/motivator

"they bring in money to the university then I think yes giving that person a reward which might not necessarily be err financial to them it might be time as a reward." (140212.001)

"if a reward scheme that gives money for something that has been successful in an aspect of KT if the reward is that that person is given time to develop then I think that's that's very positive." (140212.001)

"it's all well and good going yeah we'll give you money we'll give you finance we'll give you incentives or rewards but if that requires me having to work above and beyond what I already do and I already work above and beyond um I'm doing re- I'm doing research outside of hours things like that um it's more a case of the time factor so replace that financial aspect with time that would be a massive benefit for me personally." (140224.001)

"I would be more motivated to have the reward as time." (140212.001)

"being in the REF has meant that I had more hours on my work programme for research... and I think that's a reward it's not a reward in the kind of monetary." (140408.001)

Time as an obstacle

"I am looking for someone to work with me there is money to pay for that person and um you know the intention was that one of the teachers who hasn't done who hasn't been involved nobody applied... and why? Because nobody has time and I people have said to me oh *** (name of individual*) I really would have liked that um."* (140220.001)

"most of the people are motivated but I do think people don't engage because they don't have the time and they are swimming and trying to not to sink with all the rest of the work." (140220.001)

"the biggest challenge of an academic career is that it's three jobs in one really it's four jobs in one depending if you take research and KT as a sort of same strand you've got to teach you've got to do administration and you've got to do research and KT and the thing is that what gets squeezed if the burden is high the thing that gets squeezed is the research and the KT... it's always that that goes by the wayside first because you can't turn around and go actually I'm so swamped and I really need to get this research done so I'm not going to do my marking." (140227.001)

"because I do feel it's quite hard to (slight pause) to do what I think the university is expecting us to do which is research and KT and and publications and conferences (pause) which I enjoy doing and I am I am motivated to do that for my own personal reasons but I don't quite see when I am supposed to do it... at the moment I'm doing it a lot on my own time." (140303.001)

"it's great that I'm rewarded by the kudos of it and all the other stuff but at the same time you'd be thinking bloody hell I quite like my weekends and stuff you would wouldn't you?" (140304.001)

Actions to consider

- to work with HoDs to ensure that KT and the activities associated with the implementation of the R&IS are integrated within individuals work programmes
- that as a management team the School continues to recognise KT as a fully valued academic activity
- that there is specific reference in the promotion of the R&IS to the ability to buy out or buy in staff thereby releasing time

Appendix 58: Awareness of KT by academic position and length of service
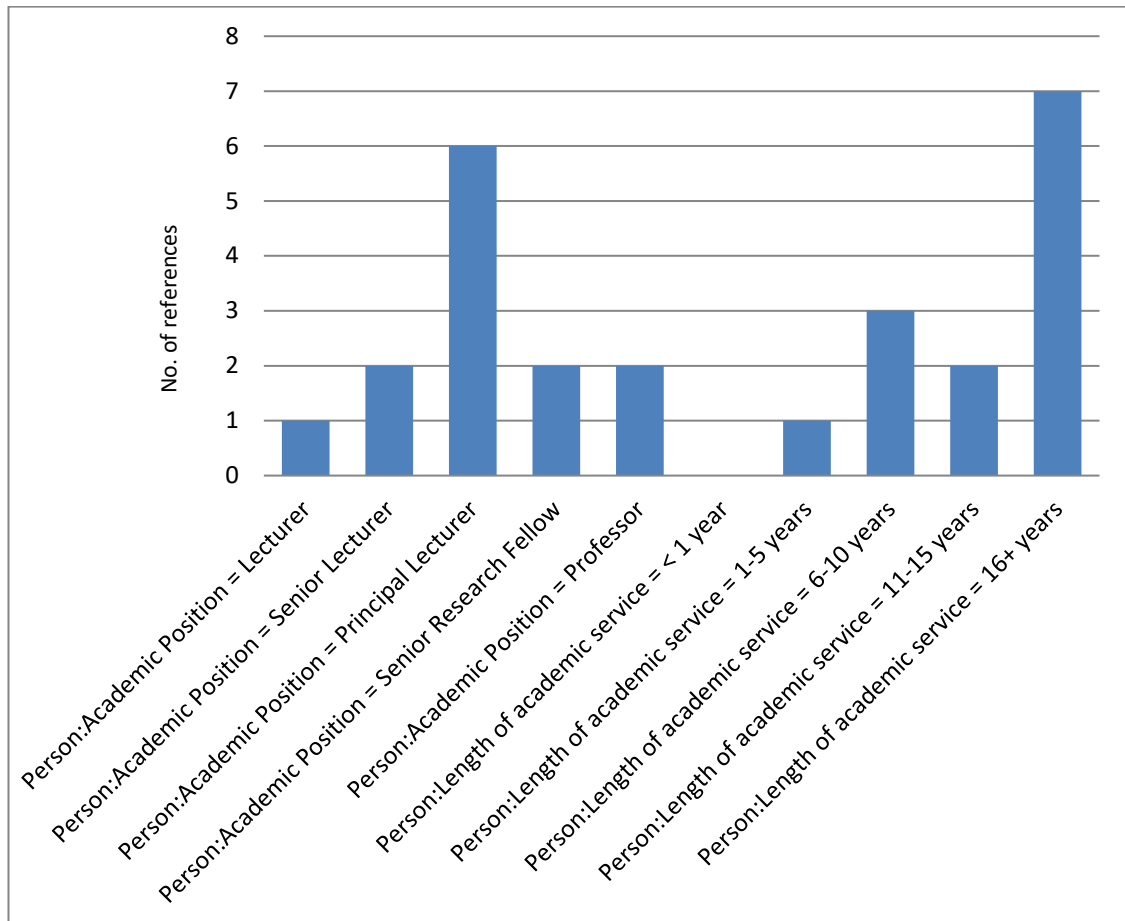
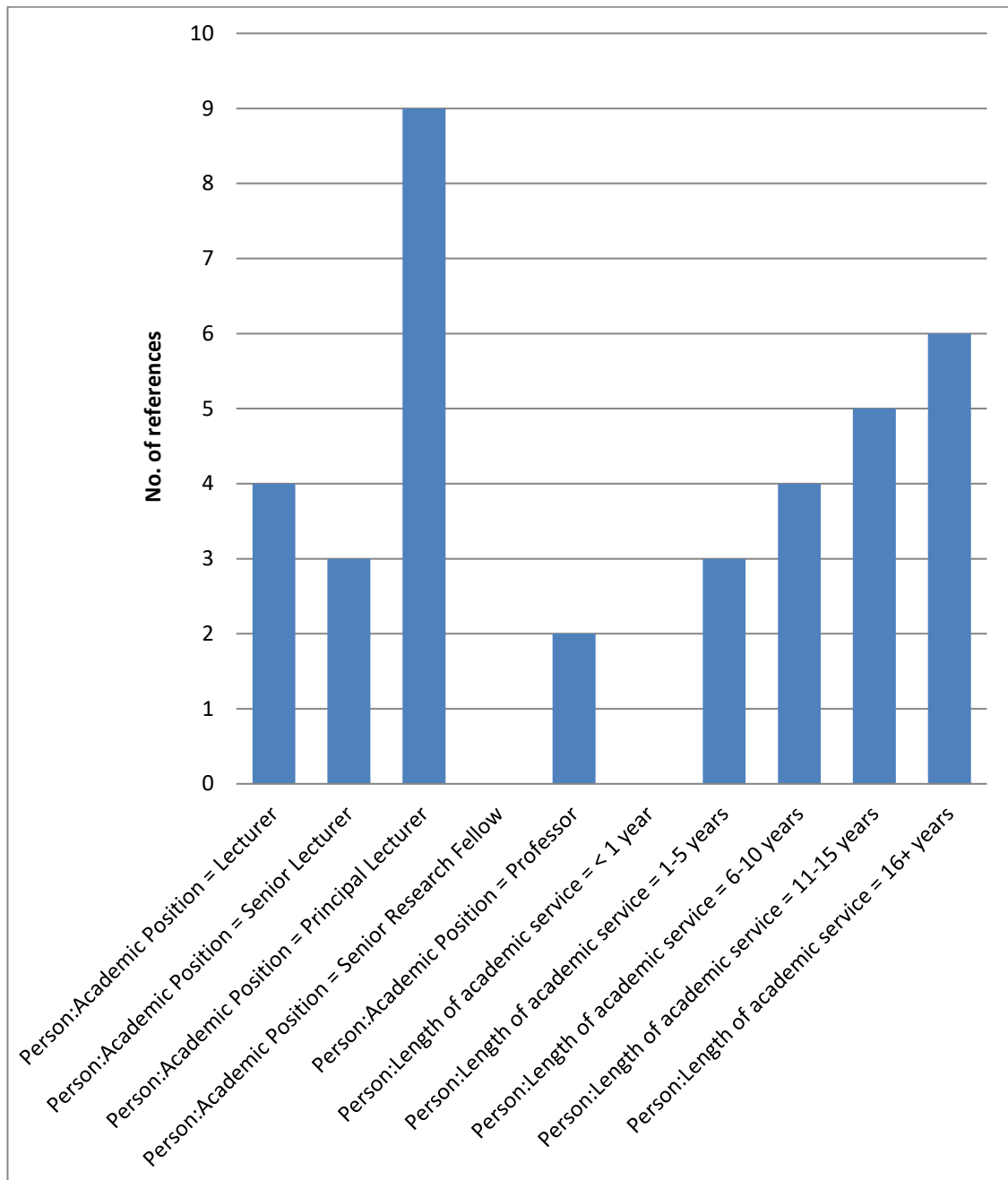# Appendix 59: Motivation to apply by position and length of service
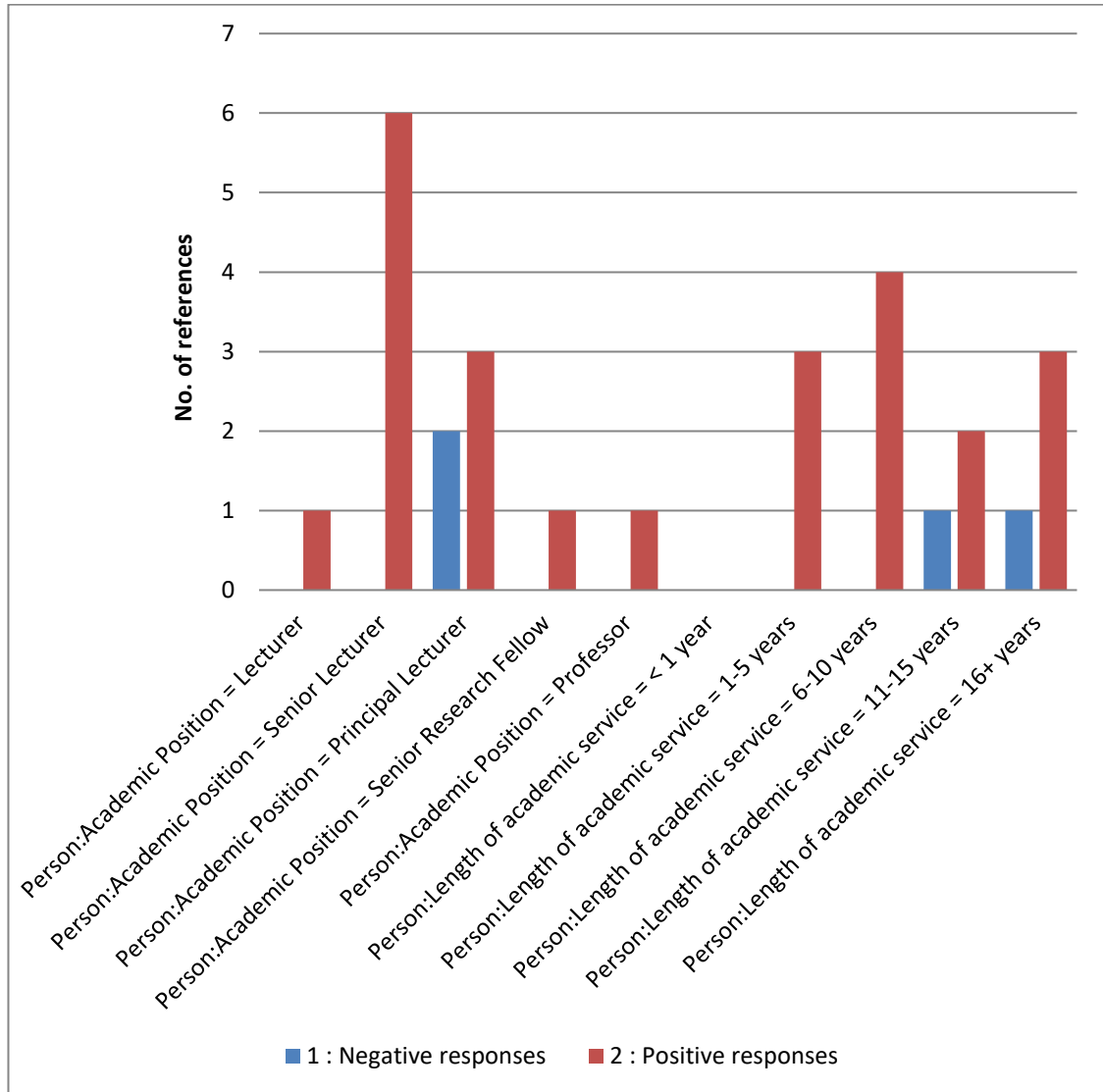
Appendix 60: Time as an issue by academic position and length of service

Appendix 61: Rewards and Incentives Scheme

School of Health and Education

Rewards and Incentives Scheme (R&IS)

Key Facts

- Rewards and incentives are available to academic Departments, research teams and individuals

- The R&IS aims to provide financial rewards and incentives based on Departmental KE past performance, or for KE work above and beyond an individual's work programme

- In this way, the R&IS offers a level of recognition for success in KE and Research at an individual, Departmental and School level

- The financial return can be used to support any of the University's and School plans for KE, Research and enhancing the student experience

- The R&IS aims to offer an opportunity to support creative solutions to challenges faced within the School's academic disciplines

- Through investing in future development, the R&IS allows the School to demonstrate how its KE and Research will to continue to make a positive impact in society

- The key focus is to develop individual staff capabilities for KE and research, particularly Early Career Researchers (ECR), and to encourage academics to engage more in KE/Research in order to build growth in these areas

- An additional key benefit is the use of the R&IS to build and enhance collaborative relationships with practice

- There is an annual allocation to Departments based on past performance in KE

- The R&IS is available to all academics and is based on an open bidding process at a local, Departmental level ensuring equity, clarity and fair decision making

- The bid selection process allows for flexibility at a local level

- Allocated funds will normally need to be spent by July of each year but there may be special

arrangements for longer term projects

Introduction

In order to support the continued growth of Knowledge Exchange activity, and the complementary synergies with our research objectives, the School supports the use of a Rewards and Incentives Scheme (R&IS).

The R&IS is made up of **two potential routes**:

1. The School will set aside an annual budget to incentivise and partly reward Departments and/or other academic groupings based on performance in the previous academic year.
2. There will be the opportunity for individuals to gain rewards due to their work within KE, subject to certain constraints.

It is recognised that rewards and incentives may not necessarily be financial in nature. Academics are motivated by both extrinsic and intrinsic aspects. A key incentive for staff to embark on KE activity is the recognition this brings in terms of 'making a difference' in society, facilitating research activity, 'job satisfaction', etc.

The R&IS focuses on the allocation of financial benefits within the School from KE activity. Whilst some may specifically value a financial reward, others may welcome the enhanced opportunities for investing this financial return in capability and capacity building.

The main focus of the R&IS

- to enable self-development and career progression, focusing on ECRs and those with a limited research/KE profile,

- to provide recognition for performance in the KE arena,

- to support the continued enhancement for the Department and individual to achieve overall University research and KE objectives, providing pump priming for future research/KE developments,

- to enhance and build on relationships with practice, creating new effective networks and partnerships,

- to stimulate collaborative partnerships both internally and externally to the University,

- to continue to support and enhance the student experience,

- enhance academic creativity and support/enhance individual employee satisfaction.

Core Principles of the R&IS

The process for the administration of the R&I should be clear and well - communicated.

- All academic staff should have the opportunity to benefit from any R&IS,

- Decisions on the allocation of R&I should be made on a fair and equitable basis and that process should be transparent,

- The R&IS should be promoted to ensure all are aware of the potential to benefit,

- There should be flexibility at local level, predominantly within Departments, to make decisions as to where and how to invest allocated R&I,

- The R&IS is based on KE performance given it is from this activity that the School receives returns to underpin the arrangement,

- The use of the R&IS needs to be carefully managed so as not to destabilise teaching and research aspirations,

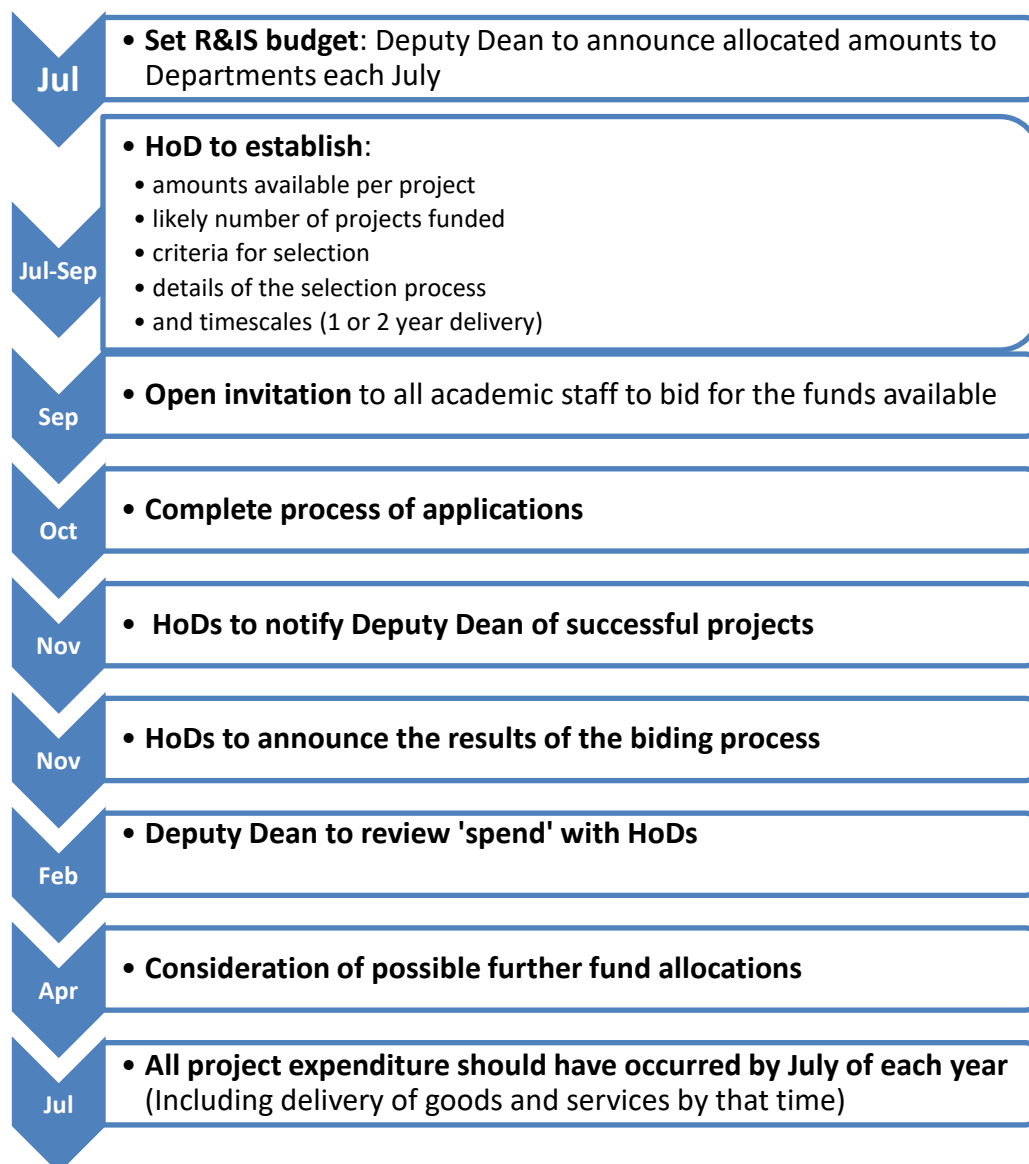- The R&IS should be reviewed on an annual basis.

Rewards and Incentives to Departments

- On an annual basis, the School will set aside a meaningful budget to support the R&IS.

- Incentives available to each Department will be based on KE performance for the past academic year.

- Each Department will have freedom as to how the budget allocated is invested, within the constraints of financial regulations etc., but it is expected that key issues to consider will be:

    o Whilst perhaps rewarding successful areas, seed-corning others – particularly those will little R/KE activity,

    o Supporting the annual University, School and Departmental strategies and plans for achievement of teaching, research and KE targets.

- The Deputy Dean will arrange for the allocated amounts to be announced to Departments each July.

- Each Department will be expected to run an open invitation to all academic staff to bid for the funds available and will establish: amounts available per project, likely number of projects funded, criteria for selection, details of the selection process and timescales. The relevant Department will make adaptations as appropriate. Each Department should ensure that all staff are aware of the decision making process and those involved.

- This process should be completed no later than the beginning of November each year so as to allow sufficient time to spend the allocation.

- The Deputy Dean will give consideration as to the possible allocation of funding over a 2 year financial cycle for larger projects/employment of staff.

- The relevant HoD is responsible for announcing the results of the bidding process and for providing feedback to the staff concerned.

- The Deputy Dean will consider any complaints or appeals made as a result of the decision process.

- By the beginning of November, HoDs should notify the Deputy Dean of the successful projects to be funded and arrangements to ensure related objectives are met. It is the responsibility of the HoD to monitor achievement against objectives and to take corrective action where necessary.

- The Deputy Dean will provide to SLT a regular report of spend against allocation. Should funds not be spent by April of each year, the Deputy Dean reserves the right to redistribute as appropriate.

- All project expenditure should have occurred by July of each year (Including delivery of goods and services by that time).

(Note; funds available for the R&IS are considered on an annual basis alongside School budget construction. Future incentive arrangements cannot be guaranteed and the Deputy Dean reserves the right to withdraw the scheme and/or withhold allowances should circumstances demand).

Process of application flowchart

Jul
- **Set R&IS budget**: Deputy Dean to announce allocated amounts to Departments each July

Jul-Sep
- **HoD to establish**:
  - amounts available per project
  - likely number of projects funded
  - criteria for selection
  - details of the selection process
  - and timescales (1 or 2 year delivery)

Sep
- **Open invitation** to all academic staff to bid for the funds available

Oct
- **Complete process of applications**

Nov
- **HoDs to notify Deputy Dean of successful projects**

Nov
- **HoDs to announce the results of the biding process**

Feb
- **Deputy Dean to review 'spend' with HoDs**

Apr
- **Consideration of possible further fund allocations**

Jul
- **All project expenditure should have occurred by July of each year** (Including delivery of goods and services by that time)

RB. R&IS (reviewed June 2014)

Appendix 62: Cycle 3 – Mini-cycle ARG2 membership

The characteristics of those attending are reported in the table below:

Table 1: Attendance at ARG2 by Department, Grade and Sex

Department	Grade	Sex
Adult Child and Midwifery	2SL	2 F
Psychology	2 Readers	1M and 1F
Mental Health, Social Work and Interprofessional Health	0	
Education	1PL, 2SL, 1L	2F, 2M
London Sport Institute	1SL, 1L	2M

Key – PL-Principle Lecturer, SL-Senior Lecturer, L-Lecturer, RA-Research Assistant, GTA-Graduate Teaching Assistant

Of the 10 participants, three had not been in attendance at the first ARG.

It was disappointing to note that none of the representatives from the Department of Mental Health and Social Work were able to attend on this occasion. However, there remained a good balance of grades, experience, length of service and sex.

ARG 2 Length of Service (by %of group)	<1yr	1-5 yrs	6-10yrs	11-15yrs	16+ yrs
	0	20	40	20	20

ARG 2 Age (by % of group)	<30	31-39	40-49	50+
	20	20	20	40

ARG 2 Ethnic Origin (by % of group)	White British	White other	Asian
	60	30	10

This would suggest a balanced group by sex, relatively experienced (80% with over six years' experience) but slightly younger distribution than ARG1. Ethnicity remains of predominantly white British origin.

Apart from ethnicity, this is not a surprising reflection of the School academics, many of whom will have been engaged in practice before entering an academic career due to the nature of the educational provision within the School.

Appendix 63: Confirmation notes from ARG2

Action Research Group – Second meeting

Notes of the meeting

Group 1 – Clarifying – awareness raising

The action plan devised by the group is reproduced in the picture below:
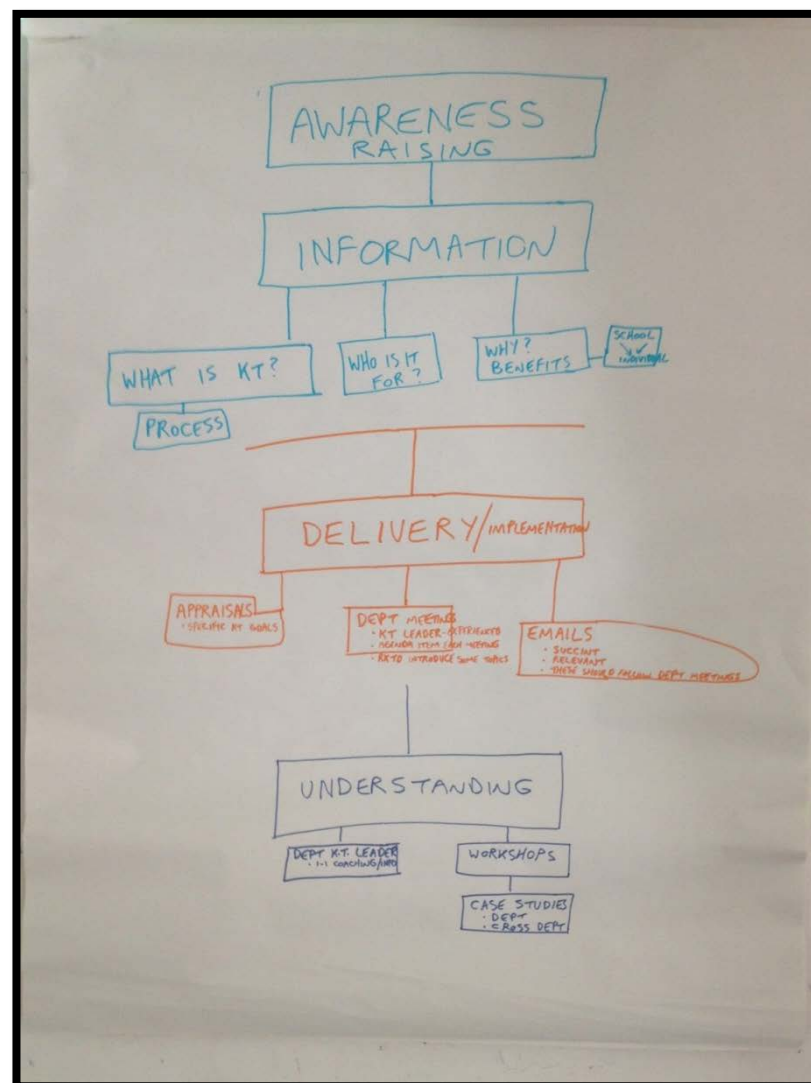

Figure 1 Photo of the resulting action plan for 'clarifying', focusing on 'Awareness Raising'

The action plan is segmented into three clear areas: information, delivery/implementation and understanding.

In terms of *information*, one can see yet again that there remains a lack of clarity as to what KT is, who it benefits and how relevant it is to HE. Interestingly, the issue of how beneficial KT is for the individual versus the School was raised which is a specific relevant issue for the Rewards and Incentives Scheme (R&IS) in terms of individual versus collective rewards, but overall the group seemed to be focusing on the role of KT itself.

For *delivery* of awareness raising there were three areas of specific focus:

1. Appraisals – it was suggested that KT (and by proxy the use of the R&IS) should be discussed at all individual appraisals and that specific goals should be set.
2. Departmental meetings – there should be a standing item for KT on the agenda of all such meetings and a KT 'lead' should be appointed in each Department to support the use of the R&IS. The RKTO should attend to provide additional information/support.
3. E-mails – regular updates but succinct and relevant to the Department.

As part of *understanding* a key recommendation was to appoint a KT lead who would offer 1:1 support, perhaps even some form of coaching. This would be augmented by additional mechanisms such as published 'case studies' and carefully directed 'workshops', specifically to focus on the impact of the R&IS.

The group discussion on this particular plan focused on two areas in particular one was the role of appraisals in defining the role of the academic and how the R&IS could be used to support any target setting. It was interesting to note that participants from different Departments had varying experience in this respect. Some were well-versed in the fact that each Department had been set a target for the academic year for KT activity, others were surprised to learn of this. In addition whilst each individual member of academic staff is required to provide a work programme loading sheet, few participants were aware that this did allow for declaration of KT activity. The second key area of discussion centred on the need for each Department to have a KT lead. Indeed some Departments had appointed such a role but even within those Departments there appeared to be a lack of clarity as to the nature of their role in what could be expected. This led to cross fertilisation with the action plan from one of

the other groups looking at "Building, developing and enabling" which had chosen this subject area for their focus.

Group 2 – Building, Developing and Enabling

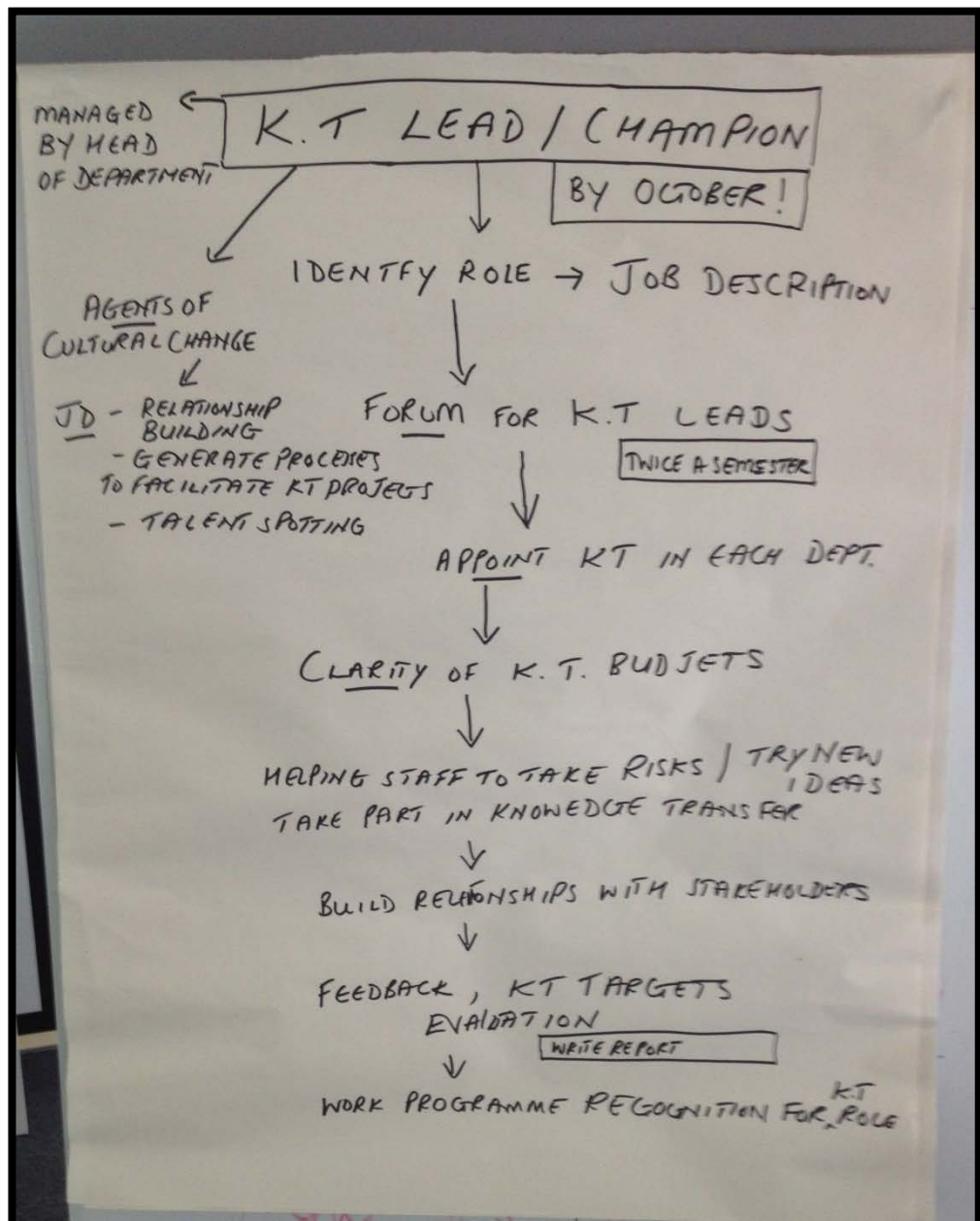A photo of the group's action plan is reproduced below:

Figure 2 Photo of the action plan relating to 'Building, developing and enabling' focusing on 'KT lead/champion'

The group chose to focus on the role of a KT lead in enhancing embedding of the R&IS. The group determined that each Department should appoint a KT lead and that they should operate to a common Job Description/Role definition. The JD should clarify the KT lead's role as an 'agent of cultural change'. Within this, they should seek to build relationships and networks and seek out 'talent'. KT leads should be allowed some form of work programme recognition.

An important role of the KT lead would be to coordinate the allocation of KT (R&IS) budgets under the direction of the Head of Department. Thence, they would be expected to provide feedback to the Department on success in achieving targets.

In the subsequent discussion with the whole ARG, as noted above, it was clear that one Department in particular had appointed a lead and that this had been reasonably successful. Lack of time within that role to really make a difference was noted. An outline role descriptor had been produced but this was not comprehensive. This could be reconsidered in the light of the ARG2 so that a more School based role descriptor could be provided.

Group 3 - Sharing

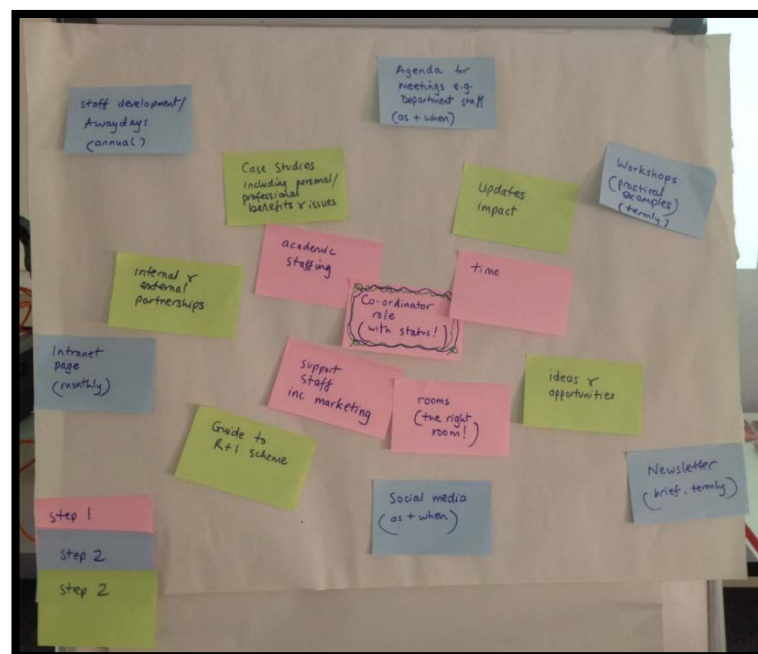A photograph of the final proposed approach is reproduced below:

Photo 3: Photo of the action plan for 'Sharing'.

As can be seen, this group took an innovative approach and tried to tackle the whole issue of 'Sharing' within concentric rings of actions based on priorities – the first 'step' being in pink post-it notes at the centre, circled by the second 'step' in 'green' notes and then circulating that a final 3rd step in 'blue' notes. (Note the key to their 'steps' has an error, mixing up the 'green' and 'blue' rings and duplicating 'green' and 'blue' as step 2 – but, I would propose, it is clear that 'blue' is step 3). Each step contains a group of actions:

First step – at the core of this (and indeed the model) is the appointment of a *coordinator role* "with status". In enabling the R&IS, it was suggested there were core supporting aspects/resources to this role:

- The utilisation of appropriate academic staff
- Administrative/professional support staff
- Time allowances within academic work programmes
- Suitable rooms (perhaps this could be taken as a proxy for a wider need for suitable facilities)

Second step- this group of enabling aspects includes:

- Case studies of the use of R&IS – to include personal, professional benefits and issues
- The development of internal and external partnerships using the R&IS
- The provision of a guide to the R&IS
- Supporting ideas and opportunities as they arise
- Regular updates on the 'impact' of the R&IS funded projects

Third step focuses mostly on the dissemination of information and how that could be enhanced/managed:

- Staff development/away days (annual)
- R&IS/KT on the agenda of meetings – e.g. Departmental (as appropriate)
- Workshops using practical examples (termly)
- Newsletter (brief and termly)

- Social media (as and when)
- Provision of an Internet page

The discussion that followed centred mostly on the coordinator role. The group were not clear whether this could be an existing role-holder, or whether it should be a new post. In addition, the group had not concluded whether this should be at Departmental or School level. Other participants within the ARG suggested it could be the proposed KE Lead at a Departmental level but there was concern that this would not confer sufficient status to 'get things done'.

It was suggested that the KE Lead could act to support academic colleagues in identifying funding opportunities. However, this was thought not to be possible as they would need an encyclopaedic knowledge base and many 'calls' would go directly to the academics within the relevant discipline. It was noted that new staff had been employed in the RKTO to support this activity area.

It was noted in the discussion that there still appeared to be an issue as to whether the University 'valued' KE. It was suggested that an emphasis on KE did not sit well with the University's desire to focus on raising its research profile. Through further discussion, the group considered that KE was a core component of this strategic direction, partly as it provided real evidence of the impact of our research, that it also created income to support overall corporate objectives and that there were very close synergies between research and KE (indeed in some cases, e.g. contract research it was difficult sometimes to disentangle the two).

Actions arising from the ARG2

As one might expect, given the key themes of discussion were derived from the ARG1, there was a certain amount of duplication from the first meeting of the ARG. Indeed, the individual sub-groups were not able to finalise a detailed action 'plan' in the time available. None-the-less, the second ARG has helped to focus now on the key actions for embedding the R&IS more effectively. These can be summarised into core categories:

1. **Work programme management**

As noted in previous research, a key barrier to engaging in KE is perceived to be lack of time. This is amplified by a lingering belief in some staff that KE is not necessarily a core part of their role. The ARGs recommend that a key action must be to raise the profile of the R&IS and KE itself through the annual work programme planning process, seeking specific targets for academic staff and making time allowances as appropriate

Action: As Deputy Dean I will need to take forward these issues and seek a resolution as part of the annual work programme planning process

2. **Information and guidance, including effective dissemination of same.**
   Various specific and general actions can be identified here:

Actions:

- Ensure the R&IS/KE are regularly addressed at variety of core meetings within the School, including Departmental meetings where they should be a standing item,
- At School and Departmental away days, ensure that the importance of KE and the relevance of the R&IS are profiled,
- As part of the University's review of its intranet/internet provision, allow for a School level 'page' for the dissemination of relevant information,
- Provide a termly newsletter/bulletin updating academic staff as to the use of the R&IS and KE in general,
- Provide a more user-friendly R&IS guide,
- Through suitable approaches, arrange workshops to highlight the impact of the R&IS,
- Ensure that case studies of the use of R&IS are well-publicised, possibly using some of the communication channels identified above,
- Utilise social media to promote the R&IS and KE within the School

As a result of the ARG 1 and 2, and subsequent interviews with academic staff, the School's R&IS will be revised so as to account for the various recommendations that have arisen. In addition, the R&IS will be simplified so as to aid understanding and a 'Key Facts' section will be added to include for a rapid initial understanding of the key tenets.

3. **Professional support services**
   Action:

Continue to seek effective and timely support from University services (RKTO, Estates, Marketing, HR) to enable and develop the School's ability to take advantage of KE opportunities and to leverage the application of the R&IS

4. Recruit and appoint a KE Lead within each Department
Action:

To provide a coordinating and facilitating role, encompassing many of the Departmental level actions noted above, a KE Lead/Champion should be appointed as soon as possible to each Department. This person should have a status within the Department, championing KE and the R&IS, able to offer advice, support, guidance, mentoring and coaching to fellow academics. This would suggest a staff development need for these roles and some form of representative group – at least initially to gain consistency of approach. A common role descriptor should also be agreed and understood within the School. This role holder would also have responsibilities for supporting the HoD in the implementation and monitoring of the R&IS.

RB. July '14 v1.

Appendix 64: School of Health and Education Symposium

Supporting Research and Knowledge Transfer Development

Date: 23rd June, 2014

Venue: The Barn (1&2)

Agenda

12.45	Registration and Coffee/tea
13.00	Welcome and introduction to the event, Richard Beaumont, Deputy Dean
13.10	Showcasing departmental support of R & KT development through using School allocations (Part1)
13.40	Panel Discussion
14:00	Networking
14.20	Showcasing departmental support of R & KT development through using School allocations (Part2)
14.50	Panel Discussions
15:10	Networking
15.25	How to run successfully a bid process in your Department (Prof Tom Dickins, Linda Bell)
15.40	Lobbying for research development (Prof Allan Kelleher)
15.55	Mentorship scheme (Staff development)
16.10	How the RKTO can support KT development (Dr. Mark Gray, Director of KT)
16.30	Conclusions and wrap up
16.45	Buffet and networking

Appendix 65: KT Departmental lead role expectations

School of Health and Education

Overall aim: To champion, and act as a focus for, KT development in the Department.

- To liaise with academic staff in the Department, and those with significant professional practice roles, in order to proactively identify opportunities for KT activity. In this respect, to work closely with post holders within the Department with specific roles for research and practice development.

- Once identified, to act as an effective facilitator: supporting the KT activity from development to fruition, acting as a mentor to colleagues as appropriate.

- In consultation and coordination with the HoD, to lead on the development of Departmental responses to the University and School strategic plans for KT activity, and to assist in the development and achievement of objectives and targets.

- Assist the HoD and Deputy Dean in the management of the distribution of incentives funding, and consequent decision making, so as to stimulate growth in KT activities within the Department.

- Effectively communicate and network with colleagues within the Department and between Departments/Schools to facilitate developments.

- In consultation with the HoD, present updates on KT issues at Department meetings, away-days etc. as appropriate.

- Disseminate KT experience and case-studies through updates, workshops and briefings in an appropriate format that will show-case successful KT activity as applicable to the Department.

- Provide active support to colleagues interested in KT activity in terms of bid development, costing/pricing, liaison with the RKTO and contract development.

- Facilitate liaison with the RKTO, ensuring effective two way communication in terms of implementing Departmental strategy and KT capacity, and from RKTO in terms of opportunities for tendering/bidding.

- Ensure the necessary processes are in place within the Department to facilitate KT growth.

- Act as a focus within the Department in respect of developing necessary relationships: inter departmental, pan University and with client groups.

- To audit KT activity within the Department and monitor, report and evaluate same in collaboration with HoD and Deputy Dean.

- In support of the HoD, join any existing Departmental leadership or research management team, and maintain close links with research leads.

- To attend staff development opportunities for KT development as appropriate.

- To attend, and contribute to, KT working groups as arranged.

Appendix 66: Gelling and Munn-Giddings' seven ethical considerations for AR

1. Value – Researchers need to focus on projects that will have real possibility of change to ensure value for money and return on investment, i.e. an ethical issue is to focus on 'has the research value and is it worth doing'. *An issue this did raise for me was that of impartiality and independence. Whilst intending to provide some appropriate solutions for the employer, their needs should not override the academic integrity of the research*.

2. 'Scientific validity' – Rigorous methods need to be applied as part of any research protocol. (*The term 'scientific' may be a poor one as it instantly reinforces the positivist position. However, rigour and authenticity are the key issues to consider*.

3. Fair Participation Selection – clarity is needed in the selection of subjects and that there is a focus on the process by which they are selected. *The term 'subjects' is perhaps incorrect as the process should involve members (or participants) of the research. However, this aspect emphasises the need to be vigilant in the involvement of colleagues and their expectations and understanding of the nature of the research. There was a need for transparency within the research process but at the same time note the reality that, as a manager undertaking this AR, I was seeking solutions that may have an impact on those whom I line manage. Also there was a need to ensure clarity as to roles of participants and myself as the researcher given that demarcation lines can often be blurred*.

4. Favourable risk benefit ratio – appropriate risks have been identified and mitigation 'available' as the research develops. A significant risk (and of course a significant opportunity) in AR is that the research outcomes are likely to impact directly on the participants. There was also a need to consider this aspect not just for each cycle but also the entire project.

5. Independent review – there should be provision for an independent review to ensure the project process is rigorous. *This was afforded through the resources available to me in undertaking my DBA from within MU – both formally through the supervision and ethical approval processes but also informally through the advice and guidance of colleagues. This was a constant challenge due to the evolving nature of the project*.

6. Informed consent – This is a complex area due to the blurred lines between researcher, co-researcher and participants. Some ethics committees consider that the initiator of the research should be responsible.

7. Respect for participants – there is a need to protect confidentiality, disclose risks and benefits and enable participants to withdraw if they wish. Safety of involvement is paramount as will be the commitment to share and disseminate results. *My research details steps that were taken to protect participants. However, I was aware that the nature of AR, being essentially collaborative in nature, opened- up individuals to potentially scrutiny by their colleagues depending on the nature of the AR inquiry approach at each 'cycle'.*

Appendix 67: Validity v authenticity

In terms of AR, Gray (2009), in summarising the need for internal and external validity, suggested that the following key issues needed to be addressed:

- the researcher should adopt a reflexive stance

- the study design should be appropriate for the purpose expected and rigorously applied

- appropriate data gathering approaches can be demonstrated

- that participants are involved in checking data for accuracy and appropriate interpretation

In terms of seeking trustworthiness, a key aspect in AR is the level of credibility that can be 'claimed'. Stringer (2007) suggested various component parts to AR credibility:

- prolonged engagement - participants should be given sufficient time to contribute

- persistent observation - observations and contributions should be observed over a period of time

- overlay - multiple sources of information should be incorporated

- member checking - members are given opportunities to review the data analysis and reports derived from the research

- participant debriefing - members are asked to check the data and conclusions

- diverse case analysis - the researcher should ensure that the perspective of all stakeholder groups are incorporated

- referential adequacy - the concepts and ideas should clearly be drawn from and reflect experience and perspectives of the participating stakeholders

Some authors have tried to apply quantitative approaches to validity within qualitative research. Bryman (2012) referred to work by LeCompte and Goetz (1982) which made comparisons with internal and external validity. But Bryman (ibid) proposed approaches to ensure what he termed trustworthiness and authenticity:

Trustworthiness:

- credibility (similar to internal validity) – methodology is accepted by the relevant academic community

- transferability (similar to external validity) – by providing a great depth of analysis other researchers can assess whether the approach is transferrable – so called 'thick description'

- dependability (similar to reliability) – perhaps through some form of audit of research process

- conformability – researcher not overtly biased through personal values.

Of course, the problem with conformability is that some researchers may purposefully take a personal position at the theoretical root of their approach (e.g. in feminist theory).

Authenticity:

- fairness

- ontological authenticity

- educational authenticity – assists others in their research as a social value

- catalytic – encourage engagement in action that will improve society

- tactical – empowering participants to take action.

Askey and Knight (1999) also preferred to use authenticity rather than reliability which they see as being too quantitative in nature. Other writers focus on the rigorousness of the research process to demonstrate trustworthiness. Robson (ibid) referred to Maxwell (1996) who focused on three areas as approaches to safeguarding validity:

- the quality of the description of data collection – e.g. interview notes and consequent transcription

- the nature of the interpretation of data

- reflexion on the theories the researcher is determining.

In a similar vein, Yardley (2000) looked to the practices of the researcher to provide necessary quality assurance:

- sensitivity to the context and participants

- commitment and rigour to the approach including skills necessary for data analysis

- transparency and coherence – research methods clearly defined, arguments clearly articulated, reflexive approach

- impact and importance – be aware of the impact within the particular research community.

Askey and Knight (ibid) preferred to address the issue of whether the research was fit for purpose (p.56), focussing particularly on good practice in terms of interviewing (such as power relationships between interviewer and participant, that the researcher had properly understood the response and recorded this accurately, questions were well designed, flexibility to developments in the research were inherent, transcripts were of good quality and that ethical issues had been considered). They then also provide a conceptual framework:

- the methods of research should be plausible, be auditable and described in detail to allow others to evaluate

- the data collected are true reflection of the participants responses – the 'truth value' (p.54)

- the researcher should adopt as much of a neutral approach as possible but not in a positivist sense given the deep involvement in the relationship (e.g. interview).

In considering this issue of academic rigour and quality further, there was value in utilising the work of Reason (2006) who considered the whole issue and defined quality of AR using five questions that he reported were used by the journal 'AR' to assess appropriateness of submissions:

- is the AR explicit in developing praxis of relationship participation? (I.e. is there cooperation between members and researcher?)

- is the AR guided by a reflexive concern for practical outcomes? (i.e. a process of iterative change that is part of organisational change or improvement)

- does the AR include a plurality of knowing which ensures conceptual-theoretical integrity, extends our ways of knowing and has methodological appropriateness?

- does AR engage in significant work?

- does the AR result in new and enduring infrastructure?

Apart from the normal process of peer assessment, and the stress on ensuring the basic tenets of AR were attended to, the key issue here was that acceptance by the academic community relied on the research strategy, methodology and interpretations being well defined, professionally applied and demonstrated as such but that, importantly, the research not only resulted in actions supporting the needs of an organisation but that it also added to the canon of scholarly knowledge.

Appendix 68: Cycle 2 - Field notes of interviews

Interview 1

Interview pace seemed appropriate and interviewee seemed to have no problem with understanding the questions. Information readily provided and very little hesitation. Interviewee became quite intensely involved at some times and this will be witness through the banging on the table to stress points on the recording.

Tendency to move away from the subject matter to broader KT issues – need to ensure retain that focus.

Room was OK – but sitting opposite each other at a table not ideal as gave the session a more formal approach.

Found it challenging not to 'lead' the interview but used coaching techniques of reflection to try and minimise this.

Some key issues seemed to resolve around the 'kudos' that can be developed from being engaged in KT: the need for any R&I scheme to be fair, transparent and allowing equality of opportunity

Interview 2

Interviewee speaks very quickly and jumps around between various issues. Also, had to really try and keep refocusing as used the experience to extend the discussion to matters more broadly associated with KT and, often, beyond that to issues of work programme management within the School.

During interview, a colleague knocked and entered the room thus causing a minor disturbance. I don't think this disturbed the interviewees flow too much but was annoying given the door was closed and clearly had a 'do not disturb' sign up!

Apart from reinforcing the issues of fairness, transparency and equality of opportunity, interview brought out a very strong view about how work programmes could be managed better to allow more KT activity.

Interview 3

Interesting interview with a recently appointed senior colleague. Took a very different line using his research paradigms/conceptual positioning to consider the questions and focusing very much on management of the process. Issues of equity and fairness stressed again and also the focus on competition between academics through a rewards scheme being 'good' and a motivator.

Interview 4

Carried out at Archway in larger 'Deans' office – really not conducive as interviewed across a large table. Felt very formal and interviewee, somebody I have worked with for many years, seemed reserved and concerned. Her answers seemed rather short and restricted. After the interview, with recording off, she said 'have you finished with me now?' which made me concerned that it had been an ordeal and I hope I had not caused her difficulties. I had tried various times in the interview to smile and laugh and to change my body language but none of these seemed to help her feel more settled. This may be a good example if where my position has had an impact on the attitude of the participant. May need to find more neutral territory to conduct interviews.

Views on R&I seemed very restricted to almost honorarium payments for going 'above and beyond'. This raised the potential confusion between the new contribution point scheme and R&I.

Interview 5

Found this a very challenging interview. Participant rarely answered any questions directly and meandered off into unrelated areas many times. Whilst trying to keep them on track and focused, I began to feel I was interjecting too much. In addition, the participant often struggled to find the right language to convey his responses, which I suspect will lead to challenges in transcription. I began to feel as if the best thing would be to finish as soon as possible. However, I persevered and I think there may be some key themes that might emerge. Despite an initial discussion, I was never really convinced that the respondent understood neither what KT is nor what rewards and incentives may be. There was one particular question where the answer must have lasted for several minutes and I don't believe was more than an incoherent, jumbled group of words. None the less, the issue of transparency and fairness of any approach did emerge.

Interview 6

With HoD with many years' experience of KT, both at MU and other institutions including private consultancy work. Interview went well with lots of interesting ideas – e.g. allowing staff to retain a top-slice of any KT income (a royalty approach). Also, suggested that the ability to have a pot of money that the Dept could chose to direct to their own desires was positive. However, thought amounts available were only really suitable to support ECRs. Suggested that some of the rewards monies should be kept aside at school level to create a larger fund that could attract inter-school bids on a competitive basis. Respondent was mostly focused on financial rewards as being most effective.

Interview 7

Respondent only been at MU for 8 months and was coming to terms with what KT entailed. Has significant KT experience outside of MU but not within an R&I scheme. The incentive of deriving 'Kudos' from KT was again stressed and there was firmer support from groups receiving the reward. Issue of how to balance work commitments against KT opportunities raised quite strongly. Felt there would be a need to negotiate around this even if there were rewards available. Stressed the reward being freedom to undertake KT of the respondent's choice.

Interview 8

Interview relatively short and to the point but with some clear 'messages'. Very limited experience of R&I schemes so respondent had little to base answers on. Interestingly, the key issue that predominated the answers was that of rewards being used to recognize the work of the respondent. As the interview progressed it was clear that the relevant academic area had, until recently, been under threat and this would explain why that **'recognition**' was so important in terms of a need to raise the individual's profile.

On a technical note, without warning one of the digital recorder's batteries went flat! Thank goodness I had two running at the same time.

Interview 9

Interesting as one of the two senior managers that have volunteered to take part. As expected, took a far more strategic overview than some of other participants. A key issue that was stressed was the need to ensure that there was a fair and equitable way of determining work programmes. Participant felt that this may stand in the way of the value of an

incentives/rewards scheme. This could be a very important issue to consider and highlights that a rewards and incentives scheme designed in isolation from other systems management aspects may not be successful.

Interview 10

Participant today comes not from an HE background but has lots of teaching experience. He had specific role to generate KT although has now moved to 50% SL role. Interview went well and responses stressed areas not so much by others: need for quick turn-around of rewards for staff involved: need for better, more school based one stop shop admin support which is currently not there and putting off KT developments: R&I better placed back to groups but with more freedom as to how they are invested. Surprisingly did not initially recognise the Dept returns as rewards and incentives until prompted – this is odd as he has been intimately involved in this and it made me wonder if the message that returns are rewards really has got through successfully?

Interview 11

Potentially final interview as other HoDs have not responded positively. Interesting interview with a HoD who is very conversant with BCI/KT matters but had a very narrow view on how R&I could assist, both in terms of the nature of R&I but also how to apply within her Dept. For somebody who has been a great supporter of KT, she seemed quite reluctant at the interview and answers tended to be quite brief. I found I had to prompt more than others. I didn't sense a great deal new came out of the interview but will reassess that on seeing the transcript. On a personal level, I found myself becoming rather less enthusiastic about undertaking the interview. I think that was partly as they are beginning to become a little repetitive, but also in that I undertook so much analysis over the Easter holidays that I almost felt the interview stage to be complete. Again, I will need to reflect on new issues that might emerge and ensure they are adequately represented.

Appendix 69: On-line survey to assess impact of R&IS

Engaging Academics in KT through a Rewards and Incentives Scheme

Introduction to Survey

Dear Colleague.

I am undertaking research to investigate whether the current School Rewards and Incentives Scheme (R&IS) is helping to enhance the engagement of academics in Knowledge Transfer (KT). Some of you will have been instrumental in devising the current R&IS.

Each Department has its own name for the R&IS, such as Small Grants, Research and KT Incentives, Returns etc. This survey relates to those funds that are made available by HoDs in August, September and October for which bids are sought from individuals and/or groups within Departments to support KT and Research.

My intention in this survey is to make an assessment as to how useful the R&IS has been in engaging academics more in KT.

I very much hope that you will find time to complete this simple survey which should take no more than 10 minutes of your time.

The information you provide will form part of an action research project. It may also be used to influence future strategy and policy decisions. In both cases, the information will be anonymised and all answers to this survey will be treated in strict confidence and will be securely stored. Your participation is voluntary, and you have the right to withdraw at any time. Your individual responses will only be accessed by myself, although the overall survey results may be accessed by others using the Survey Monkey licence at Middlesex University.

It is important that I advise you that, under Federal Law of the USA, for matters viewed to be of national security, the CIA has the right to trace all Survey Monkey inputs back to their original IP address. I have to say that I can't envisage a situation where this particular survey would pose a risk to the national security of the USA (!)

The research project and its constituent parts has received ethical approval.

I hope you will feel able to assist me in completing this survey.

Thank you to those willing to help me in this research work.

Richard

Engaging Academics in KT through a Rewards and Incentives Scheme

The nature of this survey and your consent

This survey will ask you to respond to a series of questions about the R&IS. Before completing the questionnaire I would be grateful if you would read the statements below and tick the appropriate box to indicate your consent to take part.

• I voluntarily agree to complete this survey.

• I have read and understood the information above.

• I understand that all personal data relating to participants is held and processed in the strictest confidence, and in accordance with relevant data protection legislation. I agree that I will not seek to restrict the use of the results of the study on the understanding that my anonymity is preserved.

• I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice.

• I confirm that my anonymised data can be used for the purposes of Richard Beaumont's research work and any subsequent publications.

• I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study.

I confirm that if I have any concerns or queries I will raise these directly with Richard Beaumont at r.beaumont@mdx.ac.uk or telephone number 0208-411-6330

Please tick 'yes' at the first question to confirm your consent

✱1. I have read the above information and consent to take part in this survey

◯ Yes

✱2. Have you, either as an individual or as part of a group, bid for funds made available for the 2014/15 academic year under the R&IS (known in some Departments as 'small grants', 'allowances', 'returns' and focused on KT and research objectives).

Please tick the most appropriate box below:

☐ Yes

☐ No

✱3. Had you previously applied for funding under the R&IS in 2013/14?

Please tick the most appropriate box below.

☐ Yes

☐ No

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✱4. Has your awareness of the R&IS increased over the last two academic years?

Please tick the most appropriate box below.

☐ Highly significantly

☐ Medium impact on awareness

☐ Limited increase in awareness

☐ No change

✱5. Considering this academic year (2014/15) and the last (2013/14), has the existence of the R&IS made you more aware of KT?

Please tick the most appropriate box below.

☐ Significantly more aware

☐ More aware

☐ Limited increase in awareness

☐ No change

✱6. Has the existence of the R&IS encouraged you to be more engaged in KT?

Please tick the most appropriate box below.

☐ Yes

☐ No

✱7. If the answer to the previous question was 'Yes', in no more than 5 lines, please explain why the R&IS has encouraged you to engage in KT?

☐

✱8. What other interventions by managers would help you to engage more in KT?

Please comment in the box below in no more than 5 lines.

☐

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*9. Current academic role - please tick the appropriate box that best describes your role:

☐ Head of Department

☐ GAA

☐ Lecturer

☐ Senior Lecturer

☐ Assoc Professor Lecturer

☐ Research Assistant

☐ Research Fellow

☐ Senior Research Fellow

☐ Professor

☐ Professional support

☐ Head or Director of a KT/Business Unit

*10. Length of academic employment - please tick the appropriate box indicating the total length of your employment in higher education:

○ Less than 1 year

○ 1-5 years

○ 6-10 years

○ 11-15 years

○ 16+ years

*11. Age - please tick the box within which your age falls:

○ Less than or equal to 30

○ 31-39

○ 40-49

○ 50+

*12. Gender - please tick the box corresponding with your gender:

○ Male

○ Female

○ Transgender

○ None of the above

○ Prefer not to disclose

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*13. Ethnic origin : I would describe my ethnic origin as:

○ Gypsy or traveller

○ Black or black British - Caribbean

○ Black or black British - African

○ Black -other

○ Asian or Asian British- Indian

○ Asian or Asian British - Pakistani

○ Asian or Asian British - Bangladeshi

○ Chinese

○ Asian - other

○ Mixed - White and Black Caribbean

○ Mixed - White and Black African

○ Mixed - White and Asian

○ Mixed - other

○ Arab

○ White British

○ White 'other'

○ Other Ethnic background

Engaging Academics in KT through a Rewards and Incentives Scheme

Conclusion of Survey

Many thanks for helping me by completing this survey.

If you are interested in the results, I would be happy to discuss them with you.

Kind regards

Richard