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OÉ Gaillimh

Irish Social Sciences Platform Conference Proceedings 2009

Social Science Research and Policy Making: Bridging the Divide

NUI Galway
1st - 2nd December 2009

**IRISH SOCIAL SCIENCES PLATFORM
CONFERENCE 2009**

*Social Science Research and Policy Making:
Bridging the Divide*

1st – 2nd December 2009

National University of Ireland, Galway

PROCEEDINGS

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**Foreword from the Chair of the
Irish Social Sciences Platform Conference 2009**

Social Science Research and Policy Making: Bridging the Divide

National University of Ireland, Galway

In selecting the theme of the Irish Social Sciences Platform Conference hosted at NUI Galway in 2009 careful consideration was given by the organising committee in choosing a conference theme that had a scholarship relevance reflecting the three pillars of the ISSP consortium, one that had significance to business, societal and policy issues. Given the upheavals in global economies which have fundamentally challenged conventional thinking about all aspects about society and business the ISSP Conference 2009 provided an opportunity to reflect on some of these challenges and to debate the policy implications.

Social science research has a significant role in framing effective policy responses to sustaining communities, balanced regional and rural development and the knowledge society. Policy makers are challenged to craft immediate short term solutions for issues that have potentially long terms impacts. Given the potentially differing perspectives of social science researchers and policy makers, growing mutual incomprehension continues to exist. Appropriate mechanisms of interaction and engagement are necessary between social science researchers and policy makers. One of the core purposes of the Conference was to stimulate discussions and debates around how social science research is organised and presented and how social science research can be effectively used by policy makers. The Conference Proceedings are an extension of the debate, the sharing of ideas and perspectives. Moreover, the ISSP as a national research consortium has significant and relevant contributions in bridging this divide with the support of empirical and critical analysis.

The preparation for the Conference and the Proceedings has been a team effort by my colleagues in the six research centres who are part of the ISSP consortium at NUI Galway and I want to convey my personal thanks to them for all of their dedication and hard work. I would like to extend our thanks to other colleagues from the ISSP consortium for their guidance and assistance and to thank our keynote speakers for joining us at the Conference in 2009. A final note of thanks to all the track chairs and session chairs, who gave much time and effort to ensuring the success of the Conference, to all those who have contributed the Conference Proceedings and to Valerie Parker, the editorial assistant for the Conference Proceedings.

Finally, I hope that you enjoy reading these Conference Proceedings which reflect the scholarship traditions of social science research.

Dr. James Cunningham, *Conference Chair*
Director, Centre for Innovation and Structural Change
National University of Ireland, Galway

BALANCED REGIONAL AND RURAL DEVELOPMENT

THE PRACTICE OF USING RESEARCH TO INFLUENCE POLICY: A POLICY ANALYST'S PERSPECTIVE

Helen McHenry, Western Development Commission, Roscommon, Ireland

Paper type: Academic paper in development

ABSTRACT

It is a truism that good research should influence and help to make good policy, but experience shows this is not always the case. Policy makers are usually looking for unambiguous evidence and practical solutions, while researchers have different objectives for their work, often influenced by theories and methodologies which are not necessarily of interest to policy makers. This paper seeks to provide insight into how research can be and is used in policy analysis and, by extension, in policy making.

One of the key functions of the Western Development Commission (the WDC, a statutory body promoting economic and social development in the Western Region) is to bring a regional perspective to government policy, highlight important issues for the region and influence the development of future policy. This function is thus at the interface between research and policy making, and this paper examines the use of research to influence policy from this perspective. It does this by using a case study of the work carried out by the WDC on balanced regional development policy and considers the types of research which have been used to contribute to it. The research used is classified into four types: Academic Research; Synthesised Research; 'In House' Analysis; and Commissioned Research. Under each of these four headings the research used for work on policy for balanced regional development is described and then analysed on the basis of a 'research use' continuum. This continuum extends from very conceptual uses, such as broadening knowledge, to more instrumental uses, such as influencing the detail of policy formulation. Each of the four research types can have multiple positions on this continuum. In addition, one of the key ways that research influences policy is by contributing to the different knowledges of policy analysts. The impact of the different types of research and their different uses on key knowledge forms (theoretical, empirical and experiential) is also examined.

Having considered how research can help to influence policy, the paper concludes with a brief comment on why research often does not do so and some of the trade offs for researchers and policymakers seeking to have an impact on each other. The key or shared elements of the research which is interesting to and useful for policy makers are drawn out. The paper then provides some insights into how social science research may become more influential in the policy making process in Ireland in the future and concludes with a comment on how interested researchers can increase the effect that their research has on policy.

INTRODUCTION

It is a cliché that good research should influence and help to make good policy, but how it works in practice may not be ideal. Policy makers are usually looking for unambiguous

evidence and practical solutions, while researchers have different objectives for their work, often influenced by theories and methodologies which are not necessarily of interest to policy makers. This paper seeks to provide practical insight into the way research can be and is used in policy analysis and, by extension, in policy making, based on experiences in the policy team¹ of the Western Development Commission.

A case study of research used in relation to balanced regional development policy is the means through which the use of different types of research and different uses of research is elucidated. The paper thus has a narrow, practical focus, and does not address the broader issues of evidence based policy making or survey the use of research by policy makers in Ireland. Indeed the developments that we can expect in the area of research use and policy are also beyond the scope of the paper.

Nonetheless by examining the ways in which different types of research is used by those engaged in policy work, the paper provides researchers and those with an interest in policy making, with an illustration of the various uses to which research can be put in order to influence policy. This is done both by describing the type of research used by also considering its use in the context of a 'research use' continuum developed by Nutley et al (2007). It also considers how different research and different uses contribute to different kinds of knowledges available to the policy analyst or policy maker. It should be remembered that it is not only important that research should influence policy making, but also that policy making influences the questions addressed by research. Then, in keeping with the practical, applied orientation of much policy work it concludes with some suggestions or ways in which researchers can help to have their research influence policy.

'USING' RESEARCH?

The general focus of this paper is on research use in policy making and analysis, but before considering the types of research used it is important to consider what is meant by 'research use'. Research can be 'used' in a variety of ways, from the very direct interpretation of findings which are then used to influence policy, to the broader influence of research on raising policy makers' awareness of issues, or insights. These may not directly influence the policy made, but in the longer term can influence policy, both in terms of the policy goals and they ways used to achieve them. Nutley et al (2007) have written considerably on the use of research to influence policy and it is helpful to consider some of their findings. They remind us that the use of research is a fluid and dynamic process rather than a single event and that it is varied and complex, with different types of uses in different situation. Research use can be defined in many different ways but they note that a key distinction emerges between conceptual use of research and instrumental use. They have therefore developed a continuum of research use to illustrate movement from conceptual uses such as awareness and knowledge and understanding to the more instrumental use of ideas to developing best practice and policy change.

¹ I am grateful to my colleagues Pauline White and Deirdre Frost for their input to this paper.

Research Use Continuum

Conceptual uses-----<-<-----<->-----> >-----**Instrumental uses**

←Awareness -knowledge & understanding- changed attitudes, perceptions & ideas- development of practice- policy adaptation→

Source: Nutley et al (2007)

Thus different research uses can be placed on this continuum from the more conceptual uses of increased awareness of issues, to improved knowledge and understanding through to change of attitudes, perceptions and ideas, to the more instrumental development of practice and policy adaptation. It should also be noted that findings from a research study can be ‘used’ in different ways and therefore can be placed at multiple points on the continuum.

Although when considering research use we are perhaps most drawn to the instrumental end of the continuum, it is likely that most research has more influence of a more conceptual type, particularly in relation to addition to knowledge. It is therefore useful to note the different kinds of knowledge to which research can make a contributions. Nutley et al. (2007) define three knowledges which make up the policy makers’ frames of reference. These are: Theoretical, Empirical and Experiential. Theoretical knowing is defined as using different theoretical frameworks for thinking about a problem, sometimes informed by research but often derived in intuitive and informal ways. They define Empirical knowing as the most explicit form of knowing which is often based on quantitative or qualitative research study. Experiential knowing is craft or tacit knowledge built up over a number of years of practical experience. They note however that the boundaries between these knowledges are fluid and that it is not always easy to define which knowledge fits in where. In the case study of research use below the contribution of research to these three knowledge types and its relationship with them is considered.

This continuum highlights the potential for different kinds of research use but it should be recognised that no situation in which research is applied will ever be the same as the one where the original research was conducted. This is the case even where very narrowly defined research on specific goals (such as in relation to a health care practice) but it is doubly the case in relation to research on a broad issue such as balanced regional development, where much of the research is retrospectively explaining impacts and process. The context of the research will never be replicated, so the research will never be able to give a definitive answer to the questions that policy makers ask.

Yet research is used and in using it research knowledge is likely to be actively interpreted and negotiated. Thus research use may be “more about transformation rather than straightforward application” (Nutley et al, 2007: 59). Using research is likely to mean finding a balance between adapting research and attempting to replicate it, by developing a guiding rule in relation to ‘what works’. How far this goes, and whether at the end it can still be referred to as research use will vary. There is of course also potential for misuse, for example the over zealous take up of tentative findings. Whether ignoring key findings of research is considered ‘misuse’ is a more complex question.

Social science research tends not to simplify problems, which is what policy makers are looking for, but instead reveals new complexities. Its evidence comes from the past and extrapolations to the future are problematic so it cannot claim to provide a definitive answer. As Ritter (2009) notes, there is a tension between the type of information source most suited to policy makers (simple, single message, summative and accessible) and the type of information produced and valued by researchers, which are largely academic publications which are nuanced and complex.

Complexities of Policy Making

In considering how research is used it is important to be aware of the complexities of policy making, and the situation of the policy makers who might wish to, or be in a position to, use research. Policy decisions are informed by different factors: politics; ideologies and values; perceived public opinion and pragmatic constraints such as funding. Research evidence must compete with other inputs (Ritter, 2009).

Policy making is occasionally a clearly defined event: a new policy is required and it is developed with conscious deliberation, explicit decisions are made and the policy is implemented. Most often, however, it is an on-going process which occurs piecemeal, with no single decision being made. The policy emerges from another policy, or is shaped as it is implemented (Nutley et al, 2007). Thus policy making is a process and policy itself can be fluid, particularly in the sense of how it achieves its overall objective. It also needs to be recognised that policy has multiple goals, some of which are explicit, and many others which are implicit or even unacknowledged in any formal sense. Furthermore, policy is inevitably more influenced by politics than by research.

Different research uses and different types of knowledge available to those working in the policy field have been discussed in a conceptual way, an illustrative case study of different types of research use in relation to balanced regional development should help to demonstrate the practice of research use in one particular context.

CASE STUDY OF USE OF RESEARCH FOR ANALYSIS OF POLICY FOR BALANCED REGIONAL DEVELOPMENT IN THE WESTERN DEVELOPMENT COMMISSION

The focus of this paper is to illustrate the practice of research use in analysis of policy for balanced regional development. The case study is structured by the type of research used: academic research; synthesised research; in house analysis and commissioned research. Each of these is analysed by reference to the research use continuum outlined by Nutley et al (2007) which runs from conceptual to instrumental uses. This provides the structure for the case study while the contribution of research to some basic forms of knowing (theoretical, knowing, empirical knowing and experiential knowing) is also considered.

Before going into the detail of the case study it is useful to provide some background to the WDC and the policy analysis conducted in the organisation. The Western Development Commission (WDC) is a statutory body (a Non Commercial Semi State Body) which was set up by government to promote and foster economic and social development in the Western

Regions (made up of seven Western Counties¹). It carries out its mandate in a variety of ways, including the commercial investments from the Western Investment Fund, and through developing strategic projects, in partnership with other agencies to promote regional and rural development. These include a regional wood heat project and the Look West initiative.

In this paper and this case study, it is the policy analysis carried out in the WDC which is under discussion. The policy analysts in the WDC monitor government policy which impacts on the region, analyse its effects and potential effects and highlight areas which should be the focus of policy actions or aspects of policy which should be changed in order to benefit the region. Infrastructure policy is a key area of work and comprises energy, telecoms and various transport infrastructures (road, rail and air). Employment and labour markets are covered as is the positioning of our region in relation to other sectoral policy areas such as agriculture, rural development and climate change. More broadly however, the general theme of balanced regional development is the overarching policy area within which all other work sits in terms of analysing current policy in relation to balanced regional development and also in advocating policy approaches to balanced regional development in general policy (such as various National Development Plans and the National Spatial Strategy) and in relation to the specific sectoral topics highlighted above.

The WDC advocates balanced regional development and consistently argues that balanced regional development benefits the whole of Ireland, both economically and socially. Other discourses, however, emphasise the promotion of Dublin, or a ‘city led approach’ as a means of gaining national advantage. Thus, throughout our work on balanced regional development and use of research in relation to it, the WDC is not a neutral agency. Research findings are used to support the case for wider regional development, although as policy analysts we are of course also familiar with research which emphasises an opposing argument.

It must be recognised that in developing policy for balanced regional development, the beliefs of the policy makers in regard to the importance of balanced regional development and even its desirability will influence the policy outcome. For example, if the dominant belief is that for the Irish economy to grow then Dublin must grow more then the policy outcome will be very different to the situation where the dominant discourse is one of spreading growth and investment.

The uses of research in work on balanced regional development carried out by the WDC are considered below. A typology is helpful for describing the research used and its analysis. Four types of research considered are: Academic Research; Synthesised Research; In House Analyses; and Commissioned Research. The boundaries between the research types are soft, and different aspects of research projects or research outcomes could fit into more than one category. Research used in work on balanced regional development is described under each of the four types but they are also analysed according to the research use continuum discussed above, which runs from conceptual to instrumental uses. The influence on policy analysts’ knowledges (theoretical, empirical and experiential) is also considered for the different research types. The focus of the paper is on research, but it should be noted that various policy documents and reports, some of which may be derived from research, are in general more important influences on our work than research.

¹ Donegal, Sligo, Leitrim, Roscommon, Mayo, Galway and Clare.

Academic Research

A loose, practical definition of academic research is made for the purposes of this paper. It can be taken to cover that research which is produced by academics in universities and research institutes, which is normally disseminated, at least in part, in academic peer reviewed journals or by presentation at academic conferences. It can also include EU funded research and within that there has been in recent years more of a requirement to engage with policy makers and with a wider audience than academic one and so findings may be disseminated in research reports and in more summary or accessible forms.

Academic research is probably the least used of the types of research outlined. There are a variety of reasons for this, the first is the simplest: it is difficult to access in both physical and intellectual ways. Government departments and their agencies do not have access to university or academic libraries. They do not have the internet access to journal articles which is available to most academics, nor do they usually have time (nor perhaps the inclination) to go to such libraries (even if they could get in) to search for such research.

In the WDC we have subscriptions to two regional and rural development journals, but this is unusual in a policy making context. Thus while a policy maker or policy analyst who is interested in academic research may use the internet to find what they can, journal articles are expensive on-line and are unlikely to be purchased. Policy makers and analysts do attend conferences, at some of which academic research is presented, but for the most part they do not attend more academic conferences. There is therefore a distance between academic research and its potential policy users. Furthermore, academic research articles and reports are written for a particular academic audience and use jargon and language style which is not accessible to a casual reader. They focus on theoretical and methodological aspects of the research which are not generally of interest to those working on policy. Usually the introduction to the research and conclusions and potential implications of the research for policy are what draws the policy analysts' interest. Unfortunately in many situations while reading the academic research will contribute to both the policy analysts theoretical and empirical knowledges, this is usually in quite a conceptual way, raising awareness and improving understanding but not providing practical insights or solutions to a policy problem.

Research institutes which are largely government funded, such as the ESRI and Teagasc tend, by their nature to be more policy focussed. They produce much academic and rigorous research but in general must also address the policy context and make recommendations on proposed solutions. Dissemination practices vary, but working papers and other formats are sometimes used to highlight key findings and analyses and these are often targeted at a non academic reader. These formats have much in common with the formats used by organisations bringing together or synthesising research findings for the reader more interested in application of findings. These are discussed in the next section under 'Synthesised' research.

Despite the foregoing discussion on the difficulties of using academic research in policy oriented research, it should be noted that the WDC has a strong inclination to use such research, perhaps because its policy analysts were previously researchers. The use of these various types of research in the policy analysis process in relation to balanced regional development culminated in May 2008 in a conference on the topic hosted by the WDC on "Delivering Balanced Regional Development: A Challenge for Policy". The conference was targeted at policy makers but many of the speakers were academics with whom the WDC had

worked (Keane, 2008; Boyle 2008) or whom we felt had important practical contributions to make on the issue of balanced regional development (Ward, 2008). Indeed the paper produced by the WDC policy team (O'Hara et al, 2008) had a more academic style than many policy focused reports. It contained reference to academic research as well as synthesised research sources. It made use of the findings of in house analyses and commissioned research. Bringing these research sources together and interpreting them with reference to the focus on balanced regional development policy was an important element of the paper. Senior policy makers (Griffin, 2008; O'Neill, 2008) also presented at the conference which thus provided a mix of research and policy and was effective in increasing the awareness among policy makers of research and theoretical ideas, but is also useful for increasing researchers' awareness of policy issues.

Synthesised Research

In this section the use of research findings which have been 'synthesised' or brought together in a report on a particular topic are considered. In practical terms this type of 'packaging' of research is particularly useful, providing a kind of meta analysis of different topics and is usually associated with further development of conclusions and recommendations based on research findings. One of the difficulties which could be associated with reliance on this type of packaged research is that without further searching, or a knowledge of the integrity of the source, the reader is not sure that all relevant research, including that which is contrary to the ideas presented, is being used, or that interpretations of the research conclusions are correct. Policy analysts will inevitably make judgements about the quality of the source and whether the findings fit in with the different knowledge forms of the analyst.

This usefulness of this provision of access to the research is illustrated by consideration of the research use continuum. Certainly the practical results, conclusions and recommendations provide for instrumental research use. The synthesis of a range of research in relation to a particular topic increases awareness of the issue and understanding of different approaches, very often in relation to different experiences and practices in other countries and in other sectors. A number of examples of synthesised research which were used in relation to the question of balanced regional development show the different uses of the research and also the way they contribute to different ways of knowing.

The background research which was carried out for the National Spatial Strategy was largely synthesised research. Different research topics were examined and key research findings and conclusions highlighted (for example Transport and Regional Development (Goodbody Economic Consultants, 2000); Irish Rural Structure and Gaeltacht Areas (Centre for Local and Regional Studies, 2001) and 'Rural and Urban Roles' (Spatial Planning Unit, 2001). Fifteen of these synthesised reports were produced for use in the development of the National Spatial Strategy, the key regional development policy which was launched in 2002. The process of commissioning detailed reports on key issues relating to regional policy is unusual in Ireland. Despite the detailed background provided by the reports, however, it could be argued that the political and pragmatic elements of the policy development process had a greater influence on the final content of the National Spatial Strategy. Nonetheless, many of the reports and the analysis they produced provide useful perspectives on the development of regional policy in Ireland and the use of research and the relationship between the researchers and policy makers in relation to the National Spatial Strategy has continued.

Reports from the OECD are a good example of sources of synthesised research. Three OECD reviews relate to the issue of balanced regional development: *Competitive Cities in the Global Economy* (OECD, 2006); *The New Rural Paradigm: Policies and Governance* (OECD, 2006); and *'How Regions Grow'* (OECD, 2009). These detailed and wide ranging reports bring together research results, case studies and analysis from OECD member states and provide practical policy ideas and background on policy thinking and trends in a variety of countries. These reports are, in effect, the best examples of synthesized research and show how research can be made accessible to policy makers, but they are long and detailed so short 'Policy Briefs' are provided by the OECD summarizing the key findings of the main reports. These briefs, coming from a reliable source are, in effect, the ultimate in 'packaged' research, although they do of course take for granted an acceptance of the OECD's particular interpretation of the workings of the economy and society.

Synthesised research adds something to the theoretical knowledge of policy analysts in terms of explanations of different trends and findings, but it is most important in its addition to empirical knowledge from a variety of sources. The 'In house' analysis discussed below provides the widest research contribution to the different knowledges of the policy analysts. However it should be noted that the research reports from agencies such as the National Competitiveness Council, Forfás, FÁS, the National Economic and Social Council and from government departments are our most widely used resource. The style of the reports is generally more accessible than the style of reporting academic research and researchers wishing to have their work used by policy makers should seek to replicate the practical style of such work.

'In House' Analysis

Given that research being conducted does not usually address the particular questions and issues that we would like to see answered in relation to balanced regional development there is a requirement for a substantial amount of 'In House' analyses to be carried out. While it would not be defined as 'research' in effect it is very similar to research activity and if carried out in an academic or other institution might be termed research. This analysis usually follows the standard research method, i.e. a literature review, data assembly (using secondary data sources) and data analysis followed by interpretation of the results and analysis of the findings. The analysis may take an inductive approach where we see what is arising from the data, or a deductive approach where a particular question or informal hypothesis is examined.

Examples of this kind of analysis in relation to the broad issues of balanced regional development is the analysis of census data. Basic analyses of the recent Census of Population (CSO, 2008) and comparison with previous censuses provides a picture of the situation in the Western Region in relation to population patterns, age structure, education levels and employment characteristics all of which form the basis for consideration of regional balance, the type of policy advocated and changes over time which may or not be related to the impacts of policy.

For example, we examined changing population patterns in detail, looking at the population of towns and growth patterns in towns in the region and endeavoured to explain the changes occurring but also to consider the implications of such changes (very rapid growth in some towns, stagnation in others). This allowed us to consider how some of the current policies were influencing population change in both positive and negative ways and what types of policy might be needed in relation to smaller towns to mitigate negative impacts (McHenry,

2003). In relation to employment, detailed analysis of the sectoral composition of employment in the Western region compared to the rest of the country has allowed us to highlight the implications of the current downturn for the region and also the issues particular to the region which should be addressed by policy (WDC, 2009). As part of on going data analyses, other CSO data is interrogated, such as the Quarterly National Household Survey, and data from sources such as Forfás on agency assisted employment and from FÁS on employment and training.

This 'In house' analysis covers the full 'use of research spectrum' from the conceptual uses of increasing awareness of issues and improved knowledge and understanding, through to the drawing out of practical issues for policy. It is of course particularly effective in these uses as it directly addresses issues of concern to the WDC and to the policy remit of the organisation.

Similarly, carrying out this analysis 'In house' influences the three knowledge forms held by the analysts. Examination of relevant literature increases theoretical knowledge, while the data analysis develops empirical knowledge. However, to some extent it can also be argued that experiential knowledge held by the analysts influences the data interrogation, the analysis and the conclusions drawn. Analysts living and working in the region inevitably use their life experiences to consider the implications of their findings for balanced regional development.

While basic results can be generated quite easily from data, interrogation of these results and questioning of the patterns and possible explanation for them is important. In pure research a narrow issue might be interrogated in a very rigorous way to establish evidence for causal effects, but in general this detailed drilling down is not an element of our analysis. Such research work is too time consuming and while rigorous does not provide answers which can easily be applied to other situations.

Commissioned Research

Another key type of research used by the WDC is the commissioned research, where particular research questions of interest to the WDC are addressed by others (usually consultants) who are paid for the work. The focus of the research tends to be practical and policy oriented and its outcomes are both reports for the WDC and data compilation and analysis which may then be used in a variety of different areas of WDC work including balanced regional development. It should be noted that most commissioned research has had considerable input from the WDC both in guiding the research and also in bringing different aspects together or in making it more accessible to our audiences. In general this type of research falls at the instrumental end of the spectrum, where we seek information about particular issues which may in turn influence policy. As policy analysts we are not making policy so it is suggested that research that we commission is not as oriented to the detail of a policy solution as that which would be commissioned by policy makers intent on designing a policy. It is also important to remember that while the research use continuum outlined by Nutley et al (2007) is useful, most research will, in addition to perhaps having instrumental uses, will contribute to knowledge and understanding and awareness. Thus it cannot be positioned at a single point on the continuum.

An example of this comes from work in the WDC on travelling to work and labour market catchments. The WDC commissioned spatial analysis of data from the CSO on travel to work patterns for the Western Region. This showed the travel to work patterns in the region and

the labour market catchments arising from these patterns. The commissioned detailed spatial analysis was supplemented by ‘in house’ analysis of the socio-economic characteristics of the working population in these catchments, which was also derived from a subset of the CSO Census 2006 (POWCAR¹). The commissioned analyses and findings were used by a policy analyst to write the report ‘Travel to Work and Labour Catchments in the Western Region’ (WDC, 2009), which defines seven labour catchments (one for the principal town in each county in the region) and portrays the labour supply available in each. This evidence-based analysis can be used to inform regional policy-making, and will be an important source of information for employers, state development agencies and local and regional authorities. Thus this research is providing both practical and policy oriented uses (instrumental uses) and also building knowledge and understanding of labour market patterns and population movement in the region (a more conceptual use).

Similarly in terms of its influence on the types of knowledge held by policy analysts, policy makers and other interested actors, this work adds particularly to our empirical knowledge. It is likely that this is the case for much commissioned work, but it is not always the case. In the next example theoretical knowledge was the focus of the commissioned research.

The research being discussed is relevant to balanced regional development work carried out by the WDC. While that work addresses the broad issue of regional policy, much of what we work on in relation to such policy has been informed by our experiences of policy implementation at a more detailed sectoral level. Thus, having examined government decisions on key pieces of regional infrastructure (e.g. gas transmission pipeline to Donegal) it was felt that the current approach to Cost Benefit Analysis (CBA) carried out for government under Department of Finance guidelines was not able to capture the full range of benefits which can accrue to a region from an infrastructural investment. Only those effects that can be quantified are included in a formal CBA. If important non-quantifiable impacts are present, they may not be reflected in the CBA. In the case of many projects located in less congested regions, where revenues or quantifiable benefits may be lower than in areas of higher population density, or greater economic activity, this can be very important. There are difficulties in placing an accurate (and widely accepted) value on many of the effects that arise from project investment. This is particularly the case in relation to a project’s effect on the development of a better regional balance of economic activity, and its potential to enhance incomes and employment in lagging regions. Such regional balance is a major objective of Irish economic policy as expressed in the National Development Plan and the National Spatial Strategy.

Research was commissioned by the WDC to examine the possibility of developing a quantitative approach to valuing regional development benefits as part of a CBA. The WDC feel that this is important as qualitative considerations do not appear to have as significant an influence in the appraisal process. The research also developed recommendations for strengthening the qualitative assessment of benefits of regional infrastructure (including considering multi criteria analysis and similar techniques) and guidelines for how these can be more clearly incorporated into the CBA and other project appraisal techniques.

This research was carried out by Colin Buchanan consultants (Colin Buchanan, 2005) and its use largely falls at the conceptual end of the use continuum. A significant literature review was carried out, and international experiences were central to this, but while the field of

¹ Place of Work Census of Anonymised records

environmental economics has made much progress in quantifying non market environmental benefits, the same cannot be said in relation to wider regional benefits. Developing more quantitative economic approaches to measuring regional benefits is not an established area of academic work. The work did raise awareness of the issue, and highlight the theoretical and practical difficulties associated with valuing wider benefits, and made some recommendations as to what should be included in any new guidelines, it did not make significant practical and policy advances. Its contribution was more to the theoretical knowledge of the issue. The WDC still regards this as an important area of work, and in this context believes that more research would ultimately help to improve regional policy. It may be that in this area it is important to move from commissioned work to the more academic type of research. The question then becomes how policy makers or policy analysts who see a need for research can communicate this to the researchers? This issue will be discussed in the concluding section which focuses on the practical ways researchers can link with policy makers so that research is used to influence policy making.

CONCLUSIONS

As discussed earlier, policy makers do not usually source research in academic journals, when they do access research it is in other formats. The most important of these is through personal contact with researchers and experts in the field. They may also consult research reports, summaries and briefings. The internet is likely to be an important source of information, policy makers do not usually have access to a library, especially one which will have journals or academic books and, as using research is likely to be a very small part of their work, unless the research is available and accessible it is not likely to get used. Academic journals require subscriptions so often not much more than the abstract is available.

Publication of research findings in an academic journal is usually regarded as the ultimate goal of academic researchers. They may have a variety of other outlets, or may plan to disseminate findings in a variety of other ways, but the requirements of quality refereed journals will influence the content and style of the research reporting. This is important for the research process and the researcher but if the findings of research are to be used it must go much further.

Those who wish to have their research influence policy need to have some understanding of the policy making process. At the broadest level they need to be aware that policy decisions are informed by a number of different factors beyond the simple stated goal of a policy or area of policy. These can include politics, perceived public opinion and also the more pragmatic constraints such as availability of funding. Ideology and values can also be important, as is the perspective of the policy maker (Ritter, 2009).

Understanding the various competing interests facing policy makers, helps clarify why they are interested in simple messages from research, which are unambiguous and can be seamlessly incorporated into a policy approach. Yet the complexity both of research and of the policy process makes this impossible and it is important to be pragmatic about the types of uses to which research can be put. This is the real world with all its complexity and getting research used, and letting it have an influence is best achieved by understanding the context in which it can work. Waiting for a better policy making world, in which evidence based policy making is more than a mantra, could take a long time.

Policy makers may be trying to achieve multiple goals with a single policy; policies for balanced regional development may be about developing a national infrastructure, and so are driven from a sectoral rather than regional perspective, or about ensuring that some spending is occurring in regions which receive little investment, or about satisfying a political need. Thus the policy goals may override information and analysis provided by research. Nonetheless, despite these difficulties it should also be recognised that in many situations policy makers will want to use research.

Policy makers, particularly those in strategic positions, considering broad policy issues, may also wish to influence research. There are many questions that they would like answers to, that are at a more conceptual than instrumental level. In other words, they may not need the answers in order to do their policy work, but they would be useful to add to their knowledge and understanding of the situations policy should address. So for those working on policy there is also a difficulty. How do they access researchers and how do they influence the type of research being carried out or the questions being asked by the researchers?

In most cases if policy makers are using research and are interested in research findings they are presented with, they develop a relationship with the researcher, and are then they are in a position to raise their questions with the researcher and to highlight their areas of interest. Personal relationships are the most important influence on research use (Ritter, 2009). Both researchers and policy makers may have concerns about these relationships. Researchers may be anxious about their 'capture' by policy makers, and have concerns that too close a relation with those in the policy field might reduce their independence, that they may find themselves under pressure to withhold results or not to ask particular questions, they might feel that their research could be hijacked. In contrast, policy makers have different concerns: that the research does not answer the question of interest, that it simply tells us what we 'know' already; or that it takes too long and is completed too late or be too narrowly focused to be of use. Of course it is important to be aware of these areas of potential difficulty, but at the same time, in order to have research influence policy these issues need to be navigated.

Furthermore as the trend towards evidence based policy making, on-going policy evaluation, Regulatory Impact Analysis, performance indication and other methods associated with more objective and informed policy development continues globally, it is likely that there will be some adoption of these practices nationally. Thus those involved in policy will become more familiar with the concepts used by researchers and the types of analysis used and so will be in a position to frame their questions in a form more compatible with research goals and outcomes. Improved understanding between the two groups should, albeit slowly, lead to a process of more mutual influence. Whether this all leads to more effective policy for balanced regional development in Ireland is a different question, but one that will inevitably need to be the subject of more research.

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KNOWLEDGE SOCIETY

PERSONAL MOBILITY IN WORK CONTEXTS

Thomas Acton and **Willie Golden**, Centre for Innovation and Structural Change, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway
Hans van der Heijden, School of Management, University of Surrey, UK

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ABSTRACT

Personal mobility in work contexts is increasingly dependent on enabling technologies such as mobile phones, blackberries, sub-notebooks and other communication devices. In managerial and other contexts the 'smart economy' can be enhanced through effective 'always on' accessibility of people, with personal mobility necessitating access to organisational data and applications. Effective deployment and use of devices to support personal mobility are becoming standard issue in many businesses and sectors, and are fast becoming operational policy for innovative organisations. Mobile computing can be viewed as adding a new dimension to the broader vision of universal access to information that allows the mobility of data consumers and data resources (Pitoura and Bhargava, 1994). We see widespread and pervasive use of mobile devices with the computing and networking capabilities to run a variety of applications (Chu, Song, Wong, Kurakake and Katagiri, 2004). The physical portability of mobile devices like PDAs and Blackberries, and their reduced cost over laptop PCs, together with an increasing ability to run applications and access services equivalent to those available on more traditional desktop and laptop PCs, leads to an increased likelihood of usage in scenarios where mobility is essential. Mobile devices can be indispensable for mobility-related business applications. For example, SAP's mobile sales applications enable mobile PDA or mobile phone users to create sales orders in real time, data mine sales information, and view and authorise sales orders online. However, devices such as PDAs and mobile phones have small screens, which can reduce their usability and potentially impact their effectiveness for business-related functions. To be useful, these shortcomings must be identified and addressed.

Focusing on personal digital assistants (PDAs) that enable personal mobility through access to information on the move, this paper describes usability- and performance-related constraints of reduced area displays in small screen devices and applications. The paper discusses managerial decision-making on small devices, and the need to support effective decisions whilst on the move. The paper suggests one particular avenue for future research that may address some of the limitations of small screens and better facilitate higher quality and more confident decision-making in mobile work contexts.

INTRODUCTION

Most traditional information systems use large screen displays such as PC screens to output and present data to users. The usage of small screen devices such as PDAs, Blackberries and mobile phones has become more pervasive over recent years, and functionality accessed using such devices more ubiquitous. Small screen devices have further advanced and enabled mobility in organisations beyond that empowered by laptop usage: devices such as

Blackberries allow managers to access systems and data remotely over wireless connections, facilitating access to traditionally PC or laptop-bound applications such as e-mail, spreadsheets, conferencing, database connectivity, and access to the internet. Mobile computing can increase universal access to information through the mobility of data consumers and data resources (Pitoura and Bhargava, 1994). The last decade in particular has seen a widespread use of mobile devices with the technological capabilities to run a variety of applications and meet many user needs typically associated with desktop computing systems. Mobile devices whose form factors are sub-notebook include mobile phones, pagers, PDAs, Blackberries and other devices such as car navigation systems.

Yet the small screens in mobile devices impose some inherent limitations: small screens compromise usability. Applications and services created for traditional large-screen access using PCs or laptops may not be as easily used on PDAs or phones, largely due to key- or stylus-based input mechanisms associated with these devices, together with data presentation and resultant usability-related constraints of small screens. Authors such as Bier et al. (1993), Encarnacao, Bimber, Schmalstieg and Chandler (1999), Genau and Kramer (Genau and Kramer, 1995), Harrison et al. (1995), Kramer (1994), and Zhai et al. (1994) have implemented methods of maximising the available area, enriching user interaction and increasing usability on large screen devices such as traditional PCs for the display of large amounts of data. However, little work has been carried out in the context of small screen devices (Buchanan, Farrant, Jones, Thimbleby, Marsden and Pazzani, 2001; Kaasinen, Aaltonen, Kolar, Melakoski and Laakko, 2000; Pitoura and Bhargava, 1994).

‘OUT OF OFFICE’ MOBILITY

Small devices offer an increased mobility over notebook computers due to their comparably diminutive size. If information systems whose usage is normatively based on traditional desktop PCs are available to PDAs or Blackberries, then access to such information systems and to the information generated by them is increased through mobility. However, usage limitations of small devices are a concern, particularly in instances where access to large amounts of data is required when mobile, where that data is dynamic and where high quality decisions need to be made based upon that data. One concern with small screens is the presentation of large quantities of data on such devices. Another is how users accessing large amounts of data over mobile devices can interact with, navigate and filter that data. Such issues are encompassed by the usability of the user interface to such information systems. Solutions to increase the usability of user interfaces on small screen devices, to the display of information on reduced area screens, and to address the increased effort associated with the usage of large amounts of data accessed on small devices need to be addressed by interface designers. Particularly where an information system uses and displays large amounts of data, such as spreadsheet applications or database- or web-based searches, a reduced display area on PDAs and phones can compromise ease of use, usefulness, and user perceptions towards the use of the relevant device as workable and appropriate for certain tasks. Further, in instances where managerial activity requires mobility yet timely access to data for decision making, such as access to transactional data, schedules, shared calendars or staff availabilities for meetings, small screen devices may impose performance-related impediments. Indeed, in decision-making usage scenarios usability- or user performance shortcomings of small screens may be compensated by software functionality that provides decision task support. If such impediments can be addressed and compensated, perhaps through support systems targeting improved performance or usability in terms of the usage of small screen devices for

decision-making tasks, then the usefulness and user perceptions towards the suitability and usability of such devices for critical or important tasks may be positively impacted, or task performance may be increased.

User interfaces for small devices are in a constant state of change, as enabling technologies permit small-device functionality to improve almost exponentially with time. Large screen computing devices have been available for a much longer time span. Techniques applied to display problems relating to information representation, and the enabling design objectives, have had less time to be adapted to, and verified in, small screen contexts. Small-screen devices such as PDAs offer their users a degree of mobility inherently absent in desktop PCs, and sometimes with a higher usability than the use of notebook computers. In management resource allocation scenarios involving decentralised resources or where the decision maker is necessarily mobile or remotely located, the device's user (the decision maker) may need to make decisions based on remote data access, on the road whilst travelling, at airports, or in situations disconnected from the physical work environment. For decision scenarios involving decision revisits and repetitive decision making such as stock purchasing, an added physical mobility may be of a distinct advantage to the decision maker. If decisions could be made on PDAs at an accuracy and quality at acceptable levels compared to the same tasks carried out on large-screen PCs in stationary office environments, then decision makers may have the confidence in having made high quality decisions through data accessed on otherwise limiting small-screen information systems, with the advantages of added physical mobility. It is important that managers can use small devices for mobile work whilst travelling or removed from traditional PC-based systems, with a satisfaction and confidence in decisions made that are comparable to large-screen information systems.

With an increasing availability and use of information systems in mobile devices, and considering the increasing use of mobile devices such as PDAs in managerial activity where timely access to organisational data is a prime objective and concern, there is a need for research into the efficacy of small screen devices for various functions; and in the context of managerial tasks involving decision making, a need for research into the suitability, usability, and task efficacy of devices such as PDAs as mobile alternatives to desktop computing systems as well as any decision making task performance implications such as a dilution of decision making quality as a result of a decision made using a small screen device to access organisational information. Further, there is a need for further research into the effects of assistive software tools as compensatory mechanisms for decision-making on small screen devices.

THE BANE OF SMALL DEVICES

The familiar navigational aspects of large screen web browser software do not scale well to small devices. If small devices are to become usable, ubiquitous and effective mobile gateways to decision making, there is a need for research into the design of dedicated and targeted decision aids to compensate and address inherent usability- and particularly performance limitations of personal digital assistants (PDAs) and mobile phones.

If decision-making tasks that have a time criticality or time value associated with them can be effectively accomplished on small devices such as PDAs or mobile phones, then the mobility aspect of such devices facilitate such decision making irrespective of the physical location of the decision maker and extends remote access to the data required for decision making. As

examples, for resource allocation tasks by managerial decision makers in organisations, for stock purchasing decisions based on dynamic data, access to large amounts of data may be required or consequential: many stocks may be available for purchase, or resource allocation data may change rapidly. Effectively accessing data on small screens can be dependent upon many factors, including the presentation format of the data: for example whether data is presented in a table, whether data presentation is somehow distorted or changed or not for the device accessing it, and so on. For decision-making tasks involving a decision choice of one from many, as in the purchase of a single stock from many available, or the allocation of a particular resource to an organisational application, decision data can be presented in tabulated formats with choice alternatives based upon alignable attributes: personal music players may be presented as distinct alternatives described using attributes such as price, music capacity, battery life, colour, weight, and so on. If data are presented in tabular format, and irrespective of whether data is specifically presented or not for the device, user examination of attributes for available alternatives carries an increased navigational burden where such data is presented on small screens such as those on PDAs, as users must scroll or move between display windows more so than would be the case were the data to be viewed using large screens such as those on notebooks or desktop PCs.

When presented with a large amount of data in choice tasks, decision makers tend to reduce the data through elimination of some alternatives and further examination of others, typically using particular decision strategies that are less effortful than others as a means to reduce the data for active consideration and to make the task more manageable. However, initial culling of possible choices may occur without full regard to important information about discounted alternatives, and so a potential good choice may be missed. Indeed decision behaviour in multi-attributed decision-making scenarios involves data reduction typically through alternative elimination using low effort strategies, and the creation of a subset of the original data for further consideration and final choice. Such subsets are termed 'consideration sets'. If a decision support mechanism can provide a means of reducing the amount of data in decision-making scenarios such as those outlined above in such a manner as to enable the decision maker to make a good choice, and if it could reduce the likelihood of making a poor choice, then that mechanism may improve task quality, usability or performance by compensating for limitations associated with small screens, and increase decision-making quality for such tasks carried out using PDAs or other small screen devices. It follows that if a decision support mechanism can effect the creation of a cognitively manageable but high quality subset of alternatives for further consideration, decision quality may be improved.

For multi-attribute preferential choice decision scenarios with large amounts of tabulated data presented on screen as a decision matrix, a decision aid that supports better decision making particularly for small screen systems by reducing decision-making effort and facilitating the use of quality decision strategies may improve decision performance both in terms of direct indicators but also in terms of perceptual attitudes. As such, it may be possible to provide a potential advantage to mobility and offer sufficient compensatory advantage to users of mobile devices and overcome some of the shortcomings of small screens for decision-making tasks, in the context of multi-attribute decision making involving tabular data displays. Further, for tasks where data are dynamic and where a timely decision is required, their efficient execution on mobile devices such as small screen PDAs or mobile phones may offer an increased mobility and advantageous access to information over traditional desktop PC or notebook access.

With respect to the literature there are two central informing components to this development paper. The first focuses on small screens and their impact on usability and performance of tasks. Usability and performance have a strong literature base (for example, see Alben, 1996; Benbunan-Fich, 2001), but most studies are centred on large screen traditional computing systems such as desktop PCs, with relatively little research into small screen systems (see Buchanan et al., 2001; Lindroth and Nilsson, 2001). The second component focuses on decision making. Again most research, particularly studies examining the effects of decision aids on performance or other factors, target large screen information systems (for example, see Benbasat, Dexter and Todd, 1986; Montazemi, Wang, Khalid Nainar and Bart, 1996; Todd and Benbasat, 1991). With small screens negatively impacting usability and performance, and with decision aids potentially assisting in decision making, the paper here brings these two components together to address decision making using small screen systems.

THE USABILITY ISSUE

Small devices are limited physically by having small screens, and the efficacy of on-screen data presentation as well as interaction methods differ compared to desktop or notebook systems. Devices with small screens, such as mobile phones and PDAs, are restricted in terms of display output with respect to the quantity of data that can be displayed on screen at a given time, and also on the means by which such data can be presented effectively (Kamba, Elson, Harpold, Stamper and Sukaviriya, 1996). Indeed visual data presentation can be problematic on small screens, and user effort in navigating and using the data can be much higher than on large screen systems: for example, if the data required for a time-critical decision making task is presented on screen in a tabular grid, the informational space available to small screen users is reduced, less data may be visible at any given time, more data navigation is required to see the data let alone assess it, and the effort required to make a good decision is high. One approach to small screen issues affecting the display of information directly addresses the presentation of the displayed content (Kamba et al., 1996). A thorough discussion of usability-related issues is presented by Acton, Golden and van der Heijden (2008).

THE DECISION-MAKING ISSUE

All computerised systems are based on symbiotic synergies, not only between the underlying hardware and software but also between system and user. The presentation of on-screen information is largely software driven. Information systems intended for use on small devices such as PDAs would ideally be designed to maximise the efficacy of, and reduce the potential negative impact of a reduced display area relative to large screen displays (Jones, Marsden, Mohd-Nasir, Boone and Buchanan, 1999; Kim and Albers, 2003). However, web based information systems in particular continue to be exclusively designed for users accessing these systems through large screen PCs or laptop computers, for example, data searches on Amazon or eBay, electronic marketplaces, flight reservation systems, and so on. Where small screen devices are used in decision making scenarios, for example, managerial resource allocation based on scheduling and other information from organisational data, decision making efficacy and decision performance particularly for time-centric decision tasks, any limiting constraints of the device must be addressed if decision making is to be optimal. For example, decision making may be negatively impacted by data presentation formats on small devices such as PDAs, where an increased scrolling and wayfinding is

necessary relative to the same decision task using desktop PCs, where interaction methods with the information displayed on the device's screen have low usability or are counter-intuitive, or where there is no task support or assistive mechanisms designed into software for data access, retrieval, filtering, or interaction for small screen devices. Indeed small devices such as PDAs can be ignored in interface design in favour of output and interaction through large screen systems, and users of small screen devices for such applications as outlined above relegated to positions of non-primacy in terms of the creation of dedicated usable systems. For decision making to be effective and optimal, the appropriate data must not only be available but presented to the decision maker in an effective manner: the effective on-screen presentational display of informational content has a primacy associated with optimal decision making. It is important to adequately and effectively measure 'decision-making' performance, if we are to clarify the effects of small screens on decision-making, and further to address potential limitations.

The most common indicators of decision performance are decision outcome (see Barr and Sharda, 1997; El-Shinnawy and Vinze, 1998; Jarvenpaa, 1989; Speier and Morris, 2003) and decision-making time (see Benbasat and Dexter, 1986; Biros, George and Zmud, 2002; Kuo, Chu, Hsu and Hsieh, 2004; Speier and Morris, 2003). Such indicators can provide direct measures of performance through quantitative data. In studies involving multi-attribute preferential choice decision scenarios with multiple alternatives, poor and good choices exist in terms of low and high quality alternatives (Benbasat and Todd, 1996; Todd and Benbasat, 1993; Todd and Benbasat, 1994). A good decision effects the selection of a high quality, optimal or superior choice, whereas a poor decision results in the selection of a suboptimal, or inferior choice. As such, a direct indicator of performance is the accuracy or quality of a final choice. However, final choice singularity does not capture the decision process, and does not gauge the quality of that process leading to a final selection of a particular alternative from a set containing a number of possibilities.

Some researchers have addressed the decision-making process as a factor impacting final decision quality, and have gauged the effect of process quality on decision outcome, in terms of single- and group-decision making (Dewan and Hansen, 1994; Häubl and Trifts, 2000; Huang, Wei and Tan, 1999; Montazemi et al., 1996; Sturman, Hannon and Milkovich, 1996; Todd and Benbasat, 1993). To better understand the decision-making process, studies have included an examination of decision strategies employed, and the effects of same on decision performance.

Decision performance can also include more subjective and perceptual aspects: particularly where decision aid functionality is used to assist in decision making, perceptions of ease of use and usefulness can be powerful indicators of acceptance and adoption of new technologies: indeed in TAM studies these factors have been shown to be consistently strong indicators of acceptance of technologies involving a utilitarian function, with other factors such as perceptions towards enjoyment and attractiveness becoming powerful in more hedonic scenarios of use (Davis, Bagozzi and Warshaw, 1992; Hong, Thong, Wong and Tam, 2001; Szajna, 1996; Venkatesh, 1999). Indeed Hong et al. (2001) argue that usability-based constructs such as ease of use and usefulness can impact perceptions of task performance. Perceptual aspects to decision performance also include decision confidence, in that subjective attitudes towards one's pre-task confidence in making an optimal decision can influence belief in one's ability to make that decision, and one's post-task confidence in having made the best decision. A low pre-task confidence can lead to particular decision-making strategies that may be suboptimal, or can elongate decision-making time through

more effortful decision making, whereas the opposite may lead to shorter decision times but perhaps a poorer quality decision. Post-task confidence in the decision choice made can influence perceptions of one's performance in the task and can contribute to experiential ability for future similar tasks.

Post-choice decision satisfaction is an important component of perceptual performance (see Goodhue and Thompson, 1995): rather than focusing on the efficacy or otherwise of a decision aid in assisting task completion, these latter two items, confidence and satisfaction, focus on the decision itself, both in terms of decision choice and the process leading to that choice. Independently of perceptions of task performance, overall satisfaction with an information system is an antecedent of acceptance and usage of that system (DeLone and McLean, 1992). Garrity et al. (2005) argue that overall satisfaction encompasses satisfaction with task- and decision support, and showed that these are highly associated. Further, using a web-based multi-attribute preferential choice task involving tabulated data they showed that user interface satisfaction has positive impacts on task- and decision support satisfaction. Interface satisfaction is similar to the ease of use construct in TAM, whereas task support satisfaction mirrors TAM's perceived usefulness construct. Across various models of IS success, when these common constructs are stripped away, what is explicitly lacking in the DeLone and McLean model and in TAM, yet remains in the Garrity and Sanders model of IS success is decision-related satisfaction (Garrity et al., 2005). Satisfaction in one's final decision in a decision-making task can be influenced by perceptions towards any decision support system present to assist in the decision-making task. If a user of a DSS perceives the support mechanism to have facilitated a quality decision-making process then that user may consider their ultimate decision to be high quality, and have a high perception of decision satisfaction.

For decision-making scenarios, if decision performance is to encompass not only decision outcomes but to subsume within it measures of quality with respect to the decision process, then a performance-based examination of this process must include mechanisms to capture the decision strategies employed as well as a means of capturing data on the process quality from the initial stages of decision making through to the final stages before a final decision is made. When presented with a large number of distinct alternatives in a decision task involving the selection of one, decision makers tend to construct a consideration set: such sets can enable a measure of decision process quality. Further, data on the construction, contents and usage of such sets may be gathered directly through quantitative measures. It seems sensible then, that consideration sets may become vehicles through which some of the limitations of decision-making on small screens can be addressed, at least in decision scenarios involving lots of tabulated data: this thread warrants further research, if mobile devices can realise an effective 'mobility' of managers in out-of-office decision-making situations.

CONCLUSION

This paper presented an initial outline of the limitations of small screens from a usability-related performance perspective. The paper also discussed the potential for mobile devices to realise managerial mobility, if inherent shortcomings can be addressed to tackle some of the performance limitations of small screens for particular decision-based task scenarios. The paper suggested one main avenue for address: consideration sets.

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COMMERCIALISATION OF SCIENTIFIC KNOWLEDGE IN IRELAND: A HOLISTIC RESEARCH PARADIGM TO BRIDGE THE DIVIDE OF RESEARCH AND POLICY-MAKING

Diana Nadine Boehm and **Teresa Hogan**, Learning, Innovation and Knowledge Research Centre, Dublin City University

ABSTRACT

Europe still lags behind the US and Japan in research and innovation performance. On average, EU gross expenditure on R&D in 2007 was 1.77% of GDP, compared to 2.68% in the US and 3.39% in Japan (OECD, 2009). To be competitive the EU members agreed a target for the EU to increase R&D performance to 3% of the GDP by 2010. Ireland, with 1.36% of GDP, is below the EU average (ibid.). The Strategy for Science, Technology and Innovation (SSTI) outlines how the Government proposes to achieve the 3% R&D target. “Ireland by 2013 will be internationally renowned for the excellence of its research, and will be to the forefront in generating and using new knowledge for economic and social progress, within an innovation driven culture” (SSTI, 2006: 21).

The economic downturn, with the budgetary constraints it has imposed on the Irish Government, has not assisted Ireland in facing its main challenge over the next decade; the formation of a knowledge-economy (NDP, 2007) or smart-economy (Building Ireland’s Smart Economy, 2008) i.e. a knowledge ecosystem. To meet this challenge Ireland needs to:

1. develop a world-class research infrastructure
2. protect and commercialise ideas and know-how and
3. implement strategies relating to R&D for enterprise, innovation and growth (SSTI, 2006).

Regarding the commercialisation of scientific knowledge the SSTI stresses that there are serious deficits in the Irish system particularly in the field of awareness, identification, evaluation, capture, protection and commercialisation.

Under the NDP the investment in R&D has quickly augmented the size and quality of research in Ireland. The average annual growth rate of gross domestic expenditure from 1995 to 2006 is 7.8%, leaving Ireland in sixth position when compared to all OECD countries (OECD, 2007). Ipso facto, the number of inventions has risen paving the way for commercialising the IP generated. Yet, the evidence on the role of universities in knowledge transfer is unclear. A report on technology transfer in Irish universities (InterTradeIreland, 2006), suggests that at least some Irish universities are on par with their international counterparts, in terms of number of patents registered. However, a recent study by Jordan and O’Leary (2007) suggests that HEIs contribute less to the innovation output than expected. They recommend investigating the factors which ameliorate and mitigate HEI industry interaction. Therefore, a holistic research paradigm, rather than empirical one alone, is extremely relevant to current policy debates in Ireland. In order to bridge the divide of research, practice and policy-making this paper advocates an ecosystem approach to understanding the commercialisation of knowledge. This system takes account of different stakeholders which are embedded in an environment and influence the formation of the

knowledge infrastructure, knowledge exploitation and the commercialisation process respectively. The commercialisation of scientific knowledge is an entrepreneurial endeavour that requires the management of a complex system of tasks which exists across different environmental spheres (society, nature and sustainable development, technology and economy). Adopting an ecosystem approach to scientific knowledge commercialisation will facilitate an analysis of all system elements and the way they interact with each other.

INTRODUCTION

As scientific knowledge is increasingly important for new business development and innovation, governments are requiring universities to take a more active role as performers in national and regional economic development (Mansfield and Lee, 1996). “The commercialisation of scientific and technological knowledge produced within publicly funded research institutions...is increasingly considered by policymakers as raw material for developing and sustaining regional economic growth” (Ndonzau, Pirnay and Surlemont, 2002: 281). Commercialisation is not only a matter of national concern but also a central issue for universities in Europe and around the globe. Although commercialisation is a topic receiving greater attention in the literature, empirical work strongly predominates and there is no agreed theoretical framework. Evidence suggests that a holistic research paradigm is needed to inform practice. A holistic paradigm will provide for a better understanding of the environment and the actors involved as well as facilitating an analysis of all elements and the way they interact. This theoretical paper draws on the new St. Gallen management model to develop an ecosystem model of scientific knowledge commercialisation.

The paper is structured as follows: Section one provides an overview of the European and Irish policies and presents R&D performance figures. The subsequent section discusses the role of scientific knowledge commercialisation in economic growth and presents the body of knowledge. The main part of the paper, section 3, elaborates an ecosystem of scientific knowledge commercialisation and all system elements. The paper concludes on the opportunities and challenges that the ecosystem of scientific knowledge commercialisation poses for policy-making.

COMMERCIALISATION OF SCIENTIFIC KNOWLEDGE IN EUROPE AND IRELAND

Europe is on its way to forming a triple helix model of university-industry-government relations to create an innovative environment (Etzkowitz and Leydesdorff, 2000). University-industry relations and the commercialisation of university-generated knowledge have become a common and widely accepted phenomenon. This can be seen in the literature and policy programs all over the world. There are several OECD reports e.g. Benchmarking Science-Industry Relationships (OECD, 2002) and A New Economy?: The Changing Role of Innovation and Information Technology in Growth (OECD, 2000) which embrace university-industry linkages and collaboration. Another example are the EU framework Programs or the US AUTM Projects introduced by the Governments which have been trying to improve these relations and the commercialisation of scientific knowledge for several years. There are current debates about the benchmarking of Europe with the US which might overshadow the challenges Europe faces with respect to fast developing Asian nations. Whilst US investment in R&D is proving fruitful from a commercialisation point of view, the European paradox

describes the poor returns to R&D investment in Europe. In Europe policies have been implemented to capitalise knowledge and protect intellectual property in order to address this dilemma.

In the UK, the Science and Innovation Investment Framework 2004-2014 establishes objectives for science and innovation over a ten year period. It also sets the target for UK economic growth, and the research funding needed to deliver these (HM Treasury, 2004). In the case of Germany, various policies are in place to embrace innovation. The federal government's High-Tech Strategy (Bundesministerium für Bildung und Forschung, 2006) is a national strategy with the aim of developing a cutting-edge innovation market where technologies can be translated into finished products, processes and services, improving the cooperation between science and industry and accelerating the direct application of research findings. Under the strategy of the Federal Government for the internationalisation of science and research (Bundesministerium für Bildung und Forschung, 2008) the federal government is trying to attract researchers, students and foreign investment to undertake R&D. The Initiative for Excellence (Bundesministerium für Bildung und Forschung, 2009), which is now in its second round, supplies project funding to support graduate schools, excellence clusters and cutting-edge research at universities.

Nevertheless, Europe still lags behind the US and Japan in research and innovation performance. On average, EU gross expenditure on R&D in 2007 was 1.77% of GDP, compared to 2.68% in the US and 3.39% in Japan (OECD, 2009). To be competitive, the EU members set a target to increase R&D performance to 3% of GDP by 2010 in the Lisbon strategy. The strategy, which is based on some key concepts, (such as the Schumpeterian presumption that innovation is the engine of economic growth and endogenous growth theories (cf. Romer, 1990; Aghion, Howitt & García-Peñalosa, 1998; Grossman and Helpman, 1994) as well as social aspects and environmental sustainability), has not achieved its targets hitherto, partly due to low economic growth of national economies and the recent global economical crisis. Ireland, with a R&D expenditure of 1.43% of GDP and 1.68% of GNP in 2008 is, although catching up, still well below the EU average (Forfás, 2009). The Strategy for Science, Technology and Innovation (SSTI) outlines how the Irish Government proposes to achieve the 3% R&D target. "Ireland by 2013 will be internationally renowned for the excellence of its research, and will be to the forefront in generating and using new knowledge for economic and social progress, within an innovation driven culture" (Department of Enterprise, Trade, and Employment, 2006: 21).

The economic downturn, and the budgetary constraints it has imposed on the Irish Government, will not assist Ireland in facing its main challenge over the next decade; the formation of a knowledge-economy (NDP, 2007) or smart-economy (Building Ireland's Smart Economy, 2008) i.e. a knowledge ecosystem. Some difficulties which are mentioned in the SSTI are:

1. the relatively underdeveloped nature of science, technology and innovation (STI) in Ireland as evidence from the lack of a clear strategy in the past;
2. the lack of balance and connectivity between discovery research, development and commercialisation;
3. the lack of involvement in international research, collaborative agreement and networks;
4. the low level of engagement in sciences in the education system at all levels (primary, secondary, third and fourth levels)

5. the underdeveloped nature of the research system in terms of capacity, quality and coherence needs to be addressed — particularly with regard to the growth required in order to achieve the Lisbon R&D targets; and
6. the need to complement existing priority research areas (Information and Communication Technologies (ICT) and biotechnology) with more emphasis on strategic research areas (e.g. sustainable foods) and key disciplines (e.g. mathematics).

To meet this challenge Ireland needs to:

1. develop a world class research infrastructure;
2. protect and commercialise ideas and know-how; and
3. implement strategies relating to research and development for enterprise, innovation and growth (Department of Enterprise, Trade, and Employment 2006).

Regarding the commercialisation of scientific knowledge the SSTI stresses that there are serious deficits in the Irish system particularly in the field of awareness, identification, evaluation, capture, protection and commercialisation.

The National Development Plan (NDP) 2007-2013, which outlines priorities for investment during the period 2007-2013, reveals the emphasis on the development of a knowledge economy and thus the creation of knowledge-driven competitive advantages across all sectors of Ireland's economy (Government of Ireland, 2007). Furthermore, the NDP points out that strategies which lead to the success of the Irish economy will not be sufficient for future sustained growth. In order to achieve these undertakings, the Government will invest €8.2 billion in science, technology and innovation over the lifetime of the NDP and has decided to implement feed-back methods to measure: (1) participation in the sciences, (2) output of economically relevant knowledge and coherence and (3) exploitation of national and international synergies.

Under the NDP investment in R&D has quickly augmented the size and quality of research in Ireland. The average annual growth rate of gross domestic expenditure on R&D from 1995 to 2006 was 7.8%, leaving Ireland in sixth position in the OECD (OECD, 2007). Ipso facto the number of inventions has risen, paving the way for commercialising the IP generated. Yet the evidence on the role of universities in knowledge transfer is unclear. A report on technology transfer in Irish universities (*InterTradeIreland*, 2006), suggests that at least some Irish universities are on a par with their international counterparts, in terms of number of patents registered. However, a recent study by Jordan and O'Leary (2007) suggests that HEIs contribute less to the innovation output than expected. They recommend investigating the factors which ameliorate and mitigate HEI industry interaction. Therefore, a holistic research paradigm, rather than empirical work alone, is extremely relevant to current policy debates in Ireland.

Morlacchi and Martin (2009) outline in their recent reflexive overview on science, technology and innovation policy research that past policies play an important role in establishing the present and the future. They note that things change and that the environment and the society in which policies are implemented are changing too. In order to bridge the divide of research, practice and policy-making, it is necessary to take the changing environment and society into account when shaping the science, technology and innovation policies. Science, technology and innovation policy “exhibits a preference for firm, industrial and national level analysis, viewing the Market and State (in the shape of Government or

policymakers, with their role in regulating or facilitating market interactions and collective processes among business firms and other organisations) as the main interlocutors” (Morlacchi and Martin, 2009: 572). They further see policy-making “as an exercise of planning, and the function of the social sciences is to provide the theoretical foundation that makes this planning possible” (ibid.: 573). In this vein it is regarded to be of utmost importance to enable a thorough examination through a holistic research paradigm, that is, to build a knowledge ecosystem (or a smart economy) where it is necessary to understand the commercialisation of knowledge in a wider context. This can be conceptualised in the ecosystem of scientific knowledge commercialisation.

THE EXISTING BODY OF KNOWLEDGE

Knowledge, seen as human capital and technologies (OECD, 1996), is central to economic development and is one of the most important factors for a country’s international economic strength and competitiveness. Not only the US economy has changed from an economy of goods into a knowledge economy (Drucker, 1992), but rather all OECD economies are now more reliant upon knowledge production and its distribution and utilisation. The ‘new mode’ or ‘mode 2’ of knowledge production, as opposed to the ‘old mode’ or ‘mode 1’ (where knowledge was created through basic research in the university), was coined by Gibbons et al. (1994: 4) who argue that knowledge is “always produced under an aspect of continuous negotiation and it will not be produced unless and until the interests of the various actors are included.” They further allege that: “Such knowledge is intended to be useful to someone whether in industry or government, or society more generally and this imperative is present from the beginning.” (Gibbons et al., 1994: 4) It seems that ‘science as a source of strategic opportunity’ and *pari passu* the mix of a ‘technology push’ and ‘market pull’ process of innovation can be seen as ‘mode 2’, where knowledge is produced in a transdisciplinary manner with a diversity of actors. In recent years a non-linear recursive interaction of helixes has become an alternative mode, where the different ‘overlapping’ institutional spheres – Academia, State and Industry – generate a knowledge infrastructure and form tri-lateral networks and hybrid organisations (Etzkowitz and Leydesdorff, 1997, 2000). The ‘triple helix’ is a useful approach that shows that internal and external partners are integrated and are able to network within the knowledge infrastructure. In order to form a working innovation system the three institutional spheres and the relationship among them are changing worldwide. However, the triple helix does not provide a holistic understanding of the wider system of knowledge commercialisation.

Traditionally, academia’s undertaking in society has been teaching and research. Now many authors note that universities play an amplified role in innovation and growth of economic clusters in growing knowledge economies (von Hippel, 1988; Etzkowitz et al., 2000; Porter and Van Opstal, 2001). With respect to the recognition that knowledge is central to economic development and is one of the most important factors for a country’s international economic strength and competitiveness, society has become progressively knowledge intensive and increasingly dependent upon knowledge-producing universities. This new role refers to creating entrepreneurial universities which commercialise scientific knowledge and partake in ‘entrepreneurial science’ (cf. Clark, 1998; Etzkowitz, 1998; Etzkowitz, Webster and Healey, 1998; Etzkowitz et al., 2000; Etzkowitz, 2001). The university is no longer just an institute of teaching and basic research, but is now a source of commercial value.

However, in current literature there is no general consensus about the meaning of the commercialisation of university research. In the broadest perspective, commercialisation can be best described as a process. This commercialisation “process usually occurs through a complex interplay between different actors and mechanisms” (Waagø et al., 2001: 119) and can be identified as a procedure of transferring and transforming theoretical knowledge into commercial value. The concept of commercialisation and the concept of innovation do overlap to some extent (Jolly, 1997). There is literature on innovation via patenting, licensing, corporate venturing, joint ventures and strategic alliances but not sufficient and coherent theoretical and empirical evidence on the processes that guide commercialisation across institution types (Markman, Siegel and Wright, 2008).

Tab. 1: Stage models of commercialisation

Stages	Roberts & Malone 1996	Jolly 1997	Ndonzuau, Pirnay, Surlemont 2002	Siegel et al. 2003, 2004	Ryan & Kelly 2007
I.	Invention	Imagining	Generate Business Ideas from Research	Scientific Discovery	Recognise the Opportunity
II.	Disclosure	Incubating	Finalise New Venture Projects out of Ideas	Invention Disclosure	Assess the Commercial Value
III.	Evaluation	Demonstrating	Launch Spin Off Firms from Projects	Evaluation of Invention for Patenting	Assess Patentability
IV.	Protection	Promoting	Strengthen the Creation of Economic Value by Spin Off Firms	Patent	Develop a Commercialisation Strategy
V.	New Venture Creation	Sustaining		Marketing of Technology to Firm	Implement the Strategy
VI.	Product Development			Negotiation of License	
VII.	Incubation			License to Firm (Existing Firm or Start Up)	
VIII.	Business Development				
IX.	Initial Public Offering				

A popular approach, amongst researchers in the field (Roberts and Malone, 1996; Jolly, 1997; Ndonzuau, Pirnay and Surlemont, 2002; Siegel et al., 2003; Siegel et al., 2004; Spilling,

2004; 2008) is to present the commercialisation process as a stage model. Spilling (2004; 2008) argues that a stage model implies a form of linearity for an easier understanding, but that interaction happens between the stages and that it will always start at the point of the existing knowledge base. Given the range of process approach variations which exist in surrounding literature (mainly focusing on spin-offs rather than different commercialisation strategies) no uniformity can be identified hitherto that would assist policymakers in their attempt to foster commercialisation

Furthermore, knowledge literature highlights that knowledge has become a core competitive advantage but does not include issues with regard to influencing factors (Markman, Siegel and Wright, 2008). Literature on technology strategy only addresses new product development and market entry issues rather than the transfer and commercialisation of the technology. Siegel (2003) points out that studies on agglomeration, clustering, embeddedness and institution types do not cover the factors that influence the commercialisation processes and the interplay of the different stakeholders.

In addition, most researchers focus on world-class universities such as MIT and Stanford rather than medium-sized universities. Wright et al. (2008) question the relevance of these studies as many universities do not have access to a world-class research base. These questions give reason for further research at this level in order to provide meaningful insights for policymakers and bridge the divide between theory and reality.

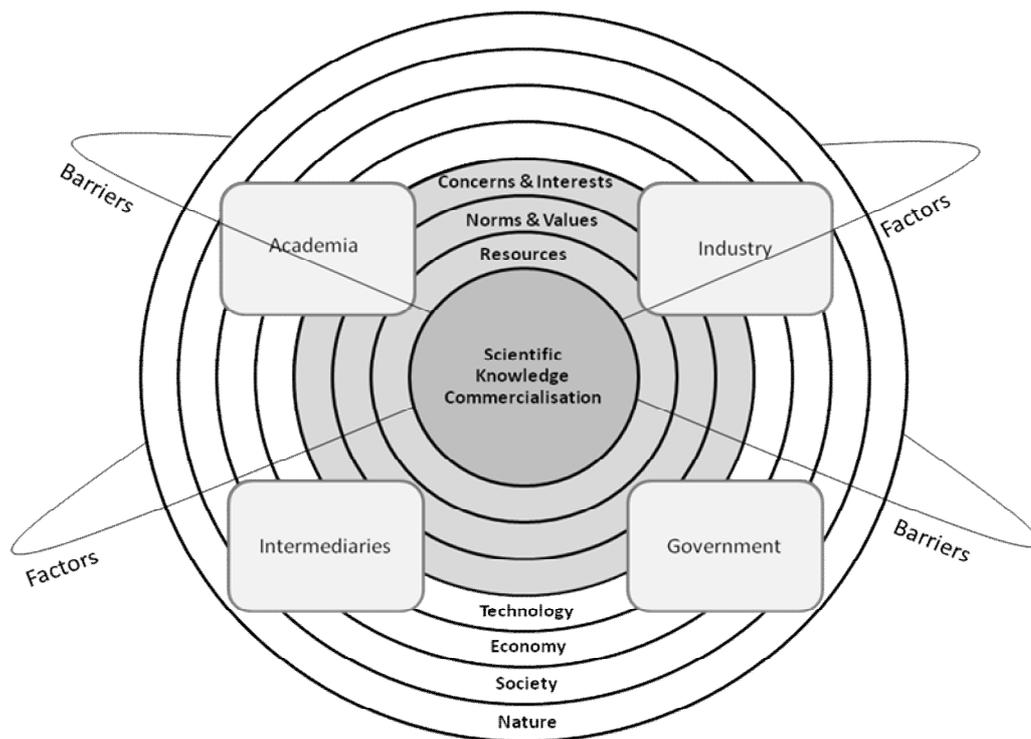
Thus far, scientific knowledge commercialisation research shows that the triple helix model (Etzkowitz and Leydesdorff, 1997; 2000) provides a good example of how academia, industry and the government form tri-lateral networks and hybrid organisations. However, it fails to provide for the surrounding environment – a complex ecosystem – that influences the formation of the knowledge infrastructure, scientific knowledge exploitation and commercialisation process respectively. Consequently, a holistic research paradigm that integrates the environment with its societal, technological and economical perspectives as well as outlooks concerning nature and sustainable development, is missing; a paradigm that seeks a better understanding of the commercialisation process, the factors that influence the interplay between the different stakeholders and institutions, as well as the impediments to effective research commercialisation.

Furthermore policy researchers commonly agree that the relationship between innovation, technology and science is of an interactive nature. They believe that the innovative power of countries rests upon relations between actors and not just on the ability of the individual and that not only internal R&D but absorptive capacity is vital for firms to produce new technologies (Morlacchi and Martin, 2009). Drawing on the established lack in scientific knowledge commercialisation research and the commonly agreed ideas among policy researchers, a holistic paradigm is proposed. While acknowledging that an ecosystem approach is consistent with the national innovation system or systems of innovation approach, the national innovation system focuses mainly on overall industrial capabilities in innovation and does not take the commercialisation of scientific knowledge and universities per se into consideration. Edquist (2005) claims that it is necessary to develop the approach further to conceptualise and formalise the work more in order to get new insights into the operations of the system. In this line the ecosystem of scientific knowledge commercialisation will be introduced.

THE ECOSYSTEM OF SCIENTIFIC KNOWLEDGE COMMERCIALISATION

This paper draws on the new St. Gallen management model to develop an ecosystem model of scientific knowledge commercialisation. The St. Gallen management model states that management is not just the management of a firm, but a mode of operation: i.e. a system of tasks which are embedded in an environmental context (Rüegg-Stürm, 2003). Similarly to this, the commercialisation of scientific knowledge is a process, a mode of operation: an entrepreneurial endeavour that requires the management of a complex system of tasks which exists across different environmental spheres (society, nature, technology and economy) and involves different stakeholders. The reasoning behind the St. Gallen management model can be thus applied to the ecosystem of scientific knowledge commercialisation as all system elements interact with each other also. In addition, the issues of interaction (resources, norms and values, concerns and interests), which are relevant in the management of an operation can be employed as stakeholder relations are of great significance to the commercialisation process.

Fig. 1: Ecosystem of scientific knowledge commercialisation



The different environmental spheres are the context that influences the commercialisation of scientific knowledge. These spheres cannot be distinguished rigorously, but function as analytical tools to assist in the identification of upcoming developments. The social or societal sphere pertains to the humans as an individual or within the society. Humans are informed by their environment and therefore influenced by a complex scope of aspects e.g. commitment and motivation, educational background, human capital, age structure, willingness to take risks, role of the state, public infrastructure and educational infrastructure etc (Rüegg-Stürm, 2003).

Nature is understood in terms of the environmental context; different societies, nations, regions or cultures have diverse attitudes towards environmental factors (Rüegg-Stürm, 2003). Issues that influence scientific knowledge commercialisation, and especially its creation, could be resources and deficits in resources, environmental intervention or other issues such as climate. The nature domain postulates the necessity to take the paradigm of sustainable development into account where relationships between firms and loci are considered (Gibbs and Krueger, 2007). New economy firms see sustainable development as an essential part of their progress and economic growth regions such as Boston show that economic success, quality of life and 'good environment' are connected to each other. Although the theoretical underpinnings are still questionable it is an important consideration and worthy of future exploration.

The technology domain necessitates the supervision of technological progress (Rüegg-Stürm, 2003). Scientific knowledge at universities and research organisations as well as R&D surveillance (i.e. observation between competing firms in industry or competing research institutions within academia) form an important part of the technology environment and therefore technology development and progression. Furthermore, the technology sphere bears upon the development of a contextual framework for technology diffusion. Clusters such as the Silicon Valley, Bay Area and Boston in the US, Cambridge in the UK or Martinsried/München in Germany are examples of areas with high technological dynamics. Summa summarum scientific knowledge commercialisation will be more efficient if the participating stakeholders pay attention to technological progress and take account of their embeddedness within clusters of excellence.

The economical sphere relies on the fact that the commercialisation process is embedded within a national economy. Ipso facto, the exploitation of scientific knowledge is influenced by the economy of a nation or of the global economy. Therefore the following aspects are of importance when considering the exploitation of scientific knowledge: efficiency of labour markets and financial markets, availability of capital, interdependencies of global economies. As the lack of capital in form of venture capital is a major barrier to the commercialisation of scientific knowledge (Wright, Vohora and Lockett, 2004; Wright et al., 2006) it is of utmost importance to look at the wider environment to gain a deeper insight.

As mentioned previously, scientific research commercialisation is a complex and heterogeneous process, requiring complex interactions between research suppliers, the businesses who want to exploit the research and the investors. Therefore the transfer of scientific knowledge requires for the involvement of several stakeholders and new partnerships between political actors, businesses and higher education institutes. As with the St. Gallen management model, the stakeholders provide either resources and/or determining factors depending on the value added (Rüegg-Stürm, 2003). The stakeholders interact in a manifold manner. Interaction issues, according to the model, are matters that arise between stakeholders during the commercialisation process and could relate to ideas, tradable goods or rights. While concerns, interests, norms and values are personal or cultural aspects, resources relate to non-sentimental objects (Rüegg-Stürm, 2003). Concerns reflect universal aims of the stakeholders; interests can be understood as self-seeking or self-interested behaviours. Different values in terms of perceptions are essential so that stakeholders involved in the commercialisation process can evaluate concerns, interests and norms, where, according to social exchange theory, norms are generally accepted behaviours or guidelines for interaction (Lambe, Wittmann and Spekman, 2001). They provide governing mechanisms for relationships in order to guide actions of stakeholders and to minimise potential danger of

opportunistic behaviour. Furthermore, norms help to embrace long-term relationships. Resources, as an interaction issue for stakeholder, can be tangible or intangible. Tangible resources are goods such as buildings, and information technology, etc. Intangible resources are know-how, licences, patents and trademarks as is the case in scientific knowledge commercialisation.

In sum, scientific knowledge commercialisation is a complex system, requiring complex interactions between all participating stakeholders: it is a dynamic process influenced by macro (economic, social, technological and ecological environment), meso (stakeholders such as university, firm, government agencies etc) and micro (individuals) factors and issues which have to be analysed and reconsidered each time a new technology commercialisation process starts, in order for society to benefit.

CONCLUSION

Literature on scientific knowledge commercialisation states that society has become progressively knowledge intensive and increasingly dependent upon knowledge producing universities. This new role refers to creating entrepreneurial universities which commercialise scientific knowledge and do 'entrepreneurial science' (cf. Clark, 1998; Etzkowitz, 1998; Etzkowitz, Webster and Healey, 1998; Etzkowitz et al., 2000; Etzkowitz, 2001). Drawing on the 'entrepreneurial paradigm', entrepreneurial accomplishments are regarded to be only successful if the entrepreneurs are "integrated into diverse networks of interactive relationships and partnerships" (Meyer, 2003: 109) i.e. individual relations, networks with firms or relationships with other external stakeholders (Goktepe-Hultèn, 2008). Technology transfer occurs through established relations among stakeholders (Harmon et al., 1997) and therefore requires a deeper insight into the initiation and management of those relationships.

Furthermore, research commercialisation is a multifaceted and heterogeneous process. It requires complex interactions among stakeholders. Polanyi (1966; 1967; 1974) states that scientific knowledge transfer is only possible with communication and interaction of all stakeholders, as tacit knowledge (embodied and embedded in individuals and social networks) is needed to transfer the explicit knowledge. When all of the foregoing is tied together the need for effective interaction becomes obvious.

By virtue of the need for effective interaction the ecosystem approach is of utmost importance to successful knowledge exploitation as it focuses on scientific knowledge commercialisation as an interactive and vibrant stakeholder environment. Adopting a theoretical research paradigm, rather than relying on empirical work alone, is extremely relevant to current policy debates in Ireland. In order to bridge the divide of research practice and policy-making the ecosystem approach, where different stakeholder relationships are embedded in a surrounding influencing environment, advocates a holistic understanding of the environment and all stakeholders that will facilitate an analysis of all system elements and the way they interact.

The existence and perception of different national, environmental, societal, economic and technological spheres, as well as different interests, norms and resources of the stakeholders, poses challenges and opportunities for policymakers. With respect to Ireland, policymakers have to recognise the changing policy context within the ecosystem of scientific knowledge commercialisation in order to design effective policies. These new policies need to be tailor-

made to the Irish context. This involves consideration of the country, its governmental agencies, industries and higher-education institutes and embracing the importance of a holistic, rather than a partial, view of scientific knowledge commercialisation. This will facilitate Ireland in being to the forefront in generating and using new knowledge for economic and social progress, within an innovation driven culture, as is the SSTI's stated target.

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RESEARCH IN HUMAN RESOURCES FOR HEALTH AND ITS RELEVANCE TO HEALTHCARE MANAGEMENT PRACTICES

Patricia Browne and Alma McCarthy, Centre for Innovation and Structural Change, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway

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ABSTRACT

“Policy is the product of the exercise of political influence, determining what the state does and setting limits to what it does” (Hill,1997:41).Policy decisions surrounding health service delivery have always been a priority but this has become even more heightened within the current economic climate in Ireland. Policies are decided in a process by which many other persons and groups can influence. This has impacted the context within which health policy is made. The policy making process is ultimately about effectively implementing changes to bring about solutions to problems at an institutional and societal level. This is the key goal of all policy makers but policy makers have to work within an ever changing real world. This is most especially true within the healthcare context. The divide between research and policy needs to be crossed in order to better utilize the skills and knowledge of researchers. Increasing use of evidence based research and evaluative research can help policy makers to attain their goals. This can be achieved in a more efficient and cost effective manner by providing more detailed accurate data and a more comprehensive understanding of the problems within the current setting. From this concrete evidence base a more realistic picture can be drawn which will enable policy makers to implement relevant and feasible policies, with better outcomes.

Research within healthcare organizations needs to be fully aware of the policy context of healthcare and specifically Human Resource Management in health needs to be knowledgeable of other policy areas, for example, EU employment policy. This synergy of knowledge will enable more robust systems to be set in place. *Towards 2016* is the current partnership document and has set an agenda until 2015. This agreement outlines in relation to the health sector that “critical human resource and organisational change programmes will be identified, so that the overall vision of the HSE is realised. The approach to change will be collaborative involving unions and the HSE working together in partnership to implement solutions”(2006:115).

This paper will aim to illustrate how research and knowledge in human resources for health can contribute to the development of more relevant work policies for health employees. It will achieve this by setting out the policy context of health services, the direction of Irish health policy and the influence of external policy. The paper will then seek to explore the role of HR specifically in this context in order to contribute meaningfully to enhancing the lives and work of health employee’s. This paper will focus on nurses as a core employee health group and discuss the question of whether HR policies and practices can potentially influence their well-being? A greater alignment therefore between theory and research and real world policy contexts can positively affect outcomes as research is given greater potential to be relevant.

INTRODUCTION

Research within the healthcare sector especially in the area of human resource management, should be contextualised within a broad framework including political, economic and social policy arenas. This needs to incorporate both a European and a national perspective. Legislation in areas such as health, employment and business all impact on how health services can and are delivered to users. Together these combine with the management structures of health services in place at a national and local level to determine the impact services have on the whole populations health. “Health services are labour-intensive, and provide employment for about 10% of the European workforce. Human Resources for Health usually form the largest single cost element in any health system, as much as 60-80% of total recurrent expenditure” (WHO, 2006:5). This paper will give an overview of the health services context in which HRM operates in Ireland and will look at what HRM should achieve from the employee’s perspective. The paper will focus on nurses and the potential role of HRM practices in the promotion of their well-being.

HEALTH SERVICES CONTEXT

The HSE is the largest employer in the State with 84,074 employees as at the end of 2008 who work in a range of different services. This translates into over 72,695 Whole Time Equivalent (WTE) employees (HSE: 2009). The majority of employees are front line staff who directly provide patient care. The budget for this organisation is the largest of all public sector organisations at almost twelve billion euro. The most recent comparable data on Irish Health spending from the OECD outlines that “Total health spending accounted for 7.5% of GDP in Ireland in 2007, almost one and a half percentage points lower than the average of 8.9% across OECD countries” (OECD, 2009). Wiley (2005) estimated that health expenditure over the 1990-2002 period, increased over 300% from around 2 billion euro in 1990 to over 8 billion euro in 2002. However it is from 1996 onwards that the rate of growth in health expenditure began to see a sharp increase. The very establishment of the Health Service Executive in 2005 illustrates the biggest programme of change ever undertaken in the Irish public service. The Department of Health and Children is the other element of the Irish health structure which involves itself more with the overall strategic and policy issues facing the Irish health system. Combined these form the two main organisational structures delivering our health service with huge numbers of employees at various levels. There have been a number of reports published analyzing the health structures and the health system in place in Ireland. Some of these include the *Report of the National Taskforce on Medical Staffing* (2003), *Audit of Structures and Functions in the Health System – Putting Strategy to Work* (2003) and the *Report of the Commission on Financial Management and Control Systems in the Health Service* (2003). There have also been a number of strategy documents setting out the plans for the future direction of Health Services. These include *Quality and Fairness; a Health System for You* (2001), *Quality & Fairness; Primary care- a new direction* (2001), *Action Plan for People Management in the Health Service* (2002), *Health Information – A National Strategy* (2004) and the *Health Services Partnership Agreement* (2006). The national social partnership agreements since 1987 all make specific references to health services. The current agreement, *Towards 2016; Ten year Framework Social Partnership Agreement 2006-2015*, includes specific commitments for improvements in health outcomes for all the population. Health policies and work policies must be integrated so as to achieve optimum outcomes for all. “Integrating health workforce issues into health policies and health sector reforms is essential in building effective, cost-efficient health

systems” (WHO, 2006:10). Resources invested in the publication of reports and strategies are substantial and so findings and recommendations must be implemented where feasible and appropriate. It is important for all employees to be conscious of these documents and that only through their daily work and effort can the goals and aims as set out in these documents be achievable. This however should not result in a reduced quality, to the employees working life. The quality of employees working lives should not be compromised in order to achieve cost- effectiveness. Both should be attainable together if proper integration of health policy goals and work policies have taken place.

DIRECTION OF IRISH HEALTH POLICY

Since the 1980’s there has been a change in focus in health policy with a reduced emphasis on institutional and hospital based care to a greater emphasis being placed on preventive health policies and community based services. This can be seen clearly with the publication in 2001 with a new policy document to improve primary care services entitled *Quality and Fairness; Primary care- a new direction*. There is also evidence of this shift in the first HSE employee handbook where it states “at an operational level the biggest challenge facing the HSE is the speed with which reliance on hospitals can be reduced and capacity to deliver care within the community setting can be built” (2009:4). Harvey (2007) explains that in general the objectives of health policies are agreed by policy makers, health professionals and the non-governmental community. The main areas of disagreement however concern how these policies are implemented and how resources are allocated. The great disparity in funding between hospitals and institutions and community based services is one of these areas of contention. Wiley states that “within the Irish system, formula based approaches to resource allocation have not been applied; rather, a significant historical dimension can generally be seen to underlie the determination of health service budgets broadly determined by demographic factors, commitments to service provision, national pay policies and general economic guidelines such as projected inflation rates, which are applied to the public service as a whole” (2005:58). In recent years, as can be seen from the Department of Health and Children’s Corporate Plan 2008 there has been a shift in health policy to promote the provision of private health. The proposed co-location policy is seen as a positive move forward. This will allow use of public sites near public hospitals to build private hospital facilities. This is seen as a way of strengthening public health delivery systems and freeing up private beds in public hospitals. What does this mean for the overall delivery of health services? Will this result in reduced work pressures for public sector employees or will employees move from working in the public sector to the private? What influence will varying HR strategies have on employees work life and to what extent is employment practice influenced by factors beyond national or regional policy?

EXTERNAL POLICY INFLUENCES

Irish Health Policy is significantly influenced by a number of European policies if not directly then indirectly. The World Health Report and World Health Day in 2006 both focused on the subject of human resources for health. The importance given to this topic by the WHO was further endorsed by the European Observatory on Health Systems and Policies Series by publishing the report on *Human Resources for Health in Europe* in 2006. This report starts by setting out one of the observatories key goals “by examining closely both the advantages and disadvantages of different policy approaches, these volumes fulfil central

mandates of the Observatory: to serve as a bridge between pure academic research and the needs of policy-makers, and to stimulate the development of strategic responses suited to the real political world in which health sector reform must be implemented” (2006:1). The *Human resources for health in the WHO European Region (2006)* report calls for more evidence based action in the field of human resources as countries become part of a global health market. “New models for health workforce strengthening must be developed and evaluated” (WHO, 2006:5). In order for this to be achieved more detailed information at a local and international level is required on HR. Only then can the process of effective policies begin to be designed and implemented.

The establishment of a regulatory framework guaranteeing minimum qualifications of healthcare professionals who wish to practice in other EU countries has seen the beginning of setting agreed standards for EU health professionals (Baeten & Jorens 2006). “European legislation defines the minimum training requirements for regulated health care professionals, defined as minimum length of training and, for some professionals, the substantive content” (Baeten & Jorens 2006:229). Member states also have recently agreed to cooperate on health care issues which would allow for the creation of common databases and analyses and to set common objectives. The introduction of the European Working Time Directive although not specifically aimed at health sector employees has had, and will continue to have significant consequences in how work is organised within the health sector. “The WTD defines working time as any period during which the worker is working, at the employer’s disposal and carrying out his or her activity or duties, in accordance with national laws and/or practice” (Baeten & Jorens 2006:225). The aim of this directive is to achieve improved working conditions for employees regardless of where that employment is located and states that the average working time per a seven day period should not exceed 48 hours. This has major ramifications for the health services where traditionally core employees such as doctors were assigned shifts longer than 48 hours. The implementation of this directive will impact on workforce issues such as supply and will further place economic pressure on the delivery of Irish healthcare. However “the principle of freedom of movement will make it easier to recruit or contract health care professionals from other countries, resulting in a ‘win-win’ situation if there is oversupply in one Member State and shortage in another” (Baeten & Jorens 2006:230). The development of HR policies and practices will be influenced by a range of factors but will have to work within the parameters of EU guidelines and more significantly EU legislation. “Areas of physical risks, work-related health and safety risks, working time, work intensity, work–life balance, psychological working conditions and satisfaction with working conditions. These are central issues in EU employment policy”(Valeyre et al., 2009:52). Therefore it must be remembered that core HR decisions concerning working conditions, HR planning and training will be guided by European policy as well as Irish policy.

THE HRM MISSION

“The importance of an effective personnel policy to ensure the satisfactory functioning of the health services is widely recognised.....the task confronting those involved in personnel issues in the health services is formidable in view of the number and variety of grades” (Hensey, 1988:168). This fact still remains true and the task is even of greater importance when there is widespread change taking place. As Kebene et al. (2006) states that since all health care are ultimately delivered by people, effective human resources management will play a critical role in the success of health sector reform. He reiterates that all health care is

ultimately delivered by and to people and so therefore a strong understanding of the human resources management issues is required to ensure the success of any health care program. Human resource policies and practices contribute to organisational success and this has been shown the case for the healthcare sector by Bartram et al., 2007; Carney, 2006; Keating & McDermott, 2008 and Khatri et al., 2006. Further confirmation of this was given in a report by the WHO. “Analysis of inter-country variation in maternal mortality, neonatal mortality, post neo-natal mortality and infant mortality in 67 developing countries has shown that 15-25% of such variation is explained by human resource density” (WHO,2006:10).

The National Service Plan for 2009 sets out a number of challenges for the Human Resource function within our health system at both local and national level. The main aim is ensuring the protection of patient care at all times using the resources available. The HR mission is seen as ensuring that there are capable people working together to deliver safe and efficient healthcare services every day. The Department’s of Health and Children’s Corporate Business Plan 2008 which runs until 2011 sets out as major points of strategic action a set of key objectives: promoting better health for everyone; providing responsive and appropriate care; ensuring fair access and putting in place a high-performing system. The support of the social partners and liaising with health care staff is seen and given as a priority in the ongoing development of health services. One of the key principles underpinning the partnership approach includes “skills development, training, and personal development planning to improve job satisfaction, career prospects and services in line with the ‘high trust, high skill, high quality workplace’ principle” (Health Services Partnership Agreement, 2006:6). The National Joint Council (NJC) will continue to be the primary forum for managing industrial relations in the health service as is set out in the most recent partnership agreement *Towards 2016*. The continuation of the employment control framework is set out as important to ensuring maintenance of service provision within budgetary guidelines. It is also seen as aiding the skill mix agenda. This is again supported in the national partnership agreement where it states “appropriate skill mix supports all professionals to expand their roles to meet the demands of changing service requirements arising from the implementation, for example, of the European Working Time Directive. There will be co-operation with the introduction of specific new skill mix initiatives, for example, Therapy Assistants and Theatre Assistants, and the mainstreaming of earlier initiatives”(2006:123). In addition to the performance management relationship which exists between the individual and the line manager, a strategic and integrated approach to teamwork, called Team Based Performance Management (TBPM) is being implemented. This is further supported by the National Development Plan where it states “the necessary shift towards a greater team-based provision of services in all aspects of health care will be supported” (2007:214). Nurses form a large cohort of health staff and are key health team members in the delivery of our health services. They are critical to successful front line service delivery and are represented and organised by a number of professional bodies.

NURSES AS AN EMPLOYEE GROUP

This body of professionals are represented by a number of organisations and groups to represent their interests and regulate the profession at a national level. An Bord Altranais or the Nursing Board is the regulatory body for the nursing profession in Ireland. It was established by the Nurses Act in 1950 taking over the functions of the Central Midwives Board and the General Nursing Council. The Nurses Act in 1985 saw the functions of the Nurses Board altered and expanded and they continue working under these rules. Its main

functions are to maintain a register of nurses, to provide for the education and training of both nurses and student nurses, to make enquires into alleged misconduct or fitness to practice of registered nurses and to give guidance to the profession and to manage the Nursing Careers Centre. The National Council for the Professional Development of Nursing and Midwifery was established in 1999. This body has responsibility for the continuing education and professional development of nurses and midwives. Its role is to monitor changes in practice and service. The Irish Nurses Organization was established in Dublin in 1919 and is currently the largest professional union for both Nurses and Midwives in Ireland with about 40,000 members. It is the fourth largest trade union in Ireland. 34% of all staff employed by the HSE are in the nursing category at the end of December 2008 as is set out in the *Integrated Employee and Well-being strategy 2009-2014* (HSE:2009). In addition the most recent ratio published of practicing nurses in 2007 in Ireland is an average of 15.5 nurses per 1000 population which was significantly above the OECD average of 9.6.(OECD, 2009). Despite this Ireland has needed to rely on international recruitment of nursing staff to fulfil service requirements in recent years. Buchan (2009) illustrates that in 2006 a total of 82,576 nurses were registered with An Bord Altranais and of these 65,000 were on the active register. This left 17,000 on the inactive register or currently not in practice. Humphries et al. (2009) highlight specifically that migrant nurse's play a significant role in the Irish Health System. This research illustrates from unpublished data from the Irish Nurses Board that 40% of all nurses newly registered in Ireland between 2000 and March 2009 were from outside of the European Union. This is a critical human resource planning issue but also calls for specific human resource management practices to ensure employee integration. "Organisations must adapt in order to accommodate people from different cultural backgrounds and ensure their social interaction; communication and teamwork proceed smoothly at the workplace" (WHO, 2006:43). Employee welfare policies are critical for all employees to ensure employee well-being within an organisation and policies which promote a good quality of working life. Without this their ability to carry out their role within the organisation will be severely undermined.

HRM AND THE PROMOTION OF EMPLOYEE WELL-BEING

"Well-being refers to the psychological and physical health of the employee" (Edwards, 1992:252). A definition put forward by an Australian academic states "subjective well-being (SWB), known colloquially as happiness, is described as a positive state of mind that involves the whole life experience" (Page & Vella-Brodrick, 2008:443). In a review of the Gallup Studies it is noted that people spend as much as a quarter or a third of their lives in work. It is therefore critical that we look specifically at how our workplaces can promote well-being. *Working to Our Advantage- A National Workplace Strategy (2005)* sets out that a good quality of working life has to define future workplaces. It lists a number of factors which influences this, the first of which is "health and well-being at work" (2005:32). Employees working in all environments are susceptible to stress and ill health but ensuring employee well-being within the health sector needs to be made a priority. It should go beyond basic implementation of health and safety measures. The way work is organised and the overall work system in place needs to be looked at in order for the impact of HRM policies to be fully understood and evaluated (see appendix figure 3). "Work systems-choices about what work needs to be done, about who will do it, and about where and how they will do it – are fundamental to both operations management and human resource management in organisations" (Boxall & Purcell, 2008:140). This is especially true for the organisations involved in health care delivery.

The type of work systems in place has a significant impact on employee well-being. How workers are deployed to carry out their role all impact on worker well-being (Boxall et al., 2007). Research by Barker (1993) is cited as stating “furthermore, the particular nature and strength of behavioural norms developed by highly cohesive self-managed work teams may impact negatively on both performance and the well-being of individual team members” (Boxall et al., 2007:201). Therefore the way work facilitates employees to create a work/life balance and to be supported in a work environment that promotes teamwork can all impinge on worker well-being. The need to look at the link between HRM and employee well-being has been recognised in the literature by Bach (2005) who cites research by Guest (1999) and by Peccei (2004). The importance of HR policy in improving the quality of employees working life is being given increased attention. Korczynski cites research to show the link with improved customer satisfaction. “There are also a number of statements made regarding correlations between customer views of quality and ‘a climate for employee well-being’. Schneider and Bowen (1993) argue that their research supports the existence of a relationship between the two factors..... Benjamin Schneider and David Bowen have shown that both a climate for service and a climate for employee well-being are highly correlated with overall customer perceptions of service quality” (2002:32). In the management of health services this is a prime objective. Patients although not viewed as customers traditionally still need to be satisfied with the service that is provided to them.

The *Integrated Employee and Well-being strategy 2009-2014* (HSE: 2009) is aligned to the HSE Corporate Plan 2008 and the HR Strategy. This is the first such plan developed for the HSE. This strategy signals the recognition that the well-being and welfare of employees is a central component in delivering quality health services. It aims to provide a framework for understanding and addressing employee well-being and welfare priorities so as to ensure that the HSE is service oriented and a better organisation to work within. It has been recognised that due to the recent period of high economic growth rates, services benefited from increased resources but that with the slowdown in the economy this is going to negatively impact on resource expansion. The HSE Integrated Employee Well-being Strategy explains that ‘this is having a severe impact on the human side of the organisation, not only in terms of employee numbers and resources available for service delivery, but also in terms of the effect on employee morale. It is also necessary to recognise the effect that limited resources, allied to an expectation that existing levels of service will be maintained will have on employee well-being and welfare’ (2009:8). In the HSE survey which they carried out in preparation of the strategy document over half (52%) said that their performance had been affected by work overload. Approximately a third of respondents said that their performance had been affected by emotional demands of service users (32%) and by conflict in the workplace (31%) (2009:20). Korczynski calls on research by Aiken and Sloane’s (1997) to illustrate “The basic pattern was that nurses who worked in less hierarchical settings where they had greater say on how to do the work suffered less burnout - even when compared with nurses not constantly caring for dying patients” (2002:145). This highlights that the way work is organised should be assessed at a managerial level so as to ensure employee well-being and also optimum service delivery. This needs to be placed high up on managerial agendas.

How can HRM help in achieving employee well-being? How can this be measured by either employees or their managers? Baptiste (2008) views employee well-being from an HRM perspective that looks after the quality of working life of employees by promoting attitudes and behaviours such as commitment, job satisfaction and work-life balance. He explains that through the promotion of these, continuous development and increased performance can be achieved. Within the Irish health services context it is agreed among the parties of the

partnership agreement to improve the quality of working life of employees (*Towards 2016:86*). Looking at nurses within an Irish context we see that the majority of nurses (92%) are female (Buchan, 2009:8). In addition 58% of all HSE staff is aged between 18-45 years of age (HSE, 2009). This is of particular relevance to HR policy makers within an organisation as many of their employees may well be combining their work with caring responsibilities outside of the organisation. HR policies therefore need to be flexible and adaptable to not alone ensuring the organisation is operating effectively and efficiently but also ensuring that the needs of their employees are being met. This form of strategic human resource management needs to be practiced regardless of the economic climate in which it is operating. In fact by not practicing such policies, a further drain on resources due to increased rates of absenteeism amongst staff and decreased levels of efficiency will result. This will subsequently affect patient outcomes. Michie & West (2004) illustrate a number of studies which link increased job satisfaction and reduced stress of employees in the hospital sector with improved patient outcomes. Proper relevant human resource practices with coherent and sustainable policies have to work towards the goals of positive employee outcomes as well as positive organisational and societal outcomes. This view is illustrated by Beer et al. (1984) in what is referred to as the Map of HRM territory (see appendix figure 1). Baptiste (2008) further points to the need for organisations to be responsive to their employee needs and that this has to form part of the organisations overall corporate social responsibility policy. He states “however, the attainment of the company’s mission cannot be materialized until the key stakeholder’s (employees’) well-being is promoted and maintained as a socially responsible behaviour by the organization” (2008:156). He draws on research by Purcell & Kinnie 2006 to make the point that employee responses to HRM practices are what lie at the heart of all HRM performance models because the link between employee reactions and their subsequent behaviour is what is critical.

CONCLUSION

To conclude then it is necessary to focus on employee responses to HRM practices in particular. With regard to health services personnel there is a need to analyse the influence of current HRM practices and evaluate outcomes such as the promotion of employee well-being or not as further research may show. The practices which promote such positive outcomes will also influence the achievement of other organisational goals. In a health context, an efficient, cost- effective health service, available to those who need it at any time. There is a need to evaluate variations in human resource practices across public and private sectors. The external and internal political and economic influences in both sectors should however be first considered, as these alone will impact on the potential HR has in achieving the promotion of employee well-being. Together research on these areas will further inform us of the extent of the role, the human resource function has in delivering health services. This information will further inform policy makers of real world issues within the health sector. It will enable more comprehensive policies to be developed which will acknowledge the needs of not alone patients but also those who treat and care for them.

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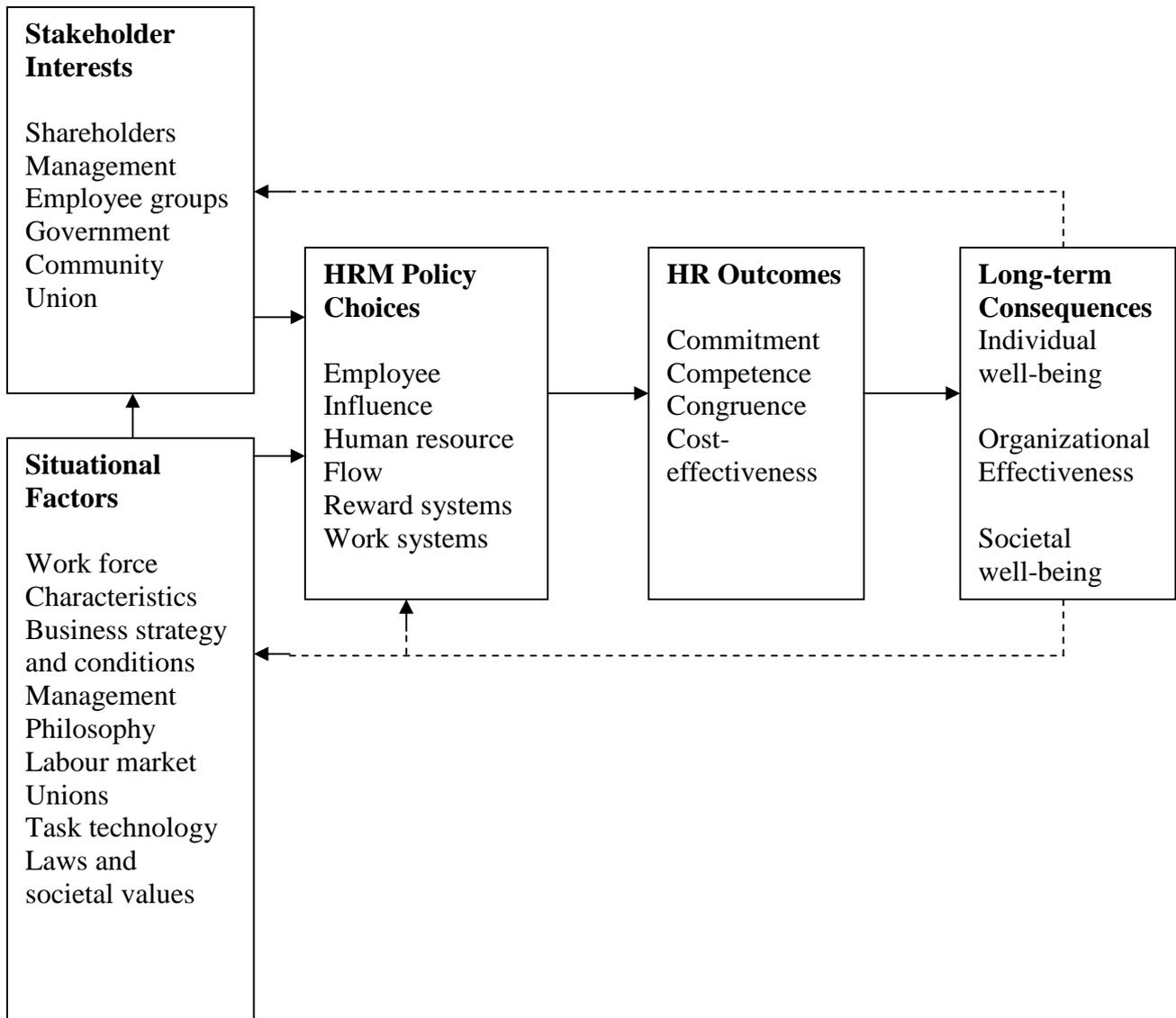
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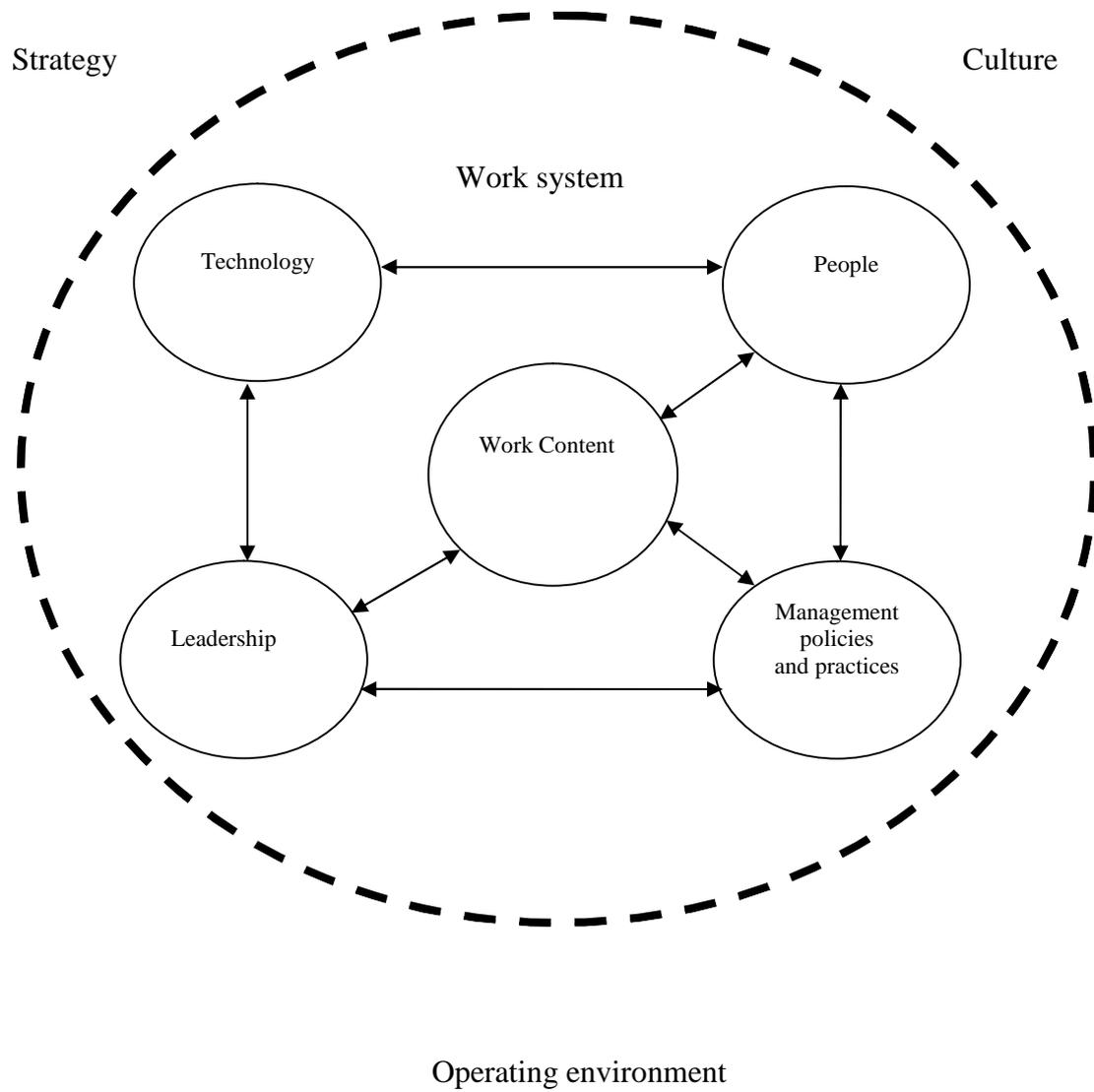
APPENDIX

Fig 1: A Map of the HRM territory



Source: Beer et al. 1984

Fig 2: The Organisation of a Work System



Source: After Beer et al.1985

CONTRIBUTION BEHAVIOURS IN SYSTEMS DEVELOPMENT – A POSITION PAPER

Sharon Coyle, Kieran Conboy and Thomas Acton, Centre for Innovation and Structural Change, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway

Paper Type: Doctoral paper in development

ABSTRACT

This development research paper explores concepts associated with contribution behaviours. Contribution, in its simplest context occurs in organization settings where employees share knowledge with one another. Usually, this is preceded by a request for help from a colleague however; individuals may decide to contribute in the absence of help requests for example, by preparing a generic instructions document. Contribution can also be considered from the context of influencing decision-making within project teams for example decisions will always need to be made in relation to project schedules and deliverables. Individuals can directly contribute by influencing and participating in such decisions. In reviewing the literature to-date, contribution behaviors are intrinsically linked to concepts embedded in knowledge management, in particular knowledge sharing. Therefore the literature reviewed has explored some primary elements of knowledge management literature including tacit and explicit knowledge. Decision-making process activities (of awareness, searching and matching and formulation and delivery) involved in making contributions are also discussed.

1 INTRODUCTION

One of the primary reasons organisations use project teams is to encourage and facilitate “members with diverse intellectual resources to produce novel associations that give rise to creative solutions” (Ford and Sullivan 2004). At the heart of this lies the theory that the whole is greater than the sum of its parts (Aristotle) so as a group, project teams can make valuable contributions and need to decide “how each individual can best contribute to the team’s goal” (Katzenbach and Smith 2005). Contribution behaviours have been defined by Olivera, Goodman et al. (2008) as “voluntary acts of helping others by providing information.” In their study, they focused on contribution as an act of sharing explicit information or knowledge with co-workers in distributed environments. This development research intends to study contribution in systems development from two broad perspectives; (i) in accordance with Olivera, Goodman et al. (2008), contribution behaviours will be assessed from a knowledge sharing perspective and in addition, (ii) contribution will be assessed as an act of influencing decision-making in systems development environments.

2 MOTIVATION FOR RESEARCH

As discussed in the introduction, this research aims to view contribution in Information Systems Development (ISD) from two perspectives, namely knowledge sharing and decision

making within project teams. We will now consider the importance of examining each of these in turn.

From the context of knowledge sharing, Olivera, Goodman et al. (2008) outline how:

- Contribution behaviors can improve organizational effectiveness
- Little work has been done on understanding the contribution act in detail
- Understanding how and why individuals make contributions can help us develop better systems to support and facilitate contribution

As a contribution act relates to individuals' voluntarily sharing information with one another, contribution behaviors have a direct correlation with knowledge sharing and concepts embedded in knowledge management (section 6). Therefore additional motivations relating to knowledge management are as follows (Olivera, Goodman et al. 2008):

- Although many large organizations have invested heavily in knowledge-sharing technologies, few systems have met their expectations or objectives
- There is a decision-making process involved about whether, what and how to contribute information or knowledge which involves cognitive motivation theories (of awareness, searching and matching, formulation and delivery) to explain why individuals decide to allocate time and effort to the contribution act.

Contribution can also relate to decision-making within project teams. For example, team members "must agree on who will do particular jobs, how schedules will be set and adhered to, what skills need to be developed, how continuing membership in the team is to be earned and how the group will make and modify decisions" (Katzenbach and Smith 2005). Individual members can therefore contribute by influencing such decisions. In organisation settings effective decision-making is crucial where "high quality decisions are expected to lead to more productive actions, quicker problem solving and better organisational performance" (Eierman, Niederman et al. 1995).

3 PROPOSED RESEARCH QUESTION AND OBJECTIVES

The research question is vital for focusing the research and clarifying what it should incorporate (Bryman and Bell 2003). According to Collis and Hussey (2003) the research question is the focal point around which "the research will be designed to investigate and attempt to answer." This implies that the research question not only guides the study but also determines the appropriate research methodology. The research question proposed for this study is as follows:

"What factors influence Contribution Behaviors in Systems Development Projects?"

In order to allow the research take a clearer focus the specific research question above is narrowed into the following proposed specific research objectives:

- Determine what factors influence knowledge sharing contributions in systems development
- Determine what factors influence decision-making contributions in systems development

4 CONTRIBUTION BEHAVIOURS

In its simplest context, contribution occurs in organization settings where people share information with one another. Usually, this is preceded by a request for help from a colleague however, individuals may decide to contribute in the absence of help requests for example, preparing a generic instructions document which may be useful to all team members (Olivera, Goodman et al. 2008). Olivera, Goodman et al. (2008) describe a basic yet common scenario whereby an employee of a large firm receives an internal e-mail requesting help from an individual whom he/she has never met and for which he/she has no job inter-dependencies with. Responding to such a request is not an immediate priority for this employee, nor is it necessarily a task for which they will receive performance recognition for. Therefore, the motivation and ultimate decision to contribute is in the hands of the employee (Alavi and Leidner 2001) and there is a decision making process involved as to whether to contribute information or not. This decision-making process involves “cognitive motivation theories” of *awareness, searching and matching, formulation and delivery* to “explain why individuals decide to allocate time and effort to the contribution act.” Such key elements are outlined in the following table:

Table 1: Key Elements of Contribution and Summary of Propositions

	Awareness	Searching and Matching	Formulation and Delivery
Cognitive Activity	Develop representation of the request for help	Identify solution that addresses information request	Articulate and communicate the contribution
Role of Motivation	Motivational force generated by characteristics of the sender and their request	Motivational force needed to sustain effort in searching and matching	Motivational force needed to sustain effort in formulation and delivery
Cognitive /Motivational Phenomena	Specificity and concreteness of request increase motivation	Motivational force generated by searching and matching Costs increase as searching and matching moves from internal to external memory systems Specific requests generate higher motivation than general requests	Likelihood of completing the contribution higher for concrete than abstract requests Escalation induced by high investment in searching and matching Perception of effort costs associated with follow-up requests
Facilitating role of technology	Use of media high in social presence increases motivation Use of synchronous media increases motivation	Use of effective search, indexing and retrieval technologies increases motivation	Access to multiple communication channels increases likelihood of contribution Use of authoring tools increases likelihood of contribution

Source: Olivera, Goodman et al. (2008)

While this construct put forward by Olivera, Goodman et al. (2008) deals specifically with contribution from a knowledge-sharing perspective, it is anticipated that this research can apply this framework to contribution from a decision-making perspective.

4.1 Awareness

Awareness as described by Olivera, Goodman et al. (2008) is “a cognitive activity through which a person recognizes an opportunity to contribute.” Once they recognize an opportunity to contribute (either through a direct request for help or proactively seeking to contribute) the individual must then decide whether or not to act on this opportunity. As table 1 conveys, the decision to do this will be influenced by both motivational forces and the technological facilities available that maximize the degree of social interaction. In the first instance where the individual will potentially respond to a request for help, motivational forces relate to the concepts of ‘exchange relationships’ discussed in section 4.4. In the second instance, where

the individual is proactively seeking opportunities to contribute the motivation to fully act on this behavior and make a valuable contribution relates to the individuals' awareness of 'social-good' also discussed in section 4.4.

4.2 Searching and Matching

Searching and Matching is the next stage of cognitive motivation involved in employee contribution acts. It is the stage where the individual determines "whether and how the knowledge domain of the help request matches their own personal knowledge" (Olivera, Goodman et al. 2008). Here the employee uses personal or *individual knowledge* (the combination of explicit and tacit knowledge; section 4.4) to help address the request. It is through searching and matching that the potential for knowledge sharing is initiated where knowledge sharing often "involves identifying matches between personal knowledge and the situations described by those who request help" (Olivera, Goodman et al. 2008). As indicated in table 1, technology that provides efficient searching and indexing capability will assist in the searching and matching process. This is particularly true if the individual is seeking additional explicit knowledge in their quest to address the request for help. As Griffith, Sawyer et al. (2003) explain, "individuals are the most effective media for acquiring and storing tacit knowledge; technology, best for explicit knowledge; while structures and routines are most effective for transferring knowledge."

4.3 Formulation and Delivery

Formulation and Delivery is the final stage which is described by Olivera, Goodman et al. (2008) as "a cognitive and behavioral activity through which the contribution is articulated and communicated." The formulation aspect derives exactly what it is that needs to be delivered or communicated while delivery involves the means by which the knowledge is transferred or shared. Delivery can take place through multiple mediators such as "oral communications, e-mail or posting to a discussion forum or corporate database" (Olivera, Goodman et al. 2008). As table 1 conveys, the availability and suitability of technologies to support the individual in formulating and delivering a response, increase the likelihood of the contribution occurring.

4.4 Organisational and Individual Factors affecting Contribution

There are many factors which influence contribution behavior and these have been detailed by numerous researchers including Constant, Kiesler et al. (1994) and Anderson and Williams (1996). The researcher has utilized this research together with other literature indicators (that influence knowledge sharing) to provide a summary of such factors:

Table 2: Organizational and Individual Factors which Influence Contribution Behavior

Factors Influencing Employee Contribution	
<i>Organizational Factors</i>	<i>Individual Factors</i>
Degree of ‘Virtualness’ (Griffith, Sawyer et al. 2003) and technological support (Olivera, Goodman et al. 2008)	Exchange relationships (Constant, Kiesler et al. 1994; Anderson and Williams 1996)
Culture and Values (Fahey and Prusak 1997; O'Dell and Grayson 1998)	Pro-social behavior (Constant, Kiesler et al. 1994)
Reward recognition (O'Dell and Grayson 1998)	‘Social good’ vs. Personal Cost (Constant, Kiesler et al. 1994)
Employee engagement	Willingness to share individual knowledge (Griffith, Sawyer et al. 2003)
Work processes (O'Dell and Grayson 1998)	Organization & Team Commitment

Table 2 categorizes contribution behavior based on two elements, namely, organizational and individual. Organizational factors directly influence individual factors. For example, the degree to which an employee feels engaged with the organization will influence the level of ‘social-good’ attitudes where the benefits of contribution for the organization are far more outweighed than the social cost (of time or effort) of the individual. In addition, “unless capturing and sharing information are built into the *work processes*, sharing will not happen” (O'Dell and Grayson 1998). In other words, if knowledge sharing is not embedded in an employees role, then contribution is a lot less likely to occur. Some of the factors presented in table 2 will now be discussed.

Exchange Relationships and their impact on ‘pro-social behavior’

The importance of ‘exchange relationships’ in influencing extra-role behavior cannot be overstated where “high-quality exchange relationships are characterized by subordinate contributions to decisions and by the subordinate’s taking over leader responsibilities and tasks” (Anderson and Williams 1996). This statement focuses on supervisor-subordinate relationships however, it has also be found that if there has been a previous positive exchange between coworkers in the past, they are more likely to partake in a positive exchange in the future encouraging ‘pro-social behavior’. If however, a coworker has refused to share information in the past then an exchange, positive or otherwise is unlikely to occur (Constant, Kiesler et al. 1994). As Constant, Kiesler et al. (1994) state “when a coworker has refused a favor in the past, the respondent’s basic, self-centered inclination is not to share information with that person.”

Awareness of ‘social good’

Constant, Kiesler et al. (1994) state how “descriptive studies of behavior in computer networks confirm that employees in some organizations do share knowledge and help others, including organizationally-remote strangers they will never meet in person.” There is a strong realization that in order for an employee to contribute they often must “weigh the social good more than the personal cost” (Constant, Kiesler et al. 1994) and organization leaders “need to consistently and constantly spread the message of sharing and leveraging knowledge for the greater good” (O'Dell and Grayson 1998). In other words, a contribution act may involve a personal sacrifice or cost whereby the decision to respond to a request for help is time consuming and may have no potential for reward recognition at a later stage. As O’Dell and Grayson (1998) outline, internal transfer of knowledge “is a people-to-people process and usually requires personal generosity or enlightened self-interest.” However, employees may

still decide to contribute because they recognize its benefits or social good to the organization as a whole. Research shows that “voluntary help or out-of-role help is positively associated with organizational commitment and with closeness to colleagues” (Constant, Kiesler et al. 1994).

Willingness to Share Individual Knowledge

Naturally, many employees will not always want to share their knowledge with co-workers, as quite often it is this individual knowledge that gives them a competitive edge over their colleagues. *Individual knowledge* is a combination of accumulated tacit and explicit knowledge, which has been built up over a period of time. As Griffith, Sawyer et al. (2003) state, “if the individual allows his or her tacit knowledge to be converted into explicit knowledge, he/she loses the benefit of retaining that knowledge.” Furthermore, a willingness to do this is influenced by exchange relationships (discussed above) where “a certain level of personal intimacy is necessary to establish communication of tacit knowledge” (Griffith, Sawyer et al. 2003).

5 CONTRIBUTION AS AN ACT OF INFLUENCING DECISION-MAKING

Simon, Dantzig et al. (1987) describe how “the work that steers the course of society and its economic and governmental organisations – is largely the work of making decisions and solving problems.” Decision-making has been described as “the performance of a task – the task of making some particular decision” (Bahl and Hunt 1984). In organisation settings encouraging employee contribution in the form of effective decision-making is crucial where “high quality decisions are expected to lead to more productive actions, quicker problem solving and better organisational performance” (Eierman, Niederman et al. 1995).

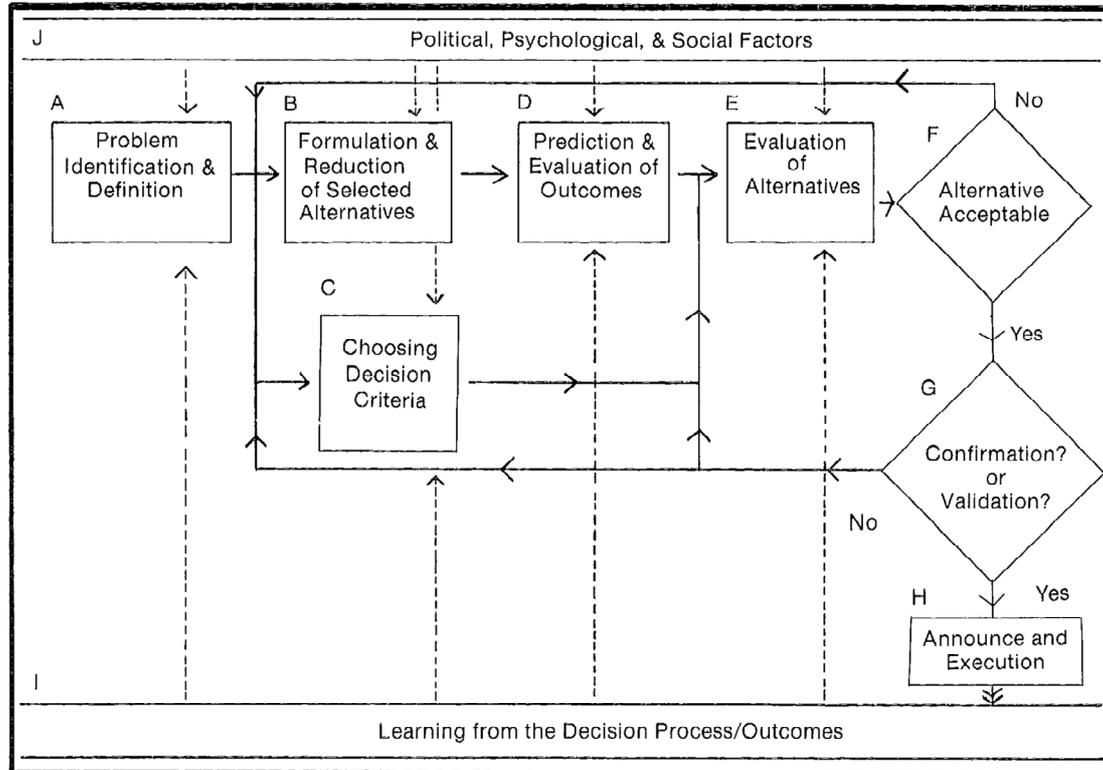
5.1 Decision-Making Process

Decision making is a complex process because decision makers themselves may be subjected to biases, are “limited in their cognitive abilities to process complex information” and often find it difficult to reach a solution that will satisfy different interests (Eierman, Niederman et al. 1995). As Simon and Dantzig (1987) explain, there are restrictions placed on people such as “the incompleteness and inadequacy of human knowledge,” as well as our inconsistencies of preference and the inherent conflicts among people and groups. As a result of such complexities, technology has been developed to assist the process of decision-making from both an individual and group perspective in the form of Decision Support Systems (DSS) and Group Decision Support Systems (GDSS) respectively. In order to develop such systems effectively it helps to have a “comprehensive descriptive model of decision-making as a process” (Bahl and Hunt 1984). Understanding the decision-making process will also assist in assessing employee contributions in this area.

One of the earliest attempts in literature of modeling a decision-making process was put forward by Bahl and Hunt (1984) and is presented in Figure 1. This general model essentially provides an “event structure” of human choice (Bahl and Hunt 1984). Point A of the model begins with “problem identification and definition” which need to be very clear in order to make an effective decision. Due to resource restrictions (such as time and money), the “selection of alternatives” at point B may be hindered. Points C, D and E are key “decision points” while points F and G relate to some “iterative features of decision making” (Bahl and Hunt 1984). At point H, a decision has been reached and is subsequently executed. This

model also accounts for other influences in the decision making process at points I (previous experiences of decision outcomes) and J (political, psychological and social factors) influence the decision making process.

Figure 1: General Model of Decision-Making



Source: Bahl and Hunt (1984)

A detailed literature review is still in progress and as this research continues it is anticipated that a clear understanding and development of the decision-making process construct will help in assessing employee contribution behaviours as an act of influencing decision-making.

5.2 Contribution Behaviours in Information Systems Development (ISD)

This section of the literature review plans to explore existing literature in relation to contribution theory in systems development. Recent literature emphasises a “growing recognition that ISD is a knowledge-intensive process that requires the integration of specialized stakeholder knowledge” (Patnayakuni, Rai et al. 2007) indicating the importance of sharing knowledge. Patnayakuni, Rai et al. (2007) express an ever-growing theme emerging in systems development projects whereby “IS units in similar organizations, with similar skill sets, comparable practices, capability maturity (CMM) levels, and software development tools seem to have markedly different abilities to develop systems.” There are many individual and specific organization reasons for this trend however, “a central challenge is that of integrating specialized knowledge necessary to develop the system that is dispersed across stakeholders with business and technical domain knowledge” (Patnayakuni, Rai et al. 2007). Therefore creating an environment in ISD that promotes contributions in the form of knowledge sharing is imperative in influencing the successful development of systems.

In addition, agile systems development projects are renowned for their high degree of interaction among team members indicating an intrinsic potential and greater opportunity for employee contribution. Due to this high degree of interaction, agile environments are capable of creating greater amounts of “synergistic knowledge” (Griffith, Sawyer et al. 2003) . Although it may be difficult to determine the degree of contribution within agile environments they may help in recognising the factors which assist in increasing levels of contribution in a systems development context because “agile methods derive much of their agility by relying on the tacit knowledge embodied in the team rather than writing the knowledge down in plans” (Boehm 2002). Therefore, it is anticipated that agile systems development will be reviewed for the purpose of providing a lens of contribution capability within ISD.

6 KNOWLEDGE SHARING

Due to the important emphasis placed on knowledge sharing as a contribution act, it is important to outline some fundamental aspects pertaining to knowledge management and knowledge-sharing. Firstly, there are two types of knowledge namely, tacit and explicit which will now be explained in greater detail:

6.1 Tacit and Explicit Knowledge

Tacit knowledge is not easily definable as it “involves intangible factors embedded in personal beliefs, experiences and values” (Inkpen 1996). Tacit knowledge is therefore difficult to communicate as it is “uncodified and difficult to diffuse” (Choo 1998) and is gained through extended periods of experience. Fahey and Prusak (1997) outlined how “knowledge is a direct outcome of experiences, reflection and dialogue” which ultimately reflects the fundamental concepts of tacit knowledge. There are two dimensions to tacit knowledge, firstly the technical dimension which entails the “hard-to-pin-down skill or craft captured in the term ‘know-how’” and secondly the cognitive dimension which involves “mental models, beliefs and perceptions so ingrained that we take them for granted” (Ichijo and Nonaka 2007). Explicit knowledge on the other hand is the antithesis of tacit knowledge. It is knowledge that is easily expressed and therefore easily communicated and is “shared in the form of hard data, scientific formulas, codified procedures or universal principles” (Ichijo and Nonaka 2007).

Tacit knowledge is often considered the most valuable type of knowledge to an organization as competitors find it extremely difficult to replicate ideas based on tacit knowledge. However, there is a danger in this interpretation in that “this is tantamount to equating an inability to articulate knowledge with its worth” (Alavi and Leidner 2001) therefore, we should view them as “mutually dependent and reinforcing qualities of knowledge” where tacit knowledge is the foundation needed for developing and interpreting explicit knowledge (Alavi and Leidner 2001). As Fahey and Prusak (1997) state “tacit knowledge is the means by which explicit knowledge is captured, assimilated, created and disseminated.” Finally, Griffith, Sawyer et al. (2003) express a valid point in that the very definite distinctions made between tacit and explicit knowledge are often more of a convenience more than that of a theoretical requirement and we should consider “forms of individual knowing as ranges along a continuum” between tacit and explicit knowledge. This asserts a realistic representation of *individual knowledge* as having various combinations of tacit and explicit.

In order for new knowledge to be created, existing knowledge must be shared where “sharing knowledge in an organization or a network is a trigger and a first step of knowledge creation” (Ichijo and Nonaka 2007). The initial step of knowledge conversion takes place through socialisation where tacit knowledge is shared among individuals before it is expressed in an explicit format through Externalisation. An initial question with regard information sharing is how do you bring people together so that expertise can be shared? The response to this is very often a realization that if organizations are successful in creating an environment for knowledge networks and if they can provide the information technology (IT) to support such networks then it will often emerge (O'Dell and Grayson 1998). Having said this, “the incentives for and barriers to sharing are not really technical” (O'Dell and Grayson 1998) and technology is only one facet of knowledge sharing.

Effective knowledge management systems and networks are imperative for maximizing opportunities for contribution within organizations. However, it is important to remember that while “knowledge management is often facilitated by IT, technology by itself is not knowledge management” (Baltzan and Phillips 2008). There is an increasing danger that organizations hide the concept of knowledge management behind the systems that support it where excessive emphasis on the technology “shifts the focus of knowledge and knowledge work away from individuals – without whom knowledge can be neither generated, transmitted, nor used” (Fahey and Prusak 1997). In fact, some research has gone as far to say that “information technology may destabilize the relationship between organizations and their employees when it comes to the transfer of knowledge” (Griffith, Sawyer et al. 2003). However, creating a technical solution to support the sharing of knowledge and best practices is often the first attempt in developing a knowledge-based firm (O'Dell and Grayson 1998). IT is indeed, the primary mediator for sharing and communicating information and therefore has “an important role in effectuating the knowledge-based view of the firm” (Alavi and Leidner 2001).

IT applications, such as electronic mail, lotus notes or group decision support systems “vastly increase the potential for information sharing in organizations” (Constant, Kiesler et al. 1994). However, despite the fact that many organizations have invested extensively in such “knowledge-sharing technologies, few systems have met their expectations or objectives” (Olivera, Goodman et al. 2008). The reason for this is, as stated previously, that knowledge sharing issues are not technical (O'Dell and Grayson 1998) and a technical enabler to enhance knowledge management is only one step in promoting a knowledge-based firm. Together with *information technology*, other facets include, *culture*, *leadership* and *measurement* (O'Dell and Grayson 1998).

7 CONCLUSION

A detailed literature review of contribution behaviours in systems development is still in progress. This research paper attempts to highlight the primary areas of intended research namely, contribution as an act of sharing knowledge and contribution as an act of influencing decision making within project teams. Continued research will assess both of these aspects as they relate to information systems development projects.

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CHALLENGES FOR AIDED ONLINE SHOPPING AND PRODUCT SELECTION – A DECISION MAKING PERSPECTIVE

Maciej Dabrowski, Thomas Acton and Willie Golden, Centre for Innovation and Structural Change, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway

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ABSTRACT

Consumers often face a task to select a best option from a large set of alternatives, such as choosing a car to buy¹, an apartment to rent², or an unforgettable trip to book³. E-commerce sites frequently provide the possibility to search for structured items, usually by asking a user to fill in a form asking about the requirements that a desired product has to satisfy (preferences). This process is used, for example, when searching for a used car, or a flight on popular websites, and is also referred to as preference-based search or parametric search. Although such choice-based approaches are prevalent, both users and retailers can find them unsatisfying. One of the major reasons is that users are often not able to correctly transform their preferences into requirements using online forms, and thus they are rarely provided with the information they need.

On the other hand, consumers making purchase decisions in online shops are often unable to evaluate all available alternatives in great depth, and so seek to reduce the amount of information processing. Interactive decision aids that provide support to consumers are particularly valuable in helping to determine which alternatives are worth further, detailed consideration. Customers are being provided with a number of different decision aids that, ideally, should enable them to search, browse and compare vast numbers of available products. Retailers offer various recommender systems that attempt to provide customers with manageable and relevant set of products based on user profiles, history of interactions and product descriptions. Moreover, various techniques for preference elicitation (e.g. dialogs in conversational recommender systems) are used to enable better understanding of customers' needs. However, there are many factors (e.g. the number of available products but also by the precision of information preference elicited) that can impact the performance of decision aids in online shops. We discuss the most popular decision aids in the context of online shopping and decision-making.

We also introduce the concept of a soft-boundary pre-filtering decision aid. The decision aid modifies the pre-filtration criteria provided by the decision maker and thus, allows him to reconsider selected alternatives she initially eliminated. We propose a model of such a decision aid, give an overview of its different configurations, and provide the illustrative example of the scenario of use in the apartment selection decision problem. We also hypothesise about the impact of the proposed decision aid on decision quality and consideration set size and quality. We conclude the paper with an overview of potential

¹ <http://www.carzone.ie/>

² <http://daft.ie/>

³ <http://orbitz.com/>

directions for future research and a discussion of benefits of application of the soft-boundary pre-filtering decision aid.

INTRODUCTION

Consumers often face a task to select a best option from a large set of alternatives, such as choosing a car to buy, an apartment to rent, or an unforgettable trip to book (<http://expedia.com>). E-commerce sites frequently provide the possibility to search for structured items, usually by asking a user to fill in a form asking about the requirements that a desired product has to satisfy (preferences). This process is used, for example, when searching for a used car, or a flight on popular websites, and is also referred to as preference-based search or parametric search. Although such choice-based approaches are prevalent, both users and retailers can find them unsatisfying. One of the major reasons is that users are often not able to correctly transform their preferences into requirements using online forms, and thus they are rarely provided with the information they need.

On the other hand, consumers making purchase decisions in online shops are often unable to evaluate all available alternatives in great depth, and so seek to reduce the amount of information processing involved (Payne, 1976). Häubl & Trifts (2000) discuss the stage process in the context of online shopping and argue that interactive decision aids that provide support to consumers are particularly valuable in helping to determine which alternatives are worth further, detailed consideration. The performance of decision aids in online shops (e.g. recommender systems) can be affected not only by the number of available products but also by the precision of information preference elicited (Scholz, 2008). Utility theory provides a solid mathematical foundation for recommendations of products. (Keeney and Raiffa, 1993). However, it assumes complex preference models that cannot be elicited in e-commerce scenarios because of lengthy and effortful preference elicitation procedures.

On the other hand, interactive decision aids that provide support to consumers are particularly valuable in helping to determine which alternatives are worth further, detailed consideration. Customers are being provided with a number of different tools that, ideally, should enable them to search, browse and compare vast numbers of available products. Retailers offer various recommender systems that attempt to provide customers with manageable and relevant set of products based on user profiles, history of interactions and product descriptions. Moreover, various techniques for preference elicitation (e.g. dialogs in conversational recommender systems) are used to enable better understanding of customers' needs. However, there are many factors (e.g. the number of available products but also by the precision of information preference elicited) that can impact the performance of decision aids in online shops. We discuss the most popular decision aids in the context of online shopping and decision-making.

In this paper, we introduce the concept of a soft-boundary pre-filtering decision aid. The decision aid modifies the pre-filtration criteria provided by the decision maker and thus, allows him to reconsider selected alternatives she initially eliminated. We propose a model of such a decision aid, give an overview of its different configurations, and provide the illustrative example of the scenario of use in the apartment selection decision problem. We also hypothesise about the impact of the proposed decision aid on decision quality and consideration set size and quality. We conclude the paper with an overview of potential

directions for future research and a discussion of benefits of application of the soft-boundary pre-filtering decision aid.

CUSTOMER PREFERENCES IN DECISION MAKING

Discussion on different classifications of decision maker's preferences and decision-making processes has been widely disputed in IS research. Firstly, the information-processing approach to human decision-making indicates that information-processing capacity of decision-makers is limited. Thus, most decisions are influenced by the notion of bounded rationality in the way that accuracy-effort tradeoffs are assessed and decision-makers tend to show decision-context-specific behaviours (Bettman et al., 1998). Moreover, in domains where alternatives described with a number of decision attributes are available, individuals typically do not have specific pre-formed strategies on selection of attribute importance and tradeoffs they are prepare to make (Haubl and Murray, 2001). Decision makers tend to construct their preferences when they are prompted to express evaluative judgment or to make a decision (Payne et al., 1992). However, In Decision Making, existence of constructed and stable preferences is argued (Bettman et al., 2008). They comment on work of Simonson (2008) and argue "constructive processes can lead to stable preferences as the outcome". There is a growing consensus that preferences are typically constructed when decisions are made and are influenced by the method of preference elicitation, the description of the options, and the choice context. This problem has also been recognized in other domains (e.g. Recommender Systems). In particular Ricci et al. (2003) argued that both "short term preferences" (goal oriented, constructed preferences) and "long term" (stable) preferences should be taken into account in the process of computing recommendations. However, they note that short-term preferences are highly contextual, and thus, should be much more important in particular decision problem than the long-term preferences. Extensive summary of work showing that preferences can be influences by various features of the task and decision context are available in (Lichtenstein and Slovic, 2006) and in (Bettman et al., 1998).

On the other hand, one can differentiate between *hard*, and *soft* preferences (also called constraints). Typically, preferences provided by a decision-maker are treated as hard-constraints. In other words, if values of a given attribute of a product do not exactly match customer's criteria, a product won't be included for consideration. However, when a customer expresses his preference for a product with certain features, he also might consider products without such features (e.g. one would like to buy a car with leather upholstery, however, cars without such feature can be also considered). To address this drawback of hard-constraints systems (Stolze, 2000) the concept of soft-constraint was proposed. Based on the notion of soft and hard constraints the notion of Soft and Hard Navigation has been introduced (Stolze, 2009). When using Soft Navigation, instead of hard filtering constraints users express preferences of various strengths for product features. The stated preferences are the base to evaluate the alternatives so that the highest-scoring products have the highest probability of being selected by a customer (Stolze, 2000). This approach is typically based on the concept of similarity between values/items (Stahl, 2002) and is widely used in Recommender Systems domain (McSherry, 2002, Stahl, 2006, Bergmann et al., 2001).

Finally, (McSherry and Aha, 2007) propose a model for a recommender system where four types of preferences are identified:

Following the **assumed preferences** approach, customer preferences for particular attributes can be “assumed” to be consistent among all decision makers based on the characteristics of an attribute. For example, preference for Price attribute is typically to minimize the value (also referred to as *Lower-is-Better* (McSherry, 2003b) or *cost-type* (Xu, 2007) attribute). Thus, one can assume with high probability that price minimization will be a consistent goal of decision makers. According to (McSherry and Aha, 2007) assumed preferences are typically in form of soft constraints, meaning a decision maker is willing to compromise the target ideal values (e.g. in case initial preference is to buy a car in price range [€10000, €12000], cars cheaper than €10000 can be also considered).

In contrast, **explicit preferences** are defined as directly stated by a decision maker. Typically explicitly stated preferences are hard-constraints – a consumer is not willing to accept any compromise on the value. Lets consider an example in e-Commerce, where a customer with medium budget is looking to go skiing during winter holidays in Italian Alps. He may be willing to spend a bit more than he initially stated or buy a stay in French Alps resort (soft-preferences), however he is not willing to compromise on the purpose of the trip (“skiing”, not “sightseeing” or “fishing”) as it is a hard-constraint (example adopted from (Ricci et al., 2002)

Thirdly, **predicted preferences** appear when a history of previous decisions, or preference elicitation dialogs is available, some preferences may be predicted with reasonable accuracy. For example, in progressive critiquing recommender systems (Bridge et al., 2005) the preferred value of an attribute can be predicted as the nearest available value that satisfies the recent critique on the value of an attribute in the presented item (Ricci et al., 2002). For example, customer willing to buy a trip shorter than proposed (in the conversation) 14 days may be interested in 11 as well as 7-days trips.

Finally, **implicit preferences** are indirectly elicited from the available information about the consumer. For example, during a dialog in conversational recommenders, when a consumer is indicating his critique on the presented values, the attributes he is not critiquing can be assumed to be suitable. Thus, these values become consumer’s implicit preferences. For example, when all the trip proposals involve air transport (i.e. transport=“plane”) and customer does not critique it, one can assume that she is happy with this transport option and is not interested in other (e.g. “bus” or “train”).

In this section we discussed four types of preferences that are typical for e-Commerce scenarios. Although the problem of customer preference elicitation is widely addressed in the literature, there are still many research problems open. In the next section we elaborate approaches from the Recommender Systems domain that propose methods for dealing with these problems and are relevant for online shopping scenarios.

RECOMMENDER SYSTEMS

Decision aids based on recommendations and suggestions have recently become an important stream of research in e-commerce. Recommender systems combine ideas from a number of research domains including information retrieval (IR), user modelling, machine learning, and human computer interaction (HCI). Typically, recommenders are classified into one of the general categories (Adomavicius and Tuzhilin, 2005). In *content-based approaches* a user is recommended with the items similar to his preference. This approach requires information on

product features in order to assess similarities, which can be seen as domain specific, but a priori unknown utility functions (Stahl, 2004). Moreover, items need to be in a form that can be parsed automatically using information retrieval techniques (e.g. customer reviews (Otterbacher, 2008, Otterbacher, 2009, Aciar et al., 2007, Miao et al., 2009, Aciar et al., 2006)). *Collaborative recommendations* methods, unlike content-based recommenders attempt to predict utility of items for a particular user based on the previous interaction with similar users (Adomavicius and Tuzhilin, 2005). As the recommendations are computed based on item ratings provided by “recommendation partners” (users with similar profiles) (Bridge et al., 2005) item descriptions (properties) are not required. Instead, user profiles need to be constructed. Thus, main drawbacks of this approach mentioned in the literature include problems learning new users’ preferences, acquiring item ranking for new items, and necessity of acquiring a critical mass of users (Adomavicius and Tuzhilin, 2005). Thirdly, *hybrid approaches* involve various combinations of both aforementioned methods in order to avoid certain of their limitations. Different efforts for combining collaborative and content-based methods into a hybrid recommender system can be classified as (Adomavicius and Tuzhilin, 2005):

- Combination predictions of separate implementations of collaborative and content-based methods.
- Incorporating some content-based characteristics into collaborative approach
- Incorporating some collaborative characteristics into content-based approach
- Constructing a general unified model that incorporates both approaches

There are numerous studies that propose the use of recommendations to improve consumer decision-making (Bridge and Ricci, 2007, Burke, 2002, Hostler et al., 2005, Pu and Faltings, 2000, Pu et al., 2006, Viappiani et al., 2007, Viappiani et al., 2008, Shimazu, 2002). Providing a consumer with a relevant (similar to his stated preferences) yet diverse (so that he can discover new opportunities and adjust his preference model) set of suggestions has become an important research problem (Smyth and McClave, 2001, Bridge and Ferguson, 2002). In particular, Smyth and McClave (2001) argue that not only similarity of cases to the user query but also diversity of the cases (relative to each other) is important. On the other hand, McSherry (2003b) discussed the compromise-driven approach to retrieval (CDR) being a special of a more general approach called coverage-optimized retrieval, which aims to ensure that for any case that is acceptable to the user, the retrieval set contains a case that is as good or better in some objective sense and is also likely to be acceptable – Coverage Optimized Retrieval (CORE). He defines compromises as a set of attributes with respect to which an item fails to satisfy user preference. It is important to note that compromises that a user is prepared to make are often unrelated to the importance of the attributes in her query, and thus, cannot be predicted a priori. (McSherry, 2003a) in his work defines three compromise criteria explaining when a given product $p1$ is better than product $p2$: the weak compromise criterion (CORE-1) - $p1$ is at least as similar to the user’s query as $p2$ and involves fewer (or exactly the same) number of compromises than $p2$; the strong compromise criterion (CORE-2) - $p1$ is at least as similar to the user’s query as $p2$ and the compromises in $p1$ are a subset of compromises in $p2$; the dominance criterion - $p1$ is more similar to user’s query than $p2$ on all attributes in the query. CORE is based on the assumption that a result set should cover the whole product space according to one of the given compromise. McSherry showed that for CORE-1 and CORE-2 the size of the result set is dependant on the number of attributes in the query and tends to be very small (e.g. $|AQ|+1$ for CORE-1 and $2|AQ|$ for CORE-2 where $|AQ|$ is the number of attributes in the user’s query. However, according to McSherry’s experiments, the average result set size tends to be much smaller

than the maximum (e.g. 7.5 items for a travel database with 1000 products). The small size of the result set makes this approach applicable in cases where the presentation space is limited (e.g. mobile devices). However, a potential problem with this approach is that in many domains a decision maker is not seeking for a single item that closely matches her query, but would like to be informed of all items that are likely to be of interest (McSherry, 2003b). Moreover, the cases most similar to the user's query may not necessarily be the ones most acceptable by the user (under dynamic preference assumption). Finally, the CORE approach utilizes user query mostly for assessing number of preferences on attributes that are not satisfied as the utility for cost-type and benefit-type attributes is computed over the whole spectrum of values available in the case base.

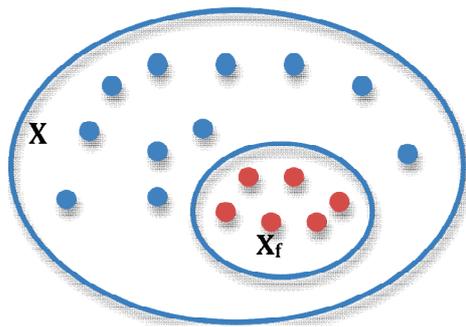
In contrast to basic, single-shot systems, more interactive approaches for recommendation have been proposed. Conversational recommenders with adaptive suggestions (Viappiani et al., 2007) emphasize the need for iterative preference construction enabling gradual improvements to the accuracy of suggestions. Pu et al. (2006) propose to use critiquing as a methodology for mixed-initiative recommender systems. In this technique users volunteer their preferences as critiques on examples, thus proper examples (suggestions) have to be selected to stimulate their preference expression by selecting. According to the Look-ahead principle (Viappiani et al., 2008), "Suggestions should not be optimal under the current preference model, but should provide high likelihood of optimality when an additional preference is stated".

In summary, Recommender Systems provide a rich set of methods for improving user experience in online shopping scenarios. More importantly they enable a user to more efficiently browse large sets of items. More importantly, the concept of recommendations often facilitates discovery of items initially not considered by a user due to the item characteristics. Thus, recommendation methods help to deal with dynamic customer preferences, for example, by increasing diversity of the result set. However, they never allow users to view all the items that satisfy their criteria, thus their use may be problematic in some domains (e.g. house domain). In the next section we propose a method that is designed to address the mentioned drawbacks of recommendation systems.

THE DECISION AID

When the set of alternatives to consider is large, a decision maker suffers from information overload. High cognitive load influences strategy selection and thus negatively impacts the decision quality (Diehl, 2005, Todd and Benbasat, 2000). Filtering is one of the techniques used to limit the number of information items in the set presented to the user, thus allowing reduction of the effect of experienced information overload. The process of filtering involves application of filtering rules (or restriction on attributes) to the items in the set to be filtered (Hanani et al., 2001) so that only a subset of items is selected and presented to a user (see Figure 1).

Figure 1: Initial pre-filtration of alternatives



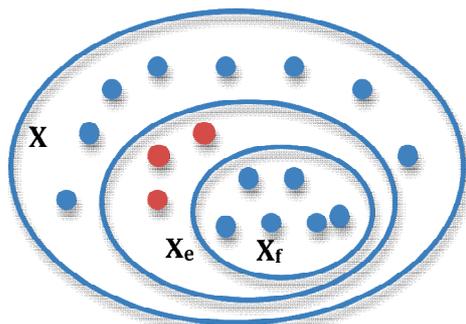
X – set of all available alternatives
 X_f – set after standard pre-filtration, contains only those alternatives that fully satisfy attributes' values preference

User preferences are the key input for alternative pre-filtration. If an alternative does not satisfy all specified criteria, it is excluded. Thus, a new set is constructed, that contains only the alternatives that fully satisfy users attributes' values preference. As such, users are able to significantly limit the number of alternatives they will examine in more detail with preference-based constructed filtering rules.

THE METHOD

We propose a decision aid that would limit potential negative consequent of dynamics in the decision makers' preferences on attributes' weights and values. Such a decision aid applied in online shopping choice scenarios may increase consumer confidence and be of value to service providers. We propose a modification to the pre-filtration process by introducing "soft-boundaries" of value preference intervals specified by a customer during the pre-filtration process causing a filtering rule to be less restrictive.

Figure 2: Example of the decision aid usage



X – set of all available alternatives
 X_f – set after standard pre-filtration
 X_e – set added for reconsideration by the decision aid (extending X_f)

Thus the products, which satisfy the less strict filtration criteria, remain in the consideration set and can be further considered by the consumer (see Figure 2). The set of alternatives available for consideration is constructed based on the decision maker's preferences extended with the set of alternatives suggested by the soft-boundary decision aid. One can define a number of approaches for calculation of the set of products suggested for further consideration by the decision aid, for example:

- Fixed in relation to size of the attribute values preference interval – the size of the value preference interval is multiplied by softening factor k . In order to limit the number of alternatives presented to a user it is advised that $1 < k < 2$. However, higher values are also possible.
- Proportional to boundary preference values – both lower and upper limit of the value interval are multiplied by k . Thus the upper limit of the interval is extended more than the lower limit. This approach is applicable for the benefit-type attributes as maximization of the benefit-type attribute value is in the interest of a decision maker. For the cost-type attributes the approach should be preceded with an appropriate transformation (e.g. preference values could be inverted) in order to favour lower values more.
- Based on the distribution of the attribute values – new interval boundaries are calculated based on the total number of alternatives required for reconsideration and based on the distribution of values of the particular attribute.

It is important to note that the values of k should be selected based on the customer sensitivity in changes to a given feature. The method proposed improved the diversity in the result set, thus is expected to deliver better quality customer decisions. Moreover, appropriate selection of the softening factor k enables user to discover potentially interesting alternatives and consider them during his decision making process keeping the increase in information overflow as low as possible.

CONCLUSIONS

This research-in-progress paper introduced a new soft-boundary pre-filtering decision aid. We argued that during the process of pre-filtering of the initial, very large set of products, customers eliminate alternatives they could consider by providing preference on attributes and attributes' values. In this paper we introduce a model for a decision aid that can limit the potentially negative effects of dynamic preferences of customers. We also presented propositions about the impact of such a decision aid on decision quality and consideration sets.

If our decision aid increases the overall quality of the consideration set, and enables alternatives to be retained in that set that would otherwise be lost in an early elimination stage, decision quality may be increased. If it positively impacts decision quality, the decision aid might result in higher decision confidence and lead to higher satisfaction. As such, it is worthy of study. We believe that e-commerce application of such a decision aid can be highly beneficial to providers of online shopping services: increased satisfaction and confidence of consumers leads to higher customer retention and, typically, higher profits (HennigThurau and Klee, 1997). Moreover, increased average quality of the alternatives considered by a decision maker would reduce decision-making effort. This would have a direct relevance for online consumers, as well as having value to e-commerce providers.

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THE IMPLEMENTATION OF ELECTRONIC HEALTHCARE RECORDS WITHIN THE IRISH HEALTH SERVICE: AN ANALYSIS OF USER ATTITUDES

Michael Lang and **Annemarie Melia**, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway

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1. INTRODUCTION

An Electronic Healthcare Record (EHR) contains past, current, and prospective information about a person's medical history in a secure computerised format, in such a way that it may be accessed and shared by a number of authorised users e.g. healthcare professionals, hospital administrators (Häyrinena et al., 2009; Veselý et al., 2006). EHRs can potentially deliver many benefits, their primary goal being to improve the efficiency and effectiveness of information management and decision-making within the health service.

However, the rate of EHR adoption in practice to date has been slow (Gans et al., 2005; Lobach & Detmer, 2007). Despite an aspirational EHR roll-out plan announced by the Department of Health & Children (2001) and a subsequent recommendation by the Information Society Commission (2004) that "Ireland must significantly increase its investment in eHealth technology and applications" as a strategic imperative, very little progress has as yet been made with regard to a national EHR system in Ireland.

There has been a number of high profile and costly e-government systems failures within the public sector in Ireland in recent years, including the PPARS project and the abandonment of electronic voting. Similarly, the national implementation of an EHR system is prone to considerable risks and problems. This study therefore sought to investigate the attitudes of Irish healthcare workers towards EHR systems, with particular emphasis on the technical and socio-technical factors that may impede future roll-outs of this potentially beneficial technology.

2. LITERATURE REVIEW

2.1 The Potential Benefits of Electronic Healthcare Records

Bakker (2007) claims that Electronic Healthcare Records (EHRs) will become an important tool in healthcare management because integrated services can be delivered to users by various healthcare professionals at various locations and points in time. For a healthcare professional who is actively treating a patient, it is often necessary to know the data recorded by other healthcare workers who have dealt with the same patient because such data gives information on the health status of the patient, current and previous medication, allergies, diagnoses from other episodes of care, results of examinations, etc. In order to achieve efficient and high quality care of patients, comprehensive and accurate information about patients' health must be provided and managed. Additional features that can be integrated with EHRs include medical guidelines, reminder facilities, checking facilities, and decision support facilities.

EHRs can be used across all areas of the health service, from primary care (e.g. General Practitioners' clinics) to secondary care (e.g. a specialist centre following GP referral) to tertiary care (e.g. expert treatment in a hospital). Currently, the norm in Ireland is that each physician who sees a patient for medical treatment creates and maintains a separate medical record for that patient. With the use of an integrated EHR, this duplicated effort could be eliminated through the shared collection and storage of a patient's details. Kukafka et al (2007) make the point that a large proportion of the data relevant to public health management derive from clinical data and these data should be collected once and then re-used, rather than collected repeatedly by different users. Repeated collection of the same data by different individuals introduces needless data collection burdens, as well as data entry error. A public health oriented EHR system would offer many opportunities for high-quality population-level research by improving data quality, pooling it, and making it available for analysis through traditional epidemiological or data-mining methods (Kukafka et al., 2007; Stausberg et al., 2003).

The impetus to implement EHRs mainly derives from the inherent inefficiencies and troublesome issues associated with paper-based systems (Safran & Goldberg, 2000). With paper-based charts, numerous problems can be encountered, such as bad handwriting, poorly organised documentation, or missing or ambiguous data. The use of EHRs can immediately resolve many of these issues and improve the quality, accuracy, and efficiency of the services provided. EHRs also promise improved quality of care, increased completeness and legibility of documentation, increased efficiency, lower costs, reduced storage space, reduced frequency of data loss and medical errors, immediate access to information at widely distributed sites, vast clinical data warehouses, improved workflow, and the opportunity to use intelligent decision-support technologies (Hier et al., 2005; Vesely et al., 2006).

2.2 The Adoption of EHR Technologies in Practice

Hu et al. (1999) make the indisputable point that "regardless of potential technical superiority and promised merits, an unused or underutilised technology cannot be effective". User acceptance is a critical element to the successful adoption of information technology in the workplace. Computer systems cannot improve organisational performance if they aren't used. Unfortunately, resistance to information technology is a common problem in organisations. To better predict, explain, and increase user acceptance, we need to better understand why users accept or reject new technologies (Davis et al., 1989). Goldschmidt (2005) comments that:

"To date Health Information Technology (HIT) has been mostly the realm of enthusiasts. Practitioners have generally regarded EHR's as costly, cumbersome, and offering little help for tasks at hand. Many still doubt they are ready for widespread deployment. Estimates of the number of physicians and hospitals that have adopted an EHR are varied and unreliable, due in part, to variability in what constitutes an EHR, they vary in sophistication and are not interoperable."

One issue that has affected the uptake of EHR technologies is the exclusion of patients, who typically are not afforded a facility to record information about themselves (Staroselsky et al., 2006). Another issue is convincing people to embrace the technology; Currie & Guah (2007) suggest that while the government and media have narrowly focused upon the technical aspects of EHRs, a significant challenge is to win the hearts and minds of those who are expected to adopt the technology. The security risks of archiving and retrieving computerised patient records are also an important factor, with the consequent need to

implement and enforce regulations to safeguard the privacy of medical records e.g. reliable user authentication schemes. Other considerations that may impact successful EHR adoption include the cost and return-on-investment of the technology, the lack of interoperable standards, staff training, the complexity and fragmentation of data, different national legislation on privacy and consent, clinicians' fear of data entry, and staff aversion to making information available (e.g. because of law suits and tribunals). Notwithstanding the many non-trivial issues associated with the implementation of EHR technology, it has been articulated by many national governments as a priority objective in the short- to medium term. For example, in the USA, \$19 billion has been committed to healthcare IT under the American Recovery and Reinvestment Act of 2009 with the affirmation that the national recovery plan "will invest in electronic health records and new technology that will reduce errors, bring down cost, ensure privacy, and save lives" (Obama, 2009).

3. RESEARCH METHOD

Given the claimed potential of EHR technology to radically enhance healthcare provision, the objective of this study was to investigate the attitudes of Irish healthcare workers towards EHR systems, with particular emphasis on the technical and socio-technical factors that may impede future roll-outs.

Considering the nature of the research objective, a qualitative approach was chosen. This paper is based on a case study and a series of semi-structured qualitative interviews, conducted over the course of a number of months in 2008, with 22 healthcare / IT professionals attached to a major regional hospital based in the west of Ireland. Within this hospital and its associated community care units, most records are currently maintained in paper-based format. Where records are kept in electronic format, they are generally stored in systems that are not directly linked to other systems. As such, this hospital is a good setting within which to investigate attitudes towards EHR technologies, both positive (e.g. overcoming the problems of the paper-based systems) and negative (e.g. resistance to new technology and work practices).

There are many powerful stakeholder groups within the healthcare sector (Lapsley & Llewellyn, 1998), each of which can influence the ultimate success or failure of a system. The interviewees were therefore purposefully selected in order to include a diversity of roles and responsibilities: 8 managers, 3 in-house IS staff, 2 community care workers, 2 medical records staff, 5 nurses/clinicians, 1 physiotherapist, and 1 General Practitioner (GP).

The data analysis method employed was a hybrid, mainly based on the procedures of grounded theory (Locke, 2001; Strauss & Corbin, 1998), but also informed by the general principles laid down by Miles & Huberman (1994).

4. FINDINGS

4.1 Perceived Benefits of EHR Technology

All of the persons interviewed were well informed about EHR technologies and see them as a great opportunity to enhance the health service for the patient as well as providing benefits to healthcare workers in all areas of the hospital. All interviewees see the key benefit as being the universal availability of the patient's record. Having a patient's records available would

mean that a patient would receive better care because their full medical history would be available, irrespective of time or location. This could also enhance communication between the GP and the hospital, because correspondence would be faster and the GP could be more closely involved in the patient's care.

Furthermore, all interviewees were of the opinion that EHRs can overcome the shortcomings of paper-based records. For example, if a change is made to a record by a GP, clinician or any other authorised user it means that this information is available for everyone to view, whereas a major problem with the present paper-based system is that letters are often sent to an incorrect address. Having access to a complete EHR would also eliminate the potentially life-threatening situation, which is not uncommon, where patients admitted to the hospital forget what medication they are taking, and whose GPs cannot be contacted. With the stress and anxiety of hospital admission, a patient could also omit to mention allergies to medications; EHR systems afford safeguards against this possibly dangerous scenario.

Enhanced patient confidence was also seen a key benefit, as best explained by one interviewee who commented that:

“The patient sees the organisation more conjoined in its thinking rather than disjointed. For example, currently when a patient moves around the hospital from department to department they are repeatedly asked the same questions, and this causes the patient's confidence in the service to decrease.”

If all healthcare providers were permitted to have shared access to a centrally stored record, it would lead to better communication between GPs, hospitals, and community care facilities, which in turn would lead to better patient care. The current practice within the hospital setting that we studied was that there is a reliance on the use of paper-based charts, meaning that only one person can have the chart at any one time for whatever reason they may need it. This is exemplified by the following scenario as communicated by one of the interviewees:

“Suppose we are looking for a patient's medical records while he is attending a clinic here in this hospital. Tomorrow that same patient might be attending a clinic in [a part of the hospital on the other side of the city] and the records are required there. Meanwhile a secretary here needs the same records to compile a report. [The health insurance company] also needs the record along with the HIPE department for coding. All of these people have legitimate needs to access the records, but it is very difficult to manage a paper-based system to cater for those competing needs.”

Another potential benefit the interviewees highlighted pertains to the amount of time spent each day sourcing, filing, and tracking paper-based charts, a problem that would not exist if EHRs were available. An astoundingly large percentage (estimated to be of the order of 50%) of medical charts containing sensitive information have been known to “go missing” somewhere within the hospital. Users of the Hospital In-Patient Enquiry System (HIPE) have a long-running frustration with the present paper-based system because they must physically source and access patients' charts in order to code them; these users feel that EHRs are the solution to the problem. Another benefit is that forms for medical insurance companies could be filled electronically, thus saving a lot of time.

A number of interviewees commented on the potential benefits of EHRs as useful auditing tools, report generators, and for conducting research. Within the hospital environment, numerous audits are continually being conducted, the majority of which currently use manual

data gathering processes. Similarly, a lot of laboratory reports and various other statements which are now being “done by hand” through slow tedious processes could be automated if an EHR system was in place. One interviewee said that an EHR system would be “one of the best research databases in the world”; at present, research is carried out using information that is extracted from the existing systems, many of which were not originally designed with researchers’ needs specifically in mind. An EHR system could provide much clearer, current, accurate and precise data for statistical analysis, but for this to happen would require clinical guidelines and procedures to ensure that everyone collects data in the same way (which is not presently the case with a mixture of various computerised and paper-based systems in use). From a medical-legal perspective, there is currently no guarantee that when reports are sent to hospital wards, GPs etc. that the reports are being read at all. With an EHR system, it would be possible to include status “flags” to check that urgent and important results are not missed.

4.2 Perceived Barriers and Impediments to EHR Implementation

One of the main barriers to the adoption of EHRs in Ireland, which was alluded to by all interviewees, is the lack of adequate funding for a project of the scale involved. Funding within the Irish health service is generally allocated to hospitals on the basis of annual requests which are evaluated and prioritised, whereas in other countries where EHR systems have been implemented there typically are rolling budgets in place. With a rolling budget, there is a greater chance of a €5m project being granted funding than with annual budgets where the likelihood of securing backing for an investment of such magnitude is considerably less probable. Over the years, a number of poor expenditure decisions have led to bad publicity for the Irish health service, such as the abandonment of the PPARS project which was originally estimated to cost €9m but eventually cost over €200m (CAG, 2005). Spending in the health sector is heavily scrutinised by the media, with the result that expenditure on potentially risky IT projects is conservatively managed for fear of receiving adverse attention. There is a feeling that the general public would much rather see money spent where it can be seen (e.g. new beds and equipment) than on back-office IT systems whose front-line benefits are not obvious. There is a widely held perception that the Health Service Executive (HSE) is top-heavy on administrative staff and is rife with inefficiencies, and while EHR systems could potentially eliminate wasteful effort and lead to cost savings, such new technologies are low on the list of priorities because their immediate benefits are harder to justify. The initial investment needed to implement EHRs is quite substantial, and because of the risk of failure there is a reluctance to invest.

As a consequence of the one-year-at-a-time funding model, the many hospitals and agencies within the Irish health service have to a considerable extent operated independently of each other and have thus ended up “re-inventing the wheel” in many regards, building disconnected “islands of information” which have now become legacy systems, many of them being in place for 15 years or more. These systems would need to be upgraded and integrated as part of any national EHR project. As more and more stand-alone piecemeal solutions come on stream, it becomes increasingly more difficult to merge them into one unified system. Although EHRs have been a topic of conversation for over 10 years within the Irish health service, little progress has as yet been made other than brief discussions. As a basic start, there needs to be a focus on taking a lot of the paper out of the system because, as explained by one interviewee, it is not good to have some parts of a hospital completely electronic and other parts still using paper because this inevitably means that paper will creep into the areas that are supposed to be completely electronic; the same interviewee added the caveat that the impetus towards integrated EHR systems needs to be driven nationally. The

information that is currently stored in paper-based charts is localised, meaning that it is primarily relevant to the hospital where it was gathered. Current practice means that the format of paper-based patient information differs from hospital to hospital in terms of diagnosis and procedures. Because of this, standard data sets or standardisation of examination codes and pathways are a necessary prerequisite for a national EHR project to work.

Most interviewees mentioned that people's reluctance to change to new work practices would greatly hinder the implementation of an EHR system. Many workers within the health service feel there is no need to change because they cannot see the benefits created by using EHR technology. As explained by one interviewee,

“You will always have a group of people who oppose anything new just for the sake of opposition and I suppose that's where a good education programme and good training comes in.”

Some people believe that “the machine” is going to replace them and their jobs would not be safe if they embraced new technologies such as EHR systems. What such people fail to see is that the development of an EHR system is likely to create other jobs, meaning that it would be a case of redeployment of staff rather than job cuts. Employees would need to be introduced to a EHR system on a phased basis which is fully-supported by service staff and custom-tailored to their needs, in order that they can begin to appreciate the real benefits. For successful implementation of an integrated EHR system, it is imperative that doctors, nurses, GPs, and administrative staff “buy in” to the concept. In particular, a serious impediment to the roll-out of EHR technology is the belief, held by a considerable cohort of healthcare workers, that such technology might be more a hindrance than a help because, in placing a greater administrative burden on healthcare professionals to enter and maintain computerised records, it means the patient may lose out because less time is available for direct personal consultations. As one interviewee put it quite frankly, “the patient is not at the end of the cursor and we must remember that.”

The security of computerised EHRs was mentioned by a number of the interviewees. Arguably, there are already data security issues where paper-based patient charts are carried around a hospital and sometimes inadvertently left open to public view, thus compromising a patient's privacy (e.g. records left on trolleys in corridors, or files left open at the reception counter). However, when records are electronically stored, the fear of an unauthorised “impostor” is heightened because of the potential to “hack in” by stealth from afar.

Also with regards to patient privacy, the issue of a national unique patient identifier was cited as a major concern by all interviewees. Although all Irish citizens are currently issued with a Personal Public Service (PPS) number, many people are reluctant to disclose this number because they associate it with their confidential personal finances (e.g. income tax and social welfare). At present, some healthcare IT systems within the hospital setting that we studied use a patient's PPS number (e.g. for medical cards and immunisation records), but other systems use an alternative identifier as explained by one interviewee:

“[As regards] a unique patient identifier, now we have a local and a regional one called the patient board number, which has worked out very well. There are some issues with that as it needs to be well maintained and we have issues with duplicates, but if it was well maintained it is a model that could be used nationally.”

In other jurisdictions, legislation has been put in place in recent years to safeguard the privacy and disclosure of a person's national ID number, but as yet no such legislation exists in Ireland. A number of incidents of data loss by banks and state agencies (including the recent theft of an unencrypted laptop containing patient records from the HSE) has no doubt had an impact on public confidence regarding the security of personal data stored in electronic format. There is an ongoing debate within the field of e-government between, on one hand, the imperative for a state to provide its citizens with efficient and effective public services and to care for the interests of the "common good" while, on the other hand, protecting civil liberties and ensuring that citizens' personal integrity and security is not violated. These same issues are pertinent to any future roll-out of a national EHR project.

Two interviewees raised the issue of the amount of space needed on the ward for extra terminals. If nursing staff and doctors are required to update patients' EHRs, there will be extra demand on what few computers are currently installed within each hospital ward, with a resultant need for additional terminals. Because floor space is at a premium, the room required for additional computers becomes an issue that needs to be addressed before an EHR could be put in place. Of course, an argument could be made that space previously used for paper files could be used for computer terminals, or that nurses and doctors could use portable bedside devices (e.g. "palm tops"), but matters of staff training and job definition might then come into play.

Finally, another barrier identified by most of the interviewees was infrastructure and architecture. In the Irish context the digital telecommunications infrastructure simply wasn't there until relatively recently and there are still some outstanding issues with it. As regards moves towards a national EHR project, a good start would be to identify a national unique patient identifier, create a backbone network for the whole country, a good broadband infrastructure and standardisation of data information sets. A high-speed broadband infrastructure is vital to the connections at both ends, especially for radiology departments where large image files need to be transferred. However, as yet, a lot of healthcare centres and GP clinics in rural Ireland outside the main centres of population have poor Internet connectivity, and this remains an ongoing impediment to an integrated national EHR system.

5. CONCLUSIONS

The findings of this research identified a number of perceived benefits and perceived drawbacks of Electronic Healthcare Records. It was generally felt that making EHRs more readily available could not only enhance the quality of patient care but also improve the accuracy of data contained in those records. EHRs are seen as tools which have the potential to transform the health service, making it more cost effective and efficient. From the patient's perspective, the use of EHRs could permit healthcare organisations to be more conjoined and integrated in their operations and management.

The main barriers to the adoption of EHRs in Ireland were found to be:

- The need for a high-level implementation strategy driven and funded by government.
- Fear by IT project managers within the Irish healthcare sector of EHR becoming another high profile e-government failure.
- The fragmentation of the healthcare sector in Ireland.
- Problems making the transition from a paper-based system to an electronic system.

- Potential resistance from administrative staff who are fearful of job displacement, or from healthcare professionals who perceive EHRs as more of a hindrance than a help.
- Fear and mistrust of EHR technology by the general public, especially personal privacy concerns.
- Difficulties in justifying back-office IT investment at a time when front-line healthcare resources are under severe strain.
- The lack of adequate broadband communications in many rural parts of Ireland.

Many models of IS usage and success (e.g. DeLone & McLean's model of information systems success, or the Technology Acceptance Model) speak of concepts such as "net benefits" and "perceived usefulness", but it is important to bear in mind that there are many stakeholders where healthcare information technologies are concerned and each individual stakeholder, when thinking about benefits and usefulness, is likely to ask the question "what's in it for me?". Thus for EHR systems to be effective, it is important to understand the intrinsic motivating factors for the various categories of stakeholders, and to put in place extrinsic reward mechanisms linked to those motivators. The findings of this paper clearly point to some perceived benefits that could act as incentives to entice people to adopt this new technology, but it is also clear that there is a considerable degree of apprehension from all sides surrounding EHR technologies that must be seriously considered. Valuable lessons can be learned by examining studies of successful and unsuccessful implementation of EHR systems in other jurisdictions, as well as looking at related areas such as factors impacting the success of CRM/ERP systems in large organisations, factors impacting the implementation of large scale e-government projects, and case studies looking at the socio-technical dynamics of the use, development and management of healthcare informatics.

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SYSTEMATIC REVIEWS: THEIR EMERGING ROLE IN CONNECTING THEORY AND POLICY

Patricia McHugh and **Christine Domegan**, Centre for Innovation and Structural Change, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway

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ABSTRACT

In an increasingly globalised world, no nation has gone unscathed from the current turmoil of the economic downturn. Ireland in particular has received widespread attention, given its substantial demise from its renowned reputation as an affluent and prosperous country. The exponential decline in economic growth and competitiveness, coupled with a growing number of complex social problems, such as obesity and global warming, are creating challenging times for Irish policy makers. It is recognised that complex and multifaceted issues cannot be solved by government alone in a smart economy. Policy makers need a more sophisticated and comprehensive understanding of ways to formulate and shape strategies.

In the drive towards a smart economy, systematic reviews offer an evidence-base to close the gap between theory and practice. This paper aims to portray the effectiveness of systematic reviews in managing the increasing complexity of a knowledge society. Specifically, the paper explores the effectiveness of two systematic reviews: the Systematic Review of the Effectiveness of Social Marketing Nutrition and Food Safety Intervention (2004-2005), commissioned by Safefood Ireland and the Systematic Review of the Extent, Nature and Effects of Food Promotion to Children: A Review of the Evidence to December 2008, which was prepared for the World Health Organisation in 2009. The paper also delineates how systematic reviews, in providing a rigorous evidence base, fuel a total market approach by actively facilitating knowledge co-creation and partnerships at both micro and macro environmental levels, thus, illustrating its appropriateness for policy making.

Keywords: Systematic Reviews, Research, Policy Co-Ordination, Total market Approach, Co-Creation.

INTRODUCTION

Changes in the economic environment have placed immense pressure on policy co-ordination processes in Ireland. At present, Irish policy is guided by the vision of becoming a competitive and dynamic knowledge-based economy. Over the last decade, Ireland has experienced a sensational economic transformation, from a country immersed in the Great Depression to an internationally enviable economy, during the Celtic Tiger Era of the 1990s. Ireland's formidable performance attracted substantial investment from overseas multinationals, which positively impacted on the Irish economy in terms of employment and wealth creation. The pinnacle of Ireland's success was reached between 2005 and 2007 when output rose to its highest levels, as well as the near saturation of the employment market (European Commission, 2008). According to the All Island Skills Study 2008, Ireland's economic performance "grew at an average rate of over seven per cent (real market price

GDP), which places the all island economy well ahead of other industrialised economies such as the US, Australia, Germany and the UK in rankings of economic growth” (Skills Expert Group, 2008:39). The momentum of Ireland’s advancement astonished both developed and developing countries and from 1995 onwards, net immigration outweighed net emigration, exhibiting a noteworthy turnaround for the island of Ireland. It was apparent that the building blocks for Ireland’s endeavour to become a smart economy were materialising, as the performance and competitiveness of the indigenous and multinational corporations grew exponentially. The Irish population embellished a period of buoyant prosperity as incomes rose, standards of living increased and employment rates soared.

In recent times, Ireland’s growth has stagnated and the myriad of wealth creating opportunities available to the Irish population have substantially decreased. A new dawn has transcended on Irish society, as our economic stability has become unhinged and the country’s economic position has become embedded in a whirlwind of uncertainty and disruption. The lingering shadow of the formidable Celtic Tiger has become a distant memory as Ireland comes to terms with the current economic downturn. In an increasingly globalised world, no nation has gone unscathed from the current turmoil of the global credit crunch. Each and every country has experienced fluctuations in their economic positions. Ireland in particular has received widespread attention, given its substantial demise from its renowned reputation as an affluent and prosperous country. The country is embracing a dramatic shift from soaring employment to disheartening levels of unemployment, as well as the demise of our governmental and financial institutions. The exponential decline in economic growth and competitiveness, coupled with a growing number of complex social problems, such as obesity and global warming, are creating challenging times for Irish policy makers.

Consequently, it is imperative for Irish policy to break away from the potential of a cyclical process of lapsing back into a dismally inadequate and underperforming economy. Subsequently, the focus in Ireland needs to revert back to creativity and the development of skills, ideas and innovations, in the drive towards a knowledge economy. It is quite apparent that the complex multifaceted issues facing Irish society cannot be solved by government alone. Policy makers need a more sophisticated and comprehensive understanding of ways to shape and formulate strategies.

Systematic reviews offer an evidence-base to close the gap between theory and practice. In the drive towards a smart economy, systematic reviews “efficiently integrate existing information and provide data for rational decision making by researchers and policy makers” (Van Teijlingen and Bruce, 1999:77). As well as knowledge transfer, systematic reviews can assist knowledge co-creation at the micro-environmental level of society where the focus is individual behaviour change, or at the macro-environmental level between the public, the media and policy makers (Hastings, 2007). Furthermore, systematic reviews can aid inter-system learning through the co-ordination and co-operation between micro and macro environmental players in a total market approach, to ensure social change (Hastings and Saren, 2003; Lusch and Vargo, 2006; and Gronroos, 2008).

This paper aims to portray the effectiveness of systematic reviews in managing the increasing complexity of a knowledge society. Specifically, the paper will explore the effectiveness of two systematic reviews: the Systematic Review of the Effectiveness of Social Marketing Nutrition and Food Safety Intervention (2004 – 2005), commissioned by Safefood Ireland and the Systematic Review of the Extent, Nature and Effects of Food Promotion to Children:

A Review of the Evidence to December 2008, which was prepared for the World Health Organisation in 2009. Additionally, the paper will illustrate how systematic reviews can actively facilitate partnerships between researchers and policy makers, at both macro and micro levels through an innovative networked approach, thus, illustrating the appropriateness of systematic reviews to policy making.

HISTORICAL EVOLUTION OF SYSTEMATIC REVIEWS

Systematic reviews are not a new phenomenon. In fact, systematic reviews were “conceived as early as the seventeenth century, when astronomers began to see the value of combining data sets instead of choosing between one and the other” (Campbell and Schryer-Roy, 2008:2). However, these premature conceptions of systematic reviews exhibited striking resemblances to narrative reviews, in that they incorporated high degrees of personal preference and selectivity (Bennett et al., 2005). Philosophers and researchers continued to synthesise large quantities of evidence in a narrative style throughout the seventeenth and eighteenth centuries. Nonetheless, these narrative reviews or qualitative summaries of evidence were often subjective and predisposed to bias, creating a need for reviews that were reliable and objective (Campbell and Schryer-Roy, 2008). Consequently, systematic reviews have “grown out of the nineteenth and twentieth century efforts in the social sciences, particularly psychology and education” (Campbell and Schryer-Roy, 2008:2). Theoretically, systematic reviews were conceptualised under the generic term ‘meta analysis’ which first emerged in 1975 during the evidence movement, where data was organised and collated in useable and reliable formats (EPPI Centre, 2007). Originally, systematic reviews were applied to health related disciplines and medicine. The Cochrane Collaboration was formally established in 1992, which explicitly delved into the area of evidence-based medicine. It was extremely important for medical breakthroughs to be thoroughly researched in order to make the most informed decisions relating to patients healthcare. Additionally, it is imperative for health care providers to be able to inform public policy decisions, relating to specific health issues following systematic review processes. Systematic reviews are not limited to supporting health related areas alone. The Campbell Collaboration used the systematic review method employed by the Cochrane Collaboration “to bring the same quality of systematic evidence to issues of broader public policy” (EPPI Centre, 2007). Furthermore, the EPPI-Centre adapted the process of systematic reviews in the fields of social welfare and education. The increasing importance of systematic reviews in “forging closer links between research, policy and practice” (Bennett et al., 2005: 389) in the last century requires a clear understanding of the systematic review definition.

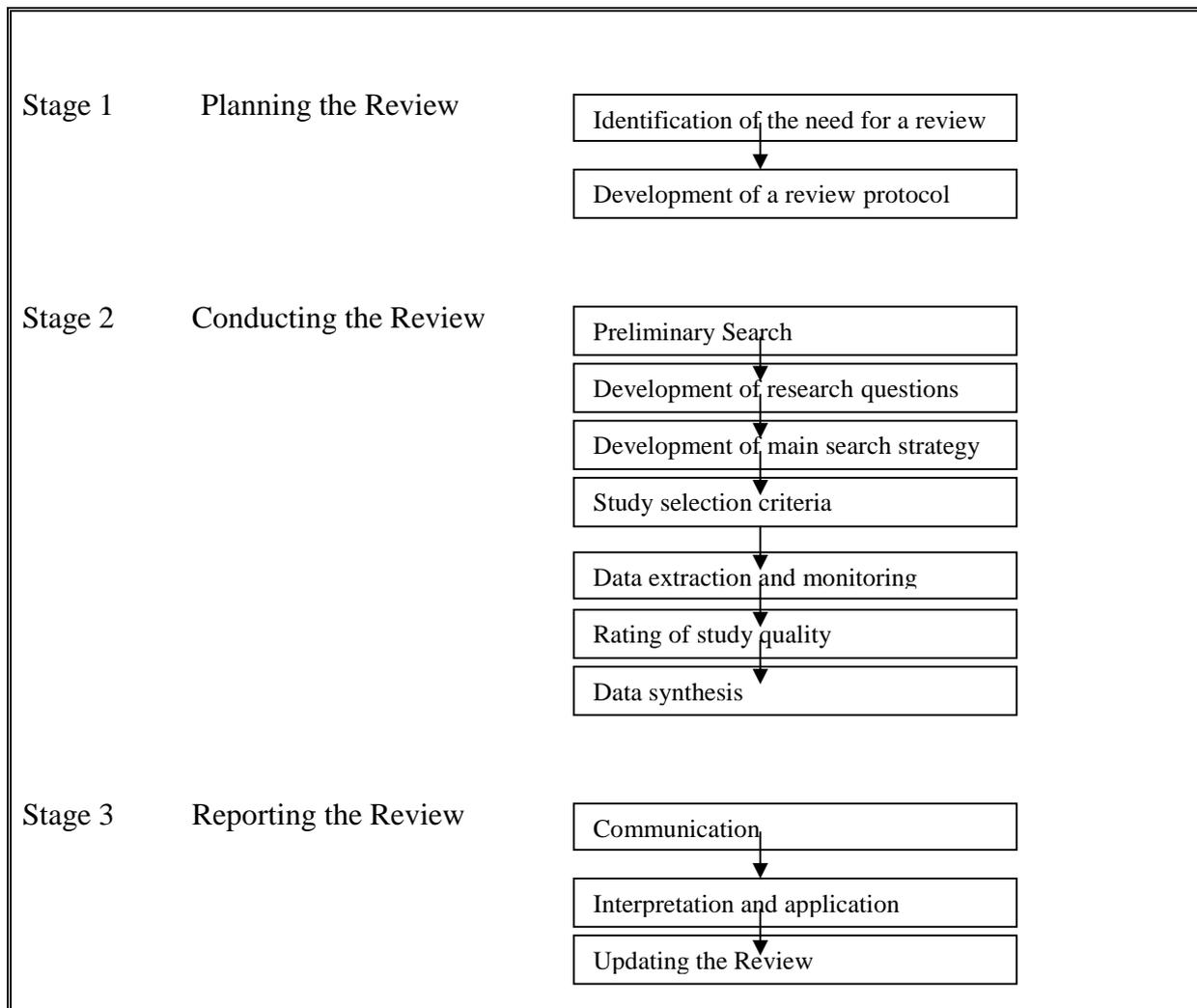
Systematic reviews have infused several areas of research and public policy. Theoretically, there is no one pioneering definition of systematic reviews. Several definitions exist throughout each stream of literature. Kitchenham (2004:1) delineates a systematic review as a “means of identifying, evaluating and interpreting all available research relevant to a particular research question, or topic area, or phenomenon of interest”. Similarly, Green (2005:270) defines a systematic review as “a scientific tool that can be used to appraise, summarise and communicate the results of otherwise unmanageable quantities of research”. Finally but not indefinitely, the Centre for Reviews and Dissemination (2008:7) state “systematic reviews aim to identify, evaluate and summarise findings of all relevant individual studies, thereby making the available evidence more accessible to decision makers.

In spite of the varying definitions common themes emerge from each of the definitions, reinforcing the appropriateness of systematic reviews to policy co-ordination processes. Systematic reviews focus on specific research questions which follow a sequential process of stages, eliminating bias and simultaneously eradicating the influences of external parties. Furthermore, reviews follow rigorous and transparent methods; ensuring research is independent of the subjective opinions of researchers. Transparency conveys how findings are collated in an accurate and true manner. Additionally, the definitions highlight the need for reviews to be credible, replicable and revisable, so that future systematic reviews can learn from their predecessors to ensure that prospective reports are made relevant and useful to the pertaining research phenomenon. The key features of systematic reviews have important bearings upon policy formulation, as there is a stringent need for evidence based policy making and practice. “As a result, systematic reviews are frequently seen as concerned with providing research-based answers to specific questions. They are treated as a bridge between research on the one hand, and policy making or practice, on the other” (Hammersley, 2001:544). In order to understand the bridging effect of systematic reviews, it is necessary to analyse the process of conducting a systematic review.

SYSTEMATIC REVIEW METHODS

Systematic reviews offer an evidence base to close the gap between theory and practice. Systematic reviews follow rigorous methodologies and are comprehensive in nature (Petticrew, 2001). As previously eluded to, systematic reviews have no one pioneering definition. Likewise, there is no one dominant model for systematic reviews. Systematic reviews incorporate several discrete activities (Kitchenham, 2004), which are demonstrated on the next page in figure one.

Figure 1 The Review Process



Adapted from Kitchenham (2004); EPPI Centre (2007) and Safefood (2008).

Systematic reviews follow three rigorous stages: planning, conducting and reporting the review (Kitchenham, 2004). Although the process appears to be fluidly sequential, in practice, the systematic review stages are interactive and iterative. The decisions made in the protocol development stage have a cascading effect on the entire process, as the majority of the research ideas and activities are formulated at the planning stage. As a review team moves through the systematic process, changes can be made to the protocol but the amendments must be noted in the “reviews final report and the rationale for making changes made clear” (EPPI Centre, 2007)

The decision to engage in systematic review processes requires lengthy debate and a clear vision of what the review hopes to achieve. A key feature of systematic reviews is the review group (Bennett et al., 2005). Review groups consist of a wide range of stakeholders including policy makers, advisory groups, academics and those directly influenced by the particular research objectives. Review groups enhance the systematic review process by ensuring that the research is relevant and independent of bias. The involvement of policy makers throughout the review process compounds how appropriate systematic reviews are to policy co-ordination.

The objectives being investigated by the review group determines the method of review and the studies that are considered by the review. In most types of systematic review, explicit inclusion and exclusion criteria are developed for specifying which studies will be included in the review (EPPI Centre, 2007). It is imperative to the systematic process that realisable and achievable objectives are set. Objectives which are formulated in haste can hinder the entire process, producing results that can be irrelevant and often unrealisable. Alternatively, clear concise objectives have the capacity to assess risk in a precise manner, estimating the potential flaws associated with recommended interventions. Inherently, systematic reviews are efficient scientific techniques that burrow through mountains of literature relevant to the topic are. Concise objectives eliminate nebulous articles and materials, whilst retaining significant literature. The exploration and in-depth analysis of a multitude of studies allows for greater accuracy and improved reliability. Additionally, systematic processes can unveil areas where research is lacking, guiding subsequent reviews into areas for further investigation.

The process and objectives of systematic reviews can impact the direction of future policies. As a result, it is vital to assign a large amount of time and devotion to the planning stage. A well documented and researched systematic review can “provide the best evidence of the effectiveness of different strategies for promoting behaviour change” (Bero et al., 1998:465). Systematic reviews are not always entrenched in positive processes and outcomes. The systematic review process can frequently encounter difficulties concerning objectivity and utility. Nonetheless, if the review group abide by the stringent, sequential stages in the review process, concerns of objectivity and utility can be significantly lowered or completely eliminated. The evidence-enriched approach to systematic reviews can extensively contribute to policy and practice by thoroughly informing policy makers on important societal issues. The next section will now explore the emerging roles of systematic reviews, as well as analysing two specific systematic reviews and the impact of their emerging interventions on individual behaviour change and governing policies.

THE EMERGING ROLES OF SYSTEMATIC REVIEWS

The current turmoil of the global economic downturn has embedded Ireland’s economic position in a whirlwind of uncertainty and disruption, creating challenging times for Irish policy makers. The unfavourable economic, social, political and environmental issues confronting Irish society cannot be solved by government alone in a smart economy. Presently, the process of policy co-ordination adopts a top-down approach, whereby policies are devised by formal bodies at the macro environmental and implemented downstream. This unilateral style to policy formulation has worked adequately for the last few decades due to the abundance of funding and infrastructure available to support such processes. Furthermore, policy makers and legislators have adopted a myopic view on policy decisions as they preside over the direction and funding of research activities. Irish policy now demands a more sophisticated and comprehensive understanding of ways to formulate and shape strategies. Consequently, systematic reviews offer an evidence-base to close the gap between theory and policy, particularly in the area of public health intervention.

Public health has become an area of urgent priority for many nations. Public health is a “broadly defined set of activities that aim to protect, promote and restore the health of all people” (Centre for Reviews and Dissemination, 2008:159). The area of public health has become a rather sensitive topic of debate, as it affects people in physical and emotional ways.

Health interventions are often complex and extremely multifaceted, as they aim to address behaviour change at individual, group and society levels. Subsequently, the evaluation and formulation of public health interventions is exceptionally complicated, as it embraces numerous stakeholders, participants, contexts and outcomes. The recent advocacy for more stringent health policies necessitates a review of the effectiveness of past interventions and strategies, thus, illustrating the need for systematic research. Systematic reviews provide a rigorous evidence base in analysing the huge quantities of information published in the public health domain. Furthermore, “the complexity of public health research may dictate a process that is far more iterative than in most other types of systematic review” (Centre for Reviews and Dissemination, 2008:159). Food promotion and food safety are topics which have been brought to the attention of policy makers and governing bodies across the UK and Ireland. More specifically, the nature, extent and effects of food promotion to children have been extensively reviewed in the UK, and food safety interventions have been analysed in Ireland. The next section will exclusively analyse the systematic reviews commissioned by Safefood Ireland and the World Health Organisation.

Systematic Review of the Effectiveness of Social Marketing Nutrition and Food Safety Interventions (2004-2005)

In an increasingly fast paced economy, society is losing its traditional values on matters relating to nutrition and food safety. A significant proportion of the population are too busy and preoccupied with the daily routines and tasks of everyday life, to stop and consider the impact of fast food, ready made meals and food preparation. Consequently, obesity has become a serious public health concern, as well as the increased risks of chronic disease, cholesterol problems and heart conditions (Williams and Kumanyika, 2002). Alongside the need to improve dietary health, there is a growing demand to reduce the risk of food borne illnesses and food poisoning. The age old image of a content family eating super around the dinner table has been replaced with over burdened schedules and meals on the go, facilitating the rapidly changing lifestyles of modern families. Subsequently, the public health community is confronted with the monumental task of intervening on matters relating to nutrition and food safety (Walter and Agron, 2002).

Safefood, the Food Safety Promotion Board for Ireland commissioned the Institute of Social Marketing in the UK, to evaluate the effectiveness of social marketing interventions designed to influence people’s knowledge, perceptions and behaviour in relation to nutrition and food safety (McDermott, 2005). The theoretical underpinning of this systematic review is embedded in the discipline of social marketing. Social marketing is the application of marketing concepts to programmes that are designed to influence voluntary behaviour change to improve health and society (Domegan, 2007 and Stead, Gordon, Angus and McDermott, 2007). Social marketing is not a theory in itself; rather it is a framework that borrows from several other bodies of knowledge such as psychology, sociology and commercial marketing, in order to understand how to influence behavioural outcomes. Social marketing is extremely compatible and beneficial to the research of systematic reviews and public health interventions, as it embraces social change within and across different levels of society.

In relation to nutrition and food safety, social marketing has the capacity to influence individual behaviour and lifestyle changes by raising people’s awareness in relation to food handling and preparation, labelling, diet and diet-related health. At the meso level of society, social marketing influences the behaviour of retailers, regulatory and advertising bodies, as well as the media by highlighting the need for more efficient labelling and the reduction of

salt and sugar in the diets of the general public. Furthermore, social marketing has the ability to influence policy makers and legislators at the macro environmental level, by convincing them to improve food labelling legislation or restricting advertising to children. Social marketing lends itself to a synergistic approach to health intervention, by actively facilitating knowledge co-creation and partnerships at both macro and micro environmental levels, thus, reinforcing the appropriateness of systematic reviews to policy making.

In addition to aims and stakeholders, the process of conducting the systematic review on behalf of Safefood was both rigorous and transparent. The precise methods of the search and evaluation process were laid down in a detailed protocol, so that other researchers could replicate the review and check the conclusions it reaches (Hastings, 2003). Three paramount methods were executed to search the existing literature relevant to the topics of nutrition and food safety:

1. Searches of electronic databases;
2. Personal contact with key people in the field;
3. Reference chasing.

Initially, the search produced thousands of articles. A detailed funnel approach was employed to eliminate the irrelevant publications, ensuring the remaining material satisfied the hallmarks of social marketing campaigns. Overall, the process followed the rigorous standards of a systematic review, exhibiting credible, replicable and revisable methods. Additionally, the review concluded that social marketing interventions can improve diet and to a lesser extent food safety. Furthermore, the review established how social marketing could produce multi-component interventions targeting several domains at once. Consequently, the combination of social marketing theory with systematic reviews reinforces their compatibility, as systematic theory also claims that “multifaceted interventions are more effective than single interventions” (Bero et al., 1998:466). The process of conducting a systematic review in the area of nutrition and food safety provided the opportunity for researchers and policy makers to collaborate. The systematic review commissioned by Safefood Ireland has acted as a central vehicle in creating public debate on issues concerning health and food safety. The review has also opened up the channels of communication between macro and micro environmental partners, ensuring policies are formulated on the opinions of a society as a whole rather than a secular division attempting to assume full control over the direction and co-ordination of health policies and interventions. Additionally, the review has also paved the way for the application of social marketing to public policy. The pertinent topic of public health and the evaluation of interventions provide a bridging mechanism between research and policy, as illustrated in this systematic review commissioned by Safefood Ireland and the following systematic review.

Systematic Review of the Extent, Nature and Effect of Food Promotion to Children: A Review of the Evidence to December 2008

The World Health Organisation commissioned the Institute of Social Marketing to investigate the extent of food promotion to children. There is considerable evidence to support the notion that children are aware of, and enjoy food promotion. However, as obesity levels and health related problems soar in society, it is necessary to explain the cause and effect relationship between food promotion and children. The specific aim of the systematic review was to examine what, if any, research evidence there is that food promotion can influence the food-related knowledge, attitudes and behaviour of children (Cairnes et al., 2009). The review

updates three previous systematic reviews of the nature, extent and effects of food promotion to children.

Children are heavily influenced by what they see in the media, especially the television. Subsequently, advertisers increasingly use the television as the main distribution channel for food promotion. In particular, pre-sugared breakfast cereals, confectionary, savoury snacks, soft drinks and most recently fast-food outlets dominate the area of media advertising to children. Advertisers manipulate the children's market by exploiting hedonic, experiential themes in their advertisements with fun, fantasy, feelings and taste, rather than a consumer processing model based on pure reason, in terms of health and nutrition (Shimp, 2003). The study focused on children between the ages of two and fifteen years, because the majority of children consume more than the recommended amount of saturated fat, sugar and salt (Hastings, 2003). Stakeholders involved in the review process ranged from policy makers at the macro environmental levels to children and families at the micro environmental level. Additionally, retailers, advertising bodies and branded companies were involved at a meso level. The stakeholders involved or affected by the process illustrate how complex the area of health promotion is.

Food promotion to children is an "extremely contentious issue and as a consequence great care is taken to adopt rigorous, objective and replicable procedures. Specifically, for the key review questions a systematic process was adopted" (Hastings, 2003). The process followed a thorough and transparent protocol, examining each outlet of research on the area since 1970. This seminal systematic review exposes how food promotion does have an effect on children's diet, knowledge and food preferences. It is imperative for policy makers to take action in relation to advertising guidelines and product placement in retail outlets based on the undertaken reviews. Policy makers and researchers can co-create value in society by opening up the dialogue process and collaborating for long lasting social change. The systematic reviews commissioned by the World Health Organisation have acted as catalysts to Irish, British and European policy debate on the importance of public health interventions.

The systematic reviews commissioned by both Safefood Ireland and the World Health Organisation fulfil the hallmarks of good quality systematic research. Both reviews employed rigorous and explicit methodologies in order to eliminate bias and subjectivity. Additionally, clear, concise and achievable objectives were set in the planning stages of the review processes. Each of the reviews demonstrated transparency allowing for credible, replicable and revisable reviews, whilst ensuring future researchers can learn from these exceptional systematic review processes. Furthermore, both reviews have acted as catalysts to policy debate on the importance of public health interventions on national and global scales, clearly reinforcing the emerging role of systematic reviews in connecting theory and policy. In addition to public health reform, systematic reviews can aid national economies in improving all aspects of policy formulation across multiple sectors, through the co-creation and sharing of knowledge among macro, meso and micro environmental stakeholders.

In the drive towards a smart economy, systematic reviews "efficiently integrate existing information and provide data for rational decision making by researchers and policy makers" (Van Teijlingen and Bruce, 1999:77). Systematic reviews have the ability to transfer knowledge across and between all relevant stakeholders. Knowledge transfer is often taken for granted at the end of the systematic review process. Researchers devote a huge proportion of their time to the lengthy and complex methods of data collection, extraction and synthesis. As the reviews reach their concluding stages awaiting acceptance and publication, researchers

often detach themselves from the subsequent implementation of intervention strategies. However, the passive dissemination of information from research to policy is generally ineffective and at best, results only in small changes in practice (Bero et al., 1998:467). Therefore, the integration of systematic review findings with policy is dependent upon the establishment of linkages between policy makers and researchers for knowledge transfer. The transference of knowledge can empower society when greater levels of actor collaboration are embraced, to build upon existing knowledge bases through democratic processes.

As well as knowledge transfer, systematic reviews can assist knowledge co-creation at a micro-environmental level where the focus is individual behaviour change, or at the macro-environmental level between the public, the media and policy makers (Hastings, 2007). “The behaviour change agenda has increasingly been taken up across government. Policy making for behaviour change recognises that individuals need to change their own behaviour in order for government’s wider goals for society to be achieved” (Darnton, 2008). The recent infusion of policies to include behaviour change interventions lends the process of policy formulation exquisitely to systematic reviews. Systematic reviews for public health interventions rigorously determine the effectiveness of different strategies for promoting behaviour change. One could align the objectives of systematic reviews with the theory of ecological models. Ecological models are “comprehensive health promotion models that are multifaceted concerned with environmental change, behaviour and policy that help individuals make healthy choices in their daily lives” (Miller, 2003:15). Likewise, systematic reviews of public health interventions are concerned with protecting and promoting the health of all people. The central concept emerging from these interlinked theories of ecology and systematic reviews is behaviour. Systematic reviews have the capacity to analyse which behavioural interventions have incurred long lasting change and which interventions have faltered at the first hurdle. Systematic reviews inform policy decisions in accurate, reliable and methodical ways. The co-creation of knowledge from stakeholders at macro, meso and micro levels of society is a valuable asset to the systematic process. Stakeholders involved in the systematic review group evolve from different streams and disciplines in society, encapsulating a total market approach to the evidence-based evaluation process. Systematic reviews engage in total market approaches by effectively co-ordinating the practices of macro, meso and micro environmental partners, which proves more desirable than other review methods, as it compels participation from every level in society. Micro, meso and macro environmental levels are explicitly represented in the systematic review groups to ensure that research is independent of political power and dictatorship, as well as guaranteeing its relevance to the interested stakeholders.

In the present climate, the isolated creation of knowledge between policy makers and legislators from single evaluation studies leads to poorly structured interventions. Unfortunately, tunnel vision approaches to public health create interventions which quickly lose momentum and subsequently uncover more issues to pertaining public health policies. It is imperative for stakeholders to understand that behaviour does not occur within a vacuum. Behaviours manifest themselves in a multitude of forms at varying levels, such as individual, interpersonal, institutional, community and/or societal and public policy (McLeroy et al., 1988 and Morgan and Hunt, 1994). Furthermore, environments directly influence behaviours which increasingly complicate the process of creating valuable intervention strategies for policies. It is necessary for policy makers to establish a bridging mechanism with researchers to co-create knowledge and value in society. Researchers have the ability to thrust themselves whole-heartedly into systematic review research, which rigorously and transparently evaluates huge quantities of data relating to behaviour change and health policies. Systematic

reviews move beyond single interventions, establishing multi-level or multi-component interventions to tackle behaviour change at macro, meso and micro environmental levels simultaneously, which further compounds the appropriateness of systematic reviews to policy co-ordination as multifaceted interventions seem to be more effective than single interventions (Bero et al., 1998). Consequently, the process of policy implementation is not limited to one level of society alone. Instead, everyone is involved in the co-creational process of long lasting change for the betterment of society.

Long lasting change requires a total partnership approach led by government, and includes a wide range of stakeholders and organisations as well as individuals themselves (Darnton, 2008). Systematic reviews open up this opportunity for synergistic partnerships to co-create value and social change. Systematic reviews can connect theory and policy through the establishment of inter-system relationships. The development of meaningful relationships plays a pivotal role in policy co-ordination. Flittering dialogue processes between researchers and policy makers bear no substance on policies, evaporating the potential for social change. A networked policy approach integrates every stakeholder in a holistic collaborative system, whereby each actor shifts from being passive to active in the communication process. Systematic reviews necessitate meaningful interaction processes during the protocol stage of a review. A total market or networked approach to protocol and policy co-ordination “moves away from the centralised top down model and pays much more attention to dialogue” (Inzelt, 2008:83). As stakeholders reason with one another determining the objectives of the review, they engage in co-operative dialogue modes establishing trust between partners, whilst explicitly determining the outcome objectives for both research and policy. Dialogue is critical to the success and longevity of systematic review relationships as it opens up the possibility of win-win situations for the co-operating partners. Policy and research substantially benefit from dialogue and interaction as it shifts the focus of stakeholders beyond their individual needs to the collective requirements of society. Furthermore, systematic reviews can aid inter-system learning through the co-ordination and co-operation between macro, meso and micro environmental partners. As a result, policy will benefit from the collective learning of open and networked relationships in systematic reviews, as research questions and methods will incorporate the perspectives of multiple disciplines.

Evidently, systematic reviews play a fundamental role in connecting theory and policy. Davies (2000:365) exposes how “educational research has been criticised for serving the interests of researchers, rather than those of policy makers, providers and users of educational services”. Inherently, a collaborative forum between research and policy is lacking. However, if policy makers do not engage and interact with researchers, then research is oblivious to the needs of policy and vice versa. Systematic reviews offer an evidence base to close the gap between research and policy. Systematic reviews have the ability to fuel a total market approach by actively facilitating knowledge transfer and co-creation between all relevant stakeholders at macro, meso and micro levels of society. Furthermore, systematic reviews create synergistic rather than additive partnerships between policy and research, enabling inter-system learning and the co-creation of innovative policies for lasting social change.

IMPLICATIONS AND LIMITATIONS OF SYSTEMATIC REVIEWS FOR RESEARCH AND POLICY

The proposed evidence-based systematic review can play a pivotal role in bridging the divide between research and policy, as it has a distinguished record in medicine and health care,

criminal justice and social work (Davies, 2000). Systematic reviews exhibit numerous positive implications as well as providing an extraordinary theoretical framework for enhanced policy formulation. Firstly, systematic reviews offer an evidence base to connect theory and policy in the drive towards a smart economy. Secondly, the framework provides a bridging mechanism in creating synergistic partnerships between stakeholders at macro, meso and micro levels in society. Thirdly, systematic reviews facilitate inter-system learning and the co-creation of credible, evidence-based intervention strategies. Finally but not indefinitely, systematic reviews can aid researchers and policy makers in creating lasting behavioural change for the betterment of society. Overall, the application of systematic reviews in providing a rigorous evidence base, fuels a total market approach to the policy co-ordination process, by actively facilitating knowledge co-creation and partnerships at macro, meso and micro environmental levels of society.

There are limitations to the execution of systematic reviews. The use of systematic reviews in connecting theory and policy would necessitate substantial financial resources. Additionally, issues relating to the objectivity of researchers can limit the potential of systematic reviews. It is extremely difficult for review groups to remain unbiased as they are predisposed to judgements rooted in their professional experience. Alternatively, the grouping of multiple stakeholders from varying disciplines and backgrounds can reduce the possibility of subjective reviews. Lastly, another factor impinging the use of systematic reviews is the dissemination of review outcomes. Frequently, the “potential danger of systematic reviews is that they are seen as an end in themselves, rather than a means to other ends” (Bennett et al., 2005:401).

Aside from financial backing, the residual limitations can be easily rectified through explicit and stringent procedures, illustrating how the benefits of conducting systematic reviews far outweigh its limitations.

CONCLUSION

In conclusion, systematic reviews have a distinguished record in medicine and health care. Systematic reviews synthesise existing research in a manner which is fair and evidence based. Systematic reviews have the capacity to integrate multiple stakeholders at macro, meso and micro environmental levels, in a total market approach to ensure social change. If the Irish government wishes to achieve the wider goals of society in the drive to becoming a smart economy, then the emerging role of systematic reviews as a bridging mechanism between research and policy must be adopted for the stabilisation, progression and advancement of the Irish economy.

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THE COSY CONSENSUS OF IRISH POLICY MAKING: IDENTIFYING ITS CONSTITUTIVE FEATURES

Mary Murphy, Department of Sociology, National University of Ireland, Maynooth
Peadar Kirby, Department of Politics and Public Administration, University of Limerick

ABSTRACT

This paper addresses the ISSP Annual Conference 2009 theme 'Social Science Research and Policy Making: Bridging the Divide' by using a case study to derive wider theoretical lessons and implications for Irish policy making and the primary objective of creating a knowledge society. This paper argues that the cosy consensus of Irish policy making and its constitutive features act as an impediment to the development of a 'Knowledge Society'. This is symptomatic of the failure of the policy-making apparatus to take account of analyses and policy directions that diverged from a narrow consensus that serves the elite and the status quo. The paper begins by reviewing a case study of social security and labour market policy processes by examining FÁS the Irish state training agency, and showing the inadequacy of the policy making apparatus from the perspective of a knowledge society. The paper argues that conclusions drawn from the case study constitute a wider and central characteristic of Irish policy making. The paper then seeks theoretically to account for the dominance in Ireland of policy-making style characterised by favouring a narrow consensus that ignores critical views and perspectives. The theoretical explanation is based on an understanding that social and economic change and distributional outcomes are determined by the interaction of institutions, interests and ideologies (Hay, 2004). The paper then identifies the dominant institutions, interests and ideologies that contribute to constituting the Irish policy making regime. The paper ends by drawing out the implications of its analysis, namely that the core problem of policy making derives from the relationship between the institutions of the existing political system, the political and economic elites which have influence within them and the ideological configurations that underpin them. It will argue that addressing these issues will require the refounding of the institutions of the Republic.

INTRODUCTION

This paper addresses the ISSP Annual Conference 2009 theme 'Social Science Research and Policy Making: Bridging the Divide'. It presents a case study which it uses to derive wider theoretical lessons and implications for Irish policy making and the primary objective of creating a knowledge society. This paper argues that the cosy consensus of Irish policy making and its constitutive features act as an impediment to the development of a 'Knowledge Society'. Laffan and O'Donnell (1998:161) argue that Ireland's lack of a national system of innovation was inimical to economic modernisation. NESF (2006) makes the same case for social innovation. A failure to innovate social and economic policy is a serious obstacle to developing a knowledge society. It is accepted that there has been an absence of labour market related welfare reform strategies in Ireland, little progress relating to women's access to employment, less upgrading of income disregards and tackling of unemployment traps, less conditionality and less extension of conditionality to groups outside the formal live register, than one might expect (Sweeney and O'Donnell, 2003:33; Cousins 2005: 339, NESF, 2000: 65), Loftus, 2005; NESF, 2006). The terms 'frozen landscape'

(Esping Andersen 2003) and ‘arrested development’ (Alber and Standing 2000) have been used to describe situations where policy development does not keep pace with needs. This paper engages with the frozen landscape of Irish labour market and social security policy, where policy direction has neither been adequately ambitious or consistent with Irish economic and social needs.

A common theme in commentary on the collapse of the Celtic Tiger has been the claim that warnings about the housing bubble and banks’ exposure to it went unheeded by policy makers. As a result the reputation of institutions like the Central Bank and the financial regulator have had their reputations tarnished. This is symptomatic of the failure of the policy-making apparatus to take account of analyses or develop policy in a direction that diverged from a narrow consensus that serves the elite and the status quo. The paper begins by reviewing a case study of social security and labour market policy processes by examining FÁS the Irish state training agency, and showing critical weakness in the policy making apparatus. The paper argues that conclusions drawn from the case study constitute a wider and central characteristic of Irish policy making. The paper then seeks theoretically to account for the dominance in Ireland of policy-making style characterised by favouring a narrow consensus that ignores critical views and perspectives. The theoretical explanation is based on an understanding that social and economic change and distributional outcomes are determined by the interaction of institutions, interests and ideologies (Hay, 2004). The paper then identifies the dominant institutions, interests and ideologies that contribute to constituting the Irish policy making regime. The paper ends by drawing out the implications of its analysis, namely that the core problem of policy making derives from the relationship between the institutions of the existing political system, the political and economic elites which have influence within them and the ideological configurations that underpin them. It will argue that addressing these issues will require the refounding of the institutions of the Republic.

CASE STUDY: FÁS

The resignation of Roddy Molloy as director of FÁS in November 2008 and the continued public controversy surrounding it, has focused attention on the lack of accountability of both the FÁS board of management and the relevant Ministers for Employment, Trade and Enterprise (Mary O’Rourke T.D, Mary Harney T.D. and Mary Coughlan T.D). Subsequent revelations about the handling of Roddy Molloy’s pension deal and that of his FAS predecessor John Lynch in 2000 have shed further light on corporate governance issues in state agencies. Further questions about financial mismanagement have necessitated six separate audits and a number of fraud investigations (Office of the Comptroller and Auditor General 2009). The extent of fraud and misuse of public funding has led public commentators stretch the net wider and question the role and institutional capacity of the Office of the Comptroller and Auditor General. The governments political blame management strategy has been to point to the failure of the existing Board of FAS and to pressure them to stand down in November 2009 to enable the Minister appoint a smaller and differently constituted board. The, at time of writing, draft legislation to alter the corporate governance of FAS ceases the practice of social partnership nomination of half of the board members and gives the relevant minister sole responsibility for nominating, based on transparent expertise, a smaller board of eleven members directly accountable to the Minister for Enterprise, Trade and Employment.

Social commentators, including Senator Shane Ross and SIPTU General Secretary, Jack O Connor,¹ while critical of such governance failure had in late 2008 been careful to distinguish the national level governance issues raised by the controversy from the good work of the FÁS employees who deliver the state's employment services, apprenticeship training, skills training and employment-related courses for the unemployed, job seekers and others. Few questions were asked however, about how the political culture of FÁS and its culture of weak accountability might have impacted on its capacity to deliver its core labour market functions, its training and employment services. Over 2009, as the public eye was drawn to FAS, questions have emerged about its labour market failures. In early 2009 questions were raised about the efficacy of spending millions of state funds for a small number of participants to undertake a NASA training programme. In a March 2009 Prime Time reporter Mike Millotte focused on issues concerning local funding of Community Employment programmes in Sligo town. By October 2009 Fergus O'Dowd T.D. was focusing on the quality of FAS training and the issue of FAS contractors fixing exam results and argued this was indicative of the 'lack of integrity in FAS and the rottenness in the system from top to bottom (O'Halloran 2009, Minihan, 2009). This paper argues FÁS represents not only a failure of governance but also a failure of labour market policy and a failure to contribute in a more positive and substantial way towards developing a knowledge economy and society. The following discussion reflects on how the political culture informing the FÁS approach to governance may have impacted (and continues to impact) on the agency's capacity to effectively meet the state's labour market needs.

Boyle (2005) notes that FÁS from when it was established in 1984 had strong political capital and support. From the start the agency was useful to the political system, finding itself itself in the right place at the right time as it offered a conduit for the Irish state to access and utilise the large sums of EU funding available in the 1990s. As Boyle put it, FÁS 'could deliver a national system cheaply' (Boyle, 2005: 56)² and it became adept at finding innovative local ways to channel and spend EU funding. It demonstrated an activist 'hands-on' and 'can do' approach to local work and gained strong support from Ministers and T.D's sympathetic to its role in local communities. There were parallel interests between the clientelistic political system where politicians needed to be seen to be delivering locally and FÁS's capacity to be able to respond to the needs of local groups needs. FÁS became what Boyle calls the "'Swiss army knife'" of the Irish state, performing 'myriad functions, none of them well,' (Boyle, 2005:113). However, there were practical policy consequences for a governance and organisational culture which could do many things but none of them well. The following brief discussion highlights five systematic policy failures; the inadequacy of skills training; the failure to meet labour market shortages by adapting skills training delivery to women; the failure to meet the employment services needs of the longer term unemployed; the failure to institutionally reform to achieve integrated planning and delivery; the more general capacity of FAS to resist reform. Combined these amount to a serious failure of FAS to meet the needs of a knowledge society.

Lack of focus on skills training

¹ Ross and O'Connor's positive comments praising the broader work of FÁS were motivated by the desire to protect the morale of FÁS workers and to ensure, in the political fallout, that FÁS budgets are not sacrificed on the political altar of retribution.

² 33% of the IR£3.1 billion of funds that Ireland received from Delors I were spent through FÁS while a 25% of Delors II funds were.

The FÁS approach to labour-market training at times actively mitigated against labour-market progression outcomes. With low labour market progression rates, the schemes were not meeting labour-market needs and academics consistently recommended that higher employment placement outcomes could be achieved with more training and skills oriented programmes (Boyle, 2005, O’Connell, 2002a,b, O’Connell and McGinnity, 1997, Indecon, 2005, Cousins, 2005). However, there had always been an ambiguous and contradictory policy agenda for FÁS spending. Ireland, through EU financial support, had always been a large spender on Active Labour Market Programmes (ALMPs), numbers on which peaked at 101,000 participants in 2000. It was Irish policy to, through FÁS, stretch European funding beyond knowledge- orientated ALMPs and labour market needs and towards delivering social economy, income support and other social policy objective purposes. We can therefore identify a mismatch between the needs of a knowledge society and FÁS provision. While, anecdotally, community groups express serious disquiet about FÁS’s capacity to deliver appropriate and accessible training to their target groups it is striking how little formal negative comment can be found. It is possible, given the lack of accountability and transparency in FAS decision making, that local groups were anxious not to ‘upset’ local FAS officials who had discretion about allocating local funding. In a key finding for this paper, Boyle (2005) identified a link between FÁS political capital, government reliance on FÁS capacity to creatively maximise the spending of European funding, and low-quality labour market outcomes. Boyle observes, Irish TD’s have traditionally backed the agency in the face of more substantive objective criticism in various academic and consultancy reports cited above and below. FAS patronage of local groups is consistent in style with a local clientalistic or brokerage political culture.

Labour market shortages and women’s training needs

In the early 2000’s FÁS was centrally placed to meet the needs of an expanding economy experiencing both labour and skills shortages. Training women returning to the labour market and enabling groups like lone parents access employment was identified as a core objective to meet skills and labour shortages (Ireland, 2000). Obstacles blocking women’s access to skills training were recorded in various government sponsored policy reports and evaluations (Ireland, 2000; Equality for Women Measure, 2002; NESF, 2000; NESF, 2001; NDP Gender Equality Unit Initiative for Lone Parents, 2006). Rahaleen (2006) discusses the tensions and tradeoffs within FÁS between delivering industry standard training on the one hand and providing accessible opening hours and venues for mothers wishing to avail of core FÁS training on the other. Women’s participation was also hindered by the lack of a variety of training, of accessible venues, of transport, and of course by child care (NESF, 2006). The lack of fit between the needs of a knowledge society and FÁS policy is illustrated through Rahaleen’s (2006) review of lone parents’ placement in training and employment programmes in 2005. Community Employment accounted for 84%, Jobs Initiative 6% and Social Economy a further 6% whereas training accounted for only 4% of total participation. This was neither servicing the needs of a full employment economy nor delivering the education and training women needed to progress beyond low- paid jobs.

Meeting the needs of the long term unemployed

Recognising the need for more targeted localised support than that available under FÁS Employment Services, the NESF Report No 4 *Ending Long-Term Unemployment* (NESF, 1994) led to the establishment in 1995 of a new Local Employment Service (LES) in designated areas of high unemployment. This was an indictment of FÁS employment

services and FÁS resisted the implementation of the recommendation for a LES, half heartedly engaged with its establishment their set up and eventually regained institutional control of this specialised service in 2004 (Allen 1998). Since 1998 relations between the DSW and the DETE have developed through the institutional linkage required of them by the EU Open Method of Co-ordination, which requires the development of a National Employment Action Plan (NEAP) (Murphy, C. (2002). The NEAP sets the employment and labour market framework for the period ahead and includes a preventive strategy under the requirements of EU Employment Guidelines, of engaging systematically with persons at an early stage of unemployment. By 2006 all unemployed claimants of all ages are required to voluntarily engage with FÁS. Failure to do so could lead to payment review. Towards 2016 (Ireland, 2006) proposes to extend this process to lone parents and people with disabilities; however, with rising unemployment FÁS is not only unable to extend the service to these groups but has had to curtail activation of live register unemployed. This failure has potentially serious implications for the future knowledge economy and knowledge society. Failure to pursue an active labour market policy for the unemployed makes it more likely that structural long-term unemployment will be an unnecessary and unwelcome outcome of this depression.

Institutional reform

Finn's (2000) review of the international experience of institutional reform of labour market agencies shows that in moving to more knowledge-based economies and in order to more effectively tackle embedded social exclusion, many other jurisdictions sought to develop a more active labour market policy. The focal point of the delivery of activation and more effective transitions from welfare to work often involved a tighter working relationship (and often a total merge) between the income supports agency and the public employment service. Finn (2000) observes this in the UK, US and the Netherlands and notes how the both the OECD and the 1999 Vaarala Group Finnish Presidency of the EU urged integration of benefit administration, job brokering and referral to active measures into convenient access one-stop-shop gateways¹. Was combining the three functions of job placement, benefit payment and labour market activation ever on the Irish reform agenda?² The Commission on Social Welfare (Ireland, 1986) recommended close co-operation between job placement and income support functions but the next decade saw considerable institutional tensions between the Department of Social and Family Affairs and FÁS with both developing services for the same target groups and with little institutional co-operation (Cousins, 2005). Ministers have described an institutional turf war between FÁS and the Department of Social Welfare (now Social and Family Affairs) (Murphy 2006, forthcoming). The latter's decision to establish a range of employment facilitation and labour-market services which duplicated FÁS services was itself an indictment of FÁS capacity or its commitment to the core needs of the unemployed throughout the 1990s. The Irish political process, contrary to international trends and despite being made aware of the limits to institutional co-operation, continued to manage institutional sensitivity to reform by ignoring the need to cease spreading functions across a number of institutions (Indecon, 2002, 2005). Various evaluations noted the practical obstacles to good practice arising from these unnecessary institutional tensions (Ditch and

¹ Finn (2000) recalls how in the UK *New Deal*, a key institutional reform required the public employment service to develop, in partnership, district delivery plans, with a long-term aim to restructure local delivery of benefit into a one-stop shop gateway or *Job Centre Plus*. Likewise PES and benefits offices merged into an *Office for Work and Income* in the Netherlands, *Work and Income* in New Zealand, and *Centrepoint* in Australia.

² See Cousins (2005:179) for review of institutional changes in Irish labour market placement services.

Roberts, 2005: 112). Since 2005 there is a clear policy consensus that public agencies need to work together to achieve more ‘activation’ or greater transition from welfare dependence to work or employment. NESCC’s (2005: 221) Developmental Welfare State report argues that institutional change is required to achieve greater interagency integration¹. Teachers Union of Ireland General Secretary Peter MacMenamin has more recently drawn attention to the policy incoherence between the planning and delivery of education and training and the failure to develop an institutional relationship between FAS and the Department of Education and Science (O’Brien, 2009).

FAS ability to resist reform

Despite the obvious need for and merits of such a reform there is still no appetite among politicians or senior civil servants for such a reform. While discussed a recommendation is avoided in NESCC’s Developmental Welfare State and despite there being a formal interest among some senior policy makers no active policy proposals exist on this issue. Boyle (2005) argues that FÁS has so far successfully defended attempts to divest itself of such functions. Why is this? Boyle argues that from when FÁS was established in 1987 it developed a political culture and institutional form that established a sphere of autonomy and policy making over and against its parent Department. In tune with the inherent clientelism of Irish politics, FÁS has always worked to make local politicians aware of the importance of the agency’s programmes for local communities. The FÁS culture matched a ‘pragmatic-populist streak in Irish politics’ (Boyle, 2005: 114). It seems senior management of FÁS have been able to use their access to the political elite to resist pressure for institutional reform of FÁS. It is telling that it was a Progressive Democrat Minister Mary Harney T.D. who, as Minister of Enterprise, Trade and Employment, looked most likely to reform FAS. Even then FÁS proved adept at resisting this Ministers’ somewhat weak attempt to transfer the agency to the Department of Social and Family Affairs (Murphy 2008). Even in the light of recent controversies about the lack of accountability within FÁS, the political capacity to resist policy-led institutional reform appears weakened perhaps but not fatally wounded. Even now, when it is core government policy to merge and rationalise public agencies, it is noticeable that government is not focused on institutional reform with urgent, topical and relevant policy benefits. Institutional reform of FAS is not featured in the 2009 McCarthy Report.

Cosy consensus

The concept of a cosy consensus at the heart of this paper is very well illustrated by the overlap in relations between the bureaucratic interests of senior managers, the political elite in Fianna Fáil and in the presence of business and trade union elites in the Board of FAS. While political and policy institutional arrangements facilitate this cosy consensus there is a further cosiness in the extent of personal, kin and family relations between key actors across the political, bureaucratic and business community. Ultimately the political protection extended to FÁS enabled it to resist pressure to institutionally reform so that it might better meet the needs of the knowledge society. Roisin Shortall TD, who raised the issue through the Public Accounts Committee in December 2008, suggested evidence of an institutionalised culture of ‘sweet heart deals’ between Fianna Fail and people close to that party (Oakley 2009:1) and more recently described Fianna Fail as ‘the dead hand of FAS’ and argued ‘FAS was a sinecure of Fianna Fail’ with ‘gross political interference in that organisation from top

¹ See Cousins (2005:179) for review of institutional changes in Irish labour-market placement services.

to bottom', (O'Halloran 2009). While this case study is of FAS, work by Allen (2007, 2009) and Clancy and Murphy (2006) highlights that behind the apparent governance disconnection between government and state agencies is a cosy consensus between key political and policy elites where many state agencies and bodies are politically protected. Coras Iompair Eireann and Health Services Executive are named by Ross (Walsh, 2009) as also benefiting from such political protection.

THEORETICAL FRAMEWORK

The paper now seeks theoretically to account for the dominance of a policy making style characterised by favouring a narrow consensus that ignores views and perspectives critical of it. Adopting a theoretical perspective that social and economic change and distributional outcomes are determined by the interaction of institutions, interests and ideologies (Hay 2004), the paper will identify the dominant institutions, interests and ideologies that have contributed to constituting the Irish policy making regime.

i) Institutions

Swank (2002:285) observed:

Central features of domestic institutions shape ... promote or impede configurations of norms, values and behaviours embodied in national policy-making routines that favour or disfavour slow adaptation to the pressures of globalisation and the inclusion of all interests in that process.

The electoral regime is a key institution in determining the consensus orientation of a state's political culture. Cousins (2005: 124), Stephens, Huber and Ray (1999) and Swank (2002) concur with Hay's (2004: 205) comment that 'centralised adversarial first-past-the-post and two-party systems are more prone to crisis induced policy-making than others which are more prone to incremental reforms'.

The Irish electoral system, the Single Transferable Vote system of proportional representation (STV-PR) serves to reinforce a strongly personalist political culture and system. This electoral system has also influenced the evolution of the Irish party system and the weak policy-making capacity of Irish parties. PRSTV strengthens tendencies towards personalism and localism in the practice and culture of Irish politics and this serves to militate against longer-term policy planning in Irish political parties and in the wider polity (Barry 2005, Smith, 2005: 186).

Hay (2004: 205) differentiated states according to institutional characteristics that give rise to 'veto points'. A veto player or point can be understood as 'an individual or collective actor whose agreement is required for a policy decision' (Tsebelis, 2000: 209). Irish PRSTV combines with other vetopoints such as a rigid constitution, coalition government, bicameralism and social partnership point Ireland towards an incremental policy culture that tends to mitigate both negative *and* positive reform and produce a frozen landscape of policy reform (Esping- Andersen, 2003). Lijphart (1999) mapped shifts in democratic styles in 26 states from 1980 to 2000 and illustrated how Ireland moved from a (barely) majoritarian style

democracy to a consensus-oriented democracy.¹ Multiple vetoes lead to policy cultures dominated by policy avoidance (Pierson, 1998) but also to a consensus culture and a more conservative policy predisposition (Lijphart, 1999: 301). Relative to other Anglo-Saxon regimes, Ireland has a higher and an increasing number of veto players. Combined with a conservative early Irish state which valued continuity of policy-making and rejected policy innovation (Lee, 1989; Acheson et al., 2004; Ferriter, 2004; Kiam-Caudle, 1967), Irish veto players work to limit policy change. As the only English-speaking country and liberal welfare regime that fits the ‘consensus’ typology, the politics of mediating welfare and institutional reform in Ireland is likely to be different to that in other liberal welfare regimes. Ireland is more likely to be a ‘consolidating’ policy culture more focused on delivery than an ‘innovating’ policy regime which is focused on policy analysis and change (Ditch and Oldfield, 1999).

ii) Interests

Much has been written over the last year about the strong influence of entrenched vested interests such as bankers, property developers and other elite interests, and the weaknesses of the legislature in its legislative and supervisory roles resulting in strengthening the power of the bureaucracy in the making of policy (Cooper 2009, O Toole 2009, Leahy 2009, Ross 2009). The FÁS account above points to a constellation of interests in the area of labour market policy, clearly there is evidence of different constellations in other policy areas.

However in each sectoral area one key group has dominated the Irish state and dominated the period being covered in this paper, namely the Fianna Fáil party. The historical origin of Irish political parties lies in a post-independence civil war intra-nationalist split, which dominated Irish politics and militated against a left–right ideological divide or a strong social democratic tradition in Irish politics (Mair, 1992: 389). Major differences in policy emphases are not what differentiate Irish political parties. Rather it is the level of ambition and strategy for a planned approach to policy as an important part of national development that differentiates them. Ferriter (2004b) identifies Fianna Fáil’s approach as the least planned and most pragmatic of all Irish parties. In this instance we can see that FF’s prime interest in labour market policy was its populist desire to keep local constituencies fed with local social programmes. FÁS was worth more to FF as a local red ribbon than as the key labour market provider for the Irish state.

A key feature of FAS governance was the social partnership constitution of the FAS board and its dominance by 4 business and 4 trade union elites who rotated the board Chairmanship between them. Some comment has been made of the dangers in corporate models of social partners being co-opted over time into a policy consensus and into a shared culture and understanding (NESF 1996, Allen 1999, Murphy 2002). Is the price for inclusion a subtle but strong and inevitable co-option into the culture of power, into a golden circle with state and political actors? It is clear that many recent board members feel aggrieved at what they may feel is a distorted perception of their role and a lack of public appreciation about action the board were taking to right previous wrongs some of which were actively kept from the boards knowledge. However it seems fair to question the composition of the board from the perspective of who is not on the board, no representative of the unemployed, no women’s

¹ Ireland is characterised by Lijphart (1999: 67, 114–117, 189) as a unitary and centralised, two and half party, semi-presidential system with parliament and an elected president, a ‘medium influencing’ Prime Minister and as being ‘weakish’ in relation to judicial review and constitutional rigidity.

representative, no representative of the disadvantaged communities reliant on FAS funding for basic services and no labour market academic.

Brewer and de Leon (1983) stressed the importance of decision-makers' subjective preferences. Senior membership of these spaces is stable and well networked. It is primarily male, middle-aged, third-level educated, home-owning and white. Continuity and stability enables informal networking. In a small island state, the policy community is also small. Personal relationships between those in power also matter. It is clear in the case of FÁS, for example, that there was a common bond in a community largely dominated by middle-class males. The clear patriarchal nature of the state continues to be reinforced by unequal gender participation in decision-making matters and senior public service management (O'Connor, 2008). Patriarchy is also evident in the state's own marked ambivalence to women's employment and reluctance to invest in policy actions that would benefit women returning to the labour market and the knowledge economy and knowledge society.

Finally, what of those whose job was to safeguard the Irish state, the enforcers and regulators, those with supervisory roles? The FÁS example highlights the clear lack of transparency, accountability and enforcement of regulatory standards. It draws attention to the implications of outsourcing key policy functions without effective institutions to enforce regulations and control standards. The difficulty and obstacles faced by journalists who initially in 2008 tried to access FÁS related information highlights the inadequacy of the FOI legislation and the extent to which the state and its bureaucracies will go to protect its own elites (Ross 2008).

iii) Ideologies

Ideology appears absent in the Irish state (Coakley, 2004: 53). At first sight, a lack of left–right division between political parties and a consensus approach between classes in social partnership suggests a pragmatic, flexible state enabling innovative policy change as it adapts to the needs of the global economy. However, this absence of debate does not mean an absence of ideology. The absence of debate may in fact be a result of consensus about ideology. Lurking behind the overtly non-ideological nature of Irish politics is a dominant technocratic ideology that is all the more pervasive and influential because of the lack of a coherent challenge from other ideological perspectives (Barry 2009, Sweeny 2009). The Irish state has always had a dominant hegemony. In the early days of the state this reflected the conservative, Catholic and patriarchal ideology (Ferriter, 2004: 337) and was maintained by a strong Church–State relationship. More recently this has softened somewhat but has also been augmented with a strong neo-liberal hegemony. FAS and their parent department have been consistently been associated with a policy coalition that supports a minimalist approach to welfare provision. A former Minister for Social Welfare associated them with a 'slash and burn' mentality to welfare provision (Murphy 2006). FAS, for example, used their annual Labour Market Conference to draw attention to OECD recommendations to keep welfare rates low (FAS, 2008).

What epistemic communities or policy monopolies and what kind of ideological discourse dominates the Irish social security and labour market policy community. Certain institutions enjoy a monopoly role in Irish discourse. While, internationally, Irish policy institutions such as NESC and ESRI are well regarded, in interviews with actors in the social policy community there is a common self-diagnosis of an underdeveloped policy capacity and a weak policy learning capacity (Murphy 2009). There also appears to be little self awareness of their ideological orientation (McDonough 2009). Kirby (2002) argues that the ESRI

analysis is epistemologically rooted in classical economics theory and orients debate in a technical direction focused on statistical measurement rather than, for example, the promotion of values. This ESRI analysis, for example, informs social partnership (NESF and NESC) and the approach to defining poverty that is adopted by anti-poverty institutions (Combat Poverty Agency and the Office for Social Inclusion).

A second type of policy monopoly happens through social partnership's dominance of the process of debate. Conflictual discourse is limited by the maintenance of a strong narrative of shared understanding where 'social partners leave ideological differences outside the door and problem solve in the context of a shared understanding' (McCarthy, 1998). The state, explicitly and implicitly, by controlling funding and filtering social partnership participation, is able to mitigate dissent from hegemonic 'shared understanding' and set boundaries for what is considered plausible policy discourse about policy change in Ireland. Current hegemony is 'cognitively locked' into a neo-liberal agenda processed through social partnership and other state institutions like the Industrial Development Authority and the National Competitiveness Council and the dominant macro-discourse revolves around competitiveness and employment growth (Connolly, 2007). The dominant social security discourse revolves around technical debates about how to measure the perceived, socially-constructed policy problem of the day, such as work incentives and replacement ratios, definitions and measurement of unemployment, definitions and measurement of poverty/inequality, and the statistical impacts of migration (Viet Wilson, 1998).¹

The community remains relatively insular, strategically using European and international discourse to selectively amplify domestic policy agendas (Murphy 2006). The ideational influence of international policy actors (OECD and EU in employment policy, EU in social inclusion policy and World Bank in pensions policy) is evident in Irish discourse albeit not as powerfully as might be expected of a such a globalised state (Murphy 2009). There is, for example, consistency and overlap between the NESC (2005, 2006) and European Commission or OCED activation discourse and evidence of policy transfer in relation to activation and conditionality. However, these ideas are then diluted as they become processed through domestic political institutions and a populist political culture that is immune to 'radical' policy prescriptions.

CONCLUSIONS

Kennelly and O'Shea (1998), Cousins (2005), NESC (2005) and O'Connor (2005) have all commented on the paucity of recent social or labour-market policy debate in Ireland. However, the current crisis has not so far intensified demands for policy reform, debate is limited by a hegemonic neo-liberal discourse and a political culture that tend towards short-term views and small incremental reforms. Cousins (2005) notes the ideological dominance of the market and lack of realistic policy alternatives from ideological sources either of the right or the left. Scharpf (2000) argues that more substantive change requires that ideas be processed in a wide, communicative political discourse that enables social learning and attitudinal change. Schmidt (2000: 306) concluded that countries manage adjustment to the external economy,

¹ It is possible to identify alternative discourse about a rights, equality and social spending approach. A less dominant discourse promotes family values, parenting and responsibility (Moran, 2005).

not only because of their greater or lesser economic viability, their greater or lesser institutional capacities and better or worse policy responses but also because of their more or less convincing legitimating discourse.

If policy is to be effective in moving Ireland towards becoming a knowledge society, it will require a process of ‘communicative discourse’ that is capable of promoting social learning that leads to a change in values which can in turn support a fundamental restructuring of policy and institutions. In Ireland we are more likely to find ‘co-coordinative discourse’ where change is managed through a closed elite-level policy process confined to problem solving or lesson drawing. This more limited form of discourse leads to more incremental reform. The most successful countries have coherent co-ordinative *and* communicative policy discourse.¹ Change is less likely when policy debate happens among a narrow sub-group of policy actors in a tightly controlled coordinative technical discourse in social partnership committees, closed expert groups and inter-Departmental committees.

The particular Irish-style coordinative discourse is but one example of how the configuration of Irish institutions, interests and ideas lead to a narrow, problem-solving approach to policy-making at the expense of more value-led popular discourse that might create an attitudinal change necessary to support deeper public sector reform and move Ireland towards becoming a knowledge society. The core problem of policy making derives from the relationship between the institutions of the existing political system and the political culture they create, the political and economic elites which have such influence within them and the ideological configurations that underpin them. Addressing these issues will necessitate such institutional reform, political party realignment and fundamental changes in public culture and values that it requires no less than the refounding of the institutions of the Republic.

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¹ Cox (2001) gives the example where in both Denmark and Netherlands change was achieved in part by social construction of an imperative for that change through communicative and co-ordinative discourse. He observes that failure to do this was a factor in the failure to reform welfare in Germany.

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ACADEMIC ENTREPRENEURSHIP: THE CHALLENGE FOR POLICY MAKERS

Damien Organ and **James Cunningham**, Centre for Innovation and Structural Change, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway

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ABSTRACT

The recent upheaval in the global economy has led policy makers to reassert the essential role of the National Innovation System in both bringing about a national economic recovery and generating the conditions for sustained economic progress into the near future and beyond. It is difficult to overstate the centrality of Higher Education Institutions and consequently of the research community within these plans. Over the last thirty years, the role of the academy within the wider context of national economies has come under ever increasing levels of scrutiny, to the extent that the university itself has been drastically re-conceptualised as a major engine for economic growth and innovation within advanced, knowledge intensive economies. This transformation of the traditional role of higher education institutions has led to an increasing demand on the academy to generate 'useful' information and to 'transfer' it to the wider economy. As knowledge is increasingly recognised as a primary source of economic advantage, the role of the university both as a producer of knowledge and as an agent of knowledge transfer within society has become increasingly critical within projections of preferred economic states. Central to this process is the concept of academic entrepreneurship and, as such, academic researchers are confronted with an entirely new role which represents a clear and significant departure from the traditional academic behavioural set. In their engagement with this entrepreneurial process, researchers are expected not only to discover and develop promising research opportunities, but additionally to strategically develop and commercialise their research for the creation of innovative goods and services. In this paper the author's articulate the necessity of macro level initiatives centred on the promotion of research commercialisation being heavily informed by an in-depth understanding of the institutional factors which shape the behaviour of researchers at a micro level. It is proposed that what is particularly significant is the recognition at policy level that the macro level emphasis on the importance of research commercialisation as a central component of wider economic success, does not in itself change the long standing institutional pressures which shape the researcher's likelihood to engage in this process. If the desired organisational and economic outputs are to be achieved, the incorporation of these considerations into the policy making process is surely a critical factor.

INTRODUCTION

The recent upheaval in the global economy has led policy makers to reassert the essential role of the National Innovation System in both bringing about a national economic recovery and generating the conditions for sustained economic progress into the near future and beyond. It is difficult to overstate the centrality of Higher Education Institutions and consequently of the research community within this vision. Over the last thirty years, the role of the academy within the wider context of national economies has come under ever increasing levels of scrutiny, to the extent that the university itself has been drastically re-conceptualised as a

major engine for economic growth and innovation within advanced, knowledge intensive economies. This transformation of the traditional role of higher education institutions has led to an increasing demand on the academy to generate 'useful' information and to 'transfer' it to the wider economy. As knowledge is increasingly recognised as a primary source of economic advantage, the role of the university both as a producer of knowledge and as an agent of knowledge transfer within society has become increasingly critical within projections of preferred economic states.

Central to this process is the concept of academic entrepreneurship and, as such, academic researchers are confronted with an entirely new role which represents a clear and significant departure from the traditional academic behavioural set. In their engagement with this entrepreneurial process, researchers are expected not only to discover and develop promising research opportunities, but additionally to strategically develop and commercialise their research for the creation of innovative goods and services.

It is argued here, that it is highly significant that such macro level initiatives centred on the promotion of research commercialisation, are heavily informed by an in-depth understanding of the manner in which institutional factors shape the behaviour of researchers at a micro level. If the desired organisational and economic outputs are to be achieved, the incorporation of these considerations into the policy making process is surely a critical factor. What shall be articulated then, is a theoretical position which establishes a research agenda for the exploration of the institutional factors which impact upon the strategic behaviour of principal investigators as the leaders of research teams.

This paper will initially address the conceptualised roles of Higher Education Institutions (HEIs) in the knowledge economy, moving onto the emergence of the 'entrepreneurial university' as a phenomenon. This discussion will highlight the centrality of the academic entrepreneur within these frameworks at which point the discussion's focus will shift to an examination of the nature of academic entrepreneurs. Throughout this conversation the paper will highlight the importance of the utilisation of an institutional lens in the analysis of the context from which this commercialisation activity is to emerge. As such, the paper will provide a conceptual basis for the employment of an institutional analysis to this phenomenon, and in so doing demonstrate the case for the incorporation of this perspective at policy level. The proposed context of the research will then be described, with reference to emerging research themes.

ROLE OF HEIS IN THE KNOWLEDGE ECONOMY

As Brennan et al. (2007) highlight, the re-conceptualisation of the role of academic institutions has seen them characterised as not only highly important for national economies but as integral elements of such economies. Within this new capacity as creators of the knowledge that drives economic success and product innovation, the university adapts multiple roles, in terms of both the cultivation of the essential conditions for success (innovation, entrepreneurship, and management capabilities) and the creation and maintenance of the vital sources of competitive advantage (Cunningham and Harney 2006).

This characterisation reflects the new institutional perspective portrayed in Etzkowitz and Leydesdorff's (1999) triple-helix framework. The triple-helix of university-industry-government relations aims to transcend previous models of institutional relationships, and as

such account for “a new configuration of institutional forces emerging within innovation systems” (Etzkowitz et al. 2000, p. 314). As Cunningham and Harney (2006) note, the emergence of the triple-helix model indicated a paradigmatic shift in the understanding of inter-institutional innovative processes, a shift which in itself arose as a consequence of four primary factors:

- internal transformation of each of the helices, and in particular the re-definition and expansion of traditional academic tasks,
- growing impact of one helix upon the other – the Bayh/Dole Act for example was a government policy radically changing the framework for university activity by granting proprietary rights of federally funded research to universities,
- new tri-lateral networks and organisations arising out of interactions between the three helices, and
- recursive effects, as the helices further develop their capacities within existing networks they develop the capacity to create new network and organisational forms.

Within this framework then, the innovative process comes to be viewed in a holistic and systematic sense within which the university plays a critical role. As Etzkowitz and Leydesdorff (1997) assert, “The development of academic research capacities carries within itself the seeds of future economic and social development in the form of human capital, tacit knowledge and intellectual property”, and as such, the challenge of channelling the flow of knowledge in society falls to the university itself. The next section will address the concept of the entrepreneurial university itself in more detail.

THE ENTREPRENEURIAL UNIVERSITY

While certainly not the genesis, the Bayh/Dole Act represents a major point in the diffusion of the concept of research commercialisation as a significant activity for HEIs (Berman 2008). In the aftermath of this act, the utilisation of HEIs for industrial development and the stimulation of entrepreneurial activity received ever greater levels of both academic and political interest in the wider global economy (Rosell and Agrawal 2009). The consequent proliferation of both scholarly activity and political initiatives has led to a perhaps premature but nevertheless understandable proclamation of a revolution within higher education, as academics and politicians alike seek to acclaim the emergence of an entirely new economic paradigm. This new paradigm is neatly encapsulated within the triple helix model, which conceptualises economic performance and development as dependent upon the interactions within the economy of three institutional domains; namely government, industry, and the university (Cunningham and Harney 2006). As knowledge is increasingly envisioned as a primary source of economic advantage, the role of the university both as a producer of knowledge and as an agent of knowledge transfer within society has become increasingly critical within projections of desired economic states.

The recognition of this critical role then has seen the development of a ‘third mission’ for the HEI, namely the commercialisation of academic research for the purpose of economic development, complementing the existing traditional ‘missions’ of teaching and the conducting of basic scientific research. Of great significance however, is the extent to which there is scepticism with respect to the scope for faculty to engage in commercial activity while simultaneously retaining a due regard for traditional scientific values (Callinicos 2006), and these concerns account for significant variance in the perception of research

commercialisation within academia itself. Additionally, and fundamentally, the question of public good must dominate any justification of a re-positioning of the role of academic organisations in society, as the emergence of the third mission changes on a fundamental level the manner in which university research is expected to contribute to society (Glenna et al. 2007). Such considerations are of particular importance if the institutional context within which research commercialisation is to occur is to be adequately understood. At the core of the literature's efforts to explain how the university may meet this wider challenge, lies the concept of academic entrepreneurship, which is now addressed in more detail.

THE NATURE OF ACADEMIC ENTREPRENEURSHIP

With the increased emphasis on knowledge as the key element of sustainable economic competitiveness, the entrepreneurial potential of academia in turn increasingly found itself at the core of important debates on the subject of economic development. Academia was now confronted with both a supply and demand fuelled push towards an area of activity quite novel to the traditional, Mertonian understanding of the role of the academic. From their review of the literature, Klofsten and Jones-Evans (2000) identify and classify this 'entrepreneurial' activity on the part of academia under eight specific headings, each of which falls outside the normally accepted duties of academics:

- **Large scale science projects** (obtaining large externally funded research projects)
- **Contracted Research** (Specific research projects within the university system for external organisations)
- **Consulting** (the sale of personal scientific or technological expertise to solve a specific problem)
- **Patenting/licensing** (exploitation of patents of licences arising from research by industry)
- **Spin off firms** (creation of a new firm or organisation to exploit the results of university research)
- **External teaching** (providing courses for non-university personnel and external organisations)
- **Sales** (selling of products developed within the university)
- **Testing** (providing of testing and calibration facilities to non-university individuals and external organisations)

Such activity clearly represents a departure from traditional notions of academic behaviour, and as Garrett-Jones et al. (2005) note, reflects far-reaching changes in the relationship between science, industry, and society. The increased susceptibility of academic activity to both market forces and social expectations, in turn serves to accentuate the cultural contrast between the academic environment and the industrial one. As Cunningham and Harney (2006) demonstrate, these cultural differences are many and they are extensive. Similarly Siegel et al. (2003) asserts that there is an essential conflict in the primary motivations of the university scientist on the one hand, and the firm or entrepreneur on the other. Additionally, these motivations are continually reinforced by the demands of the relative institutional environments.

What is noteworthy when one conducts a definitional examination of the academic literature, is the extent to which academic entrepreneurship is regarded more as a phenomenon, than as a clearly defined role. As such, the organisational and role context of their behaviour is deemed to distinguish academic entrepreneurs from others who are engaged in

entrepreneurial activity. Nevertheless, for the purposes of terminological clarity and in the interests of distinguishing academic entrepreneurship from wider interpretations of entrepreneurship as an activity, a definition developed Brennan et al. (2007) is offered here; an academic entrepreneur is someone who:

engages in related entrepreneurial endeavours, as an adjunct to their academic activities.

While there appears to be growing consensus then, as to the nature of both entrepreneurial academic activity itself and the potential conflict which it entails, there is in stark contrast, as Bercovitz and Feldman (2008) illustrate, a growing gap in the literature with respect to the institutional factors that differentiate the strategic behaviour of academics and in particular impact upon their inclination to become academic entrepreneurs. This is borne out by the dramatic variance in entrepreneurial performance across academic institutions (D'este et al. 2007). Therefore, the paper will now address this institutional context and its implications for research commercialisation activity.

INSTITUTIONALISM AND THE ORGANISATION

An institution is a relatively enduring set of rules and organised practices, embedded in cultural-cognitive, normative, and regulative structures and activities that provide both meaning and legitimacy to social behaviour (March and Olsen 1995, Scott 2001). As argued by Meyer and Rowan (1977), the development of formal structures within organisations is a manifestation of the powerful institutionalised rules through which the organisation identifies its social purposes, and describes the appropriate means through which these purposes may be pursued. Consequently, as identified by Scott (2001), institutional theory concerns itself with the deep seated, more durable aspects of social structure, including the processes through which rules, norms, and routines are established as rigid guidelines for social behaviour. The study of institutions then, is the study of behaviour which is governed by the norm, and the challenge for institutional theorists, is the empirical analysis and description of the institutional structure within which activity takes place (Holm 1995).

As the literature has developed, legitimacy has emerged as the most central concept within the theory of institutions (Colyvas and Powell 2006). As defined by Suchman (1995, p. 574), legitimacy "is a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions". The survival of an organisation is dependent on its ability to attain legitimacy through interactions with external constituents in their environment that are desirable and acceptable within the appropriate institutional framework. Consequently, the incorporation of externally legitimated structures and behavioural processes promotes the survival and success of the organisation itself (Meyer and Rowan 1977). The institutional framework then, serves to influence what constitutes legitimating behaviour, which in turn motivates the activities undertaken by the organisation (Dillard et al. 2004).

INSTITUTIONAL THEORY AND ENTREPRENEURIAL BEHAVIOUR IN THE ACADEMY

Wright et al. (2009) assert that the institutional characteristics of universities are likely to have a considerable impact on the development of commercialisation processes, and

consequently, are likely to play a substantial role in shaping the emergence of any behaviour which can be considered 'entrepreneurial' in the non-traditional sense. They draw their assertions from what Peters and Pierre (1998) recognise as the normative or sociological perspective of institutional theory. This perspective argues for the power of normative values and standards in the shaping of individual behaviour in an institutional context. As Peters and Pierre (1998, p. 568) propose, behaviour in institutions can be greatly illuminated by the employment of a "logic of appropriateness" as opposed to a logic of consequentiality. This has significant implications for our appreciation of the context from which commercialisation behavioural processes are expected to emerge in the institutional context of the academy. As Dillard et al. (2004) suggest, the motivation of legitimacy seeking behaviours are in turn influenced by the socially constructed norms imposed by the institutional context, leading to the conclusion that there is a relationship between the extent to which a behaviour is considered legitimate within these social constructions, and the extent to which there exists a propensity for the engagement with such activities on the part of the institutional member.

Historical Considerations

Within this theoretical context then, it is of particular importance to consider the historical approach to institutionalism, which regards the institution as having evolved a core and dominant set of collective values which over time come to shape the organisation as deeply embedded value systems (Peters and Pierre 1998). From this perspective, change in how organisations function over time is heavily influenced by institutional forces and as such, organisations themselves can be understood as target-oriented and rule based systems that adapt incrementally to past experience (Wezel and Saka-Helmhout 2005). As Ikenberry (1994) argues, the impact of institutional structures lies in their limitation or facilitation of the actions of individuals or groups, and consequently the interests pursued by actors within this framework are shaped by the specific historical context from which institutional rules have emerged. This perspective indicates that the implementation or in the wider sense the emergence of new practices, norms, and values is a process characterised by conflict and often by political struggle.

This raises some interesting questions in the context of the encouragement of commercialisation activity in the academic environment. It is generally accepted that the emergence of the entrepreneurial university in the United States was characterised by a gradual evolution from the teaching institution to the contemporary research facility. In contrast, European initiatives to promote the commercialisation of research have been top down in nature and as such represent an imposition of novel behavioural norms on a pre-existing institutional context. It is similarly generally accepted that this contrast is reflected in a clear disparity between the institutional structures of American universities and those of their European counterparts. As has been suggested, this disparity is indicative of a wider problem facing the re-conceptualisation of the HEI as an engine for growth and consequently, of the potential for the successful adaptation of the 'third mission' by academic institutions. As Pant and Lachman (1998) contend, the powerful social control of such evolved value systems may serve to legitimise, or render proscribed the 'new' behavioural processes implicit in such strategic initiatives.

Legitimacy Considerations

As referred to above, legitimacy occupies a central position within the literature of institutionalism and consequently, it is of great significance in the application of an

institutional lens to the academic entrepreneurship phenomenon. Academic entrepreneurship and its emergence or otherwise is as much a socio-cultural question as it is a technical one. As Suchman (1995) argues, from a cognitive perspective legitimacy itself stems from congruence between the organisation and its cultural environment. As has been addressed throughout this paper, academic entrepreneurship as a phenomenon represents a shift in the wider understanding of how a university is expected to contribute to society. It can be argued that this in turn can be understood as an expectation to significantly alter what Meyer and Rowan (1977) recognise as the social purpose of the organisation, and it unquestionably represents a behavioural shift in the understanding of the 'appropriate means' through which a university fulfils its obligations to external constituents. It is suggested that this accounts for much of the criticism of the 'third mission' that exists in the prevailing institutional environment. As Colyvas and Powell (2006) indicate, the institutionalisation of the practice in perhaps the foremost champion of academic entrepreneurship, Stanford University, took place through sustained experience and standardisation of interaction sequences and the inculcation of duties and expectations of conduct across the organisation. Similarly, Berman (2008) argues that the taken-for-grantedness of research commercialisation only emerged after it was sufficiently institutionalised through organisational, structural, and normative structures that permitted the persistence and self-reproduction of the practice. The importance of legitimacy therefore, is repeatedly demonstrated in the examination of the emergence of academic entrepreneurship in the United States. What is similarly apparent, is that consideration of the role of the institutional environment has not received a similar level of attention in the European context.

AN INSTITUTIONAL PERSPECTIVE ON A STRATEGIC OBJECTIVE

It is within this context then that a greater understanding is required of the institutional framework within which academic entrepreneurship itself takes place (Berman 2008). Academic entrepreneurship, by definition, represents a unique and quite separate economic activity from entrepreneurship as it is traditionally understood. As such it seems probable that as a unique and separate phenomenon it is subject to a unique and separate variable set. While there is much focus on unique approaches to narrower technical factors such as intellectual property regimes, or licensing agreements, there is an incomplete understanding of the more fundamental impact of the unique environment which academia represents, on the strategic behaviour of the academic with respect to their commercialisation activities.

This must be considered on two important fronts; the need for a greater understanding and consequently cultivation of both an institutional environment which facilitates and encourages engagement with the research commercialisation process, and additionally the understanding and cultivation of an institutional environment which maximises the success potential of commercialisation activities (Hanson 2001). It would therefore follow, that the likelihood of the economic benefits of research commercialisation accruing as a result of strategic initiatives, will depend greatly on the extent to which such initiatives are informed by a comprehensive understanding of the micro level variables which impact upon such activity.

Numerous examples of potential barriers to, and stimulants of academic entrepreneurship are identified within the literature, and these provide a useful starting point for focusing the investigation. The perceived barriers exist at an institutional, and consequently at an individual and operational level, ranging from basic constraints on resources and expertise, to

the 'publish or perish' culture inherent in academia. As alluded to earlier, the failure to align macro level objectives and micro level reality establishes a contradictory goal set for the individual researcher, wherein a goal established at, and driven from the macro level is in reality potentially detrimental to the individual's personal outcomes. Similarly, the incorporation of appropriate incentives on a personal and career level into strategic initiatives is central to the cultivation of an institutional environment which optimises the return on commercialisation activities. An institutional perspective provides us with the opportunity to demonstrate how academics interpretation of novel modes of behaviour is shaped by structural, societal, and cultural pressures which is critical to an overall understanding of their engagement with the commercialisation process (Oliver 1991).

As Pant and Lachman (1998) suggest, the extent to which strategies conflict with value based behavioural patterns at this micro level impacts significantly on their success probabilities. Additionally, Boardman et al. (2009) highlight the need for theory driven investigation of the attributes and variables at this individual level which act as predictors for entrepreneurial behaviour. Similarly Gassol (2007) argues that it is far from sufficient to articulate an organisational strategic vision in the expectation that this alone will ensure it's implementation, and consequently it is of the utmost importance that the internal pressures of the university as an institution are to be understood and managed if the desired economic and organisational outcomes are to be achieved.

In light of the discussion outlined, a distinct research agenda has emerged. A critical element of the overarching research topic is the extent to which research commercialisation as an activity is embedded within the value system of the institutional framework, and in particular the extent to which it is prioritised or legitimised in the form of reward mechanisms such as peer recognition, and career progression. As identified by Cunningham and Harney (2006), the impact of socio-cultural factors within the institutional framework is highly significant and is regularly cited by university scientists as a central element in the engagement with the commercialisation process. Similarly Dolfsma and Verburg (2008) emphasise the importance of the institutionalisation of behaviour as a valuable socio-cultural activity if it is to be replicated by individuals. Within this framework 'values' are addressed as socially shared cognitive representations of institutional goals and demands (Dolfsma and Verburg 2008).

Additionally, the networks available to an academic represent a central constituent of the academic's social capital, and as such are repeatedly highlighted within the literature as important predictors of commercialisation activity (D'este and Patel 2007). Similarly, the availability of resources such as funding, flexible working conditions, working space, and additional researchers are necessary elements of the commercialisation process (Cunningham and Harney 2006). The provision of these elements, or lack thereof, within the relevant institutional context is likely to greatly impact on the propensity of principal investigators to engage with the process as a whole.

The academic entrepreneurship literature also places significant influence on the development of the necessary skills and capabilities of researchers as a precondition for successful commercialisation of research (Cunningham and Harney 2006). George and Bock (2009) support this perspective and assert that the opportunity to develop the professional capabilities required for entrepreneurial behaviour must be available in the individual's environment. As such the extent to which the institutional environment from which academic entrepreneurship is to emerge is central to the provision of such learning opportunities.

These themes provide a basis for the pursuance of the research question as identified above, and identify critical factors recognised within the literature as shaping the propensity of researchers to engage in the commercialisation process. The paper will now address the context of the research, and in so doing will justify the proposed setting for the intended research activity.

IRELAND AS A RESEARCH CONTEXT

The Irish context provides an appropriate setting for the investigation outlined within this paper. Irish governance has placed a culture of innovation and research commercialisation at the heart of projections of economic progress, something re-iterated in the recent Smart Economy government document:

A key feature of the Smart Economy is building the innovation or ‘ideas’ component of the economy through investment in human capital and its ability and effectiveness in translating ideas into valuable processes, products and services. It has the objective of harnessing the ingenuity and creativity of people to drive research, innovation and commercialisation. It has, at its core, the creation of an exemplary research, innovation and commercialisation ecosystem so as to create ‘The Innovation Island’. (Building Ireland’s Smart Economy: A Framework for Sustainable Economic Renewal 2008)

As such, there has been significant engagement with the concept of the third mission on a policy level. The Strategy for Science, Technology, and Innovation (2006) emphasises such themes as building world class research, commercialising ideas and knowledge, research and development for enterprise, innovation and growth, science education and society, and international research and development collaboration. As a consequence of a planned 8.2 billion euro total expenditure by 2013, the following objective is declared:

‘Ireland by 2013 will be internationally renowned for the excellence of it’s research and will be to the forefront in generating and using new knowledge for economic and social progress within an innovation driven culture’
(Strategy for Science, Technology, and Innovation 2006)

Given the centrality of research commercialisation in the pursuit of this objective, the Irish context represents a highly fertile opportunity to pursue in turn the theoretical investigation proposed within this paper.

CONCLUSION

While the emergence of the entrepreneurial university as a phenomenon has allowed us to understand the rationale underlying macro level initiatives aimed at the promotion of research commercialisation, it has also allowed us to contrast the behavioural expectations of the academic entrepreneur with those of the traditional university scientist. As such, we have seen that the environment in which academic entrepreneurship is to arise is an essentially distinct institutional context, and is therefore subject to unique institutional factors. Understanding these institutional factors, it is argued, is a critical component in both the successful implementation of the broader strategic vision of excellence in research commercialisation, and additionally in the conceptualisation of the strategic behaviour and decision making of principal investigators at the institutional level. This understanding may

serve to bridge a significant gap within the literature, as well as inform the formulation and implementation of relevant strategic initiatives. Additionally, the suitability of the Irish context for the investigation outlined has been demonstrated. The centrality of research commercialisation within the Irish policy framework renders this particular context highly appropriate for the proposed study.

The present economic crisis presents policy makers with an array of challenges as grave and as complex as have confronted any generation of policy makers in the history of the Irish state. On a fundamental level, the nature of our economy and the manner in which we perceive and foresee both our societal and economic development is under as intense a level of scrutiny as can be imagined in a modern society. As such it is a time of uncertainty. It is a time of uncertainty, but it is also a time of opportunity. There have been few occasions in the history of the state which have provided the sufficient level of both pressure and desire which is required if a seriously considered vision for the future of the state is to be drafted. We have unquestionably arrived at such an occasion.

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‘AS IMPORTANT AS TECHNOLOGY’ – INTELLECTUAL PROPERTY RIGHTS AND INNOVATION IN DIGITAL MEDIA SERVICES

Jim Rogers, Paschal Preston and Des McGuinness, School of Communication, Dublin City University

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ABSTRACT

Over the past decade or so, the interfaces between intellectual property rights (copyright, patents, brands) and innovation has been a growing topic of research interest amongst critical and other scholars (located outside the field of commercial law) in many regions of the world. As yet however, there has been little such work undertaken in the Irish context, although it clearly has important implications for policy strategies directly related to the government’s ‘smart economy’ plan.

This paper draws on a recently completed study which engages with the evolving role of intellectual property rights and the implications for innovation processes in the case of the media services sectors. It first reviews the expanding literature on the multiple points of influence between intellectual property rights (copyright, patents, brands) and innovation processes. It proceeds to address the evolution of those factors and cross-influences, paying particular attention to their role and implications for the media and cultural services sectors (now sometimes also referred to as the ‘creative industries’). Finally it examines some findings from recently-completed original research particular attention to the Irish setting, using case study materials centred on one particular media services industry.

INTRODUCTION

Like other radical technological innovations, the internet, with its relatively rapid and widespread diffusion may be taken as having the potential to seriously disrupt the existing industrial structures and rules of the economic game, especially between different players within the media industries. This includes the potential to disrupt the power or role of existing media firms and their established industrial practices and interests, not least in the case of the music industry which is our primary concern here (Preston, 2001; Burnett and Marshall, 2003).

Indeed, with regard to the music industry, the internet has been widely perceived as possessing a particularly pronounced disruptive potential, especially in terms of the established music corporations relationships with (or modes of service delivery to) their final consumers. This is because the internet’s application and use in the music industry has been widely defined as having most direct impact on the sphere of distribution, the key control stage or moment the overall value chain in the music industry (as in all other media industries). However, we must be aware of the limitations and seductions of the technological sublime that attend techno-centric analyses of the Internet and any associated processes of industrial innovation or restructuring (Preston, 2001; 2008). In contrast, a historically grounded perspective indicates that the precise socio-economic outcomes of radical

technological innovations (such as the internet) have rarely been read or predicted with any accuracy from the latter's apparent technical features, not least those envisaged and proposed by their designers and suppliers. Rather, the widespread adoption and appropriation of radical technological innovations (especially inter-related clusters of same) must also be accompanied and facilitated by a diverse set of matching innovations. The latter may be considered as relatively autonomous from any inherent technical considerations, characteristics or trajectories and they include organisational, industrial, social and institutional (including policy) innovations (Preston, 2001). Hence, the precise outcome of any radical technological innovation (i.e. in terms of its socio-economic effects) is always the product of conflicts and struggles between different interest groups in domains that are often far removed from any predominantly technological logic or trajectory.

This paper aims to move beyond technology-centred analyses by adopting an institutional framework that engages with the multi-dimensional aspects of innovation currently unfolding in the media and cultural industries sector. In this light, we advance an empirically grounded approach to the interplay of key socio-economic interests and powers that are framing the practical application and/or appropriation of the internet. Here, we are particularly concerned with how such interplay shapes the form and extent of the internet's disruptive potential in the music industry. We seek to highlight how, in analyses of the contemporary information society or knowledge (or 'smart') economy, it is vitally important to pay special attention to one particular area of conflict and struggle over policy and regulatory innovations – those related to the intellectual property rights regime.

Over the past decade or so, the interfaces between intellectual property rights (copyright, patents, brands) and innovation has been a growing topic of research interest amongst critical and other scholars (i.e. located outside the field of commercial law) in many regions of the world. For example, several researchers have drawn attention to the ways in which the ever-onward march of IPRs, actively promoted by already powerful economic interests and their legal advisers and consultants, may serve to hinder potential innovation processes undertaken by others – indeed they may *Put Innovators at Risk* as Bessen and Meurer (2008) recently put it. For (late) developing societies in particular, the growing role of IPRs in international industrial and trade policy negotiations raise especially important stakes in shaping the contours of economic, as well as social and cultural „development“ strategies in the early 21st century (e.g. Martín-Barbero, 2009) They also present radical challenges concerning the adequacy of existing theories and models and intellectual frameworks in academic fields ranging from development studies or communication studies (ibid).

As yet however, there has been little such work undertaken in the Irish context, although it clearly has important implications for policy strategies directly related to the innovation, the knowledge economy, including the government's current 'smart economy' plan. Yet, at best, we might say that almost all of what passes as analysis, description and prescription in prevailing policy discourse on IPRs in the Irish setting has largely followed a rather simplistic 'more is good' perspective. Thus, this paper aims to make an initial contribution towards a more nuanced appreciation of the role and place of appropriate policies towards intellectual property rights (IPRs), especially as they relate to innovation processes in the media and cultural industries and related services sectors.

PROPERTY RIGHTS AND CULTURAL PRODUCTION

The turn to neo-liberal policy practices and discourse since the 1980s has been marked by an increasing emphasis on information and knowledge intensive services (as well as new ICTs) as key sites for economic growth or development (Preston, 2001). Indeed, some suggests that the increasing emphasis on information, knowledge and culture in innovation and industrial policy discourse points to neo-liberalism making its own 'cultural turn' (Hesmondhalgh, 2006). In particular, developments such as the Trade Related Aspects of Intellectual Property Rights Agreement (TRIPS) underlines how the emergence of a 'new nexus of state and financial power underpinned by neo-liberalism' is increasingly linked to new forms of global governance of cultural production, with „marked effects on how creativity is conceptualised and practised' (ibid: 11).

Since the early 1980s, the growing importance of global markets has seen US companies that trade in copyright focus their attention on achieving the removal of barriers to American copyright exports globally. This period has witnessed the formation of the International Intellectual Property Alliance (IIPA), an umbrella group representing, amongst others, the Recording Industry Association of America (RIAA) and the Motion Picture Association of America (MPAA). An intense period of lobbying resulted in the Omnibus Trade and Competitiveness Act of 1988. Under this act, any nations alleged to be damaging to the US copyright industries could find themselves subject to the imposition of trade sanctions by the US courtesy of the Office of the United States Trade Representative (USTR) [see below]. The 1993 World Trade Organisation (WTO) treaty was the most significant development in the political economy of culture over the past two decades according to many authors. This treaty created a new form of global governance of intellectual property in the form of a chapter on the Trade Related Aspects of Intellectual Property Rights Agreement (TRIPS). TRIPS came into effect from 1995 and covers patents, trademarks, copyright and other forms of intellectual property. It is an agreement that is aimed at establishing minimum international standards for intellectual property.

TRIPS essentially emphasises the rights of authors, performers and producers already prioritised in the Berne and Rome conventions, however it also stipulates precise courses of action to be pursued by the courts and customs services in relation to copyright infringement. The private sector of the advanced industrial countries, especially that of the USA, played a major role in these developments. While developing countries were granted permission to introduce TRIPS provisions on a phased basis, the agreement largely favours Western copyright holders by opening up the markets of less developed states in a more comprehensive manner than before (Houtart, 2003; Laing, 2004). As such, TRIPS facilitates the imposition of the products and content of multi-national corporations on the developing world.

Furthermore, May argues that:

...the net effect of the TRIPS agreement is, actually, to critically reduce the area of public knowledge, especially in areas where new technologies are important or even vital to socio-economic development. (May, 2000: 77)

Laing (2004) illustrates how the changes to national legislation regimes brought about by TRIPS are complemented by the actions of the USTR. From the early years of the Reagan era, the USTR has played a significant role in the extension of intellectual property laws

around the world. With responsibility for US trade policy and bi-lateral and multi-lateral level, the USTR is essentially an executive branch of the American government operating within the Executive Office of the President (EOP). US trade law requires the compilation of an annual report – i.e. Special 301 – which identifies and examines ‘those countries that deny adequate and effective protection for IPR or deny fair and equitable market access for persons that rely on intellectual property protection’ - [we should remember here that corporations are categorised as individuals/persons for the purposes of law]. „Countries...that have the greatest adverse impact (actual or potential) on the relevant US products must be designated as Priority Foreign Countries□. Under Section 306, the USTR „monitors a country’s compliance with bi-lateral intellectual property agreements...[and] may apply sanctions if a country fails to satisfactorily implement and agreement(www.ustr.gov).

May’s (2004) research shows how developing countries are currently receiving extensive technical support in training legislators and administrators from a variety of international, government and non-governmental organisations. According to Hesmondhalgh, ‘this is cultural neo-liberalism, buttressed by US trade power’ (2006: 9) and it is enabled by the geopolitical-economic developments indicated above. This may be framed also as a logical ‘next step’ in what Harvey (2005) defines as the process of accumulation by dispossession. As Harvey puts it:

Free trade and open capital markets have become primary means through which to advantage the monopoly powers based in the advanced capitalist countries that already dominate trade, production, services and finance within the capitalist world. The primary vehicle for accumulation by dispossession therefore, has been the forcing open of markets throughout the world by institutional pressures exercised by the IMF and the WTO, backed by the power of the United States (and to a lesser extent Europe) to deny access to its own vast market to those countries that refuse to dismantle their protections. (Harvey, 2005: 181)

TRIPS is a means of ensuring the normalisation of a neo-liberal approach to culture across the world. This perspective on culture sees intellectual property rights as the ultimate tool in motivating an incentive to produce creative works. The compensation of the individual for his/her creative or artistic labour is painted as the main driver behind such activity. However we note the success of shareware software and such shared resources as the online encyclopaedia Wikipedia as examples of counter-vailing social movements. As Lessig (1999, 2001, 2004), Vaidhyathan (1999) and many others argue, intellectual property laws and practice present significant barriers to the production, mediation and consumption of information, culture and knowledge. The spread of TRIPS represents the increasing privatisation of knowledge and culture.

At the core of this extension of intellectual property laws lies the idea that economic prosperity is now reliant on the successful expansion of commodified cultural and knowledge intensive services, or what some define as the creation of an Information Society. The major corporations have subverted many key elements of the original Information Society thesis to argue that their economic base needs building (for the sake of national prosperity in an increasingly globally competitive marketplace) and so copyright terms should be extended. The US corporations have been very successful in this respect. While the Rome Convention of 1961 had set the minimum period of protection for recordings at twenty years, the 1996 World Intellectual Property Organisation (WIPO) Performances and Phonograms Treaty increased this to fifty. This was taken to the extreme by the United States Congress who, courtesy of the 1998 Sonny Bono Copyright Term Extension Act set the term of protection at ninety-five years for film, recorded music and broadcasts. The actions of Congress were

significantly influenced by extensive lobbying by various Hollywood studios, most notably Disney (Laing, 2004). This law has succeeded in preventing vast quantities of creative works from passing into the public domain. If, as Lessig and others argue, creativity is often, or in part based upon recycling the old to produce the new (i.e. 'remix culture') through shared/social processes, then restricting access to creative works ultimately hinders creativity.

TRIPS pushes upon society the concept of creative work as being based upon the individual property model. While copyright law in theory protects the individual author, the reality is that the majority of benefits or entitlements attaching to copyrights tend to be owned by corporations. Cultural corporations thus become more wealthy and powerful, and thus more effective in lobbying governments for more extensions of copyright laws. It is within the context of these developments that we must consider the evolution of the music industry since the advent of the internet.

MUSIC, COPYRIGHT AND THE INTERNET

Contrasting Approaches to Copyright and the Internet

Many prior authors have addressed the potential of the Internet to enable artists to produce, market and distribute their own work independently. While acknowledging that the digital distribution of music held the potential to serve the interests of the major music corporations, Burnett also makes the point that it 'could open a Pandora's box that could ultimately destroy their own control of popular music' (1996: 148).

Over the past decade, much commentary and analysis has pointed to the advent of digital distribution technologies inducing a process of disintermediation - removing the middle layers of distribution channels. It was widely predicted that such a process would ultimately lead to the collapse of the traditional music industry. Producers of music would be able to directly access their public without the machinery of a multi-national corporation mediating this relationship. Costs associated with distribution and retailing would be eliminated (retail outlets currently take approximately one-third of the retail price of recordings exclusive of value added tax). Rather, the rapid diffusion of Internet technologies would mean anyone could potentially enter the market. Burnett suggested that the Internet could, in theory, ensure that 'a small group of users spread out geographically, could generate sufficient demand to sustain the product of small independent producers' (1996: 144). Developments such as digital recording and the compact disc saw digital technologies enter the worlds of music production and consumption in the 1980s (Goodwin, 1992). In the 1990s digital communication technologies provided the medium to connect these worlds. Effectively, the Internet held the potential to enable direct interface between artist and consumer. The promise of the technology was that the traditional role of the established record companies would be diminished or even eradicated, thus realising the Gatesian concept of friction-free capitalism in which no noise interrupts the process of consumption (Herman & Sloop, 2000). Artists would be free to exercise their creativity free from the constraints imposed by the major recording companies; consumers would experience greater choice and exercise greater control over the music they listened to.

With the evolution of a digital music economy, enforcing copyright infringement has become increasingly problematic, largely as a result of the emergence of various waves of peer-to-peer file-sharing software. For an industry that has maintained a stranglehold on sites of

distribution and promotion for decades, file-sharing activities clearly pose an immense threat. While the established recording industry views this as piracy, proponents of such activities claim to offer free promotion and advertising for music. Some others go much further, arguing that much creativity and innovation in music are dependent on the free accessibility of online music files (e.g. Lessig, 2001; Benkler, 2006).

The ‘Creative Commons’ Approach

We now turn to one alternative approach which centres around ideas such as a ‘commons-based peer production’ where commons means ‘a particular institutional form of structuring the rights to access, use and control resources’ (Benkler, 2006: 60). The past decade has witnessed a number of contributions that critically examine the merits of a creative commons approach and highlight the threats to culture (including new media productions) posed by the ‘onward march’ of copyright and related IPRs (Benkler, 2006; Benkler and Nissenbaum, 2006; Lessig, 1999, 2001, 2004; Vaidhyathan, 1999). Many of these contributions are focused on the disruptive potential of the Internet. For example, Benkler (2006) suggests that:

...the networked environment makes possible a new modality of organising production: radically decentralised, collaborative and non-proprietary; based on sharing resources and outputs among widely distributed, loosely connected individuals who cooperate with each other without relying on market signals or managerial commands. (Benkler, 2006: 60)

Lessig identifies one potential future in store for the internet as a network that can enable as individuals to have greater control over our lives and the various institutions that shape and regulate our lives. Lessig points to the benefits of this future: a future where developments in digital technologies bring with them reductions in costs of both production and distribution of knowledge, information and cultural texts. Benkler and Nissenbaum (2006) emphasise important moral and political virtues deriving from participation in commons-based peer production. Lessig (2001) highlights the essentiality of access to existing texts and ideas in order to facilitate creativity and greater diversity in cultural production as well as the enhancement of commercial innovation. Vaidhyathan argues that a ‘leaky copyright system allows users to enjoy the benefits of cultural proliferation’ (1999: 184). Music has always involved recycling what went before to produce something new. By lessening the constraints of copyright law, the advent of digital could mean that individual consumers would be enabled to freely access, and actively add to, modify or remix their version of the content. This would foster the establishment of free culture – diminishing restrictions around creativity and opening up the Internet to the broadest possible spectrum of commercial innovation.

While copyright is central to the creative process in that it provides an incentive to produce creative works, Lessig argues that the loosening or even absence of copyright protection can be a benefit as well as a cost to creative artists. This is because ‘creative works are both an input and output in the creative process; if you raise the cost of the input, you get less at the output’ (Lessig, 2001: 108). Lessig cites historical precedents that emphasise the benefits of ‘loose’ control in terms of creativity, and by extension diversity of content. He uses the example of piano rolls in the late nineteenth / early twentieth century to illustrate how limiting the rights of the originators of musical works expands the creative opportunity of others: Producers of piano rolls in the United States were effectively stealing the content created by composers and songwriters to use in their machines. The refusal of the United States Supreme Court to recognise this as a violation of existing copyright law prompted

Congress to change the law. The result was a compromise that brought about the introduction of a compulsory licensing right which enabled the reproduction without permission of music or songs that had already been commercially recorded, provided a statutory royalty was paid to the owner. New performers now had the right to enter the market by performing and re-recording the music of other artists. Such compromise solutions became the rule in relation to creative rights.

Specifically with regard to music, while the traditional system of copyright primarily benefits non-creative intermediaries, the emerging Internet would be devoid of intermediary organisations to filter content for consumers. Writers such as Lessig point to statistical data that indicate a significant increase in the concentration of ownership across media industries, including music, over the past two decades. Such developments affect the character of the market as well as its structure, and have provided us with unhealthily homogenous media. Lessig's analysis suggests, however, that the architecture of the Internet could re-shape the media sphere and change these concentrations as 'it neither needs nor permits the centralisation of control that real-space structures demand' (Lessig, 2001: 119). This digital music market would be more contested, and as such encourage and accommodate new forms of music. This, in turn, would influence the major music corporations to take greater risks with regards to repertoire in an environment where their power and control was under threat. The result for consumers would be lower retail prices and an increased variety of content to choose from.

The 'Control is Good' Approach

Creative commons is one rather utopian vision of the internet future, but Lessig (2001) also provides us with a contrasting futuristic vision that positions the Internet as a technology of control, where those corporations that have power wrest control of the network to bolster and consolidate their dominance of the recording industry. Lessig tells us that a key assumption contemporary society holds in relation to intellectual property is that control is good: 'A time is not so much marked by the ideas that are argued about as by the ideas that are taken for granted' (Lessig, 2001: 5). In a similar vein Benkler argues that:

...policy makers and their advisors came to believe toward the end of the twentieth century that property in information and innovation was like property in wristwatches and automobiles. The more clearly you defined and enforced it, and the closer it was to perfect exclusive rights, the more production you would get. (Benkler, 2006: 461)

This assumption that control is good this leads to the creativity of artists and Internet entrepreneurs being compromised through the establishment of old economy power over new technology sphere in an environment where creative control has now become a legal matter. Ultimately Lessig (2001, 2004) argues that those threatened by key developments in digital technologies are coalescing and forming a strategy to reconfigure the internet so as to protect their own interests. This strategy amounts to what Lessig terms 'the enclosure of the digital commons'. Such a strategy will, according to Lessig, have the effect of nullifying the internet's potential for social benefit.

TWO KEY MUSIC INDUSTRY STRATEGIES IN THE INTERNET ERA

This section examines two particular strategies adopted by the major music companies in response to the threats posed by internet technologies to their dominant position. First, we outline their successful pursuit of the producers and suppliers of file-sharing technologies, individual network users, and more recently internet service providers (ISPs) on the grounds of copyright infringement. Second, we outline the major labels successful manoeuvring control of many significant recent and new online platforms for music. While the major labels have proved adept at growing the digital recorded music sales market via iTunes and a host of other digital music stores, here, we focus on other alliances and pacts formed between music companies and other electronic platforms. These include social networking sites and advertising-supporting streaming platforms.

The data upon which the remaining sections draw upon is taken from industry reports, trade publications and the accounts of a number of key music industry informants from a recently completed doctoral research study.

Music, the Internet and Copyright law

Extensive lobbying on the part of the major record industry has resulted in the extension of realspace copyright control mechanisms into cyberspace, and the ongoing strengthening and expansion of these copyright laws. The decisions of the courts in favour of the major labels against MP3.com, Napster, Grokster and the like during the first half of this decade effectively legitimised online rights management and determined a cost basis for legal claims against infringing parties (see, for example, McCourt & Burkart, 2003). Each 'wave' of innovation regarding file-sharing technology has been countered by matching legal innovation – i.e. the extension of copyright law to regulate new strands of file-sharing activities. These court decisions made official the putting into practice of intellectual property controls on the internet. More recently, the global record industry's representative trade body, the International Federation of Phonographic Industries (IFPI) have become assiduous in their pursuit of the suppliers of file-sharing technologies, individual network users and internet service providers.

The IFPI website publishes a proliferating litany of accounts outlining recent and ongoing court actions in various nation-states around the globe. Below are a handful of examples of recent and archived stories. July 2009 saw the IFPI achieve the shutdown of Qsound, a South American file-sharing network and Colombo-BT.org, the largest BitTorrent tracker site in Italy (www.ifpi.org, 7th July 2009). Promusicae, the organisation representing the record industry in Spain, filed a claim for €13m against Pablo Soto with the Madrid Court for Commercial Matters (Promusicae press release, cited on www.ifpi.org, 5th June 2009). Soto is accused of profiting from the design of the Blubster, Manolito and Piolet networks that allow for the transfer of music for free on the internet. In July 2008, the Sunnydale Hub which provided file-sharing services was shut down by authorities in Mexico (www.ifpi.org, 16th July 2008). In May 2008, Zhongzou, a Chinese internet search engine, was found guilty of infringing recording copyright by the Copyright Bureau of Hebei Province and Cangzhou City following the lodgement of a complaint to the Copyright Bureau by the IFPI (www.ifpi.org, 21st May 2008). In Prague, following an investigation and subsequent complaint by the IFPI Anti-Piracy Unit, Czech police shut down a computer server at the Academy of Sciences of the Czech Republic that was being used to store and upload music onto the internet via a site called Blind Alley (www.ifpi.org, 23rd April 2008). December

2007 saw a landmark case in China where a Beijing court ruled that Yahoo China's music delivery service violates Chinese law by facilitating mass copyright infringement. The initial claims filed in the No.2 Intermediate People's Court concerned infringement of key international artists such as U2 and Destiny's Child. November 2007 saw Dutch peer-to-peer file-sharing site Shareconnector.com closed by authorities following a successful case taken by BREIN, the Dutch anti-piracy watchdog, in the Civil Court of Appeal in Amsterdam.

These accounts represent a handful of representative samples of the type of story relayed via this source on a near daily basis. According to the Chairman of the IFPI, the pursuit of individual network users has intensified with (as of late 2008) approximately 35,000 individuals awaiting court appearances in the US alone for downloading and file-sharing offences (personal interview, September, 2008). While the IFPI argue that such accounts imply the problems posed by digitalisation to copyright owners to be many and widespread, we recognise also that most of these stories are stories of success for the same copyright owners against 'infringers' in the courts. Thus they advance another reality – the continued and successful pursuit of 'pirates' by the record industry's various national offices across the world.

The severity of the consequences for copyright infringement imposed by the judicial systems within nation-states around the world is perhaps most starkly illustrated by the much-publicised 2009 trial of Jammie Thomas-Rasset, a Minnesota mother who was sued by the Recording Industry Association of America (RIAA) for sharing twenty-four songs on file-sharing network Kazaa back in 2005. Thomas-Rasset was found guilty on twenty-four counts of wilful infringement and ordered to pay the relevant record companies a total of US\$1.92m – precisely €80,000 for each of the twenty-four music files either downloaded or shared. The RIAA had sought €3.6m in compensation, i.e. €150,000 per song. It is, again, sobering to contrast this with the €1,000 maximum penalty imposed in the state of California for the theft of a CD from a bricks and mortar store. Taking the average CD album to contain approximately ten tracks, that amounts to a maximum penalty of approximately €100 per track. Thus, the penalty for sharing something in cyberspace is eight hundred times greater than stealing it in real-space. We are reminded here of a recurring theme in Lessig's work (1999, 2001, 2004) relating to the increasingly severe consequences of contemporary copyright protection.

More recently the IFPI, and its constituent members in various corners of the world have been successful in the pursuit of ISPs. While some ISPs, such as Sky in the UK moved to enter into partnerships with the music companies to provide additional platforms for the sale of recorded music, the record industry has also been successful in obtaining legal judgements that hold ISPs responsible for activities that result in copyright infringement on their networks. Summer 2007 saw a landmark ruling delivered in a Brussels court when the Belgian society of authors, composers and publishers, SABAM, secured a court ruling stipulating that one of the countries internet service providers must install a filter to prevent users from illegally sharing and downloading music.

Resulting from this, there have been a variety of developments internationally regarding the role of ISPs in the regulation of the circulation of recorded music. For example, in November 2007, the Olivennes Agreement saw a pact made between French ISPs, copyright owners, and government. The agreement was struck under the supervision of the Olivennes Commission, named after its chairman Denis Olivennes - President-Director General of FNAC, the largest French retailer of cultural and consumer electronics products. This pact essentially approves the adoption of a 'three strikes and you're out' approach to copyright

infringement by network users. Users receive a warning from the ISP for each illegal download they make. In the event of the user making this ‘mistake’ on 3 occasions, they risk losing their internet access. 2009 saw Irish ISP Eircom sign a similar agreement with the Irish Recorded Music Association (IRMA) following IRMA’s issuing of legal proceedings against the internet service provider a year earlier. In February 2008 a court in Copenhagen ordered Danish telephone company DMT2, who provide one of the country’s largest ISPs, Tele 2, to block access to a service that indexes torrent files containing copyright infringing music. July 2008 saw the publication of a Memorandum of Understanding between ISPs and the British Phonographic Industries (BPI), representing all of the major players in the record industry in Britain. Both parties have signed the agreement with the key stated aim of realising a ‘significant reduction’ in the level of file-sharing on UK networks. As part of this agreement, six ISPs in the UK undertook to write letters of warning to network users suspected of peer-to-peer file-sharing. IRMA, BPI and IFPI websites and publications also indicate that 2008 and 2009 saw discussions begin in Japan, the Netherlands, New Zealand and Spain between ISPs, governments and record industry trade bodies aimed at addressing copyright infringement and introducing legislation to terminate the accounts of users who have repeatedly infringed copyright.

All of these developments have had the effect of re-affirming the major record industry’s power in relation to content and distribution of product. In stark contrast to the vision of a creative commons feeding musical innovation and consumer choice, this approach sees the extension of real-space property control mechanisms into the domain of cyberspace.

New licensing rights deals for new digital formats

Year-on-year growth of 50% in the digital recorded music sales market signals that the record industry is proving adept at exploiting the opportunities provided courtesy of iTunes and a host of other digital music stores. The value of the digital sales market was US\$3.7bn in 2008 (IFPI, 2009). However, of greater concern to this paper is the extent to which the major music companies are forging alliances and pacts with established and emerging social media networks and also other online and mobile content platforms. Below we provide a brief overview of some of the key licensing rights agreements that have been struck, primarily on the back of legal actions regarding copyright infringement taken against the social media networks. These provide new avenues for the generation of revenue primarily for major recording and music publishing companies. They also indicate a trend whereby key sites for the promotion of music online are in themselves key sites of revenue generation for the major music labels, although these sites need not be engaged in the sale of recorded music products. Furthermore, these trends indicate the increased colonisation of internet spaces by the established music industry powers.

In late 2007 the Warner Music Group entered a licensing deal with YouTube which cleared all of its recorded music catalogue and music video catalogue for use by the consumer media giant that enables users to watch and share video content through a web experience. At that stage Sony Music Entertainment, had already signed a similar deal with YouTube. According to a YouTube press release upon the signing of this licensing agreement, the company will work with record companies ‘to expeditiously remove certain copyrighted materials which are not available for exhibition on the site’ (www.youtube.com, October 9th 2007). YouTube employs a content identification architecture that enables content holders to identify their content on the site and thus the opportunity to authorise and monetise the use of their works within the user generated content on the site.

A number of rights are triggered by YouTube usage that now generates revenue streams for music recording and publishing companies. While deals with the major music companies as outlined above brings in revenue from the use of the music companies recording, performance and synchronisation rights, royalties are also generated by users who perform or stream the songs in the making of their own content. To this end, publishing royalty collection societies have struck deals with YouTube. By the spring of 2008, when the first YouTube payments commenced, a similar deal had been brokered between the PRS and the popular social networking site Bebo.

What is also important to remember is that these deals only take into account music publishing copyrights; separate license fees are paid by social networking sites to the same music companies in respect of recording copyrights. For example, during 2008 all of the major labels forged relationships with social media network Imeem, making audio and video content available via on-demand streaming in return for a stake in advertising revenues generated by the site.

April 2009 saw the Universal Music Group announce the launch of Vevo, a music video service in collaboration with Google. Effectively, Universal own the site, with Google/YouTube providing the technology. Users will be able to access and play music videos for free, with revenue generated from advertising being shared by Universal and Google. June 2009 saw Sony Music Entertainment sign up to this venture. The other major companies are in negotiations with Universal over potential licensing agreements regarding the use of their content on the site (CNET News, Thursday 4th June, 2009).

September 2008 saw the recording and publishing arms of all four major music labels launch partnerships with social networking site MySpace. These partnerships involve MySpace providing on-demand and ad-supported streaming, music downloads, a subscription plan and a variety of other music related features such as the sale of concert tickets and merchandise. In effect, these deals cover the entire 360-degree spectrum of potential revenue streams. Users are also enabled to assemble and share playlists using the vast catalogues of Universal, EMI, Warner's and Sony. The pay-for-download and music streaming aspects of this service directs users to purchase tracks and albums via Amazon. As part of this overall deal, the music companies receive an equity stake in MySpace Music, which, according to the MySpace website boasts 68.6 million users in the US alone.

In the case of Imeem and the three above-mentioned platforms, Vevo, MySpace and YouTube, the outcome in all cases is illustrative of an ongoing trend where the major music companies have sued a social media network, settled, licensed and then gained equity in the service.

According to one informant who provides artist management services, the fact that many of these online and mobile platforms are quite recent means that they would not have been a consideration when many artists negotiated their recording and music publishing contracts:

I know from the perspective of managing recording artists that if you take something like Facebook or Last FM or MySpace or some other such space...This is such a recent factor that it wasn't necessarily have been taken into account at the time many acts signed deals...so they won't really benefit from it yet via their recording or publishing contracts. From Universal's point of view, for example, it, I suspect, might well yield significant royalties.
(personal interview)

As such he contends that this is one area where major music companies are benefiting significantly at the expense of the artist.

Ad-Supported Streaming Partnerships

Since 2006 ad-supported music streaming sites have also evolved as a significant source of finance for music companies. Following a spate of lawsuits taken by the record industry against such sites as Bolt and Grouper, revenue sharing models have emerged whereby these companies that were formerly streaming audio and music video content online have now entered alliances and partnerships with the four major music companies.

Since 2006 Spiralfrog has provided major label catalogues via its ad-supported download service. Universal became the first label to sell licensing rights to Spiralfrog for its entire catalogue. Downloads from the site are free of charge to the user, but come accompanied with advertising. License fees are thus paid for through advertising revenues. Similar deals have now been struck between all of the major labels and lesser profile sites such as Amie Street, Sellaband and Magnatune.

In August 2008 the Warner Music Group became the first of the major music companies to license content to We7, the first European-based ad-supported music service. Based on the Spiralfrog model, We7 grafts a series of short adverts into the start of music tracks based on consumer demographics such as location, age and gender. Users may stream content or take full-track downloads. September 2008 saw Warner's and online music jukebox Deezer announce a global content and revenue partnership. Warner's full catalogue of audio content is available for on-demand streaming as part of Deezer's free to access service. Under the terms of the agreement both companies will share revenues generated by Deezer's ad-supported platform.

In summer 2009, Universal partnered with UK-based Virgin Media to provide a streaming and download service. As with the other major partnerships in this sphere, the other major labels, publishers and stakeholders are likely to follow.

CONCLUSIONS

The case of online music serve to illustrate the key role of intellectual property-rights factors in shaping what appears as industrial innovation and restructuring developments. The case indicates how two property-rights factors are increasingly central to the music industry: ownership of content, and control of the channels that promote and distribute it. The core activities of record companies and music publishers are the creation and exploitation of copyright.

Yet, as we have seen, the technology-centred models promised that anyone who can access the web can enter the market and threaten the dominance of the major music corporations. Two issues are therefore of central concern to these corporations: the unwarranted use of their copyrighted material on the internet, and the potential for new material to be created independently and by-pass them en route to consumers.

As described above, the unfolding reality is one where these corporations used their legal muscle and economic power to disable and subsequently usurp those online entrepreneurs who challenged them.

While serving to provide new methods of circulation and distribution, the online music sphere, through its short but eventful history, emphasises how the economic value of music remains primarily determined by the process through which it accesses its final consumer. This case shows that while new communication technologies may threaten to diminish the power of those who control content and distribution, such technologies can ultimately be shaped to further consolidate the existing structures of an industry.

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PRODUCT INFORMATION DISPLAY FORMATS TO SUPPORT THE CONSUMER DECISION MAKING PROCESS

Ultan Sharkey, Thomas Acton and Kieran Conboy, Centre for Innovation and Structural Change, J.E. Cairnes School of Business & Economics, National University of Ireland, Galway

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ABSTRACT

The second key challenge noted by the Department of Enterprise, Trade and Employment (2004) eBusiness Strategy report is the building of confidence among Irish SME's and Micro-enterprises in the development of online trading. Its associated April 2006 progress report (Department of Enterprise 2006) further stressed the necessity of Irish business to be at the forefront of eCommerce. While Irish online shopping is performing well in comparison to OECD countries (Department of Enterprise 2004) and European Union members (CSO 2008), there is an absence of information codifying optimal methods for displaying product information in online trading. This research addresses the gap in knowledge regarding optimal information presentation formats in online trading scenarios.

Within the context of supporting the consumer decision making process lies a body of knowledge discussing decision strategies which may be utilised, the formation of consumer consideration sets and research on how best to present product data to a consumer. Somewhat lacking is research into the applicability of these domains to electronic commerce systems despite the value they hold for practitioners. The research here proposes an investigation into the product data presentation structures which exist in many free, open source webstore software systems operating for many thousands of businesses. This research identifies the shortcomings of online consumer decision supporting systems in light of the functionality and attributes expected of the decision supporting aspects of these e-commerce systems, strategies which are appropriate to support the consumer purchasing environment and methods which may be suitable to deliver some of the benefits of decision support to the online consumer. Specific management and policy implications are presented.

Keywords: ecommerce, decision systems, data visualisation, decision strategies.

INTRODUCTION

There is a long tradition of studying and defining the consumer decision making process and the theory surrounding those cognitive processes and steps involved is well-established (1990; Roberts and Lattin 1991; Klenosky and Perkins 1992; Kardes, Kalyanaram et al. 1993; Andrews and Srinivasan 1995; Roberts and Lattin 1997; Bearden, Hardesty et al. 2001). Information systems research, through the label of decision support systems [DSS] has sought to clarify and support, decision making processes across a wide variety of decision situations (Desanctis and Gallupe 1987; Alavi and Joachimsthaler 1992; Crossland, Wynne et al. 1995; Barr and Sharda 1997; Chen and Lee 2002; Power 2007), including not least the consumer decision making process (Guttman, Moukas et al. 1998; Häubl and Trifts 2000; van

der Heijden, Verhagen et al. 2003; van der Heijden and Verhagen 2004; van der Heijden 2006).

Information systems are most useful when they remove or lessen the weaknesses of the human mind in terms of information processing capabilities, allowing for greater emphasis of human thought on more creative competencies. Information systems are best purposed to heavy computation and processing, relieving humans hindered by limitations of information processing (Todd and Benbasat 1992). Reduction of cognitive effort is seen as a valid goal of DSS development, indeed some research suggests that aiding a reduction in computational effort will incentivise decision makers not to avoid computationally intensive decision strategies (Kleinmuntz and Schkade 1993). This work seeks to elucidate the steps to a consumer purchase decision with a view to understanding how that decision can be supported by leveraging the competencies of information systems to match the methodologies or strategies employed by the decision maker.

Beach's (1993) image theory work views the selection of choice strategy as being dependent on, amongst other things, the repertoire of strategies known to the decision maker. Information systems, in this case taking the form of webstores, may be designed to support decision strategies appropriate to an online purchase decision. The value of such a support may accrue from improvement in the decision itself or by aiding a deeper analysis of the choices available through supporting strategies (Todd and Benbasat 1987). This paper discusses the antecedents of a purchase decision, the strategies which are appropriate to making that decision, current methods employed by webstores towards supporting the purchase decision and hypothesise how these methods support online consumer purchase decisions.

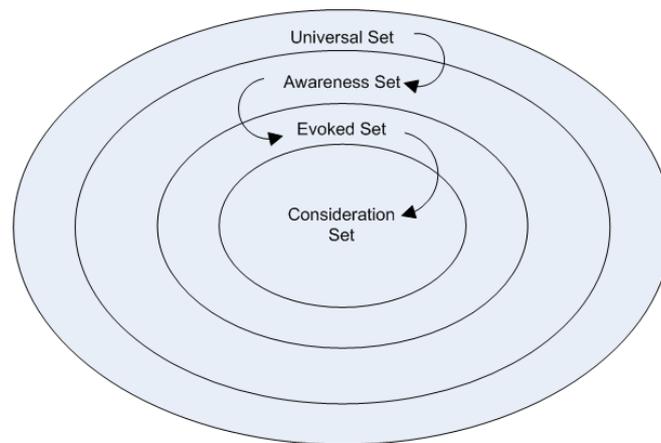
THEORETICAL BACKGROUND

The Consumer Purchase Decision Process

The consumer decision is a process of successive refinement of the set of brands evaluated (Roberts 1989) which can best be understood through "tiered levels of behaviour" (Roberts and Lattin 1997). These brands are evaluated from sets which can be structured logically to aid understanding. The super-set, that is all existing brands in the marketplace is referred to as the Universal Set (Kardes, Kalyanaram et al. 1993; Andrews and Srinivasan 1995). The consumer may not be aware of all of the brands in this set (Andrews and Srinivasan 1995), that sub-set of brands of which the consumer is aware is referred to as the Awareness Set (Nedungadi 1990; Roberts and Lattin 1991; Andrews and Srinivasan 1995; Roberts and Lattin 1997). As the name implies, it is a subset of the Universal set which a given consumer is aware of, though it does include those brands which the consumer becomes aware of during the purchase decision (Andrews and Srinivasan 1995). The set of brands which the consumer then proceeds to gather information on is referred to as the Evoked Set (Roberts 1989; Hauser and Wernerfelt 1990; Roberts and Lattin 1991). Roberts (1989) describes the Evoked Set as "the brands on which a consumer gathers information" and distinguishes it from the Consideration Set by describing the latter as the set of brands the consumer evaluates. The Awareness Set and Evoked Set have also been referred to collectively as the Retrieval Set (Kardes, Kalyanaram et al. 1993). The set which the consumer evaluates further from the Evoked Set is called the Consideration Set (Roberts 1989; Hauser and Wernerfelt 1990; Nedungadi 1990; Roberts and Lattin 1991; Kardes, Kalyanaram et al. 1993; Andrews

and Srinivasan 1995; Guttman, Moukas et al. 1998). The Choice is made from this final Consideration Set.

Figure 1 Diagram of decision process and set arrangement



Constructed from discussions in Roberts (1989) and Roberts & Lattin(1991)

There are a number of decisions made through the process described above. Consumers are generally unaware of the Universal Set because of cognitive limitations, complex choice tasks, evaluation and search costs (Andrews and Srinivasan 1995). Many authors support a two stage process for arriving at a consumption decision, the first being a heuristic screening decision followed by the purchase decision itself (Hauser and Wernerfelt 1990; Klenosky and Perkins 1992; Beach 1993; Kardes, Kalyanaram et al. 1993; Andrews and Srinivasan 1995). The earlier screening stage tends to employ simpler heuristic and non-compensatory strategies (Hauser and Wernerfelt 1990; Beach 1993). Considering the view of consumers as cognitive misers during the purchase decision, switching to less accurate non-compensatory strategies when faced with the larger sets makes sense (Kleinmuntz and Schkade 1993). Beach (1993) offers a definition of screening as a process governing the “admission of options to the choice set”. Beach proposed a theory, referred to as Image Theory, which frames choices as being made through any number of strategies, depending on the strategies known to the decision making consumer. Whereas the choice decision based on the Consideration Set may invoke many different strategies, the screening decision invokes just one – the non-compensatory compatibility test (Beach 1993). Further, Beach (1993) found that screening and choice decisions are seen as distinctly separate from each other and that decision makers do not bring information forward from the screening decision phase [Evoked set to Consideration set] to the choice decision phase [Consideration set to Choice] leaving the possibility of sub-optimal choices. This effect echoes what is the availability judgment error described by Chen and Lee (2002), also referred to as the recency effect where more weight is given to more recent events. Zhang (2004) found that the availability to decision makers of multiple preference formats increases decision makers’ satisfaction levels, implying that the support of multiple decision strategies by a system may aid in decision quality. Next follows an investigation of the decision strategies commonly employed in purchase decisions and how systems may be designed to support these strategies.

Consumer Decision Strategies

Decision strategies are employed to support decision makers in their goal of minimising cognitive effort involved in the choice while maximising the accuracy and quality of the

decision (Alavi and Joachimsthaler 1992; Todd and Benbasat 1999). Todd and Benbasat (1999), citing many empirical studies assert that effort influences strategy selection more than accuracy. People generally prefer strategies that do not induce computations and numeric value trade-offs (Slovic, Fischhoff et al. 1977). Kleinmuntz and Schkade (1993) suggest that this is because feedback to the decision maker regarding the effort expended is immediate while feedback on the accuracy or quality of the decision made is not. Kleinmuntz and Schkade (1993) refer to this trade-off between effort and accuracy as the cost-benefit perspective and posited that strategy selection can be influenced by the method used to display the information pertinent to the decision. Suggested variations on a systems information display include form [numerical, pictorial, verbal]; organisation [table, matrix, list, paragraph, hierarchical cluster]; and the sequence [random, ascending or descending on an attribute value, alphabetical, chronological] (Kleinmuntz and Schkade 1993). Thus, the reduction of decision maker effort is a valid target for researchers but supporting an increase of decision accuracy and quality is a more noble goal. Decision maker strategy selection can be influenced by the design of the information display, and the display may be designed to support decision strategies applicable to the problem domain. Indeed, Todd and Benbasat (1999) tell us that the best designs are those which make it easier for the decision maker to employ the best strategy. Zhang et al. (2004) found that exposing multiple formats to the decision makers increases the decision makers' satisfaction with the decision process. The authors further recommend that decision systems should provide a choice of functionalities to support preference formats (Zhang, Chen et al. 2004).

Early stages of decision processing involve relatively larger choice sets and tend towards comparison on one attribute and some rejection of alternatives. Latter stages involve weighing advantages and disadvantages of the reduced set (Slovic, Fischhoff et al. 1977). Roberts (1989) describes these two broad types of strategy, in his study of consideration set formulation, as conjunctive when the test is one of sufficient acceptability and compensatory when the test is one of sufficient utility, Acceptability being a threshold measure and Utility being a more processing intensive function of weighted attribute importance and attribute quantity (Todd and Benbasat 1999). Thusly, the secondary stage deals with a relatively smaller set and lends itself to the usage of strategies more onerous as regards processing, compensatory strategies, whereas the primary stage deals with a larger set and lends itself to the usage of strategies which reduce the set without onerous processing, conjunctive strategies. Research suggests that decision quality is improved when more compensatory strategies are employed (Todd and Benbasat 1992; Häubl and Trifts 2000).

In order to understand current practices in helping online consumers make purchase decisions and to understand what kind of decision strategies are commonly supported in online shopping environments, the authors examined online store software and a number of popular online stores.

Decision Quality

Decision quality is often seen as the result of the trade-off between decision accuracy and cognitive effort in that an accurate decision is seen as a quality decision (Raghunathan 1999; Speier and Morris 2003; van der Heijden 2006). It is often implemented by measuring deviation from the norm, i.e. utility or value maximisation (Todd and Benbasat 1992), indeed Barr and Sharda (1997) used value maximisation as an indicator of decision quality by measuring net earnings, return on investment, market share and return on assets. Decision qualities' empirical measurement is typically achieved through the loading of the subject system with *dominated* and nondominated alternatives, best elucidated by Häubl and Trifts

(2000), “An alternative is dominated if there is at least one other alternative that is superior on at least one attribute while not being inferior on any attribute. That is, a dominated alternative is known to be within the efficient frontier of any consumer. By contrast, an alternative is *nondominated* if no other alternative is superior on an attribute without, at the same time, being inferior on at least one other attribute.” Thusly, preferences shown by the subject for nondominated alternatives indicate poor decision quality (Häubl and Trifts 2000; van der Heijden 2006).

Decision support in the wild

An examination of convenient samples of open source ecommerce supporting software was conducted to determine the support available for compensatory and conjunctive decision strategies. The decision-aiding functionality found were various implementations of sort, search, filter, and view mechanisms. The open source webshop software examined were: Magento; OpenCart; OSCommerce; OSCSS; PrestaShop; Zen-cart; VirtueMart; CubeCart; Quick Cart Lite; UberCart and Satchmo. Open source systems were chosen for convenience; their wide popularity and availability to SMEs and the ability of the researchers to modify the software to suit further experiments should the need arise. The systems were surveyed for the presence or absence of functionality to aid in decision making as in Table 1.1. Although the measures below for number of websites is a tentative one and useful mostly for comparison, undoubtedly these systems are being used on a large scale for numerous ecommerce businesses.

Table 1.1 Decision aiding abilities of common open source ecommerce software

Software ('No. of websites')	View			Sort		Filter	Search		
	Tiled	List	Paragraph	Name	Price	Price	Brands	Keyword	Price
Magento (19,900)	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
OpenCart (10,600)	Yes							Yes	
OSCommerce (8,690,000)	Yes			Yes	Yes		Yes	Yes	Yes
OSCSS (5,340)			Yes				Yes	Yes	Yes
PrestaShop (74,500)			Yes	Yes	Yes		Yes	Yes	
Zen-cart (2,490,000)		Yes		Yes	Yes		Yes	Yes	
VirtueMart (397,000)	Yes		Yes	Yes	Yes		Yes	Yes	
CubeCart (2,730,000)		Yes	Yes	Yes	Yes	Yes		Yes	
Quick Cart (472,000)	Yes		Yes				Yes	Yes	
UberCart (82,400)	Yes	Yes		Yes	Yes			Yes	
Satchmo (245)	Yes		Yes					Yes	

Note: 'Popularity' represents the number of search results returned in Google.com for “Powered by’ Software name”.

Figure 2 Viewing configurations



Left to right, Tile, Paragraph and List product viewing configurations

The organisation of data into structures or groups affects information acquisition (Kleinmuntz and Schkade 1993). Kleinmuntz gives examples such as tables, matrices, lists, paragraphs or hierarchical clusters as data structures. The common structures found in webstore software, as diagrammed in Figure 2 above, are lists, where the product data are structured in one row per product; tiles, where the product data is shown in one block per product usually in a three-by-many configuration [three tiles across a screen by x number as one scrolls down]; and paragraph, where product data is shown on multiple lines forming a paragraph per product, effectively a one-by-many configuration. Comparisons are enabled here only by the list structure, and then only when attributes are displayed in aligned columns to form a matrix table. This particular type of list is similar to what Häubl and Trifts (2000) call a comparison matrix, however some do not also have attribute sorting abilities. Thusly, viewing the product catalogue via a list structure can be seen as supporting compensatory strategies more than conjunctive strategies.

Searching and Filtering

Searching reduces a set of alternatives by excluding alternatives and returning a subset. It is thusly a conjunctive strategy. Constraint-based filtering (Guttman, Moukas et al. 1998) appears to be the filtering method observed in webstore software. Searching and Filtering are distinct attributes of decision supporting systems (Holsapple and Whinston 1996). Filtering is conceptually similar to searching in that it results in a sub-set of alternatives and supports conjunctive strategies.

In the majority, the systems studied returned search results in the same configuration [i.e. Tiles, Paragraphs or Lists] as for browsing the product catalogue. Viewing a product catalogue or indeed the result of a search or filtered results as line items should support a better and/or faster purchase decision than viewing the same data in tiled or paragraphed structures because lists are more amenable to comparison.

The question follows as to whether viewing product catalogue information via a tile configuration, a paragraph configuration or a list configuration supports a consumer purchase decision. Considering that it appears to be easier to compare product data in the list configuration leads to the following proposition:

Proposition 1: Product catalogues structured in list format support better and/or faster decision making than product catalogues in tiled or paragraph formats.

Sorting

Sorting is a discrete information processing task (Häubl and Trifts 2000). It is a decision-supporting function (van der Heijden 2006). The ability to sort increases a decision makers' ability to identify, and thus avoid, sub-optimal choices. The ability to sort helps a decision maker determine the relative utility of the alternatives (Häubl and Trifts 2000). Thusly, sorting can be seen as supporting compensatory strategies more than conjunctive strategies.

As discussed above, it is proposed that viewing product catalogue information or search results or filtered results in the list configuration should support the consumer purchase decision. It also follows that, if the product catalogue, search results or filtered results are also sortable a better and/or faster decision may arise. Thus the following proposition arises:

Proposition 2: List configuration which are sortable support better and/or faster decision making than list configurations which are not sortable.

RESEARCH METHODOLOGY

Decision makers tend to use strategies which are enabled by the display format (Häubl and Trifts 2000). It follows that, depending on what display format the product information is presented to the decision maker in, different strategies influencing the decision process are supported and encouraged. Therefore, there are a number of different ways in which the data display format can affect the decision-making process and its outcome. These affects warrant investigation: the impact of product data display format on strategies and decision quality; the impact of search and filtering on the decision process; the impact of sorting capability; and the combinations of each of these. These overarching questions present a structure for this research through a sequence of experiments as follows:

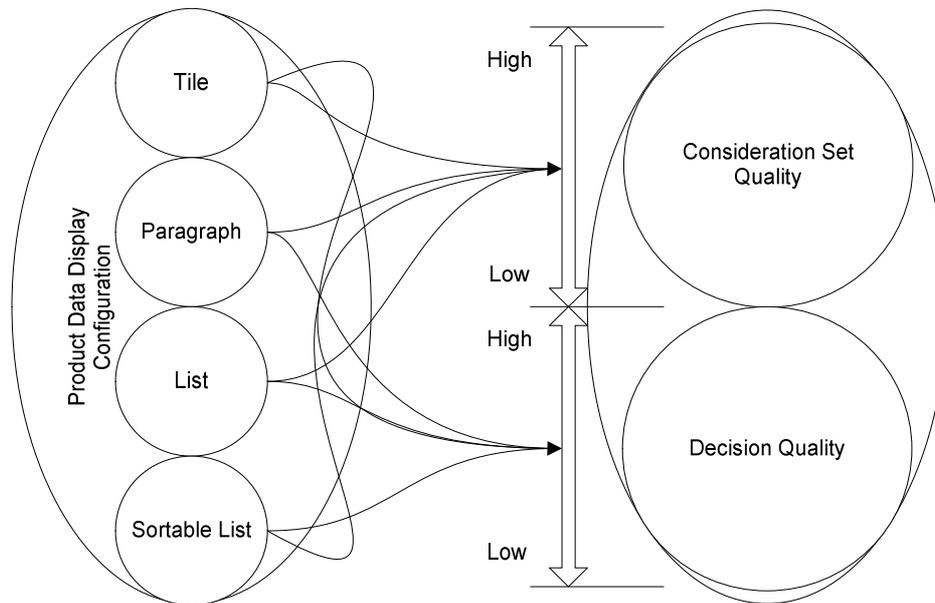
Experiment 1: To investigate the affects of search and filter mechanisms on the quality of the derived consideration set and subsequent purchase decision when the search and filter results display format is manipulated as displaying results via tiles, paragraphs or lists.

Experiment 2: To investigate the affects of product catalogue sorting and search and filter result sorting on the quality of the derived consideration set and subsequent purchase decision.

Experiment 3: To investigate the affects of nested sorting by product attributes on the quality of the derived consideration set and subsequent purchase decision.

However, this paper concentrates on an investigation of the affect display format itself and propose a pilot study via controlled experiment to test the two hypotheses advanced above. The task shall consist of the selection and choice of an MP3 player from a webstore created specifically for the experiment. The manipulated factors proposed are Tile configuration [Yes/No]; Paragraph configuration [Yes/No]; List configuration [Yes/No]; Sortable list configuration [Yes/No]. The proposed model is diagrammed in figure 3 presented below. The webstore shall be stocked with MP3 players in such a way that the choices made by the subjects can be independently deemed to be good or bad decisions regardless of the subjects preferences. This is achieved by constructing dominated and non-dominated alternatives, as described previously.

Figure 3 Product data display configurations influence on consideration set and decision quality



It is proposed that subjects be randomly assigned to each of the four conditions. Instructions include the stipulation to use the systems' shopping cart to hold their preferred products before making the final, single choice. Decision quality will be inferred from the number of dominated alternatives which appear in the subjects shopping cart. The time taken to complete the process shall also be recorded. It is proposed to draw the sample from a number of different graduate programmes in a university. Many other studies in commerce and information systems have utilised students as representative of the Internet using population (Ives, Olson et al. 1983; Ahuja, Gupta et al. 2003; Negasha, Ryan et al. 2003; van Iwaarden, Wiele et al. 2004; Lee and Kozar 2006). Aladwani and Palvia (2002) administered a 55-item instrument to 104 students between 18 and 21 years old. Palmer (2002) conducted his survey with 35 undergraduate and MBA students. Garrity et al., (2005) argued for the use of students as an appropriate sample, stating their place as present and future consumers of web technology. This suggests a sample composed of university students may be representative of the wider population of e-commerce consumers and would be appropriate for this research.

EXPECTATIONS

It is expected the results will indicate that product data viewed in configurations which support comparisons to produce better quality consideration sets and better quality decision making. As such, it is anticipated that the results of the experiment will support the use of the list configurations as a dominant factor in the production of higher quality consideration sets and thus higher quality product choice. It is further expected that the sortable list configuration will support higher quality consideration sets than the standard list configuration. While it is expected that the list configurations will be the better decision-aiding product data views in their ability to support data point comparisons, it is also expected that the subjects using systems with list and sortable list display configurations will also make at least as good or better decisions as the subjects using the tile and paragraph configurations but in a shorter period of time. The model predicts that the subjects with the

sortable list configuration will attain the highest quality consideration set of any of the subjects groups.

The results of this research will be applicable to many ecommerce systems, in particular to the numerous websites that are using the systems referred to in this paper. Many of those systems have built-in features or customisable code which can be used to make the product catalogue or search results return in either tile, paragraph or list configurations. It is expected that the results of this research will make it easier for practitioners to decide what display configuration is appropriate at what stages of the consumer decision process.

SPECIFIC MANAGEMENT & POLICY IMPLICATIONS

The layout of product information is a concern for web based ecommerce. This research seeks to address this gap and provide managers of online shopping systems with the tools to structure their product offerings in a way which will enable and encourage better decision making by consumers. Though outside the scope of this paper, there is some research investigating the effect of ecommerce systems and decision performance on behavioural intentions. These include the intention of a customer to use the ecommerce system, then intention to return a measure of loyalty and the intention to purchase. This research takes a step towards expanding the knowledge of management on these influences by focussing on the effect of product information layout on decision performance.

The product information layout predicted as the most advantageous by this research is the table approach where alternatives and attributes are presented in tabular form. Prior to Internet commerce, these formats were relegated to specific industry publications such as Consumer Reports (Todd and Benbasat 1999) and some authors argued that formats which support decision making in this way should be encouraged through policy (Bettman and Zins 1979). The development of such policy best practice scenarios for Irish SMEs involved in ecommerce may go some way to encouraging confidence among SMEs in their online trading ability.

Department of Enterprise, Trade and Employment eBusiness Strategy reports (2004; 2006) acknowledge a need for Irish business to be in the vanguard of online trading. Developing and expanding our collective knowledge of decision processes and technologies which can be leveraged to assist the consumer in online trading scenarios and disseminating an understanding of online trading to management of SMEs involved in online trading is a well-grounded direction for research in this context.

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SUSTAINING COMMUNITIES

LINKING RESEARCH AND POLICY: ASSESSING A FRAMEWORK FOR ORGANIC AGRICULTURAL SUPPORT IN IRELAND

Leslie A. Duram, Department of Geography, National University Ireland, Galway
Daniel Clavin, Teagasc Mellows Development Centre, Athenry, Co. Galway, Ireland
Shauna M. Bloom, Department of Geography, University of Guelph, Guelph, Ontario, Canada

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ABSTRACT

This paper links social science research and agricultural policy through an analysis of support for organic agriculture and food. Globally, sales of organic food have experienced 20% annual increases for the past two decades, and represent the fastest growing segment of the grocery market. Although consumer interest has increased, farmers are not keeping up with demand. This is partly due to a lack of political support provided to farmers in their transition from conventional to organic production. Support policies vary by country and in some nations, such as the US, vary by state/province. There have been few attempts to document the types of support currently in place. This research draws on an existing Framework tool to investigate regionally specific and relevant policy support available to organic farmers in Ireland. This exploratory study develops a case study of Ireland within the framework of ten key categories of organic agricultural support: leadership, policy, research, technical support, financial support, marketing and promotion, education and information, consumer issues, inter-agency activities, and future developments. Data from the Irish Department of Agriculture, Fisheries and Food, the Irish Agriculture and Food Development Authority (Teagasc), and other governmental and semi-governmental agencies provide the basis for an assessment of support in each category. Assessments are based on the number of activities, availability of information to farmers, and attention from governmental personnel for each of the ten categories. This policy framework is a valuable tool for farmers, researchers, state agencies, and citizen groups seeking to document existing types of organic agricultural support and discover policy areas which deserve more attention.

KEYWORDS: organic agriculture, organic farmers, agricultural policy, information

INTRODUCTION

Organic farming is a method of producing crops without the use of synthetic pesticides and fertilizers. It involves a conversion period of 2 to 3 years, annual inspections, certification and distinct marketing channels (EU, 2009; EC 1991; USDA, 2009; Duram 2009). Both US and EU markets for organic products have grown significantly in recent decades (Dimitri and Oberholtzer, 2005). Organic production has been growing, as farmers realize the opportunities for organic crops and livestock (Greene, 2001; Greene 2004). Indeed the ecological benefits of organic crops are apparent in numerous research (Altieri, 1995; Mäder et al., 2002; Bengtsson et al., 2005).

Organic Agriculture in Ireland

In Ireland, the Programme for Government notes a plan to convert a minimum 5% of acreage to organic farmland by 2012. The Organic Farming Action Plan 2008-2012 was developed by a steering committee led by the Department of Agriculture, Fisheries and Food (DAFF) and includes four main goals: increase organic production to keep pace with consumer demand; increase information and training; develop organic markets; and increase public procurements of organic products. There are 4 key main objectives and over 60 actions listed in the plan, so it is comprehensive and far-reaching (Department of Agriculture 2009).

Indeed this action plan is necessary because of the significant strides needed to reach the government's goal of 5%-- currently only 1.2% of utilizable agricultural land is in organic production. Thus, in two years time, this land use must increase four-fold. There is clearly demand for such increases, as an estimated 75% of organic produce is imported to Ireland.

As we look to the future, the key issues in encouraging farmers to shift from conventional to organic methods include information, training, and assistance—in unison, this is called 'state support.'

Linking Social Science and Policy

Most relevant for the Irish Social Science Platform Annual Conference is the context within which we address this specific policy issue. Building on the notion of action research in organic food (Helmfrid et al 2008) we investigate organic agricultural policy through the various types of support for organic farmers. As noted in the conference call, social science research has the capacity to inform policy makers, if the two groups can communicate effectively. Meeting the goals of this conference, then, our paper seeks to "suggest ways in which the use of social science research in policy making might be improved through the sharing of information, ideas and perspectives" (ISSP-NUIG 2009)

SUPPORT FOR ORGANIC FARMING

Farmers are faced with significant obstacles when converting to organic agricultural methods: cost and risk associated with changing to a new way of farming, finding ways to market specialized products, and obtaining relevant information and technological support (Greene and Kremen, 2003). Farmers have various motivation for converting to organic, and these reasons vary spatially and temporally (Padel 2008). Particularly because organic farming is based on diversification and market niches, decisions are fully in the hands of independent farmers (Beus and Dunlop, 1990; Ikerd, 2001). Major barriers facing organic farmers include lack of stable markets, and lack of organic farming research information (Duram, 1999). In the US, particularly, other challenges farmers face include an inability to receive crop insurance, lower subsidy payments because of diversified crops, lack of access to allowable inputs, and not receiving premium prices for the three year transition period (Walz, 1999). Additionally, many of the potential social and environmental benefits provided by organic production methods remain unrewarded governmental programs, which are often only available for a short timeframe or which may be at the political will of any given administration (Lampkin and Padel, 1994; Lotter, 2003).

In order to provide relevant support to organic farmers, it is necessary to understand their personal characteristics and decision-making influences, which are both complex and individualized (Lockeretz, 1997; Hanson, 2004). Organic farmers are willing to accept new ideas, enjoy the challenges that organic farming offers and the job satisfaction it provides, and more actively seek information sources (McCann et. al., 1997; Duram, 2005). Organic farming does not fit the classic model of diffusion/adoption, but has moved more slowly because organic farmers must develop new techniques and share information among themselves (Padel, 2001). In fact, farmers who quit farming organically often do so because they lack marketing support and information sources (Rigby et al., 2001).

Organic farmers rank “lack of information and personal experience” as a significant challenge to converting to organic production methods (Walz, 1999). Furthermore, Lockeretz (1997) found that farmers who use little or no chemicals need more information in order to implement these alternative production practices. Organic farmers receive information from a wide variety of sources. Some of these sources are similar to the sources used by conventional farmers, but many others are not. Organic farmers rely less on public sources of information than private sources, like other farmers, certifying agents, input suppliers, books, and group activities (Walz, 1999; Duram and Larson, 2001; Lohr and Park, 2003, Hanson et al. 2004). Public agencies, such as state departments of agriculture and extension services should use this to their advantage to create information networks and catalog information sources for farmers in a particular region (Lohr and Park, 2003). Many organic farmers preferred workshops over publications and field days and organic farmers are very interested in a long-term study on organic production methods specific to local conditions (Delate and Dewitt, 2004).

In 1997, a survey conducted by the Organic Farming Research Foundation (OFRF) found that organic farmers found most conventional extension agents to be a barrier to production rather than a useful source of information. Indeed, there is a close attitudinal alignment between government extension agents and conventional farmers (Egri, 1999). This can hinder the ability of conventional extension agents to give sound advice to organic farmers. In a study by Duram and Larson (2001) organic farmers ranked state departments of agriculture and the USDA as the least used sources of information. The study found that organic farmers use few, if any, government sources of information.

Government support of organic agriculture in the United States has mostly been limited to creating a national standard for certification. The USDA and some states are starting programs that are geared toward providing information about farming organically, but there is still a lack of technical support provided to organic growers by all levels of government in the US (Scowcroft and Lipson, 2001). Despite the fact that organic research is increasing, there is still a discrepancy in the proportion of acres dedicated to certified organic research and the number of acres farmed organically in the United States (Lipson, 1997; Sooby, 2003). The Sustainable Agriculture Research and Education (SARE) program is part of the USDA and responsible for developing and supporting sustainable agriculture. As recent as 2003, only 19 percent of the SARE projects had organic research components (Greene and Kremen, 2003). Certified organic research is minimal at land grant universities as well. Organic research only makes up 0.02 percent of the total research done through the land grant system (Sooby, 2003).

Overall, then, organic farmers need relevant, regionally specific information and assistance, but this support appears to be lacking.

Method of Analysis

This paper draws on previous research by Bloom and Duram (2007) which presented a framework for state support of organic agriculture in the US. This support framework was initially developed and tested in the US, in the two Mid-western farm states of Illinois and Minnesota.

Here, as an exploratory study, this research builds a case study of Ireland and then tests the applicability of the Support Framework to the Irish example. First, the framework will be described and generalized, then the various components to support for certified organic farmers in Ireland will be delineated. This study is preliminary, as the Irish example is currently in flux: the Organic Scheme has been put on hold and will be reintroduced in early 2010.

Components of the Organic Support Framework

The Support Framework is comprised of ten main categories (Table 1). The first category is leadership, which is comprised of a mission statement, vision, and goals that encourage organic agriculture. These goals can be established by the Minister, governor, legislature, state level agencies, or university researchers. Another factor within this category is the presence of an advisory board, which typically includes people from all segments of the organic agriculture industry. The final component within the leadership category is an inter-agency agreement to promote organic agriculture.

The second main category in the framework is policy, which includes state statutes and rules related to organic agriculture, as well as enforcement of these rules. This includes monitoring national and international organic policies and observing of the status of organic farming within the state. The existence of an approved state organic program and certification accreditation provides the state with the authority to enforce the production and certification requirements of the governing body. (For example, in the United States, the USDA's National Organic Standards Program oversees certification; state organic programs and accreditation comes from the USDA's Organic Program, but such activities are voluntary--states are not required to participate in either program).

The third major assessment category is research, which can be undertaken by several state-level organizations. In the US, the main entities conducting agriculture research is the university land grant and extension system. Most state-level agriculture agencies such as the state department of agriculture, USDA's Natural Resources Conservation Service, and other agencies have the opportunity to participate in various forms of organic research by providing funding, organizing farmer participation, or seeking on-farm experiments. Research is often initiated and carried out by farmers themselves or non-governmental organizations. A comprehensive research program should be built on a network of public agencies and non-governmental agencies, but must be farmer-driven, so the results are relevant to their on-farm demands.

The fourth main category is technical support, which has six sub-categories. The first is state department of agriculture personnel with duties specifically addressing organic agriculture. Other areas include assistance to growers in evaluating organic as a production option, risk management issues, developing sound business practices, and whole farm planning to manage pests, weeds, crop rotations, and soil building. Technical assistance also includes

helping farmers through the three-year transition period as they shift from conventional to organic production methods. Technical assistance includes training all county level agriculture offices on organic farming methods. Finally, dealing with pesticide drift prevention and mediation is also part of technical assistance for organic farmers.

The fifth category is financial support. This support can come in the form of cost-share programs for certification and transitional periods. It also includes loan and insurance assistance, because many organic farmers do not qualify for the typical conventional programs.

The sixth category is marketing and promotion, with an emphasis on linking growers and processors, as well as growers and consumers. This can be done by facilitating joint marketing ventures and production contracts, hosting tradeshow, studying consumer demand and preferences, and creating databases of growers, processors, and distributors. Farmers may need assistance in developing their own marketing strategies and making connections locally, regionally and even globally.

The seventh category is education and information sources. This includes educating conventional farmers on the benefits and opportunities for conversion, and educating current organic producers about new production methods. This is often accomplished through websites, workshops, courses, demo sites, and written materials. It could be in the form of a mentor program that connects new organic producers with more experienced producers or a comprehensive information network. Information on certification can come in many forms, including internet sources, but should include a list of accredited certifiers in the state.

The eighth category is consumer issues, which can include informing consumers about the benefits of organically produced food and providing information about where to purchase organic food. The consumer issues are closely related to marketing programs.

The ninth category addresses inter-agency activities. Non-governmental organizations (NGOs) play an active role in the organic agricultural sector within some states. Many organizations work closely with state agencies and universities to conduct research and educate consumers. The focus of this category is the interaction of the state departments of agriculture with other agencies and NGOs within the state. This category also includes the grant funding that state departments of agriculture provide to other organizations to conduct research and develop new programs for organic agriculture. There may also be resources provided to organic growers and consumers from agencies other than the state department of agriculture.

The tenth category assesses plans for future organic agricultural initiatives. This is open to a variety of activities a state is planning to implement, but either has not received funding or has not progressed for other political reasons.

Overall, then, this assessment framework details the comprehensive activities that could be undertaken to support organic agriculture. This framework may be used to compare the level of support in different regions, to determine areas for expansion, and to encourage policy makers to target necessary programs.

CASE STUDY OF IRELAND

In order to test the efficacy of the Support Framework to Ireland and investigate the links between social science research and public policy, this analysis was conducted in unison between a University researcher (NUIG Geography) and an Advisory Specialist from Teagasc (the Irish Food and Agricultural Development Authority). By tapping into various experts on Irish organic agriculture and food, the following application of the framework was possible.

Leadership. The first category of support is leadership. Here the Minister of Food and Horticulture, at the Department of Agriculture, Fisheries and food, Mr. Trevor Sargent T.D., has been an influence. His guidance and emphasis on the organic sector have clearly influenced activities across the country. The National Steering Group for the Organic Sector is comprised of 29 experts from various backgrounds in the agriculture, food and business sectors. They developed the Organic Farming Action Plan (2008-2012) which presents a comprehensive set of goals and actions to promote organic agriculture in Ireland. The four objectives are: increase organic production to keep pace with consumer demand; increase information and training; develop organic markets; and increase public procurements of organic products. There are over 60 specific tasks listed in the plan, with the relevant agency indicated that will take the Lead Role and Supporting Role in following through on the actions. Further, the Actions are all delineated as short or medium term goals, which prioritizes and synchronizes the various activities (Department of Agriculture 2009). In July 2009, Minister Trevor Sargent announced the formation of Forás Orgánach, a new group established to drive forward the development of the organic sector in Ireland. Forás Orgánach replaces the National Steering Group for the Organic Sector which recently completed its second three-year term.

Also in terms of leadership, the Memorandum there is a high level of inter-agency activity and sharing of organic agricultural activities. Specifically, DAFF, Teagasc, and Bord Bia are the lead agencies and semi-governmental organizations that work in unison to support organic farming in Ireland.

Policy. In the Irish context, European Union regulations are the overarching rules. Specifically, EEC No 2092/91 and Council Regulation 1804/99 provide clear rules governing the production of organic food. There are detailed requirements for agricultural products that can be labeled 'organic' and the rules define the methods of production, the labeling, processing, inspection and marketing of organic products in EU countries (as well as the importation of organic production into EU countries). In Ireland, DAFF oversees the organic sector and ensures that the EU regulations are met. This national and international synchronization is a key component of the policy category. The EU allows for member states to use private inspection bodies to certify organic production and processing and in Ireland there are two main bodies for food and livestock: the Irish Organic Farmers and Growers Association (IOFGA) and the Organic Trust Ltd. At the current time, Irish agricultural policy is in flux as the Rural Environment Protection Scheme (REPS) was closed to new applicants and the Organic Scheme is on hold until early 2010.

Research. There is no college degree in organic agriculture in Ireland, although students could study general agriculture and take courses on organic methods at a few locations. There is relatively little university based research into organic farming in Ireland. Instead, Teagasc assumes that role and often teams up with university personnel. There are few grants

for research, other than the joint projects with Teagasc. Farmer initiated research is independent and can be very useful, as seen in the US (Duram 2005) but this type of research is not funded through the Irish government at this time. There are three Teagasc research centres (in Athenry, Wexford and Carlow) which carry out various research projects on state owned and leased land. These projects are used in conjunction with training and courses offered on organic methods. Future plans indicate that Teagasc will be conducting more on-farm research projects located on active organic farms.

Technical Support. There are several components to technical support. First, is the presence of four organic specialists from Teagasc in Ireland; distributed across the country. Second is the role of certification agencies in informing farmers about the certification process; here IOFGA and the Organic Trust play a role. Third, is helping farmers evaluate the option of organic conversion; this is accomplished through Teagasc local advisors and private agricultural consultants, although this complicated by the fact that farmers may have to pay for their services. Still advisors and consultants typically assist conventional farmers on environmental topics and they can then mention organic methods as an option. Next, once a farmer is interested, the advisor or consultant can help them develop a conversion and/or business plan. Fifth, transition programs assist farmers during the conversion process. Sixth, training is a key component of support and this is a focus area for Teagasc, which runs six courses at various locations around the country, several times a year. The courses are: 1) Introduction to Organic farming; 2) Organic Drystock production; 3) organic Crop production; 4) Organic Dairying; and 5) Introduction to Organic Poultry Production. Training also includes the day to day assistance of farmers by the various Teagasc personnel, the on-farm tours and open days, Farm Walks and other events to showcase existing organic farms.

Teagasc staff work to assist farmers develop specific farm plans to address pest and soil building. Pesticide drift has not been addressed with buffer areas in Ireland, although split conventional/organic operations must produce different crops using the various methods.

Financial Support. The financial support for organic farmers in Ireland has been quite significant. The Organic Scheme has been on hold until January 2010, but it should continue along similar lines. Funds are provided for the 2 year conversion: €212 per hectare for farms 3 to 55 ha, this is reduced to €106 per ha for years 3-5. Rates are lower from larger land holding. Still this indicates significant monetary support for organic farmers. Certification costs are not covered in grant funding. There are important grants available to farmers for equipment, buildings, and off-farm investments necessary in the production shift to organic methods, although these grand are currently suspended. There are no specific loan programs available to organic farmers in Ireland, which can be a concern. Specifically because their production techniques require some land be left in fallow (ley), banks sometimes view this as non-productive land use and would be less likely to grant a loan. Insurance is offered only as is provided to conventional Irish growers

Marketing and Promotion. From an international perspective, the EU takes the initial step in promoting organic products with its 'Good for Nature, Good for You' slogan on their agriculture website for organics. This unified slogan has been very beneficial to organic markets in Ireland, as it provides a deep reason to purchase organic products, that supercedes price concerns (Bourke 2009). In Ireland, Bord Bia is the primary agency responsible for the promotion and marketing of food, and thus organic food. In recent years, Bord Bia has focused on promoting an annual Organic Week, which showcases these foods and draws attention to local markets.

Bord Bia also conducts research on consumer demand and preferences. For example the comprehensive “Ethics, Emotions and Organic Food” report from October 2008, which surveyed 1,000 shoppers about their attitudes toward organic food. Interestingly, this research found a group of committed ‘core buyers’ who buy organic frequently, particularly vegetables, fruits and yogurt. These shoppers are willing to pay an additional 10% price premium over conventional food (Bord Bia 2008). (Note this is down from the 20% noted in 2000.) There is representation at trade shows, notably for the first time in 2009 Bord Bia exhibited a full display of organic food at the BIOFACH, organic trade fair in Nuremberg, Germany. BioFach is the world’s largest global organic event with over 46,000 trade visitors from 130 countries.

A distributor listing of organic processors is held by IOFCA, but not by the DAFF, which may make contacting these distributors a bit challenging. On the other hand, Bord Bia states that they will do any sort of market development when requested. Finally, in terms of domestic market development, Bord Bia has initiated an innovative program to educate children about fruits and vegetables: incredibleedibles.ie. An information packet was sent to all National schools with information, a DVD, and a kit to begin a school garden; fully 2/3 of schools have begun to implement this program. This will lead to future vegetable shoppers in upcoming generations.

Education and Information. Most of the specific subcategories for support in this area are accomplished by Teagasc and the DAFF, which some assistance from the certification bodies and NGOs. Notably, workshops, courses and Farm Walks are all part of the Teagasc organic activities accomplished by their four Organic Specialists (as noted above). Specifically, the internet is a significant source of information on organic agriculture, with the following websites of crucial importance:

1. Department of Agriculture, Fisheries and Food, ‘Organic Farming’/ An Roinn Talmhaíochta, Iascaigh & Bia: <http://www.agriculture.gov.ie/organics/>
2. Teagasc/ Irish Agriculture and Food Development Authority. ‘Organic Farming’ <http://www.teagasc.ie/topics/organicfarming/>
3. Bord Bia/ Irish Food Authority. www.bordbia.ie
4. And specifically for organic food: <http://www.bordbia.ie/aboutfood/organicfood/Pages/OrganicFood.aspx>

On the DAFF Homepage, organic farming is mentioned once, at the bottom under ‘Rural Environment’ which may be a bit hidden for farmers seeking information. Indeed it emphasizes the funding aspect of organic agriculture, but deemphasizes the business aspects of production. On the Teagasc website, however, there is no information on organics on the initial Homepage, rather one must intentionally seek out the term ‘organic farming’ from the pull-down menu of ‘Topics.’ This could be remedied to make organic information more prominent on the webpage. On the Bord Bia Homepage, several things draw attention to organic foods. First, there is a colorful graphic announcing the ‘Organic Gardening for Primary Schools’ program which notes that teachers and pupils can plan, build, develop and maintain a school garden using organic principles. In addition, the National Organic Awards are presented as a Press Release, and National Organic Week is noted, all of which draw attention to organic food.

In addition, the certification agencies and NGOs have important websites for educating providing information on organics:

1. Irish Organic Farmers and Growers Association Ltd. www.irishorganic.ie
2. Organic Trust Ltd. www.organic-trust.org/
3. The Organic Centre www.theorganiccentre.ie

The Organic Centre promotes “organic gardening and sustainable living through training, demonstration and the provision of information” (Organic Center 2009). Drumcollogher, Organic College in Limerick, An t-Ionad Glas, is a private school offers initial advice and one-day courses in organic gardening, featuring tours of their organic gardens (An t-Ionad Glas 2009).

Future. There are significant goals to advance organic farming in Ireland: indeed 5% of utilizable agricultural land is to be in organic production within three years. Such a steep increase presents a huge challenge. Yet, with the current strategic plan, support from the Minister and government attention to organic farming, we can assume the future should be bright. There is media attention and a popularity or trendiness among some shoppers. On the other hand, the economic recession is a great unknown factor, which could influence consumers for several years. Even if demand remains high, the issue of supply is of concern. The number of organic farmers in Ireland remains low and the percentage land area is very low among EU nations. There have been more applications for certification in the past year, which may indicate a new trend in production. Still there is a huge need and growing demand for organic production—particularly cereals. In addition to domestic markets, there is a huge market potential in the UK, where organic demand remains high and consumer research indicates the existence of a very positive image of Irish food products.

CONCLUSION

Based on this paper, a few things become apparent regarding the case study of Ireland. Strong support in the leadership and policy categories creates an atmosphere of encouragement for government agency and semi-governmental personnel. When political power and will recognize that organic agriculture is an important goal, this encourages and provides opportunities to agricultural professionals to create more organic farming programs. Further, the impetus for initiating support often occurs when environmentalists, consumers and businesses come forward and make their needs known to government, the department of agriculture, and extension services.

Another important facet of support is the interaction, collaboration, and networking that exists between agricultural professionals, businesses, researchers, and some organic farmers. This leads to support that is tailored to the current and ever-changing needs of the organic industry. In this enabling environment, agriculture professionals who are interested in organic agriculture can make it more of a priority and create more opportunities for farmer support. It is important that agriculture professionals and organic advisory boards continually monitor the needs of the organic industry and adjust support accordingly. Incorporating farmers in the decision-making process ensures that their needs are addressed and provides most effective support.

Determining types of support to be provided to organic producers can be difficult for agriculture professionals because the needs of organic farmers are very different from conventional farmers. The assessment framework developed here provides a useful tool for determining what support exists within a state and what areas need improvement. It can also

be used as a mechanism for sharing ideas among agencies and improving the overall acceptance of organic agriculture.

Future research paths include fine-tuning the framework, through analysis of Irish data, and continued collaboration among researchers and the public sector. First, the framework could be edited and additional categories may be deemed necessary. This Case Study simply uses the framework to bring together and create a thorough listing of organic farming support (organized into categories and subcategories). Since it was developed to be useful across many regions and this is preliminary research on Ireland, it remains as general as possible. However, future research, based on long term trends in Ireland could indicate the need to alter of the framework more comprehensively. In addition, further analysis could assist in development of a “weighting” system with scores given in particular categories of support. And if there is a specific goal in mind, or specific needs in one region, this assessment tool could incorporate that into a scoring system.

Second, this assessment tool is broadly applicable and could be utilized to guide Irish policy and actions in the future. If the Support Framework was updated and tailored for a specific regions, researchers may analyze data within the framework categories to discover areas that need further research attention. Agency personnel could use this assessment tool to determine activities and policies that need implementation. Citizens and NGOs may monitor the availability of organic activities in their area.

Third, the situation in Ireland is currently in flux as REPS has closed to new applicants and the new Organic Scheme was unveiled in January 2010. With these new rules, farmers and agricultural advisors are working to implement the new programs. After a time, researchers will be able to analyze the effect of the programmatic changes on the conversion to organic methods. This will provide an even richer context for additional research based on categories in the framework.

Fourth, it appears that overall the support for organic agriculture in Ireland is in place, but more needs to be done to reach farmers and encourage them to convert to organic methods. A significant barrier seems to be farmers’ negative perceptions of organic and their concern that organic conversion is too difficult and outside the norm of agriculture. Possible actions include: fine-tuning information sources to meet farmers’ needs and expectations; and addressing the social stigma of organic production among many conventional farmers. Clearly there is room and in fact, a need, for social science research to inform the situation and stimulate a plan for convincing farmers that organic conversion is possible, provides an opportunity, and can be a successful means of production.

Finally, this paper exemplifies the utility in linking social science research and public policy; in this case, geographic analysis with agricultural policy. By understanding the context of organic farming and food, and applying contextual data to an existing framework, the results can be enlightening and helpful for ‘real world’ applications in the public sector.

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Table 1. Framework to Assess Organic Agricultural Support

I. Leadership

Vision/Goals/Mission
Advisory Board
Inter agency Collaboration

II. Policy

Approved and accredited
State Statutes or Rules
Monitor national/ international policies
Monitor progress/status

III. Research

University
Extension
State grants for research
Farmer initiated

IV. Technical Support

Organic specialist
Certification process
Help growers evaluate organic option
Develop business plan/ Risk management
Transition programs
Training county offices
Farm plans: pest/rotation/soil building
Pesticide and drift prevention

V. Financial Support

Conversion Period
Certification cost share program
Loan programs
Grants
Insurance

VI. Marketing and Promotion

Research demand/ consumer preferences
Assistance in developing market strategies
Trade shows
Distributors List
Local, Domestic, International

VII. Education and Information

Website
Workshops
Courses/Field Days
Written Material
Mentor Program
Display or Demo Plots
Certification Information
List of accredited certifiers
Information network

VIII. Consumer Issues

Education
Information sources
Directories

IX. Inter-Agency Activities

Funding to NGOs
Interaction among agencies
Resources from other groups

X. Future Developments

MENTAL HEALTH, PUBLIC POLICY, AND SUSTAINABLE COMMUNITIES: THE IMPORTANCE OF RESEARCH

Niamh Higgins, Centre for Research on Occupational and Life Stress, National University of Ireland, Galway

Paper Type: Completed doctoral paper

ABSTRACT

It is generally regarded that the establishment and implementation of well informed policies is crucial to the effective and successful functioning of society, and that policy makers are best placed to establish well informed policies when they are in the possession of sufficient information about an issue. Researchers with expertise in a given area can help to shape policy by contributing to the knowledge of those involved in the process of policy making. One example of an issue which has attracted greater awareness in recent years and which warrants greater communication of findings between researchers and policy makers is that of mental health and wellbeing.

Research findings in psychology and related areas continue to highlight the impact of mental well being on all aspects of everyday life including one's work and one's relationships with others. In the absence of mental well-being, performance of everyday tasks becomes compromised and relationships with others suffer. Mental well being also impacts on our physical health. Greater levels of stress and physical illness result in work absenteeism and increased pressure on the health care system.

The increasing awareness of the importance of mental well-being is reflected in the European Pact for Mental Health and Well-Being established in 2008, which implicates mental health and well being in the achievement of a knowledge-based society and economy. Similarly, the World Health Organization, in defining mental health, highlights its importance in enabling the individual to work "productively and fruitfully" and to contribute to his/her community. Accordingly, policy makers have a responsibility to ensure that the protection and promotion of mental health is inherent in all policies that promote well-being, including those that are not specific to the area of mental health per se.

The challenges presented by the current economic climate have resulted in much emphasis being placed on the importance of innovation and the knowledge economy. Given the influence that mental health has on individuals' ability to work and contribute to the economy, it is clear that mental well-being is fundamental to the sustainability of communities. Researchers in the area of mental health and well-being are in a position to offer many significant ideas and perspectives as to how mental health might best be protected and promoted so as to ensure that policies aimed at achieving economic growth and sustainability are effective. This paper will examine the empirical evidence base that underlies our understanding of how mental health and well-being impacts on our daily lives in ways that strongly influence social cohesion and economic prosperity. In so doing, it will be argued that the effective communication of such research by social scientists to those engaged in the policymaking process is particularly important and valuable, in both humanitarian and economic terms.

INTRODUCTION

Approximately one in four individuals will experience some mental health problems in their lifetime (World Health Organisation, 2001). The World Health Organisation has defined mental health as “a state of well-being” in which an individual can recognise their abilities, engage with the everyday stressors of life, can work “productively and fruitfully” and contribute to their community (World Health Organisation, 2007). An individual’s ability to function as an independent member of their community, capable of caring for their own basic personal needs, of occupying paid employment and of contributing to society in a meaningful way, is dependent on the presence of positive mental health. In the absence of mental well-being, an individual may experience difficulties in completing their work, in interacting with others and in achieving a sense of personal fulfilment. In addition to the personal distress and suffering that occurs when mental well being is compromised, mental illness accounts for considerable societal and economic costs including mental health care and social welfare costs, work absenteeism and a decline in productivity. Reflecting the growing awareness of this issue, the European Pact for Mental Health and Well-being, established at an EU high-level conference in June 2008 acknowledged mental health and well being as “a key resource” for the EU’s success as a “knowledge-based society and economy” and stressed its importance for “growth and jobs, social cohesion and sustainable development” (European Commission, 2008). At a national level, the importance of mental health and well-being has also been addressed by the expert group on mental health policy in Ireland. This group, established under the Mental Health Act 2001, in a 2006 report entitled ‘A Vision for Change’, stated that without understanding of the factors influencing mental health, we cannot hope to prevent mental health problems, promote better mental health or deal with mental health problems in an effective manner (Report of the expert group on mental health policy in Ireland, 2006). Those conducting research in the area of mental health are concerned with identifying such factors and with finding ways of reducing their negative impact on our mental well-being. Furthermore, the evidence base arising from this research informs our understanding of how mental health and well-being impacts on our daily lives in ways that strongly influence social cohesion and economic prosperity. This paper will illustrate both the humanitarian and economic importance of the effective communication of these findings to policy makers.

PREVALENCE OF MENTAL ILLNESS AND ITS ECONOMIC IMPACT

Our mental health is affected by a number of environmental, social and biological factors such as stress, daily hassles, personal dispositions and the quality and duration of sleep. The European Commission’s 2005 Green paper on improving the mental health of the population stated that in excess of 27% of adult Europeans are estimated to experience at least one form of mental ill health in any given year, with anxiety disorders and depression being the most common forms of mental ill health experienced. Closer to home, findings from the Health Research Board’s National Psychological Wellbeing and Distress survey published in 2007 revealed that 12% of the Irish adult population are currently experiencing psychological distress, with 6% of the population surveyed having been prescribed medication for mental illness in the previous year and 9% having spoken to a GP at least once in the past year about mental health problems (Doherty et al., 2007). It can be presumed that these figures have increased further in recent times given the concerns of economic uncertainty. In economic terms, it is estimated that mental ill health costs the EU an estimated 3 - 4 % of Gross Domestic Product (Report of the expert group on mental health policy, 2006). The overall

economic cost of mental ill health problems in Ireland in 2006 was more than 3 billion euro, which accounts for 2% of Gross National Product (O Shea & Kennelly, 2008). These figures alone highlight the prevalence of mental ill health in Ireland and in Europe and the economic impact of this.

STRESS

Of the factors impacting on mental health, stress is particularly significant. Stress can be defined as a “negative emotional experience” accompanied by biochemical, physiological, cognitive and behavioural changes which serve to overcome the stress or accommodate its presence (Taylor, 2003). Lazarus and Folkman (1984) suggested that when an individual is faced with a potential stressor they engage in primary appraisal to determine whether the stressor is positive, negative or neutral in nature. Secondary appraisal occurs when a stimulus is deemed negative and the individual must decide if their resources and coping abilities are sufficient to deal with the challenge, threat or harm posed by the situation. It can therefore be said that the extent to which a situation or event is experienced as stressful depends on the individual’s appraisal of it, i.e. greater levels of stress are experienced when the individual perceives a discrepancy between the demands of the situation and the resources they have to cope with it. In addition to the psychological distress caused by stress, it also causes physiological changes in the body, which if sustained can have long-term consequences for our physical health.

One way in which researchers have examined the physiological outcomes of psychological stress is to examine one’s pattern of cardiovascular reactivity in response to stress. Cardiovascular reactivity refers to the change in one’s resting blood pressure and heart rate in response to an “aversive, challenging or engaging” stressor (Treiber et al., 2003). The findings from a number of studies have shown that a person’s pattern of cardiovascular reactivity to stress in the laboratory can predict their blood pressure levels when tested again at a later date in the future. These findings suggest a pathway between stress and cardiovascular disease such that stress contributes to increased cardiovascular reactivity which in turn is a risk factor for cardiovascular disease. These findings also suggest that we can identify those at greatest risk of future cardiovascular related disease by examining their cardiovascular reactivity in the laboratory. The significance of this finding is highlighted by the fact that only 50% of the variance in new cardiovascular disease cases can be attributed to risk factors such as family history, smoking, obesity, diabetes mellitus and hypercholesteremia (Treiber et al., 2003) and by figures obtained from the Central Statistics Office, which show that diseases of the circulatory system including hypertensive disease and ischaemic heart disease accounted for the greatest number of deaths each year in Ireland from 1998 to 2006 ahead of cancer, disease of the respiratory system, injury and poisoning (CSO, 2009). Research investigating the factors contributing to stress and the means by which these factors can be alleviated or moderated is thus one way by which we can aim to reduce the incidence of cardiovascular disease, improve the health of our population and contribute to the sustainability of communities.

STRESS IN THE WORKPLACE

Figures from the European commission in 2005 stated that 28% of employees in Europe report stress at work (European Commission, 2005). Stress in the workplace can be related to

a number of factors including work overload, poor organisation of working time, poor management and leadership styles, role ambiguity and little input in decision making. Although stress can at times be adaptive such as when it prompts us to work harder or faster to complete tasks and meet deadlines, the adverse impact of ongoing or intense stress extends beyond the individual and the quality of their work to increased business costs and lower profitability. High levels of stress in the workplace can lead to absenteeism, a decline in efficiency and productivity, staff turnover, interpersonal conflict between staff who may feel under appreciated or that their workload and responsibility is greater than that of others, poor job satisfaction and poor job commitment. Sparks, Faragher and Cooper (2001) in reviewing the factors that influence health and well-being in the workplace, pointed to employees' perceptions of job security as a significant factor. Perceived job insecurity may affect an organization or business through reduced employee morale, motivation and commitment to the employer. Smithson and Lewis (2000 as cited in Sparks et al., 2001) proposed that the negative outcomes of perceived job insecurity be counteracted by providing affected employees with greater opportunities for training and self-development, by ensuring open communication during times of uncertainty and by encouraging employees to develop their repertoire of transferable skills. Other factors implicated by Sparks et al. (2001) in the experience of stress in the workplace include work hours, the level of control over one's work and management style.

The economic costs of stress in the workplace are reflected in increased social welfare payments in the form of sick benefit and disability allowances to those who are unfit to engage in paid employment. Health care costs increase as individuals seek treatment for their illness and businesses are faced with lower profits and reduced levels of innovation. O Shea and Kennelly (2008) pointed to the results of the Quarterly National Household Survey (QNHS) published by the Central Statistics Office in 2002 as evidence of the disruption in job performance arising from mental illness. The findings of this report showed that those suffering from a "mental, nervous or emotional" disability worked on average 29.5 hours a week compared to the national average of 36.8 hours (O Shea & Kennelly, 2008). The implementation of stress management programs and efficient methods of delegating tasks are ways by which we can aim to reduce stress in the workplace.

ANXIETY

As is the case with the term 'stress', a concept familiar to the majority of individuals in today's society whether or not they are directly affected by it, most individuals are familiar with the term 'anxiety' and will agree to experiencing this emotion to a greater or lesser extent on occasion. In clinical terms, anxiety can be described as an "aversive emotional and motivational state" which occurs in threatening circumstances (Eysenck et al., 2007). Anxiety is commonly experienced when one's current goals or values are threatened. As referred to above, anxiety is one of the most commonly experienced mental illnesses. A distinction can be made between state anxiety, i.e. the level of anxiety being experienced at a particular moment in time, and trait anxiety, the level of anxiety an individual characteristically experiences across situations. State anxiety is the outcome of the interaction between an individual's level of trait anxiety and situational factors which could include an imminent presentation or job interview. Depending on the level of anxiety being experienced, it can interfere greatly with an individual's ability to focus on a given task and in severe cases can disrupt everyday life to the extent that the individual is unable to direct their thoughts away from the source of their anxiety. Research findings illustrate the existence of an *attentional*

bias in those experiencing anxiety such that their attention is directed to thoughts and stimuli that relate to their anxiety. Compared to those who are not experiencing anxiety, anxious individuals find it difficult to ignore threatening or negative information. The existence of this attentional bias has been shown using the emotional Stroop task. In the emotional Stroop task individuals are presented with a series of words, which are positive, negative or neutral in meaning and which appear in different colours on the computer screen. Individuals are instructed to ignore the emotional content of the word and to report instead the colour in which the word is presented. Results across a number of studies have been consistent with the finding that individuals with a greater vulnerability to anxiety take longer to report the colour of words which are negative in meaning, suggesting that they are distracted from the task of colour naming by the semantic meaning of the word (MacLeod et al., 2002).

This bias in attention towards threatening and negative material interferes with the individual's ability to focus on day to day tasks. When such distraction occurs in the workplace it can ultimately lead to a decline in productivity and to the individual taking longer to complete tasks. Dual task performance and the ability to switch between tasks are impaired (Eysenck et al., 2007). A growing body of research on anxiety is now also examining the impact that one's interpretation of objects and events has on anxiety levels and the findings of this research offers promising ways of reducing anxiety related thoughts. This research has shown that anxiety can occur when an individual interprets an ambiguous situation or object as something that poses a threat to them in some way. An interpretation bias can develop when the individual consistently interprets situations or events in the same manner. When this interpretation bias is negative or threatening in nature it can lead to the experience of repeated anxiety. Those exhibiting a negative/threatening interpretation bias have been shown to experience greater anxiety reactions when faced with a stressor (Wilson, MacLeod, Rutherford, & Mathews, 2006). Mathews and Mackintosh (2000) among others have demonstrated that individuals can be trained to interpret ambiguity in either a positive or negative manner. These findings have important implications for approaches aimed at reducing anxiety. MacLeod, Koster and Fox (2009) concluded that approaches that modify one's interpretation bias have proven to be effective in "ameliorating emotional dysfunction, reducing the symptoms of clinical pathology and attenuating vulnerability factors associated with the development of psychological disorders" (MacLeod et al., 2009, pg 96). These findings represent just one approach to reducing anxiety. Given that anxiety has a number of causal factors, such an approach will not be effective for all individuals. Furthermore, the extent to which such an approach is successful will depend on the severity of the anxiety. Of significance here is the fact that this research has a value in suggesting one way by which anxiety may be alleviated, allowing individuals to engage fully in their daily lives. The importance of communicating such findings to policy makers should not be underestimated. From an economical point of view, the increased capacity of the individual in the workplace will improve productivity and efficiency and reduce absenteeism, while from a humanitarian point of view, quality of life and well being is improved, thus contributing to the sustainability of communities.

SOCIAL SUPPORT

The report of the expert group on mental health policy in Ireland, 'A Vision for Change', recognised not only the economic costs of mental illness but paid due attention to the issues of social exclusion and social capital. Individuals who are unable to work as a result of a mental illness may become isolated from the social networks in the workplace and the

support which they can often provide. Psychological research findings consistently point to the importance of social support relationships for individual adjustment and the ability to cope both with everyday stressors and major life events. Similar to stress, low levels of social support have been linked to cardiovascular disease through its impact on cardiovascular reactivity (Hughes, 2007). Social support acts as a buffer against high levels of stress and can take a number of forms including tangible support (practical support such as cooking a meal for someone who is ill), informational support (providing information), and emotional support (listening and providing reassurance). It is necessary to note however, that whether or not social support is beneficial to the individual depends on the means by which it is delivered and the context.

Bolger and Amarel (2007) examined the effects of visible support, invisible support and no support on participants' distress levels when given the task of delivering a speech. Results showed that distress levels increased most in the visible support level and least in the invisible support group. They concluded that supportive acts that are subtle, unobtrusive and invisible to the recipient are more effective than explicit visible support. The authors suggested that explicit acts of social support may increase the recipient's feeling of incompetence, reduce their levels of self-esteem and communicate to them that one sees them as incapable of coping with a given stressor. Hughes (2009) also concluded that the optimal amount of social support required differs across individuals. Persons who prefer independence and personal space are likely to feel a less intense 'need' for social support than persons who prefer the company of others. Overall, such research findings help inform policies concerning social inclusion and social capital, in that they serve to define the parameters of optimal social support, and so provide a further example of how psychological research findings can inform policy making.

CURRENT POLICY

As it stands, existing mental health policies are concerned primarily with providing for those individuals who have been clinically diagnosed with a mental illness and who are in need of care. In Ireland, the Mental Health Act established in 2001 governs issues relating to mental health. This act, which also established the mental health commission to regulate the standards and provision of care in the mental health service, outlines the procedures for admission, detention and treatment of those with a mental disorder in a mental health care facility. In the 2006 report of the expert group on mental health policy, the authors implicated the "qualitative" changes in Irish society in recent decades as important factors influencing the way in which mental health care is delivered. They described contemporary Irish society as "more rushed", "less caring" and "more materialistic" (p. 53). These lifestyle factors can impact negatively on our psychological health and well being, creating a challenge for policy makers concerned with the provision of appropriate mental health care.

Policies outlining procedures for health and safety in the workplace have tended to focus on physical risks and hazards to the exclusion of psychosocial risks that can interfere with one's experience of positive mental health. It is only in recent times that the importance of planning for and promoting positive mental health in the workplace has begun to come to the fore. The European Pact for mental health and well-being is an important development in this regard. As referred to above, the document outlines the critical importance of mental health and well being for the realisation of social cohesion, economic development and the sustainability of communities. In the document it is proposed that each EU member state contribute to the

promotion of positive mental health, the prevention of poor mental health and the provision of support and services for those affected by a mental illness. This aim is also evident in the aforementioned report of the expert group on mental health policy in Ireland. The report emphasises the importance of mental health promotion and highlights a number of important points; all individuals have mental health needs, mental health promotion should be available to all age groups to enhance protective factors and decrease the risk factors for developing mental health problems, and mental health promotion programs that target the whole community are of benefit to both those individuals diagnosed with a mental illness and those who are not. The promotion of mental health then constitutes a fundamental element of the recommendations of this report on the provision of mental health care in Ireland in the ten year period from the year 2006 onwards.

CONCLUSION

In light of current economic circumstances, this paper has focused largely on the issue of workplace stress and anxiety and their economic and humanitarian impact. The psychosocial phenomena discussed in this paper, namely stress, anxiety and social support, are well understood and well researched. Social science research in the domain of stress and anxiety related mental health has the potential to inform policy in the areas of employment law, occupational health and safety, and health promotion. It is frequently the case that efforts to improve work place performance are aimed at reducing absenteeism and increasing employee productivity. Employers and policy makers should seek to increase the quality of life of individuals and in doing so will enhance the economic benefit of people being healthier. The benefits to society of promoting and improving mental well being extend beyond the workplace and can be translated into numerous economic benefits, the most obvious of these being a reduction in social welfare payments to those unable to work due to stress related mental and physical illness and a decline in the cost of health care provision. In humanitarian terms, greater attention to the mental health needs of the individuals in our society will foster a population that is fulfilled, productive and content.

The sustainability of our communities is very much dependent on the physical and psychological health of the people in those communities. An individual's capacity to work, interact with others and reach their potential is affected by their mental health status. Campaigns aimed at healthy living frequently promote ways of maintaining and improving physical health. We are frequently presented with messages encouraging us to eat a healthy diet, engage in regular exercise, quit smoking, reduce our alcohol intake etc. Greater awareness needs to be generated as to the importance of caring for one's mental well-being. In addition, the means by which we can do so need to be clearly expressed. Effective policies are best achieved by adopting a multidisciplinary perspective. Those conducting research in the area of psychology can advise policy makers as to the potential impact of particular policies on the mental health of the population and can help in designing policies and approaches that protect, promote and improve the well-being of individuals in all aspects of their lives; in schools, the workplace, the community etc. At a time when much attention is focused on the concepts of 'smart economy', 'knowledge based economy' and 'innovation, it is crucial that we are mindful of the fact that underlying the achievement of such is a population that is both physically and mentally healthy and thus capable of contributing to those activities that will make economic prosperity a reality.

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RESEARCH AND POLICY ON PSYCHOLOGICAL STRESS IN CAREGIVERS: BRIDGING THE DIVIDE

Eimear Lee, Centre for Research on Occupational and Life Stress, National University of Ireland, Galway

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ABSTRACT

Psychological stress is a universal aspect of daily life that is particularly exacerbated in times of unfavourable economic climate. The negative impacts of stress on personal well-being are well documented, and include strong adverse associations with physical health, mental well-being, economic productivity, and social cohesion. Such phenomena are believed to be particularly acute among socially and economically vulnerable groups.

One example of such a group is persons who occupy an unpaid familial caring role, perhaps looking after an older adult relative or a person with a learning or physical disability. Previous research has indicated that, as a population, such caregivers exhibit high rates of depression, anxiety, and other indices of mental ill-health. This then exerts a damaging impact on personal, family, and community cohesion. However, given that, within societies and families, medical and social attention is ordinarily focused on the *recipient* of care rather than on the giver, these problems remain largely undiagnosed and, therefore, unaddressed. This is despite the fact that such caregivers are heavily relied upon to fulfil a role that greatly enhances the quality of life of care recipients, maximises the degree to which care recipients can live in mainstream society, and lightens the resource load on state-funded care services.

Some of the detrimental effects of caregiver stress are perhaps avoidable, in that they can be minimised through burden-reducing and/or stress-recognising interventions. Social support is one mechanism that has been shown to have strong buffering effects on the negative consequences of stress. Ensuring that caregivers feel that they are being supported, or that they have someone to go to, helps alleviate stress for many people. As such, finding ways of enhancing access to formal and/or informal social support for caregivers ought to be an important public policy aim. While a number of relevant policy documents have been developed in the past, it is widely acknowledged their measures have been hampered by huge implementation problems. They have also been limited in terms of their reliance on untested assumptions about caregiving, stress, and social support, and their ignoring of the full gamut of social science research on these concepts.

With the anticipated demographic changes to come in the years ahead, growth in the population of older adults makes inevitable a corresponding growth in the population of persons caring for older adults. Similarly, the increasing recognition of the rights of persons with disabilities to play meaningful and productive roles in mainstream society draws attention to the importance of the overall well-being of their caregivers. Research that examines how people are affected by and deal with stressful occupational roles, whether formal or informal, will enhance policy-makers' decisions regarding the supports and aids that people (particularly Carers) really need. Such policy contexts have personal, economic, and community-level implications. As such, it is important that this research not be neglected

in debates about policy; rather, it should come to be relied upon more and more in the coming years.

INTRODUCTION

Stress has long been associated with poor health outcomes, and psychological research has supported this assertion over many years of investigation. It has been found that certain occupations and groups of people are particularly vulnerable to stress, and the associated negative effects, with caregivers representing a much studied sector. Along with their caregiving responsibilities, other aspects of daily life compete for the resources of the caregiver, such as time, energy and financial demands. Caregivers are relied upon to fulfil a role that greatly enhances the quality of life of care recipients, maximises the degree to which care recipients can live in mainstream society, and lightens the resource load on state-funded care services. With anticipated shifts in demographic trends over the coming years and decades, it is imperative that the work of the caregiver is acknowledged and that provision is made to sustain the valuable contribution that they for our communities into the future.

INFORMAL CARE

The present paper is concerned in the main with informal care. That is, care provided, primarily by family members on an unpaid basis to older persons or persons with a disability (Cross, 2009). Informal care is deemed as family care and often consists of one person with limited additional help and at considerable personal cost (Cross, 2009). Not surprisingly, caregiving has been identified as a chronic stressor that places caregivers at risk for physical and emotional problems (Pinquart and Sorensen, 2006). Current policy debates centre on older people as recipients of care (Cross, 2009), however many older people also provide care for other older adults and family members. It is quite common for older adults to care for their spouses in the home. As older adults age, chronic illnesses may become more frequent meaning that the burden of care on older adults (spousal Carers in particular) may increase as people grow older and as health deteriorates.

Although data concerning informal care in Ireland is lacking it is accepted that actual levels of informal care provided and received by older people may be higher than levels previously reported in census data, as indicted in a recent research study by McGee and colleagues (2008). This emphasises the point that informal caregivers are vulnerable to under-representation and it is necessary for policy to ensure that they are comprehensively supported and recognised for their efforts. Their work is immensely valuable as informal care allows many members of society, particularly older adults, to maintain a degree of independence from formal health and social services, while also reducing the burden on the state's health and social services (McGee et al., 2008).

THE PROFILE OF CARERS IN IRELAND

McGee (2008) reports that in the Republic of Ireland, most care provided by older adults is in their own homes, with spouses identified as the group within the home who provided the most continuous levels of care to older people. If spouses are the group that are providing the majority of care, then it is logical to assume that they are of comparable age to the care

recipients, making them older adults themselves. Census data from 2006 suggests that there are over 160,000 Carers in the Republic of Ireland (The Carers Association, 2009), of whom approximately 18,000 are over 65 years of age (Cross, 2009). This report by the Carers Association (2009) estimates that on average, Carers provide 24 hours of unpaid care per week. Interestingly, the report found that the average number of unpaid hours of care provided per week *increases* as the Carer's age increases. According to the report, younger Carers (aged under 25 years) provide an average of 16 hours of care per week, whilst Carers aged 65 years and over provide an average of 36 hours of care per week (The Carers Association, 2009). This perhaps reflects the trend for spousal caregiving in the home. These findings imply that a large proportion of Carers are older adults and that these people absorb the largest number of caring hours. This is significant to consider in terms of policy because, as the paper will outline, older people are particularly vulnerable to negative health effects associated with stressful situations, such as caring.

Research by Pinquart and Sorensen (2006) suggests that there are gender differences in burden, depression, amount of care provision, and quality of a caregivers relationship with the care recipient. The vast majority of Carers in Ireland are female, accounting for 100,214 (or 62%) of all Carers. This compares with the national average for the entire population in Census 2006, where 50% were female and 50% were male (The Carers Association, 2009).

In recent times, absolute life expectancy in years has become not as relevant for policy makers. Burden of care is an extremely topical issue. Currently, there are approximately 467,926 persons aged 65 years and over in Ireland constituting 11% of the population. By 2021, this population is projected to grow to 750,930 and constitute 16% of the population. There will be a greater number of older adults in our population, and these older adults will live longer lives than previous generations. This population shift will lead to a greater demand for caring services in the coming years (The Carers Association, 2009), in order to ensure that older adults have the highest possible quality of life and levels of well being. Older adults will live longer in our future society, but they may not necessarily have sustained good health. A better indication of a population health status than overall life expectancy is healthy life expectancy. This is defined by the World Health Organisation as the average number of years that a person can expect to live in "full health", taking into account years lived in less than full health due to disease and/or injury. In Ireland the WHO statistics on average that men have a healthy life expectancy of 68 years, while women have a healthy life expectancy of 72 years (World Health Organisation, 2008). This has some implications with regard to spousal caregiving practices. As we have seen, older adults assume a large burden of care, and the majority of caring is done by women. This may reflect a traditional role in society for women to take on caregiver roles. However, as can be seen from health life expectancy statistics, it may be that women assume Carer roles because on average they remain healthier for longer into older adulthood.

SOCIAL SUPPORT

Social support is a widely used concept in psychology that can refer to drawing on the emotional and task resources provided by others as a means of coping with stress (Baron et al., 2006). Much debate surrounds definitions of social support however, with experts differing on what they believe it to refer to. In some cases it refers to aspects of the social network, at other times to specific behaviours, and sometimes to our perceived availability of

support resources (Uchino, 2006). It is clear however, that it is a multi-faceted concept which encompasses all areas of human social relations.

Psychologists have proposed a stress buffering theory of social support which is particularly applicable to caregivers. A buffering effect suggests that the effects of having social support may deflect some negative consequences associated with stress. It posits that reduced social support, increased isolation and withdrawal will increase the probability for depression in the event of stressful life events. Life events which may be deemed as stressful include bereavement, illness and others. Caregivers who do not feel adequately supported in their daily lives are more vulnerable to experiencing depression should they encounter further, more stressful experiences to deal with. Previous research has reported that social support may mediate depression in caregivers, and that the level of reported caregiving burden is associated with caregiver stress (Clyburn et al., 2000). This research study emphasised the need to provide caregivers with skills to manage their burden and to provide supportive networks for Carers, particularly for those working with people who have the most severe behavioural problems and functional limitations (Clyburn et al., 2000). Research has shown that increased burden of care significantly relates to decreased health-related quality of life among caregivers of stroke victims (Morimoto et al., 2003). This suggests that policy makers should be working to relieve some of the caregiving burden in order to sustain caregivers to perform their caring duties better and for longer. These research findings have not been adopted in policy making decisions however. Deficits in social support have long been associated with increased rates of depression following stressful life events generally, suggesting that poor social support in the context of the stress of caring and the occurrence of life events may increase vulnerability to depression (Waite et al., 2004).

PSYCHONEUROIMMUNOLOGY

In recent years, psychologists have grown interested in the negative consequences of the stress associated with caregiving relating to immune parameters. Questions such as does how we think or feel affect our physical health? The scientific research field of psychoneuroimmunology is concerned with investigating the relationship between psychosocial processes and nervous, immune and endocrine functions (Ader and Cohen, 1993). It has been able to determine some links between these processes, especially for respiratory health and stress (Cohen et al., 1991).

There is evidence that elderly caregivers are particularly susceptible to negative health effects associated with chronic exposure to a stressor (such as caregiving), because of a phenomenon known as immune senescence. Immune senescence may be defined as those alterations in immune function which occur to some degree in all older individuals and are distinguishable from immunodeficiency secondary to underlying disease, malnutrition, toxic exposure or genetic disorder (Solomon and Benton, 1994). Quite simply, it is the gradual and natural deterioration of one's immune system as one grows older, independent of any other disease or condition. This implies that regardless of exposure to stress, older people in general are more vulnerable to infection, and take longer to recover after illness than younger people. Older adult caregivers are particularly susceptible to disease and infection due to the combination of their naturally declining immune systems and the stress associated with caregiving (Kiecolt-Glaser et al., 1991). Solomon and Benton (1994) support the assertion that caregiving is associated with increased risk for negative immune changes and increased risk of health problems associated with diminished immune functioning. Caregiving strain and burden have

been found to be related to levels of an immune substance known as secretory immunoglobulin A (sIgA), such that caregivers who experienced greater strain and burden had lower sIgA secretion rates (Gallagher et al., 2008a). Secretory immunoglobulin A is a substance found in bodily fluids such as blood and saliva that is implicating in respiratory health functioning. Lower levels of sIgA are associated with poorer immune resistance against respiratory infection such as colds and flu, an immune challenge that older adults may be vulnerable to.

A common experimental design that has emerged from research in the area of psychoneuroimmunology is that of the immunisation or vaccine study. A vaccine is administered to groups of people who are often described as stressed or not stressed. Individual and group levels of immunity are assessed through the immune response that is displayed after administration of the vaccine. Typically, when a vaccine is administered to healthy people, levels of disease-specific antibodies (disease fighting substances in the body) increase several fold in a healthy, non-stressed group of participants. The levels of antibodies are commonly measured by obtaining blood or saliva samples which are then analysed in laboratories. Results from such research studies suggest that chronically stressed older adults may be at higher risk from (viral) disease because of an inability to mount an “appropriate” immune response to vaccination (Vedhara et al., 1999), relative to non-stressed older adults, or younger people. Quite simply, stressed older adults do not manifest the same multiplication of antibody levels as non-stressed healthy populations; instead they exhibit a much more blunted reaction. This suggests that even health policies that implement vaccination schemes for older adults may not be as effective for chronically stressed people such as caregivers without further considerations of the psychological factors involved. Stressed people in general have poorer immune functioning, as do older adults in general. However, groups of chronically stressed older adults are perhaps most vulnerable to immune challenges and poorer health overall.

SOCIAL SUPPORT AND HEALTH

Several research studies have illustrated the numerous health benefits of social interaction and social support. Greater sociability is associated with more and better social interactions, superior performance of health-enhancing behaviours and better regulation of emotions and stress-hormone levels (Cohen et al., 2003). Interestingly, Carers with three or fewer social roles were found to be more vulnerable to infection than people with greater than three social roles (Cohen et al., 2003). It has been argued that because older populations have increasingly narrow social networks, this may exacerbate the effects of immune senescence (Murasko et al., 1988), as described previously in this paper.

In 1979, a now classic study reported that people who were less socially integrated had higher rates of mortality (Berkman and Syme, 1979). This finding was important as it was independent of self-reported physical health status at the time of the study. Much research, particularly investigating examples of cardiovascular health has proposed that social support may be beneficial to health because it buffers the potentially harmful influences of stress-induced cardiovascular reactivity (Cohen and Willis, 1985). A review by Bert Uchino (2006) suggests that social support is also related to better immune function, supporting an earlier review by the same author where links found between higher levels of social support and better immune functioning for older adult populations (Uchino et al., 1996). In research using a healthy, non-caregiver sample, individuals reporting lower ratings of social support were

less likely to demonstrate the appropriate clinical reaction to a hepatitis B vaccination, an multiplication of the levels of antibodies in the immune system (Glaser et al., 1992). Social support, particularly tangible social support (e.g., help with childcare/housekeeping, provision of transportation or money), was shown to be positively associated with better antibody response to vaccines administered to healthy students (Gallagher et al., 2008b). These research studies demonstrated that higher levels of social support, even in a sample of participants who were not experiencing a chronic stressor such as caregiving, resulted in improved vaccination response.

THE FUTURE OF CARE IN IRELAND

The future of informal care services in Ireland is hampered by the fact that families are being asked to do too much without adequate support from the statutory sector (O'Shea, 2006). Family care accounts for over 50% of the overall burden of dementia care in Ireland (O'Shea, 2006). It is highlighted that particular concern should be shown for those people who are caring for people with dementia, with many of these Carers reporting this to be a stressful experience (O'Shea, 2006). These Carers make significant adjustments to their own lives in order to care for these people with dementia with up to two thirds of Carers reporting a financial strain and 60% making some adjustment to work as a result of caring (O'Shea, 2006). Dementia refers to a collection of conditions, of which Alzheimer's disease (AD) is the most common. It is a disorder in which individuals lose independence of daily functioning because of cognitive dysfunction (Knopman, 2006). Prevalence of depression among caregivers of people with dementia has been estimated at between 40 and 60% (Redinbaugh et al., 1995), indicating that caring for people with dementia may be particularly stressful for the caregiver. The economic value of informal care services, typically provided by family members is substantial, and it results in a considerably reduced burden that would otherwise have to be met by formal health and social care systems (Arno et al., 1999). However, this reduced burden for the state may be met personally by Carers. Any change in the balance of provision of informal care has the potential to put a substantial strain on formal health and social services (McGee et al., 2008).

POLICY RECOMMENDATIONS

The creation of a sustainable caring environment is an important task for policy makers. The involvement of localised Carers (for the most part family members) is essential for sustaining communities. Where possible, it is desirable to provide care for an older person in their own home. Current government policy supports the concept of older people remaining in their homes (Cross, 2009), with policy documents and reports such as National Action Plan for Social Inclusion 2007-2016 (The Office for Social Inclusion, 2007) and Towards 2016: Ten year Framework Social Partnership Agreement 2006-2016 (Department of the Taoiseach, 2006) emphasising community care. This is an admirable aim, ensuring that those who are in need of care will have the opportunity to be provided with it in their own homes and communities if they so wish. While a number of relevant policy documents have been developed in the past, it is widely acknowledged their measures have been hampered by huge implementation problems. They have also been limited in terms of their reliance on untested assumptions about caregiving, stress, and social support, and their ignoring of the full gamut of social science research on these concepts. However, whilst every effort should be made to facilitate community care, it is essential that policy makers are aware of the toll that

caregiving exerts on Carers, particularly older adult caregivers. If policy makers are to continue to rely on the caregiving resources of families of older adults, it is essential that provisions are made that can sustain older adult caregiving efforts for longer. Establishing properly funded peer support resources that provide real aid and assistance to people coping with caring for a loved one will ease the burden of stress on these individuals.

The Health Service Executive in Ireland recommends that adults over the age of 65 are immunized against Pneumococcal disease and influenza (National Immunisation Office, 2008). In order that optimal immunisation results are obtained when vaccinating Carers, supports should be put in place to ensure that all caregivers, but in particular elderly caregivers, feel supported or that they have someone or somewhere to go to if they need help or respite, in order that they can benefit the most from vaccinations. The establishment of abovementioned support networks for Carers could increase the success rates of these vaccination programs for older adult caregivers. Currently and in the coming months, a major health concern is the administration and distribution of a vaccine against the H1N1 virus, also known as "Swine flu". Adequate resources of social support for caregivers would potentially increase the effectiveness of such an immunisation scheme, prolonging health and reducing healthcare burden on services which are to become more stretched in the future due to demographic changes.

CONCLUSION

Carers experience chronic stress as a result of caregiving. This stress has the potential to negatively impact on their health. Older adult caregivers, for example spousal caregivers, are especially vulnerable to these negative health outcomes. Research has demonstrated that social support is one means through which these negative health effects could be reduced or lessened. Policy makers should not neglect to acknowledge the enormous contribution that caregivers make to their communities, as they aim to maintain and increase quality of life for care recipients, by maximising dignity and independence of the care recipient while simultaneously reducing the resource burden on state-funded care services. The present paper has provided the research background to simple measures such as social support provision that could improve the effectiveness of existing health strategies and policies such as immunisation.

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VOLUNTARY ORGANISATIONS IN CLIFDEN, CO GALWAY: BASELINE RESEARCH

Maureen Maloney, Management Discipline, National University of Ireland, Galway

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ABSTRACT

The primary objective of this research was to identify and classify organisations based in Clifden or with a strong local presence. Data collected from each organisation provided baseline information against which future changes can be measured. Information was collected through semi-structured interviews with an activist from 65 of the 68 organisations.

The findings suggest that a small town with a dispersed rural population can support a wide variety of organisational choices because small organisations can function effectively and people are willing to travel to participate. Peripheral participants defined as individuals who are not organisational members but assist an organisation on a regular basis or as a 'once off' significantly assist many Clifden-based organisations. This research suggests that the Census of Population may significantly under-represent the number of people engaged in voluntary activity because it does not capture this irregular participation. There is considerable voluntary activity among the 10-19 age category. However, young people have fewer voluntary options than either middle-aged or older people. The majority of Clifden-based organisations rely on the efforts of middle aged people, particularly parents. The demand for their services is greater than the number of middle aged people willing to volunteer. This research supplements the data available from the most recent Census of Population concerning the gender-based choices for various types of voluntary activities. At the community level, this translates into many organisations that are either female- or male-dominated.

1 INTRODUCTION

The former Taoiseach Bertie Ahern appointed a taskforce to begin a national conversation to define 'active citizenship', to assess its strength and to recommend policies to encourage its growth (Taskforce on Active Citizenship, 2007b). Although the economic downturn has dramatically changed the context of that conversation, the need for a vibrant voluntary sector is even more compelling.

One important aspect of active citizenship is formal volunteerism which describes work done with or through an organisation. Although some research has been conducted in recent years to identify the extent of formal voluntary activity in Ireland, most information was gathered through surveys to individuals (See Ruddle and O'Connor, 1999; Taskforce on Active Citizenship, 2007a). With the exception of King (2004), there is little published research that identifies the characteristics of voluntary organisations that operate within communities. Without this type of baseline research, it is difficult to assess the strength of volunteerism within a community or to recognise changes over time.

This research was conducted to complete the requirements for a Civic Engagement module offered by the Centre for Excellence in Learning and Teaching (CELT) at NUI, Galway. The primary objective of this research was to identify and classify organisations based in Clifden or with a strong local presence. Information was collected through semi-structured interviews with an activist from 65 of the 68 organisations.

This paper has five sections. Following this introduction, section 2 defines the terms used for this study and the research approach. Section 3 reports on the findings of interviews conducted with activists from local organizations concerning organisational classification, size, residence of members, peripheral participants, gender composition and age profile. Section 4 summarises key findings and identifies avenues of future research. Section 5 explains how the research findings were disseminated to the local community.

2 DEFINITIONS AND RESEARCH APPROACH

There are several definitions of volunteering (See National Committee on Volunteering, 2002). Ruddle and O'Connor (1999: 3) state, 'The parameters typically used to define voluntary activity include:

- activity that is non-compulsory
- activity that is non-professional
- activity that is unpaid
- activity that is carried out for the benefit of others or the benefit of society.'
- This definition was used for this research.

Voluntary activity can be informal or formal. Informal volunteerism is based on individual initiative and includes visiting the sick, helping neighbours or picking up trash on the roadside. This project focuses on formal volunteering which '...relates to voluntary work done with or through an organisation' (National Committee on Volunteering 2002: 6).

It is difficult to find agreement on a definition for the types of organisations that should be included in a study on formal voluntary activity. An operational definition for the non-profit making sector outlined by Donoghue, Anaheir and Salamon (1999: 5) has the following criteria: organised with a defined structure; private or non-governmental, though they can receive government support; non-profit distributing and not primarily commercial; self-governing; and involving some meaningful degree of voluntary participation.

In practice, it was difficult to determine if some organisations were 'non-governmental' and 'self governing' because of their close association with government departments. For the purpose of this project, all organisations were included if they were non-profit distributing and there was clearly identified voluntary activity.

There are different classification systems for voluntary organisations, but most appear to be variations of the ICNPO (International Classification of Nonprofit Organisations) developed by Salamon and Anaheir (1996). In the Irish context Ruddle and Mulvihill (1999) used the following scheme which was adapted for this research:

- Arts & Culture;
- Civic & Advocacy;

- Community Development (including Housing Associations);
- Education and Research;
- Environment (including Animal Welfare);
- Health;
- International Activities;
- Philanthropy and Voluntarism Promotion;
- Religious Related;
- Social Services;
- Sports, Recreation and Social; and
- Other.

Classifying organizations proved frustrating since most organizations can be classified under a number of headings. Every effort was made to group organizations together that were similar but the result is imperfect.

Clifden-based voluntary organisations were identified through:

- social networks developed through membership in three local voluntary organisations;
- interviews with the heads or Public Relations Officers (PRO) of Clifden-based organisations);
- past issues of the local newspaper the *Connemara View*; and
- a database compiled by Margaret Sheehan in the Clifden office of Forum Connemara Ltd.

Although efforts were made to identify every organisation, some may have been missed. All interviews were conducted between April and June 2009.

3 FINDINGS

This section presents findings collected through semi-structured interviews with the heads of 65 organisations or their PROs. It is divided into seven subsections. Section 3.1 classifies organisations. Section 3.2 reports organisational size. Section 3.3 describes the residence of organisational members within or outside of the parish of Clifden. Section 3.4 identifies the number of peripheral participants, defined as individuals who are not members but assist an organisation on a regular basis or as a ‘once off’. Section 3.5 describes difficulties experienced by organisations in attracting and retaining members. Sections 3.6 and 3.7 report on the gender composition and the age profile of Clifden-based organisations.

3.1 Classification of Organisations

Based on the process discussed above, 65 active organisations that are based in Clifden and three organisations¹ that are based outside of Clifden but have a strong local presence were identified. Table 1 shows the number of organisations by classification.

¹ The Cashel/Connemara Credit Union is based in Cashel but has an office in Clifden. The Grainne Mhaols GAA Club, based in Letterfrack, is the local GAA club for northwest Connemara girls and women. North West Connemara Adult Education conducts classes in several locations including Clifden.

Table 1: Clifden-based Organisations Classified by Type

Classification	Number (%)
Arts & Culture	8 (12%)
Civic & Advocacy	5 (7%)
Community Development (including Residents Associations)	10 (15%)
Education & Research	9 (13%)
Environment	4 (6%)
Health	3 (4%)
International Activities	0 (0%)
Philanthropy & Voluntarism Promotion	0 (0%)
Religious	5 (7%)
Social Services	4 (6%)
Sports, Recreation & Social	
• Sports	8(12%)
• Recreation	5 (7%)
• Social	3 (4%)
Other	1 (1%)
Unclassified	3 (4%)
Total	68

The body of voluntary organizations is in transition. Two active organizations (CSI, Clifden and Clifden & District Community Council) were formed during the period of this research. Two organizations (Dun Gibbons Asylum Seekers Association and Irish Red Cross Branch [Clifden]) were in formation. Three organizations (ARCH Club, Parents and Toddlers Group and Save Our Bay) have disbanded but may reform.

It is difficult to evaluate if the number of organisations is appropriate for the population of the locality. In 2006, the population of the town of Clifden was 1,497 (Central Statistics Office, 2007a: 138) and of the population of the parish of Clifden¹ was 4,065 (Central Statistics Office, 2007a: 102-103).

Only one study was found that identified voluntary organisations based within specific geographic areas. Table 2 shows the information from a report on four communities in Co Clare.

Table 2: Number of Organisations Profiled by Location in Co Clare

Location	Population (2002)	Number of Organisations
Doonbeg	1,084	18
Liscannor	610	10
Shannon	8,561	61
Tulla	1,602	26

Source: King, 2004: 18-22, 80.

¹ To be accurate, the parish of Clifden should be called the parish of Omey. However, this name is seldom used in practice. It comprises the DEDs of Bunowen, Cleggan, Clifden, Derrycunlagh/Derrylea, Doonloughan, Errislannan, Inishbofin and Sillerna

The ‘number of organisations’ in the Co Clare study excludes those that are associated with religious denominations. King (2004: 27) also used a different method of identifying voluntary organisations through local community information centres or local community development associations. Even with the qualifications outlined above, 68 voluntary organisations appear to be a large number in relation to the population of Clifden.

3.2 Organisational Size

Representatives of organisations were asked for the number of active members. ‘Actively involved’ was defined as attending meetings, being a committee member or taking responsibility for some activity. Responses are shown by classification in table 3. For some organisations, information is missing. This is indicated by ‘DK’ (don’t know).

Table 3: Organisational Size

Classification	No. of Orgs.	Number of members				
		DK	1-9	10-25	26-50	100+
Arts & Culture	8	2	1	2	2	1
Civic & Advocacy	5			1	4	
Community Development	10		2	6	2	
Education	9		4	4	1	
Environment	4		2	1	1	
Health	3	1		2		
Religion	5		2	2		1
Social Services	4		2	2		
Sports, Recreation & Social						
• Sports	8			4		4
• Recreation	5		3	1	1	
• Social	3			2	1	
Other	1				1	
Total	65	3	16	27	13	6
% of Total		5%	25%	42%	20%	9%

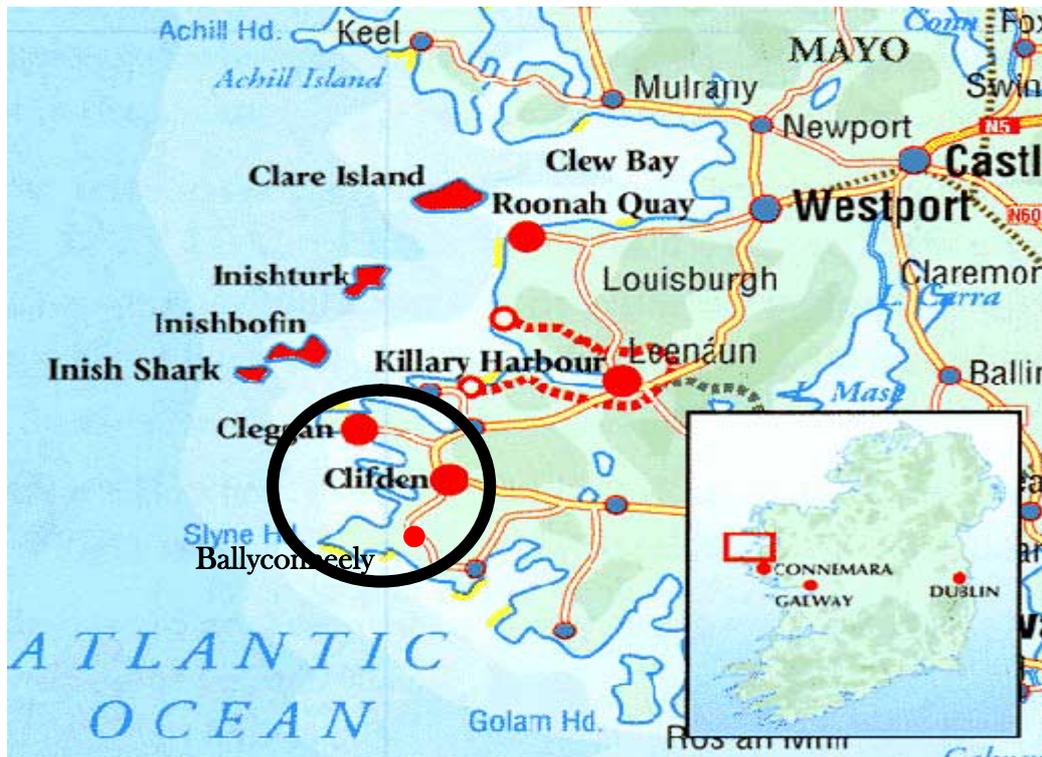
Organisational size varied from two to 276. Four sports organisations, one drama group and one religious organisation reported more than 100 active volunteers.

A quarter of the organisations reported less than 10 members. Almost 70% of the organisations reported 25 members or less. However, size was not related with viability. For example, the head of the Clifden Writers Group stated that membership is cyclical. For almost two decades, a core of five members remained while others came and went. Heads of several organisations noted that size is less important than the commitment of the members. The head of Réadóirí Óga, with seven active members, mentioned that parents’ decisions to volunteer depend on the involvement of their children. He saw a small, active and changing membership as easy to coordinate and beneficial since new parents entered with different ideas.

3.3 Residence of Members (within or outside of Parish)

With a population of 1,497, the town of Clifden is relatively small (Central Statistics Office, 2007a: 138). Therefore, survey participants were asked if their active members resided within or outside of the *parish* of Clifden¹. This is bounded by Cleggan to the northwest and Ballyconneely to the southwest as shown in figure 1.

Figure 1: Map of Clifden and Parish



Source: eBookIreland Promotions (2007) County Galway Guide. Available at: <http://clifden.galway-ireland.ie/maps.htm> Accessed: 14 July 2009.

The responses of representatives of organisations concerning the residence of their members are shown in table 4.

¹ To be accurate, the parish of Clifden should be called the parish of Omev. However, this name is seldom used in practice.

Table 4: Percentage of Active Members Residing Outside of the Parish of Clifden

Classification	No. of orgs.	Reside outside of Parish of Clifden				
		DK	0%	1%-25%	26%-50%	Over 50%
Arts & Culture	8	3	1		4	
Civic & Advocacy	5	2	2	1		
Community Development	10	1	3	1	2	3
Education	9	5			1	1
Environment	4		1		1	2
Health	3	1		1	1	
Religion	5		3		1	1
Social Services	4	1			2	1
Sports, Recreation & Social						
• Sports	8	1	1	1	4	1
• Recreation	5		1	3		3
• Social	3		3			
Other	1			1		
Total	65	14	15	8	16	12
% of Total		22%	23%	12%	25%	18%

Several respondents (22%) did not know if members lived inside or outside of the parish. From those heads of organisations that could respond, only one classification (social) draws strictly from inside of the parish. This is because there are other similar social organisations (ICA guilds and senior citizens groups) in close proximity. Over half of the organizations, where information was available, reported that some active members resided outside of the parish of Clifden.

3.4 Peripheral Participants

Organisations representatives were asked about the number of participants who were peripherally involved. ‘Peripheral participants’ refers to individuals who are not members but assist an organisation on a regular basis or as a ‘once off’. Responses are shown in table 5.

Table 5: Numbers of Peripheral Participants of Organisations

Classification	No. of orgs.	Number of peripheral participants					
		DK	0	1-9	10-25	26-50	51+
Arts & Culture	8	2	3	2	1		
Civic & Advocacy	5		2			1	2
Community Development	10		7		1	1	1
Education	9		6	2	1		
Environment	4	1			2		1
Health	3	1			2		
Religion	5		4	1			
Social Services	4		3				1
Sports, Recreation & Social							
• Sports	8	1	1	2	1	1	2
• Recreation	5		1	2	2		
• Social	3		1		2		
Other	1						1
Total	65	5	28	9	12	3	8
% of Total		8%	43%	14%	18%	5%	12%

Although 43% of the organisations did not report peripheral participation, at least one organisation in each classification did. They were reported least by 'Religious' organisations (20%) and most by Recreation (80%), Environment (75%), Sports (75%), Social (66%), Health (66%) and Civic & Advocacy (60%) organisations. The number of peripheral participants involved with individual organisations also varies widely. The Tuesday Club reported two peripheral participants, while the IFA (Connemara Branch) reported 400.

There are many examples of peripheral participation. Dozens of people turned out for the Super Sunday clean up organised by the Clifden Tidy Towns Committee in April 2009. Sports and recreation organisations rely on parents to drive carloads of children to events throughout the year. All the members of the RNLI that train for rescues are 'active'. However, about 100 'peripheral participants' raise funds in their localities around Connemara. Clifden Community Arts Week, held in September each year, engages an army of volunteers that participate in the parade, hang posters, provide information and collect money at doors. A reliable crew organised by the Chamber of Commerce decorate the town for Christmas each year. These people do not consider themselves to be members of the organisations that they assist, but without them, the organisations would have to scale back their operations.

3.5 Difficulty in Attracting or Retaining Members

The heads or PROs of organisations were asked if they had difficulty in attracting or retaining members in the past five years. Their responses are shown in table 6.

Table 6: Difficulties Experienced by Organisations in Attracting & Retaining Members in the Past Five Years

Classification	Total	DK	Yes	No
Arts & Culture	8	2	3	3
Civic & Advocacy	5	1		4
Community Development	10		3	7
Education	9		5	4
Environment	4	1	2	1
Health	3	1	1	1
Religion	5			5
Social Services	4			4
Sports, Recreation & Social				
• Sports	8		5	3
• Recreation	5		2	3
• Social	3		2	1
Other	1			1
Total	65	5	23	37
% of Total		8%	35%	57%

The majority (57%) of organisations did not report difficulties in attracting and retaining members in the past five years. This appears consistent with information collected by the Taskforce on Active Citizenship (2007b). The authors stated, ‘Although most people thought volunteering was declining, when asked about their own organisation only one half said it had become more difficult to recruit new volunteers (Taskforce on Active Citizenship, 2007b: 6).

The head of the Grainne Mhaols GAA Club said that it ‘...requires huge effort to maintain volunteers but 2009 is the best year yet.’ The organizer of the Clifden Citizens Information Centre (CIC) said that because of the need for extensive training, they only take on a small number of volunteers and always have a sufficient number.

Some organisations reported sufficient numbers but would like to change the demographic or geographic composition of their membership. Three performing organisations were looking for men and boys for singing and acting parts. One social organisation was also trying to attract more men. An arts and culture organisation had a high percentage of older members who attend meetings but are unwilling to conduct research. The head of this organisation was trying to attract more middle aged people. A health organisation wanted to attract members from the wider catchment area serviced by the local hospital.

A number of organisations that rely primarily on parents of school-aged children find it difficult to get volunteers. This group includes four education organisations, four sports organisations and one club classified as recreational.

3.6 Gender Composition of Organisations

Census 2006 indicates that the gender breakdown for the total population of the parish of Clifden is 50.5% female and 49.5% male (CSO, 2007a: 102-103). On Census 2006, the question was asked ‘In the past 4 weeks, have you done any of the following activities without pay?’ The responses to that question for individuals aged 15 and over from the parish of Clifden and the State are shown in table 7.

Table 7: Persons Male and Female Classified by Voluntary Activity for Parish of Clifden and State

Gender	Total Number (%)	Persons involved in voluntary activities					Total persons involved in one or more voluntary activities Number (%)
		Helping or voluntary work with a social or charitable organisation	Helping or voluntary work with a religious group or church Number (%)	Helping or voluntary work with a sporting organisation Number (%)	Helping or voluntary work with a political or cultural organisation Number (%)	Any other voluntary activity Number (%)	
Male (Clifden)	1,620 (49%)	96 (40%)	74 (42%)	98 (61%)	43 (61%)	94 (49%)	292 (47%)
Female (Clifden)	1,676 (51%)	145 (60%)	102 (58%)	62 (39%)	28 (39%)	99 (51%)	323 (53%)
Total (Clifden)	3,296	241	176	160	71	193	615
Male (State)	1,678,127 (50%)	79,697 (41%)	56,330 (39%)	124,630 (69%)	27,053 (58%)	62,838 (45%)	275,013 (50%)
Female (State)	1,697,272 (50%)	113,055 (59%)	86,803 (61%)	55,835 (31%)	19,891 (42%)	77,623 (55%)	278,242 (50%)
Total (State)	3,375,399	192,752	143,133	180,465	46,944	140,461	553,255

Sources: CSO, 2007c and CSO,2007d: 169.

The Census 2006 responses indicate slightly greater voluntary involvement of Clifden-based women (53%) than men (47%). For the state, there is gender balance; 50% of those involved in voluntary activities are women and 50% are men. The Census also shows that some voluntary activities attract more women than men while other activities attract more men than women. In general, the parish of Clifden reflects the same gender imbalances as the state, though magnitudes differ.

The survey of Clifden-based organisations also shows that the memberships of many organisations are not gender-balanced. Table 8 shows the gender composition of Clifden-based organisations by classification.

Table 8: Gender Composition of Clifden-based Organisations

Classification	No. of Orgs.	DK	Male Dominated (>60% men)	Gender Balanced (at least 40% male and female)	Female Dominated (>60% women)
Arts & Culture	8	2		2	4
Civic & Advocacy	5		3	1	1
Community Development	10		1	5	4
Education	9		1	3	5
Environment	4				4
Health	3	1		1	1
Religion	5			3	2
Social Services	4			2	2
Sports, Recreation & Social					
• Sports	8		4	1	3
• Recreation	5			2	3
• Social	3				3
Other	1		1		
Total	65	3	10	20	32
% of Total		5%	15%	31%	49%

The memberships of 20 Clifden-based organisations are gender-balanced in the sense that each gender comprises at least 40% of the membership. However, almost half of the organisations are female-dominated and 15% are male dominated. For many organisations, gender balance probably does not matter. A member's interest in the group's activities (like creative writing, bridge playing, shooting and angling) is probably more important than their gender. However, there are situations when gender composition may have negative social consequences as the following examples demonstrate.

First, three arts and culture organisations noted that gender imbalance was a problem. The low number of male actors and singers limited the range of plays that they could produce and musical pieces that they could perform.

Second, the two parents associations in the education classification are female-dominated. All of the members of the Scoil Mhuire Parents Association and two-thirds of the members of the Clifden Community School Parents Association are women. While most first and second level institutions would prefer a better gender balance for their parents associations and teaching staff, this is difficult to change. Because mothers volunteer for the parents associations and teachers are mainly women, the stereotype that education is the domain of women is reinforced.

Finally, two of the social groups organised for older members of the community are female-dominated. The leaders of one Clifden-based social groups stated that the group attempted, without success to encourage men to join. The problem of rural isolation was highlighted by President Mary McAleese. McDonagh (2009) reported that 'One of the points made by President McAleese when she raised the issue of rural isolation among older men was that the over-65s are the second most at-risk group for suicide.' In Clifden, there appears to be a mismatch between the available social organisations and the needs of older men.

3.7 Age Profile of Organisations

Organisational activists were asked if members were under 19, 20-64 or 65 and older. Although Census 2006 asked about the voluntary activities of individuals aged 15 and over, survey responses indicated that many volunteers of Clifden-based organisations were under 15. For example, national school children are altar servers and choir members of St Joseph’s Catholic Church. They are actors for the Ceol Theatre. Children and adults play football, hurling and rugby.

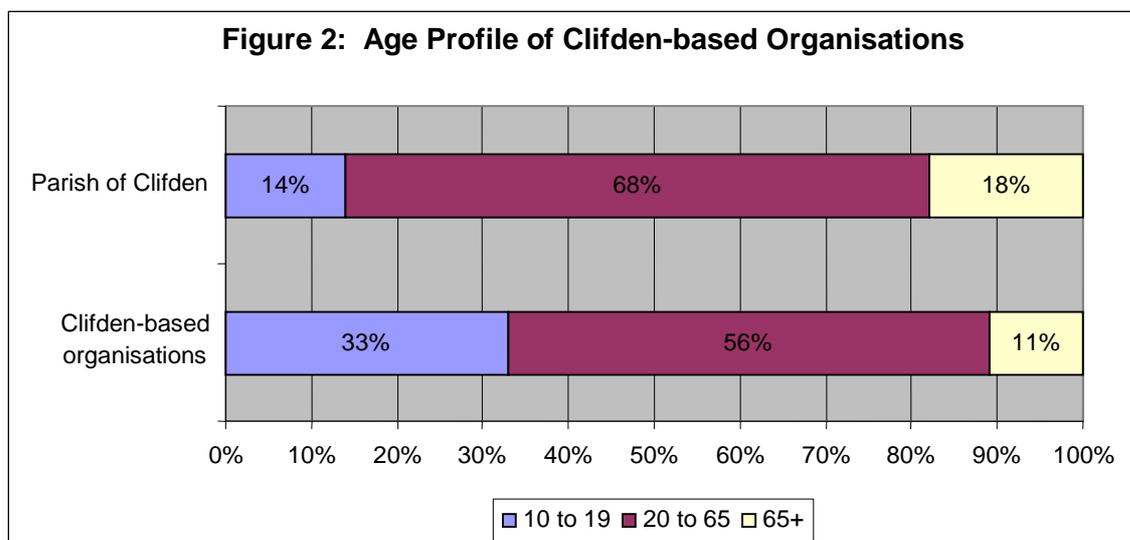
Table 9 shows the population of the parish of Clifden aged 10 and over.

Table 9: Population of the Parish of Clifden Aggregated Aged 10 and over (2006)

Electoral Division	Age		
	10-19	20-64	65+
Parish of Clifden	508	2409	641
% of total	14%	68%	18%

Source: Central Statistics Office, 2007b.

A comparison between the population of the Parish of Clifden and the total active members of all organisations is shown in figure 2.



For the parish of Clifden, 14% of the population is between the ages of 10 and 19. However, 33% of the total membership of all Clifden-based organisations is aged 10 to 19.¹ The proportions of middle aged (20-65) and older (65+) people involved in Clifden-based organisations are below their representation in the parish.

¹ Four large organisations (Ceol Theatre, Connemara RFC, Grainne Mhaols GAA and Naomh Feichin GAA) are comprised of large numbers of young people. If these groups are eliminated, the proportion of volunteers in each age category is much closer to the parish population (17% under 19; 67% between 20 and 65 and 16% over 65). None the less, the discussion concerning the lack of variety of voluntary options for young people applies.

Based on survey results, groups were placed into six classifications. ‘Young only’ means all members of the organisations are between 10 and 19. ‘Middle only’ means that all members are between 20 and 65. ‘Older only’ means that all members are over 65. ‘Young & Middle’ and ‘Middle & Older’ are used when organisational membership spans two age categories. ‘All Age Groups’ means that organisational membership includes young, middle and older age categories.

Table 10 shows the organisations classified by age categories.

Table 10: Age Profile of the Membership of Organisations Grouped by Classification

Classification	No. of Orgs.	DK	Young only (10-19)	Middle only (20-64)	Older only (65+)	Young & Middle	Middle & Older	All Age Groups
Arts & Culture	8	2	1	0	0	1	2	2
Civic & Advocacy	5	0	0	1	0	0	3	1
Community Development	10	0	1	6	0	0	2	1
Education	9	0	2	3	0	1	3	0
Environment	4	0	1	0	0	0	3	0
Health	3	1	0	0	0	0	2	0
Religious	5	0	0	0	0	1	2	2
Social Services	4	1	0	1	0	0	2	0
Sports	8	0	0	2	0	2	2	2
Recreation	5	0	0	3	0	0	2	0
Social	3	0	0	0	1	0	2	0
Other	1	0	0	0	0	0	1	0
Total	65	4	5	16	1	5	26	8
% of Total		6%	8%	25%	1%	8%	40%	12%

Eight organisations report active members from all three age categories: Ceol Theatre, Fál agus Foscadh Amateur Dramatic Society, IFA (Connemara), Forum Community Ltd Adolescent Support Group, St Joseph’s Catholic Church, Christ Church Clifden, Clifden Boat Club and Naomh Feichin GAA. This is 12% of the total. Forty-eight percentage of the organisations include two age categories. This means that about 60% of the organisations include two or three age categories.

The memberships of 22 organisations (34% of total) are comprised of one age category only. The memberships of five organisations (8% of total) are young¹, 16 organisations (25% of total) are comprised of the middle age category while one organisation is comprised of older people.

In a community that supports a large number of organisations, some that specifically target the needs and interests of a particular age group are welcome. For example, the Clifden

¹ For organisations based in the Community School, teachers or the School Liaison Officer oversee the organisation. However, they consider this activity to be part of their job and therefore they are not counted as volunteers or members.

Community School Newspaper and the Student Council are appropriate for young people only. Active Retirement Ireland and the Golden Years Association are organised around the interests (and schedules) of older people. There is a reason for the 'exclusivity' of these organisations.

However, membership comprised of a particular age group, or even two age groups should not go unchallenged because some of the consequences are negative. These can be considered by examining the organisational choices available to each age classification.

Young volunteers (10-19) comprise 14% of the population but account for 33% of the total membership of Clifden-based organisations. They were reported as members of 18 Clifden-based organisations. Young people are also participants in three Clifden-based organisations that are run by adult volunteers, often their parents. In total, 21 organisations include young people as members or participants.

They are intentionally excluded from the membership of some organisations (boards of management, parent associations). From other groups they are either unintentionally excluded or they decide not to join. As a result, the voluntary options of young people are the most limited of the three age classifications.

Although middle aged (20-65) people represent the largest number of volunteers, the percentage involved in formal volunteering (56%) is lower than their proportion of the population (68%). Middle aged people are members of 55 organisations; 18 organisations are comprised solely of middle aged people.

Based on information collected for this project, middle aged people, particularly the parents of school aged children, appear to be a group under pressure. For example, two organisations, Math for Fun and Reading Buddies are based at the Community School. The School Liaison Officer reported that she was unable to find parents to volunteer and therefore drafted transition year student. Eleven of the 18 organisations comprised solely of middle aged people report difficulty in attracting and retaining members.

The difficulty faced by this age classification appears to be lack of time, rather than lack of choice. A national survey conducted in 1998/1999 reported a similar finding. Adults were asked about their reason for *not* volunteering. The most popular response of over 50% of the respondents between the ages of 18-59 was 'no time to spare' (Ruddle and Mulvihill, 1999: 74).

Older people (65+) comprise 18% of the population and 11% of the total membership of Clifden-based organisations. The experience in Clifden is similar to other research findings. Lower participation of older people was reported in a national survey (Ruddle and O'Connor, 1999: 66) and the Co Clare survey (King, 2004: 107).

Older people are members of 35 Clifden-based organisations (53% of total). There is no obvious reason why they are not members of even more organisations

4 CONCLUSION

This research identified 68 voluntary organisations that are either based in Clifden or have a strong local presence. Data collected from each organisation provides baseline information against which future changes can be measured.

Clifden is a small town with a dispersed rural population. This research suggests that Clifden can support a wide variety of organisational choices is because small organisations can function effectively and people are willing to travel several miles to participate.

This research suggests that peripheral participants defined as individuals who are not organisational members but assist an organisation on a regular basis or as a ‘once off’ significantly assist many Clifden-based organisations. No research found to date examines this aspect of voluntary activity. This research suggests that if peripheral participation is as significant in other communities as it is in Clifden, the information collected for the Census of Population may significantly under-represent the number of people engaged in voluntary activity. On Census 2006, the question was asked ‘In the past 4 weeks, have you done any of the following activities without pay?’ Many of the activities performed by peripheral participants would not be reported because they did not take place within the four week time frame.

There is little Irish research concerning the voluntary activities of young people (under 20). This research revealed that there is considerable voluntary activity among the 10-19 age category. This group merits further investigation to identify their routes into voluntary activities and to see if early involvement in voluntary activities persists into middle and old age.

This research supplements the data available from the most recent Census of Population concerning the gender-based choices for various types of voluntary activities. At the community level, this translates into many organisations that are either female- or male-dominated. In some cases, gender imbalance can have negative social consequences. Future research could attempt to identify barriers to participation and to develop strategies to reduce them.

The majority of Clifden-based organisations rely on the efforts of middle aged people, particularly parents. Undoubtedly, they will continue to constitute an important part of the membership of most organisations. However, this research suggests that the demand for their services is greater than the number of middle aged people willing to volunteer. Future research could look at developing organisational strategies to reduce the barriers to entry for younger and older people. This would increase voluntary choices for other age groups and take some of the pressure off of the middle age category.

5 DISSEMINATION TO THE LOCAL COMMUNITY

There were four ways that this research was disseminated to the local community. First, an article in the local paper, *The Connemara View*, reported on the survey findings and gave contact details for each organisation that was interested in attracting new members (Maloney, 2009).

Second, newspaper readers were told that they could find out more information about each organisation from *The Connemara View* website. *The Connemara View* weblink provides details about the purpose of each organisation and their activities by classification (See <http://www.connemaraview.com/News%20Extra.htm>).

Third, the heads of two community development organisations and one political action group asked for and received the complete list and contact details of all voluntary organisations. In one case, the list was used by CSI, Clifden (Community School Initiative, Clifden) to notify community activists about a ‘monster meeting’ attended by public representatives.

Finally, a copy of the report was donated to the Clifden Library. It includes appendices for each classification with all of the data collected for each organisation for the report. It is hoped that this will be a community resource and assist future research.

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SEXUAL MINORITY MEN'S HEALTH: INTEGRATING RESEARCH AND POLICY

Lorraine McDonagh, Centre for Research on Occupational and Life Stress, National University of Ireland, Galway

Paper Type: Completed doctoral paper

ABSTRACT

There has been a growing awareness and concern about the burden of ill health experienced by men in Ireland. The case for an increased focus on men's health is compelling; on average, Irish men die almost five years younger than women do, and have higher death rates at all ages, and for all leading causes of death (National Men's Health Policy, 2008). The current National Men's Health Policy (2008) highlights the importance of improving men's health through promotional and marketing strategies. However, the recommendations made throughout the current policy fail to consider the health of sexual minority men in any detail. Research shows that sexual minority men are at higher risk for poor mental health outcomes. Sexual minority men concurrently experience stressors from identifying as a member of a minority group (sexual minority) and pressures to endorse hegemonic standards of masculinity. These issues appear to be major contributing factors to many of the health related problems experienced by men in Irish society. Recommendations for future policy and research will be discussed.

INTRODUCTION

In the past decade, there has been an increased awareness and concern about the burden of ill-health men in Ireland experience (McEvoy & Richardson, 2004; Richardson, 2004). Male life expectancy is almost 5 years lower than female life expectancy (Central Statistics Office, [CSO], 2006) and men in Ireland have higher death rates for most of the leading causes of death across the lifespan (CSO, 1996-2005; 2003; 2005). What men do, their behaviour, and their relations with others, have an impact not only upon themselves but on the people around them. Hence, men's health is a social issue, with implications for all society and the communities in which they reside (White, 2002).

In December 2008, the Department of Health and Children in Ireland published the world's first national men's health policy (National Men's Health Policy [NMHP], 2008). The aim of this policy is to achieve optimal health and wellbeing for all men in Ireland. The role of gender and masculinities on men's concept of health; their knowledge, beliefs and attitudes to health, illness and health practices and the barriers that Irish men perceive in accessing health services were explored in this policy (NMHP, 2008). This policy recognises the importance of supporting men to become more active agents and advocates for their own health. This initial attempt to promote the health and wellbeing of men in Ireland is an important and much needed document. However, it is characterised by a substantial omission: health issues pertinent to sexual minority men¹ receive insufficient attention.

CURRENT POLICY DEFICITS

The NMHP is directed at a heterosexual population. For example, the NMHP details the caring influence of women on men's health. Another demonstration of this heterosexism is the under-representation of sexual minority men in the development of the policy; only 1% of men included were gay². The NMHP does recommend that vulnerable groups of men need to be supported through policy. The vulnerable groups referred to include men from lower socio-economic groups, men with low incomes, men who live in rural areas, men with low educational attainment and young men (aged 18-35 years). As a result, many of the programmes and services recommended in the policy are targeted at men falling into these designated categories. Although the paper acknowledges sexual minorities (e.g., "Whilst the focus will be on the caring influence of women on men's health, this is not to negate the significance of same-sex relationships in terms of gay/bisexual men's health, although there is less evidence in the literature to support this" (NMHP, 2008: 75), it fails to consider the health of sexual minority men in any detail. Consequently, the principal aim of this policy, which is to "[support] *all* men to take greater responsibility for their own health," is unrealised. A governmental policy is needed for the country. Many communities of men in Ireland are vulnerable to health inequalities and it is important, therefore, to recognise the needs of different sub-communities of men in order to develop suitable practice and policy (Banks, 2004).

MINORITY STRESS

In Ireland, stress has been identified as a significant threat to men's health (Richardson, 2004). Approximately 31% of men in Ireland 'regularly' or 'constantly' experience stress and almost 20% of men are either 'somewhat' or 'completely' ineffective at managing stress (Richardson, 2004). Epidemiological research has revealed numerous mental health burdens among sexual minorities, in comparison to heterosexuals (Cochran, 2001). In addition to the mental health needs and challenges facing all people, sexual minorities are at a heightened risk of psychological distress because of the stresses associated with being a member of a minority group (Cochran, 2001; Cochran & Mays, 2006; Cochran, Mays & Sullivan, 2003). A meta-analysis conducted by Meyer (2003) found that sexual minorities are 2.50 times more likely to have a lifetime history of mental disorder compared with heterosexuals, and twice as likely to have a current mental disorder. One Irish study (Mayock, Bryan, Carr, & Kitching, 2009) found that, generally, Irish sexual minorities have higher levels of alcohol consumption, recreational drug use, smoking and a higher incidence of obesity and eating disorders than among the general population. The sample in this study was also found to have a high incidence of anxiety, depression, self-harm and suicidality.

The term minority stress is used to describe the mental health consequences of stigmatisation and marginalisation of minority groups such as sexual minorities (Meyer, 1995). Meyer's (1995, 2003) minority stress theory explains how societal stressors influence mental health disparities in sexual minorities. As Meyer (2003) stated, a fundamental assumption of this theory is that minority stress is "unique—that is, minority stress is additive to general stressors that are experienced by all people, and therefore, stigmatized people require an adaptation effort above that required of similar others who are not stigmatized" (p. 676). Just as general life stressors are believed to exceed an individual's ability to cope (Dohrenwend, 2000; Lazarus & Folkman, 1984), stigma creates numerous unique demands (Herek & Garnets, 2007; Miller & Kaiser, 2001; O'Brien & Major, 2005; Pachankis, 2007) that have been shown to be particularly stress-inducing. In turn, these additional stressors are

hypothesized to explain disparities in rates of health problems among sexual minorities (Hatzenbuehler, 2009).

Meyer (1995) identifies internalized homonegativity (or internalized homophobia), expectations of stigma, and experiencing prejudicial events (e.g., violence) as sources of stress. Internalized homonegativity represents an internal form of stress; it is described as the extent to which gay men internalize the antigay attitudes of the larger heterosexual society (Meyer, 1995, 2003). Internalized homonegativity has been linked to eating disorders (Williamson & Hartley, 1998), risky sexual behaviour (Meyer & Dean, 1998), greater substance use (Meyer & Dean, 1998), and suicidality (Remafedi, French, Story, Resnick, & Blum, 1998). Expectation of stigma is defined as experiences that produce the individual's anticipation that he (or she) will be rejected and discriminated against by others in society because of his or her sexual orientation (Meyer, 1995, 2003). Among sexual minorities, sensitivity to status-based rejection is predictive of both adverse physical (Cole, Kemeny, & Taylor, 1997) and mental (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002) health outcomes. Experiencing prejudicial events includes experiences of verbal and physical violence due to a person's sexual orientation (Hamilton & Mahalik, 2009). This includes experiences of victimisation and discrimination. Meyer's (1995, 2003) minority stress model has been useful in explaining a number of health outcomes in gay male populations, including suicidality, depression, substance abuse, body image problems, and workplace problems (Diaz, Ayala, Bein, Jenne, & Marin, 2001; Herek, Gillis, & Cogan, 1999; Kimmel & Mahalik, 2005; Meyer, 1995; Waldo, 1999).

With respect to victimization, studies that compare heterosexual and gay samples document higher rates of victimization among LGB (lesbian, gay, and bisexual) adults (Corliss, Cochran, & Mays, 2002; Tjaden, Thoennes, & Allison, 1999). One study used a comparison sample of the heterosexual sibling(s) of LGB participants (Balsam, Rothblum, & Beauchaine, 2005). There was a higher prevalence of various forms of victimization among the LGB participants, including both sexual assault and physical abuse. Youth studies have found similar results (Russell, Franz, & Driscoll, 2001). Incidences of peer victimisation are related to multiple adverse health consequences, including suicide risk (Garofalo, Wolf, Wissow, Woods, & Goodman, 1999; Russell & Joyner, 2001). Mayock and colleagues' (2009) findings demonstrate the levels of harassment sexual minorities experience in Ireland. Approximately 80% of respondents had been verbally abused because of their LGBT (lesbian, gay, bisexual, and transgender) identity, 40% were threatened with physical violence, 25% had been punched, kicked or beaten, 58% reported the existence of homophobic bullying in their schools, over half had been called abusive names related to their sexual orientation or gender identity by fellow students, and 40% had been verbally threatened by fellow students.

Perceived discrimination has been shown to be predictive of multiple forms of mental health problems in sexual minorities, including anxiety (Herek et al., 1999), psychological distress (Hatzenbuehler, et al., 2008), and substance use disorders (McKirnan & Peterson, 1988, 1989). Between groups studies also have demonstrated greater discrimination among sexual minorities relative to heterosexuals. For instance, analyses of population-level data have shown that gay men earn 10%–32% less than similarly qualified heterosexual men with the same job (Badgett, Lau, Sears, & Ho, 2007). Importantly, research with probability samples has found increased exposure to discrimination experiences among LGB participants relative to heterosexuals; when discrimination was statistically controlled, the association between

psychopathological outcomes and sexual orientation was significantly attenuated (Mays & Cochran, 2001). Concealment is another type of minority stressor identified by Meyer (2003). Being gay is a stigma that can be concealed. There are numerous ways in which concealment has been related to negative mental health outcomes; hyper-vigilance, social isolation, and threat of discovery (Pachankis, 2007).

MASCULINITY

Undoubtedly, the concept of masculinity is central to any discussion on men's health and ways to improve men's health (White, 2002). Masculinity refers to all those qualities and activities that convey a sense of "maleness" to an individual (Philaretou & Allen, 2001). Men act and think the way they do because of concepts of masculinity they learn from their community (Pleck, Sonenstein, & Ku, 1994). Much of the theoretical work on masculinity focuses on the concept of hegemonic (traditional) masculinity. It is widely accepted that multiple masculinities exist (Connell, 2005) because, although hegemonic masculinity is the dominant ideal in a culture, not all men can or do endorse it (Connell, 1995). Hegemonic masculinity represents the form of masculinity endorsed by the dominant group in any given culture, and represents authority and power (Connell, 1987). It is socially dominant in that it subordinates femininities, as well as other types of masculinities. Men are active agents in constructing and reconstructing dominant norms of masculinity (Courtenay, 2000). In many Western countries, hegemonic masculinity is embodied in heterosexual, well-educated, European American men that occupy a higher socioeconomic stratum. In particular, heterosexuality is seen as the dominant and exclusive categorization of male sexuality (selective rules are imposed in regard to acceptable sexual practices) (Courtenay, 2000; White, 2002). Activities that are used by men to construct and reconstruct masculinity include language (Perry, Turner, & Sterk 1992; Crawford, 1995); sports (Connell, 1992; Messner & Sabo, 1994); sex (Vance, 1995); crime (Messerschmidt, 1993); and work (Connell, 1995). Crawford (1995) highlights health beliefs and behaviours as one strategy individuals use to negotiate their social surroundings.

Abiding by the standards of hegemonic masculinity can have dangerous consequences for men's psychological functioning (Courtenay, 2000; Goldberg, 1976; Harrison, Chin, & Ficarrotto, 1992; Pollack, 1998). Men are more likely to engage in risky health behaviours (i.e., increased risk taking, self-destructive behaviour, and less concern about personal health) as a result of trying to live up to these societal standards of hegemonic masculinity (Courtenay, 2000). Health-related beliefs and behaviours that are utilised in demonstrating hegemonic masculine ideals include emotional and physical control, the denial of weakness or vulnerability, attempting to appear strong and robust, a high sex drive, dismissal of any need for help, aggression and physical dominance (Courtenay, 2000). For example, a man who refuses to take sick leave from work; insists that he needs little sleep; or boasts that drinking does not impair his driving is demonstrating dominant norms of masculinity (Courtenay, 2000). It is well recognised, in Ireland (Richardson, 2004) and internationally (Addis & Mahalik, 2003; White & Johnson, 2000), that men are often hesitant to seek help and continue to present late in the course of an illness (Richardson & Carroll, 2009). Mahalik, Burns, and Syzdek (2007) found that men who scored higher on an index of masculinity reported lower frequencies of health promoting behaviour. Charmaz, (1995) found that men with chronic illness often tried to hide their illness. An executive hid his dialysis treatments by telling others he was away attending meetings; a patient with diabetes found he could not manoeuvre his wheelchair and lunch tray, so he would miss lunch and risk coma rather than

asking for help (Charmaz, 1995). The influence of masculinity on health behaviours has also been shown to persist over time. One longitudinal study found that beliefs about masculine standards was the strongest predictor of risk taking behaviour (i.e., cigarette smoking, high-risk sexual activity, alcohol use and drug use) two and a half years later, when certain psychosocial factors were controlled (Courtenay, 2000). Similar findings also have been identified in Ireland. Richardson (2004) found that only 38% of men (aged 18 and over) 'always' adhere to speed limits while driving, while 15% and 52% of men do not always wear seat belts while travelling in the front or back of a car, respectively. In addition, 56% of men report using sunscreen 'infrequently' at best, but men aged 18-29 and less educated men were more likely to expose their skin to the harmful effects of the sun (Richardson, 2004). By engaging in such behaviours, cultural standards of hegemonic masculinity are reinforced: asking for help is a feminine act, and health and safety are irrelevant for powerful men (Courtenay, 2000; Robertson & Williamson, 2005).

Gay men's experiences reflect both being gay and being men (Kimmel & Mahalik, 2005). Many men are exposed to society's dominant hegemonic discourse but because of their social circumstances they may experience it differently (i.e., not all men will, or even can, endorse these standards) (Connell, 1995, 2005). Therefore, some have to find alternative methods of endorsing masculine ideals and validating themselves as men. Factors which will influence a man's ability to display hegemonic masculine standards are his ethnicity, age, social class, and, the focus of this paper, his sexuality (Courtenay, 2000). As heterosexuality is a key aspect of hegemonic masculinity, gay and bisexual men may attempt to compensate for their lack of heterosexuality by putting themselves in danger or by engaging in physically dominant behaviours (football) (Courtenay, 2000). One man described how he played football to validate his status as a man: "I really hated football but I played it because I thought it would make me more of a man" (Fellows, 1996: 40). Another way some gay men may try deal with the traditional masculine norms is through demonstrating what is termed protest masculinity (Connell, 1995). By having a large number of sex partners (increasing their chances of contracting sexually transmitted infections) and engaging in unprotected sexual intercourse, a man can be described as demonstrating protest masculinity: "Real men ignore precautions for AIDS risk reduction, seek many sexual partners, and reject de-pleasuring the penis. Abstinence, safer sex, and safer drug use compromise manhood" (Levine, 1998: 146-147). In an Irish sample, one in two (50.3%) of all men who had sex with a man in the last year engaged in unprotected anal intercourse (McCartney, Bader, Donlon, Hickson, & Quinlan, 2009). Other research has shown that gay men hold stronger traditional masculine standards than heterosexual men. Initially, this may seem contradictory; however, the endorsement of these ideals can be seen as a way for gay men to prove to others that they are still "real" men, in spite of their sexual preferences (Courtenay, 2000; Diaz 1998).

RECOMMENDATIONS

While positive efforts have been made to advance the health status of LGBT people throughout the Health Service Executive (HSE), this paper highlights that there is a need to devote greater attention to this specific group. In order to meet the HSE objective of providing health and personal social services for everyone living in the Republic of Ireland, it is essential that sexual minority men's health needs are appropriately met through both mainstream and targeted services.

Given the role social and structural factors (e.g., prejudicial attitudes and discrimination) have in the aetiology of mental health outcomes in the LGB community, it is clear that interventions are needed at a societal level (Hatzenbuehler 2009; Link & Phelan, 2001; Meyer, 2003). Future policy should include a plan for stigma reduction and for the elimination of prejudice and discrimination towards sexual minorities. Research demonstrates the importance of efforts to eliminate homophobia both within the mental health community and in society in general. Meyer (1995) argues for an advance in “an ideological agenda that promotes social change toward a more egalitarian society” (p. 52). Part of this agenda is to promote attitudinal and policy change in order to create a society that provides equal rights and privilege to minority sexualities (Meyer, 1995). Such efforts may reduce minority stress for gay men, potentially leading to better health outcomes. One strategy suggested by Mayock and colleagues (2009) is to further promote the police services in Northern Ireland and in the Republic of Ireland as LGBT-friendly and supportive of dealing with homophobic incidents. Society also plays an important part in the hegemonic discourse of masculinity. Interventions should be aimed at challenging society’s standards of masculinity, with a particular focus on the issues pertinent to sexual minority men.

Interventions also are needed at the individual level. A future policy on sexual minority men’s mental health would have implications for practitioners such as clinicians, counsellors, and physicians, working with gay men. Practitioners should be aware of how factors such as minority stress and masculine standards might relate to or inform the treatment of problematic health behaviours (Hamilton & Mahalik, 2009). Understanding the impact of minority stress and homophobia and relations to potentially self destructive behaviour is an important association for practitioners to consider in their interventions and treatment planning (Hamilton & Mahalik, 2009). Practitioners might explore their patient’s experiences of being a man and how their concepts of masculinity might be enacted in unhealthy ways (Hamilton & Mahalik, 2009). Interventions could aim at possibly modifying men’s masculine related cognitive schemas (see Mahalik, 1999). As well, practitioners should also be aware of their own heterosexist biases when working with sexual minority clients (Brown, 1996; Cochrane, 2001). For example, some studies suggest that physicians often assume that gay men are heterosexual (by making reference to a girlfriend or wife) which, in turn, “shuts down” channels of communication (Beehler, 2001; Eliason & Schope, 2001). The patient becomes reluctant to discuss health issues that are perceived (sometimes erroneously) as gay specific (Cochrane, 2001). Sensitivity training may be valuable for preventing such situations with practitioners. Practitioners who are aware of these factors that influence gay men’s health will be better equipped to meet the needs of these men and help improve their wellbeing (Hamilton & Mahalik, 2009).

In conclusion, this paper highlights the multifaceted social context that sexual minority men experience as it relates to health behaviours associated with an array of psychological and physical health concerns. Sexual minority men concurrently experience stressors from identifying as a member of a minority group (sexual minority) and pressures to endorse hegemonic standards of masculinity; these appears to be major contributing factors to many of the health related problems experienced by men in Irish society³. For a future policy on men’s health to adequately address this group’s health concerns through health-promotion work, a multi-faceted view of gay men’s health is required.

A national policy on men’s health which includes vulnerable groups of men, such as sexual minority men, offers a framework and strategy to the Health Industry with a direction based

on best practice models that can improve the health and wellbeing of all men. Policy change will ultimately lead to better health outcomes for sexual minority men.

Notes

1. The term “sexual orientation” has numerous definitions, including self-identification (gay, lesbian, bisexual, or transgender), sexual behaviour, and sexual attraction. The term sexual minority encompasses these various definitions and refers broadly to individuals who have a sexual orientation that is non-heterosexual (Hatzenbuehler, 2009). This term is used throughout the article, except in the discussion of specific studies in which authors have used another term. The focus of the current manuscript is sexual minority men; gay, bisexual, and men who have sex with men. The term ‘men who have sex with men’ is used to describe all men who are sexually active with other men, regardless of how they identify themselves (Parker, Khan, & Aggleton, 1998). Transgender individuals were not included in many of the studies which are being presented here. Any policy on men’s health must examine the rates, types and causes of health-related problems for this specific sub-population, but this is beyond the remit of this paper.
2. As in many countries, there is no exact data about the size and composition of sexual minority communities in Ireland (Aaron, Chang, Markovic, & LaPorte, 2003; Bradford, Ryan, Honed, & Rothblum, 2001).
3. It is important to note, that many members of the LGBT community in Ireland live happy and healthy lives and do not evidence greater risk for psychopathology (Cochran et al., 2003; Savin-Williams, 2001).

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STRESS, SLEEP LOSS AND WELL-BEING: IMPLICATIONS FOR PUBLIC HEALTH POLICY

Eanna O’Leary, Centre for Research on Occupational and Life Stress, National University of Ireland, Galway.

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ABSTRACT

Sections of society increasingly experience regular sleep loss due to the demands of modern lifestyles, greater work pressure, and psychosocial stress. Frequent insufficient sleep is not only common among working adults, but is a growing problem among diverse sections of the population, including older adults.

While the performance and cognitive related deficits associated with sleep loss are well established, evidence suggests that insufficient sleep may have additional direct effects on both an individuals physical and psychological functioning. Often thought of in terms of medical parameters, sleep loss (especially chronic sleep loss) is very much a psychological and psychosocial problem: its direct precursors are primarily factors relating to behaviour, personality, and environment; while its impact is felt in terms of behavioural, emotional, and social outcomes. As such, the growing trend toward chronic partial restriction of sleep is becoming recognized as a public health problem and a pertinent issue relating to occupational and public health policy debate in the sustainable communities domain.

Sleep problems, such as difficulty initiating and maintaining sleep, reduced quality/quantity of sleep, and excessive daytime sleepiness are associated with adverse effects on well-being, social functioning and quality of life, according to numerous studies covering the general population. The direct effects of such problems, as well as comorbidity with other substantial public health problems such as obesity and depression, can have a profound economic and social impact. Such effects relate to various indicators of public health, from direct impact on physical health and related health care utilisation, to individuals daily social and emotional functioning. As it appears to be the case that individuals suffering from sleep loss are less productive, have an increased health care utilisation and a decreased quality of life, research which investigates sleep and its health correlates aims to aid policy formation regarding provision of effective support and change necessary for such individuals.

While exposure to suboptimal sleep and increased stress increases as part of modern daily living, particularly in times economic uncertainty, research relating to how, on an individual level, our communities function in the face of modern stressors such as sleep loss, can help underpin informed policy formation relating to physical and mental health protection in the face of stressful demands in daily life.

INTRODUCTION

The need and demand for clear scientific evidence to inform and support health policymaking processes are greater than ever. The World Health Organisation’s (WHO) “The Solid Facts”

document sets out a policy driven research agenda on how psychological and social influences affect adverse health outcomes (Wilkinson and Marmot, 2003). The investigation into psychosocial determinants of health is concerned with key aspects of people's living and working circumstances and their lifestyles. It is also concerned with the health implications of economic and social policies, and the benefits that investing in health policies can bring. Our current understanding of psychological factors suggests ways that the social environment can have a powerful influence on health.

While the current economic climate has resulted in much concern over the appropriate provision and financing of health services, it remains a priority to ensure that the nature of the services provided is based on the best scientific evidence regarding service effectiveness and in the process, incorporating current understanding of key social and psychological factors that make people ill and in need of medical care in the first instance.

Policy and action for health need to address both psychological and social determinants of health, combating causes of ill health before they can lead to problems. This is a challenging task for both decision-makers and public health advocates. It is now recognised that individuals' social and psychological circumstances can seriously damage health over longer terms. Chronic psychological stress, in both occupational and life contexts, appears to undermine health. In particular, chronic loss of sleep, resulting in suboptimal sleeping patterns, has been associated with negative mental and physical health outcomes. As trends toward reduced sleep duration and quality become increasingly more common in society, particularly in occupational contexts, research is needed to investigate the impact of sleep loss on both psychological and physical well-being, importantly, in the context of policy formation. Psychosocial factors and their influences on health are active areas of research and the following paper sets out the mechanisms linking psychological stress, particularly occupational related stress and sleep disruption, to ill health and the policy implications of such associations in terms of public health protection.

STRESS AND HEALTH

When social scientists refer to psychological stress they usually make reference to a psychological state which encompasses both the external environment and the individual's internal response to this environment. In this sense, stress refers to the outcome of an interaction between an organism and the demands placed on it by the environment, or put succinctly, we may define psychological stress as the state arising when the individual perceives that the demands placed on them exceed (or threaten to exceed) their capacity to cope, and therefore threaten their wellbeing (Martin, 1997). When these environmental demands (referred to as "stressors") imposed by events surpass a person's ability to cope, they elicit both psychological and biological reactions (referred to as the "stress response"). Stressors can be physical as well as psychological, however, as Martin (1997) again notes, within our definition of stress lies a crucial concept – one's experience of stress depends on our individual appraisal of both the demands we experience and our capacity to cope with them. Individuals differ considerably in their responses to identical stressors, depending on factors that are unique to them, including personality, physical health and their social environment. Additionally, the quality of the stressors themselves can have significant bearing on the level of the resultant stress response; one important feature is the duration of the stressor. As one would expect, prolonged (chronic) stressors tend to inflict greater damage to health compared to short-lived (acute) stressors. Individuals who have supportive

social relationships are known to be less vulnerable to the health related detriments linked to lifestyle stress (Uchino, 2006), and psychological intervention and supportive health policy which encourages a positive social support structure can act to promote important psychosocial stress “buffers”, working to reduce the harmful health impacts of a maladaptive stress response.

HOW DO PSYCHOSOCIAL FACTORS AFFECT PHYSICAL HEALTH?

The term “allostasis” describes the process by which living organisms maintain biological homeostasis during environmental or physiological challenges (McEwen, 2000). These physiological coping mechanisms involve diverse systems within the body including the autonomic nervous system and cardiovascular, metabolic, and immune systems, serving to protect the body from internal or external stress. For some individuals, a maladaptive stress response can develop, because of genetic predisposition, environmental factors or if the normal stress response occurs frequently and the individual does not adapt to a repeated stressor of the same type (Brotman et al., 2007). Such repetitive build-up of stressors/stress responses has been referred to as “allostatic load” (Mathe, 2000). Being in a state of constant activation (as in a chronic fight/flight response to threat) or in a chronic state of helplessness and giving up, decreases our adaptability (allostasis) and renders us more susceptible to a wide variety of stress related disorders (Vingerhoets and Perski, 2000). Studies have demonstrated that stress is associated with varied detrimental health outcomes from upper respiratory infection (Cohen et al., 1999) to exacerbation of autoimmune disorders (Stojanovich and Marisavljevich, 2008). There is also a consistent relation between chronic psychosocial stress and coronary atherosclerosis (and atherosclerotic risk factors) while related disorders of what is termed the “metabolic syndrome” (a combination of medical disorders that increase the risk of developing cardiovascular disease) have been associated with several indices of chronic psychological stress, two indices of particular note being occupational-related stress and sleep deprivation (Brotman et al., 2007).

One form of chronic stress an individual may encounter, namely chronic loss of sufficient sleep, is known to have potential hazardous repercussions for health and well being. While the impairment of cognitive functioning associated with sleep deprivation is well established (Van Dongen et al., 2003, Barger et al., 2005), data suggest that insufficient sleep may have additional adverse effects on diverse health regulating systems, from cardiovascular, metabolic and immune functioning, in addition to having a negative impact on an individuals social and emotional function (Mullington et al., 2009). Short sleep durations also have the potential to result in increased exposures to waking physical and psychosocial stressors (Gangwisch et al., 2006) and in adult life, our working environments are one of the most significant settings relating to individuals’ daily stress exposure.

STRESS AND THE OCCUPATIONAL ENVIRONMENT

The psychosocial work environment, with relevance to health, is defined by the interaction between a persons cognitions, emotions and behaviours and the material and social work context (Marmot and Wilkinson, 2006). The nature of work has undergone significant change in recent decades. Jobs are increasingly becoming defined by more mental and emotional demands. According to the European Agency for Safety and Health at Work work-related stress is one of the biggest health and safety challenges that we face in Europe. Stress is the

second most frequently reported work-related health problem, affecting 22% of workers from EU member states (in 2005), and the number of people suffering from stress-related conditions caused or made worse by work is likely to increase. Studies also suggest that stress is a factor in between 50% and 60% of all lost working days (European Agency for Safety and Health at Work, September, 2009).

Occupational stress can be defined as the interaction of work-specific conditions and individual characteristics where (negative) physical and/or psychological consequences occur in response to a stressor, when the requirements of the job do not match the perceived capabilities, resources or needs of the worker (Chang et al., 2006). When the worker perceives an imbalance between demands and environmental or personal resources, this can cause a number of possible reactions. These may include physiological responses (e.g. increase in heart rate/blood pressure), emotional responses (e.g. feeling nervous or irritated), cognitive responses (e.g. reduced attention and perception, forgetfulness), and behavioural reactions (e.g. aggressive, impulsive behaviour, making mistakes). When people are in a state of stress, they often feel concerned, less vigilant and less efficient in performing tasks (Barling et al., 2005). When stress reactions persist over a longer period of time (chronic stress), they may develop into more permanent, less reversible health outcomes, the result being long-term consequences both for the individual (high blood pressure, affective disorders, alcohol dependence) and for the industry (impaired performance/productivity and increased absenteeism/turnover). Stress occurs in many different circumstances, but is particularly strong when a person's ability to control the demands of work is threatened. Importantly, as noted by the European foundation for the improvement of living and working conditions (2007) the stressful experience is intensified if no help is available from colleagues or supervisors at work. Therefore, social isolation and lack of cooperation increase the risk of prolonged stress at work. Conversely, a work environment with supportive social relationships, contribute to workers' well-being and health. A health impacting work factor of particular note is the increasing practice of work during 'non-standard' working hours, including shift and night work, both recognized as significant risk factors for health, safety and social well-being (Costa, 2003).

SHIFT WORK AND SLEEP PROBLEMS

Research suggests that there is significant morbidity associated with shift work exposure. Most prominently, shift work is associated with both increased difficulty sleeping and with increased sleepiness during waking hours (Akerstedt, 1995). While reduced wakefulness during waking hours has clear safety and productivity repercussions, shift workers are also at increased risk for a variety of adverse health outcomes, including cardiovascular disease, with chronic loss of sufficient sleep proposed as a possible pathological mechanism. This is of distinct relevance given the fact that the European Working Conditions Surveys (EWCS) which documents recent patterns in mental health at the work- place report that in the period from 2000-2005, while some stress related indices decreased (i.e., work irritability) work-related sleep problems remained constant (European Foundation for the Improvement of Living and Working Conditions, 2005). However, shift work is not the only occupational factor related to occupational sleep disturbance. Studies in both the US and some EU states have documented that parameters of job stress, such as high job demands, low job control, high job strain that is defined by a combination of high job demands and low job control, and low social support at workplace are associated with an increase in sleep problems (see Nakata et al., 2004). This interaction of work stress and sleep disturbance not only has a detrimental

impact on physical health but also impacts the individuals social functioning. For instance, for couples in which one or both members of the dyad engage in shift-work, the association between sleep and relationship quality may be particularly strong because of shift-workers heightened risk for sleep deprivation and dysregulated social rhythms which may limit opportunities for positive social interactions with the spouse or partner (Troxel et al., 2007). It is also clear from interdisciplinary published works in the psychological, medical and sociological literature that sleep problems of one partner in a couple can create sleep problems for the other (e.g. Armstrong et al., 1999). Sleep loss also affects emotion regulation, frustration tolerance and cognitive functioning which could in turn lead to more negative relationship interactions and social functioning (Kahn-Greene et al., 2006). Thus, disturbed sleep linked to occupational environmental stress may contribute to unhealthy social and relationship functioning by impairing emotion regulation and cognitive function in addition to influencing physiological stress mechanisms leading to physical ill health.

SOCIAL SUPPORT AS MODERATOR IN THE STRESS-ILLNESS LINK

Social support has a positive effect on many different aspects of both physical and mental health and the evidence that social support is beneficial (and social isolation damaging) to health is now considerable (Marmot and Wilkinson, 2006). Social support is generally used to refer to a general perception that others are available and desire to provide assistance should the individual need it (Pierce et al., 1996). More formally, social support in the social sciences refers to a multidimensional construct with distinctions made between “structural support”, describing the size, type, density and frequency of contact with the supportive network surrounding an individual, and “functional support”, which refers to the apparent benefit provided by that structure (Lett et al., 2005). Functional support can further be categorized as available (referring to potential access to a particular type of support from the environment) or enacted (referring to the manifestation of available support in the form of actual support received from others) (Tardy, 1985). This definition emphasizes perceived social support, which has consistently been associated with various positive health outcomes and appears to be more important than received social support (Cohen et al., 2004). Two theories have been developed to explain the role of social support in health status: (a) “main effects” suggest that the positive effects of support, or lack thereof, have direct effects on an individuals health status and (b) the “stress buffering hypothesis” suggests that support helps to moderate the impact of acute and chronic stress on health.

In the field of Health Psychology, most laboratory based testing of social support and its health function is derived from the social support reactivity hypothesis (Lepore, 1998), which asserts that social support enhances health prospects by preventing or attenuating harmful physiological responses to stress. Social support has the potential to operate on both an individual and societal level to foster social cohesion (the existence of mutual trust and trust between sections of society) and associated contributions to individual and community wide health. As an example of applied use in an occupational environment, a well known occupational stress model by Karasek and colleagues, the demand-control model, in which job stress or “strain” is thought to result from high job demands and low personal control resulting in increased risk of stressful experience and subsequent physical illness, was adapted to include social support as a buffer against occupational stress (Karasek et al., 1981). In this context, social support refers to both emotional support (involving for e.g., trust and social cohesion between colleagues) and instrumental social support (involving the provision of work-related resources and assistance). When tested on workplace populations,

results indicate that when initiatives are implemented to stimulate support (from work colleagues and from supervisors) high social support level results in fewer symptoms of stress related ill-health than those with low social support in the workplace (Theorell et al., 2001).

COMPATIBILITY OF PRESENT RESEARCH AND CURRENT POLICY AGENDAS

According to the Irish “Summary of injury, illness and fatality statistics”, in 2004 and 2005 “stress, depression, anxiety” had the second highest rate in the illness category affecting 6.5 illness cases per 1,000 workers in 2005, and 6.0 in 2004 (Health and Safety Authority, 2007). Data from the Occupational Injury Benefit (OIB) scheme run by the Department of Social and Family Affairs show that 1.7% of all claims in 2006 were related to occupational stress. On a European level, in terms of cost to the European economy, studies suggest that between 50% and 60% of all lost working days have some link with work-related stress (Cox et al., 2000). This represents cost in terms of both human distress and impaired economic performance. A conservative estimate of annual costs of work-related stress, accounting for the sum of both direct and indirect health costs, in the EU nations is in the region of 20 billion Euro (Dunham, 2001). Such high prevalence and attributed health costs lead the European Agency for Safety and Health at Work to set up the “European Risk Observatory” through which they identified and explored emerging occupational safety and health risks and associated areas for emerging policy provision. These reports, issued by an expert group representing 13 Member States of the European Union, the USA and International Labour Organisation (ILO) detailed a “forecast” of emerging psychosocial risks which, they feel, will come to prominence in the years ahead.

They identify certain key areas of risk. Firstly, they propose that as a consequence of an ageing population and higher retirement ages, ageing workers may be more vulnerable to the hazards resulting from poor working conditions than younger employees. Secondly, of increasing relevance over the coming years, and especially relevant to psychosocial health, as job instability, forced mobility and unemployment become more prevalent, such an unstable labour markets result in increases in workers’ feelings of job insecurity, which augments the level of work-related stress and may have a negative impact on workers’ health. In addition, work intensification, related to the reduction in jobs and job insecurity, suggests that some workers, particularly those employed in new forms of employment or in highly competitive fields, may fear being monitored more closely for efficiency and output and, as a result, tend to work longer hours to finish tasks and sleep less without proper compensation or social support. Finally, the experts stressed that all of the changes in work organisation mentioned above may lead to higher pressure on workers which could spill over into private life. The resulting overall representation of the coming years, both in Ireland and at European level, is one of increased risk of stress related health impacts due in no small part to changes in work structure as a result of economic upheaval, the result being a potentially poor work-life balance and resulting detrimental effects on worker’s health and well-being.

IMPLICATIONS FOR POLICY

Work-related stress is not specifically mentioned in European legislation. However, the “Framework agreement on work-related stress” (Monks et al., 2004) was signed by the EU social partners. Its objective is to provide employers and workers with a framework to

identify and prevent or manage problems of work-related stress. The framework emphasises that if stress at work is tackled, efficiency and occupational health and safety can be improved, resulting in economic and social benefits for companies, workers and society as a whole. Additionally, the agreement sets out a range of measures that employers could use to tackle the issue of work-related stress, either individual or collective, or both. Employers may want to use specific targeted measures, or they may want to put into place an integrated stress policy containing both preventative and responsive measures. It is suggested that, where necessary, external expertise should be called upon. Social science research which focuses on psychosocial factors underpinning occupational stress plays a central role in policy provision relating to the prevention and reduction of work-related stress. It is anticipated that scientific expertise in the examination of psychosocial stress in the workplace can facilitate (a) the provision of key stress indicators in our workplace communities which can be used in the identification of stress at an individual level (i.e. subjective factors and perceived lack of support), (b) elucidate moderators to the stress-illness link (i.e. social support) (c) affect greater overall social cohesion between work colleagues and (d) promote more adaptive functioning in our workplaces, with a vision of sustaining a healthful and productive workforce in the challenging work climate of the years ahead.

Finally, as Marmot and Wilkinson (2006) propose, primary incentives in societal investment in an improved psychosocial work environment are ones relating to the direct costs to the economy as well as our responsibility to the safety and overall well-being of workers. European and national statistics presented here related to work-related stress and psychosocial risks indicate that stress at work is a growing problem for a significant number of workers, which has subsidiary effects for health problems, work absence, lower productivity and generates cost for enterprises and the wider community. Policy makers, social partners and relevant stakeholders have been called upon to take action on stress related well-being in the workplace and this protection and promotion of employee health should be considered an essential task of employment policy based on the application of a knowledge base derived from scientific research on psychosocial stress risks.

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PUBLIC PENSIONS AND RETIREMENT IN IRELAND

Roman Raab and **Brenda Gannon**, Irish Centre for Social Gerontology, National University of Ireland, Galway

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ABSTRACT

This paper assesses if there are potential financial incentives in the Irish public pension system. It contributes towards the wider international literature on this topic, but to date, no such research has been done in Ireland. Following Gruber and Wise (1999), we compute social security wealth, its accrual, and the implicit tax rate on work at different ages. We find that there are potential financial incentives. But because retirement options are not as flexible as in other countries, we do not see corresponding retirement behaviour where usually people respond to these incentives by retiring early. This clearly has implications for the current policy on introducing voluntary redundancy schemes into Ireland. We would expect that with flexible retirement options and financial incentives, the uptake would be high. Nonetheless, this is not the case – therefore we suggest that retirement rules become more flexible to facilitate early exit from the labour force during economic recession, but without deterring older workers when a positive economic cycle resumes.

1 INTRODUCTION

Most developed countries are experiencing an increasingly ageing population, while at the same time, older workers exit into retirement at an earlier age. Often, a public pension system facilitates this trend into early retirement as it may provide financial incentives to retire early. Therefore, the current and future financial burden on public retirement systems has become one of the most discussed issues of modern welfare states.

Ireland is in some respects unique in the league of OECD countries. Unlike most countries, because the population is on average younger than in other countries, public expenditures on pensions in Ireland are relatively low. The Irish public pension system provides a basic flat-rate pension, not related to earnings and the replacement of pre-retirement income is one of the lowest in the OECD. However, for many Irish retirees, a public pension is the main source of old-age income. Indeed, almost 60 percent of income in old age comes from state pensions. Only 20 percent come from occupational pensions, roughly 10 percent from private pensions. The remainder is due to postretirement work (Hughes and Watson, 2005).

Therefore, it is worth looking at the influence of Irish public pensions on retirement behaviour. The basic issue we are going to address in this study is the impact of state pensions and if any financial incentive leads people to retire early. We first look at the

socioeconomic and institutional background of the pensions in Ireland. Then, we assess if financial incentives exist and if labour force behaviour is consistent with these incentives.

Research on potential financial incentives within the public pension system in Ireland is relatively scarce compared to other countries. In the research on older workers, primarily the issues of population ageing and its fiscal impact (Barrett and Bergin, 2005), the fiscal interactions between private and public pensions (Callan et al., 2007), and the potential abuse of disability benefits as a form of early retirement (Gannon, 2006) were addressed. From a policy perspective, *The Green Paper on Pensions (2007)* is the central government report on the status quo and policy options on public pensions. Our contribution to this literature is the first time assessment of the link between the retirement decision and the potential incentives embedded in the Irish public pensions.

The analysis of retirement behaviour and the accumulation of lifetime wealth, i.e., the financial incentives, are based on the *Life Cycle Hypothesis* by Modigliani and Brumberg (1954), as well as the *Permanent Income Hypothesis* by Friedman (1957). Individuals not only make economic decisions in the present, they consider their whole lifetime potential to accumulate wealth. Feldstein (1974) empirically tested the influence of US social security pensions on the timing of retirement. Importantly, someone can accumulate different levels of social security wealth by retiring at different ages. This implies a maximization problem in which an agent maximizes his lifetime wealth by choosing the optimal age of retirement. These levels of social security wealth are determined by the benefit calculation rules of a pension plan.

Gruber and Wise (1999, 2004) showed in a study involving eleven OECD countries, that the incentives to retire early in most public pension systems are substantial. Adopting their methodology, we will assess the financial incentives embedded in the Irish public pension scheme. We calculate for illustrative Irish workers age-specific levels of social security wealth, the one-year accrual of social security wealth, and the implicit tax or subsidy rate on work. Results show that the public pension system does not provide a strong incentive to retire. This could be partially explained by the fact that people do not have options to retire early. In light of current developments in Ireland, this is not a favourable result. It also stands out from results found by Gruber and Wise for several other countries. In previous years, while government policy strived to increase labour force participation among all workers, then the pension system was operating in a favourable way. Now, in the past year, policy is seeking to remove older workers from the labour market. Flexible retirement options are therefore necessary. In our conclusions, we provide some specific recommendations.

The organisation of this paper is as follows. Section 2 provides background on public pensions in Ireland in an international context. Section 3 specifies a theory of endogenous retirement. Section 4 discusses the behavioural implications of pensions on retirement patterns and how we would expect people to respond to financial incentives. In section 5, we describe the method to simulate these financial incentives for Ireland. Section 6 presents the results of the simulations for Ireland. Section 7 concludes with some specific recommendations.

2 BACKGROUND

In terms of public pensions, Ireland is significantly different from other OECD countries (see Table 1). Old-age benefits amount to 2.5 percent of GDP and this is half of the US and only

fifth of the Austrian expenditures. In line with the low expenditures, the payroll tax rate for pension purposes is relatively low in Ireland, currently 12.5 percent of gross salary. Only the US has a lower rate, while most countries are near a rate of 20 percent. Of course, Ireland has a slightly lower old-age dependency ratio than most OECD countries. By 2050, the ratio of retirees to workers will deteriorate from currently 19 to 50 percent in Ireland. This will impose a huge burden on financing public pensions.

Table 1. Public finances

<i>Country</i>	<i>Old age benefits as % of GDP*</i>	<i>Payroll rate**</i>	<i>tax</i>	<i>Old-age dependency ratio***</i>	
				<i>2000</i>	<i>2050</i>
<i>Ireland</i>	2.5	12.5		19	50
<i>Austria</i>	12.4	22.8		25	55
<i>US</i>	5.4	12.4		21	39
<i>Germany</i>	11.1	19.9		26	54
<i>Switzerland</i>	6.5	23.8		25	43
<i>Sweden</i>	7.4	18.91		30	43

Sources: * ILO, 2009b, ** US Social Security Administration, 2008, *** OECD, 2009a.

Notes: Table compares selected OECD countries to Ireland. The payroll tax rate is the proportion of gross income born by employees and employers for the entitlement to a public pension. The old-age dependency ratio is the population aged 65+/population aged 15-64.

Labour force participation rates of older workers in Ireland rank in the middle of the OECD distribution (Table 2). There is a sharp decline starting at age 60 and in Ireland, Sweden, and in the US, this decline at age 60+ is 20 percentage points. In contrast, countries like Germany, Austria, and Switzerland have an even greater decline, between 30 and 40 percentage points.

Table 2. Labour force participation rates of older workers, selected countries

<i>Country</i>	<i>Labour force participation rates by age group</i>				
	<i>55-59</i>	<i>60-64</i>	<i>65-69</i>	<i>70-74</i>	<i>75+</i>
<i>Ireland</i>	63.5	46.0	18.5	8.6	3.4
<i>Austria*</i>	51.9	14.0	6.2	2.8	1.0
<i>US</i>	72.0	53.3	29.7	17.2	6.8
<i>Germany*</i>	73.2	31.6	6.6	2.6	0.9
<i>Switzerland</i>	82.2	55.3	17.0	9.4	3.8
<i>Sweden</i>	82.8	63.6	15.0	6.5	

Sources: ILO, 2009a, * ILO, 2005.

In most OECD countries, the standard age of retirement is 65 or 66, but the actual labour force withdrawal rate is often quite different. Table 3 shows that it is generally lower, except for Ireland and Switzerland. This indicates that Irish workers stay in the labour force to longer than their European colleagues, possibly as a result of institutional factors. Or, it might indicate that early retirement rules in Ireland are not as generous as in continental Europe.

Table 3. Statutory vs. average retirement ages

<i>Country</i>	<i>Statutory retirement ages</i>		<i>Average retirement ages</i>	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
<i>Ireland</i>	65	65	65.2	66.2
<i>Austria</i>	65	60	59.6	58.9
<i>US</i>	65	65	65.0	62.9
<i>Germany</i>	65	65	60.9	60.2
<i>Switzerland</i>	65	63	66.6	63.2
<i>Sweden</i>	65	65	63.5	62.0

Sources: OECD, 2009b.

Notes: The OECD reports the age of 66 as the statutory retirement age for Irish workers. However, at age 65, Irish workers are entitled to the *State Pension (transition)* as the common scheme of entry into retirement.

The general target of public pension systems is either income replacement or minimum standard of living in old age. The Irish system targets the latter. Public pensions are supposed to be a basic first pillar of old-age income. The net replacement rate, i.e., the after tax ratio of pension benefits compared to pre-retirement earnings, is relatively low (table 4).

Table 4. Net replacement rates, selected countries

<i>Country</i>	<i>Net replacement rate by pre-retirement earnings level</i>					
	<i>0.5</i>	<i>0.75</i>	<i>1</i>	<i>1.5</i>	<i>2</i>	<i>2.5</i>
<i>Ireland</i>	65.8	49.3	38.5	29.3	23.5	19.5
<i>Austria</i>	90.4	90.6	90.9	89.2	66.4	53.7
<i>US</i>	67.4	58.0	52.4	47.9	43.2	38.6
<i>Germany</i>	53.4	56.6	58.0	59.2	44.4	35.4
<i>Switzerland</i>	75.7	69.4	64.9	46.2	35.4	29.2
<i>Sweden</i>	82.9	70.6	65.6	73.5	74.9	74.9

Source: OECD, 2009c.

Notes: Table compares the ratio of public pension benefits to the level of pre-retirement earnings, both net of taxes. Pre-retirement earnings are assessed at 50, 75, 100, 150, 200, and 250 percent of country-wide average earnings of older workers.

Since pension benefits are flat rate, the net replacement rate declines in the level of pre-retirement earnings. However, the level of state pensions in Ireland does not seem to be sufficient for combating poverty. While the poverty rate of people aged 65+ is 13.32 percent on average in the OECD, Ireland has the highest rate with 35.47 percent (OECD, 2007). In contrast, countries like Austria cover up to 90 percent of pre-retirement earnings by social security. Therefore, the replacement rate in Ireland is uniquely low compared to the OECD average of 71 percent.

The institutional setup of a pension system is crucial for the number and feasibility of exit routes into retirement. Ireland does not have a very flexible retirement regime and there is currently no form of early retirement pensions. The *Pre-Retirement Allowance* as the only form of early retirement was abolished in 2007. However, in the case of disability, the *Invalidity Pension* can be claimed prior to the statutory retirement age. Unlike in many other countries, the *Invalidity Pension* in Ireland is transformed into a normal old age pension at

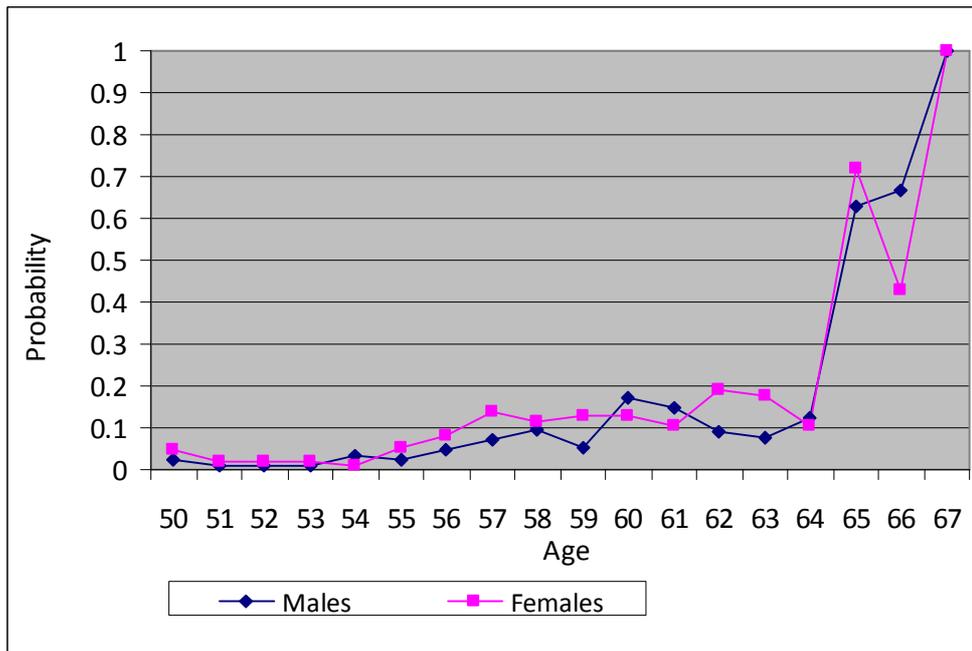
age 65. Other forms of disability, survivor and homemaker benefits are available. At the age of 65, Irish workers are entitled to the *State Pension (transition)*, substituted at ages 66+ by the *State Pension (contributory)*. Eligibility and the level of benefits require a certain number of pay-related social insurance spells. The *State Pension (non-contributory)* is available from age 66+ if these eligibility conditions are not met. Maximum pension benefits amount to EUR 230 per week. Supplements are granted for adult and child dependants. Individuals can supplement with occupational and private plans if possible. The treatment of work during retirement is unique in the Irish system. There is a retirement test for the *State Pension (transition)*, but not for the *State Pension (contributory)*. Therefore, post retirement work is restricted at age 65, but from age 66+. So, someone might choose to continue full time work while receiving a pension without any deductions.

Retirement behaviour can also be summarized by the retirement hazard function,

$$h(t) = \lim_{\Delta t \rightarrow 0} \frac{\Pr[t \leq T < t + \Delta t | T \geq t]}{\Delta t}.$$

The retirement hazard function determines conditional probabilities of retirement in a certain age interval provided a person has participated in the labour force to the beginning of that respective age interval. Figure 1 depicts hazard rates for persons having retired between the ages of 50 and 67. Typically, the curve of a retirement hazard rate spikes at ages where individuals become eligible for retirement. In Ireland, this age is 65. Moreover, spikes before the age of 65 indicate common ages of early retirement due to ill-health, social norms, or private pension plan provisions. In Ireland, males have early retirement spikes at the ages of 54, 58, and 60. Females have these spikes at the ages of 57 and 62. As Gruber and Wise (1999) showed, multiple retirement spikes are very common across OECD countries. Usually local spikes are around early retirement ages followed by a maximum spike at the statutory age. This indicates that a certain share of the older workforce chooses to retire early, while the majority retires at statutory ages.

Figure 1. Retirement hazard rates Ireland, by age and sex



Source: SHARE Ireland (2008), authors' calculations.

Notes: Figure depicts the gender specific retirement hazard rates at the ages 50 to 67 in Ireland. The retirement hazard rate is the conditional probability of retirement in a certain age interval provided a person has participated in the labour force to the beginning of that respective age interval (N Males=184, N Females=105). Retirement behaviour in Ireland seems to be greatly constrained by the static statutory retirement age of 65. People in Ireland retire later than their European colleagues, because they do not have options for early retirement. However, the early retirement spikes in the retirement hazard function show that there is some degree of willingness or necessity to retire early. Therefore, we will analyse the economic determinants driving retirement behaviour.

3 A THEORY OF ENDOGENOUS RETIREMENT

We now describe how an agent relates his decision to retire to the financial incentives embedded in a pension system. The analysis of financial incentives and the retirement decision is derived from a life cycle model, recurring to Modigliani and Brumberg (1954) and Friedman (1957). Basically, an individual maximizes lifetime utility subject to a lifetime wealth constraint. This constraint is determined by payoffs from work and non-labour income, i.e., private pensions, social security pensions. In this lifetime perspective, retirement depends on earnings at each age, the stream of pensions at each possible retirement age, and the preferences about income and leisure.

Fields and Mitchell (1984) as well as Samwick (1998) use a life cycle model of consumption and retirement leisure in order to explain the date of retirement endogenously. In this framework, retirement is mainly driven by financial incentives. An agent t years of age plans to retire at age $s = R$, and expects to survive until age T . He receives earnings or non-labour income before R , and pension benefits B after R . Earnings streams during labour force participation ($PDVE$), discounted to time t , are defined as

$$PDVE = \int_t^R e^{-\delta(s-t)} Y_s ds, \quad (1)$$

where expected real earnings at age s is Y_s , δ is a discount rate representing time preference and mortality. Once the individual retires, earnings are replaced by income from one or multiple pensions. The expected stream of pension benefits, discounted for time preference and mortality, is called social security wealth (SSW):

$$SSW = \int_R^T e^{-\delta(s-t)} B_s(R, \Theta) ds, \quad (2)$$

where $B_s(R, \Theta)$ is the amount of real pension benefits from retiring at age R . Typically, the amount of pension benefits depends on the date of retirement R and other factors Θ determined by the pension law. So, it is natural to compare the SSW from retiring at different ages. In order to capture the dynamics of social security wealth over time, we introduce an incentive measure called the accrual of social security wealth (ACC). This is the difference in SSW from postponing retirement to age R :

$$ACC = \frac{\partial SSW}{\partial R} = \int_R^T e^{-\delta(s-t)} \frac{\partial B_s}{\partial R}(R, \Theta) ds - e^{-\delta(R-t)} B_R(R). \quad (3)$$

The agent has a lifetime utility function

$$u = \int_t^T e^{-\delta(s-t)} u(C_s, L) ds \quad (4)$$

of consumption C_s at age s , and an integer $L \in [0, 1]$, denoting retirement leisure. L takes on the value 0 before retirement, and the value 1 upon retirement. Therefore, the maximisation problem of the agent is

$$\max_{\{R, C_s\}} \int_t^R e^{-\delta(s-t)} u(C_s, 0) ds + \int_R^T e^{-\delta(s-t)} u(C_s, 1) ds \quad (5)$$

$$s.t. \quad A_t + PDVE + SSW = \int_t^T e^{-\delta(s-t)} C_s ds$$

A_t is net wealth at age $s = t$. So, the agent maximises utility over the life cycle subject to its lifetime wealth constraint. We are interested in the retirement decision. Therefore, we are looking for the utility maximising date of retirement, R^* .

Implementing a Lagrangian and using Leibnitz's Rule yields the first order condition with respect to R . It implicitly defines the optimal choice of the retirement date R^* :

$$u(C_R, 1) - u(C_R, 0) = \lambda [Y_R - ACC(R)]. \quad (6)$$

The behavioural prediction for an agent's retirement decision comes from (6). They consider the utility difference from postponing retirement to age R . The term in squared brackets represents the relative price of retirement leisure. This relative price has two components, potential earnings from work Y_R , and the gain or loss in SSW , i.e., the ACC , by postponing retirement.

Rewriting (6) as

$$\frac{u(C_R, 1) - u(C_R, 0)}{\lambda Y_R} - 1 = -\frac{ACC(R)}{Y_R} \quad (7)$$

rescales the relative price of retirement leisure in terms of earnings units. The right hand side of (7) is therefore called the implicit tax or subsidy rate on work from postponing retirement.

We showed that agents make their decision to retire in a long-term perspective. Important financial factors that determine this decision are potential earnings from continued work and the gain or loss in social security wealth from postponing retirement. These factors determine the relative price of retirement leisure and can be interpreted as financial incentives to retire. In order to empirically implement variations in the relative price of retirement leisure, we will look at the age profiles of social security wealth in (2), the accrual in social security wealth in (3), and the implicit tax or subsidy rate on work in (7).

4 FINANCIAL INCENTIVES: BEHAVIOURAL IMPLICATIONS

We turn to the question how agents demonstrate their retirement behaviour in response to the financial incentive measures. We explain the expectations that arise theoretically and how we would interpret these results. In (6), we saw that the optimal choice of the retirement date R^* depends the Lagrangian multiplier λ , and on the relative price of retirement leisure. λ captures all parameters changing lifetime income. So, it can be interpreted as the marginal utility of lifetime wealth¹. The relative price of retirement leisure is captured by potential earnings and the accrual ACC during the year of postponement. Therefore, the retirement decision in (6) is decomposed into a (wealth-) level and a relative price component.

SSW represents the level effect. If pension benefits are increased for at each date of retirement, lifetime wealth will go up. Therefore one would expect that persons are more likely to retire than before the change. They can consume more of all goods including retirement leisure. Therefore, the date of retirement should decrease in the level of SSW .

Changes in the relative price of retirement leisure are captured by the ACC . A positive or at least non-negative ACC provides an incentive to stay in the labour force. By postponing retirement by one year, a worker will be rewarded if he received a higher level of SSW compared to retiring now. If the accrual is negative, then there is no incentive to postpone retirement for another year. This would penalize a worker by providing a lower level of SSW compared to retiring now. In other words, as the accrual increases, the relative price of taking up retirement leisure now increases. So, the date of retirement increases in the ACC . It

¹ For an extensive discussion of λ in a life cycle context, see MaCurdy (1981).

represents the increment in SSW by postponing retirement for one year. Increasing accruals make it more likely to postpone retirement.

Thus, the decision to retire involves a wealth and a price effect¹. Both effects work into the opposite direction. So, a change in the pension benefit structure, as for instance induced by pension reform, may have an ambiguous effect on retirement behaviour.

One might not only consider gains or losses in social security wealth by postponing retirement, but also potential earnings from work. Another way to look at the financial incentives to retire is a comparison of the ACC and potential earnings during the year of postponement. The right hand side in (7), relates gains or losses in social security wealth to potential earnings from work in the year of postponing retirement. It can also be interpreted as a tax or subsidy rate on continued labour force participation. We will call this expression ITR . A positive accrual will result in a subsidy rate, the ITR being negative. This implies an incentive to stay in the labour force. Delaying retirement is rewarded by a gain in SSW . The more negative the subsidy ratio, the bigger this incentive effect becomes. If the accrual is smaller than potential earnings, then the ITR is negative but greater than (-1) . In this case, the incentive to work is weak. If the ITR is positive, we think of it as a tax on continued work. Having a negative accrual makes the ITR a tax, and therefore penalises a continued stay in the labour force. The more positive the ITR is, the higher the incentive to retire now is. Tax rates below 1 provide a weak incentive to retire.

Finally, it would also be natural to expect a pension scheme to provide incentives to stay in the labour force as long as possible. This is the case if the ACC is nonnegative. Such a pension system is called *actuarially fair*, since it financially rewards delayed retirement. However, many countries have pension systems that encourage early retirement, as was found by Gruber and Wise (1999). We will now assess if this is the case in Ireland.

5 FINANCIAL INCENTIVES: SIMULATION METHODOLOGY

The idea of financial incentives in pension systems affecting retirement was first empirically tested by Feldstein (1974). Important later work includes Samwick (1998), Stock and Wise (1990), as well as Gruber and Wise (1999, 2004). We will simulate the financial incentive measures social security wealth, the one-year accrual in social security wealth, and the implicit tax or subsidy rate on work for representative agents in Ireland. All magnitudes are discounted to retirement planning age 55. The simulation methodology is largely following Gruber and Wise (1999).

The basic incentive measure is social security wealth (SSW). We recall from (2) that SSW is the present discounted value of expected future pension benefit streams. We are calculating SSW at all possible ages of retirement starting at age 55. In order to empirically implement this magnitude, SSW at retirement age R is calculated according to

¹ Fields and Mitchell (1984) provide detailed comparative statics of the life cycle model.

$$SSW(R) = \sum_R^T B_s(R, \Theta) p(t|t-1) \rho^{t-R}. \quad (8)$$

$B(R, \Theta)$ = pension benefit one is entitled to by retiring age R

p = probability of survival until age t conditional on having survived until age $t-1$

ρ = rate of time preference

The time scale in (8) is discrete rather than continuous in (2). Discount factor δ from (2) now in (8) is decomposed into a mortality component p and a rate of time preference ρ . For $B(R, \Theta)$, we use 2009 Irish benefit entitlement rules for a single person (Irish Department of Social and Family Affairs, 2009). From age 55 to 64, only a disability pension is available, amounting to a flat rate benefit of Euros 10,909.60 per annum¹. From age 65 and above, there is a slight increase in the amount of payoff, i.e., Euros 11,975.60 per year. We assume that pension benefits after the initial year of retirement are inflation indexed. So benefits subsequent to the year of initial retirement are assumed to grow at a real rate of zero. Then, we discount the stream of payments for all possible retirement ages to age 55. Age and sex specific survival probabilities p are taken from Irish life tables (Central Statistics Office Ireland, 2009a). Furthermore, we are discounting future benefit payments adopting a usual real discount rate ρ of 3 percent in order to reflect time preferences.

In the same fashion, we calculate the accrual in social security wealth ACC from postponing retirement for one year according to

$$ACC(R+1) = SSW(R+1) - SSW(R) \quad (9)$$

(9) is also a discrete time version of (3). In order to incorporate potential earnings from work during the year of postponement, we rescale (9) as

$$ITR(R+1) = -\frac{SSW(R+1) - SSW(R)}{Y_R} \quad (10)$$

and call it the implicit tax or subsidy rate on work ITR . This is likewise a discrete time version of the right hand side in (7).

In order to simulate if there are financial incentives to retire in the Irish pension system, we use the three incentive measures derived from the life cycle model, (6), (7), and (8). We calculate these measures for retirement ages 55 to 67, and then analyse the behavioural implications for the respective age profiles.

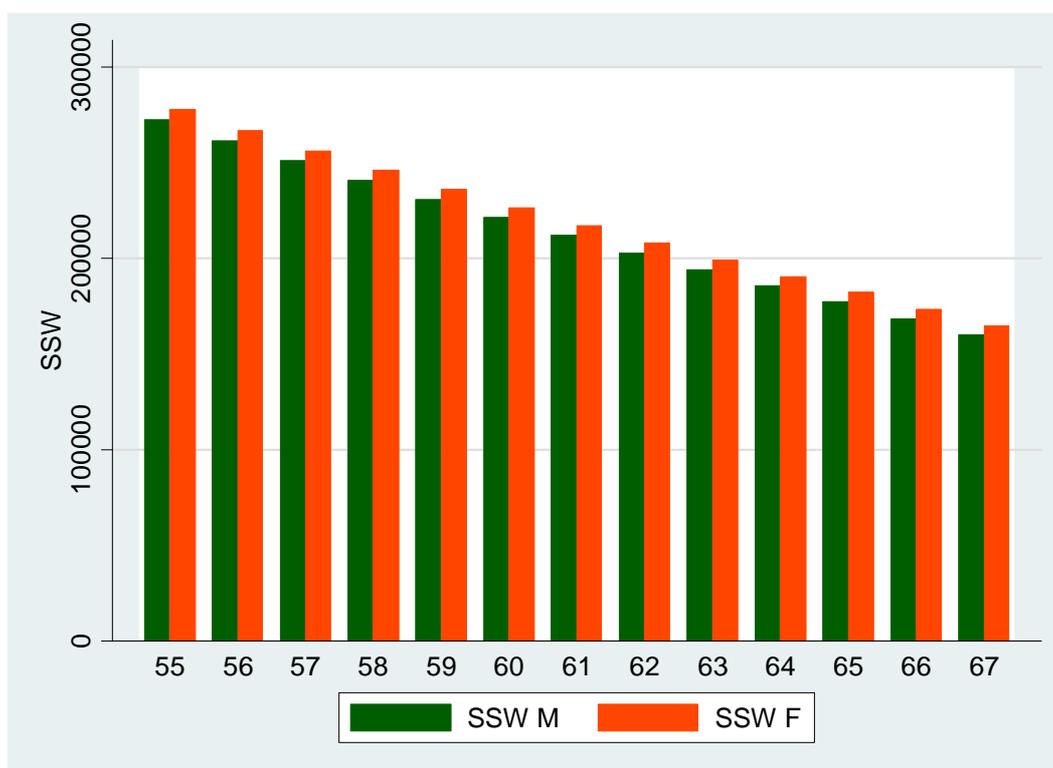
6 RESULTS FOR IRELAND

We calculate social security wealth (SSW), the one-year accrual (ACC) and the implicit tax or subsidy rate on work (ITR) for an illustrative worker at retirement planning age 55. Then, we show how these measures are related to the time of retirement.

¹ Since Irish state pensions do not require a retirement test from age 66+, receiving a state pension does not necessarily mean that someone stops working full time. However, for our analysis, we assume that the representative agent stops all work activity upon initial pension receipt.

An illustrative Irish worker aged 55 in 2009 and having no dependants is facing the age profile of social security wealth portrayed in figure 2. All numbers are in 2009 Euro terms and discounted to age 55 present values. The level of SSW coming from a public pension decreases in the age of retirement for both, males and females. Females have a higher level of SSW due to their higher life expectancy. Since the Irish pension system provides a flat rate pension, pension benefits do not vary with age. The only exception is a slight increase in pension benefits between a disability pension available before 65 and an old-age pension available from age 65 und above. Therefore, the main source of variation of age specific SSW levels comes from inflation, time preferences, and mortality (see equation (8)).

Figure 2. Age profile of social security wealth (SSW)

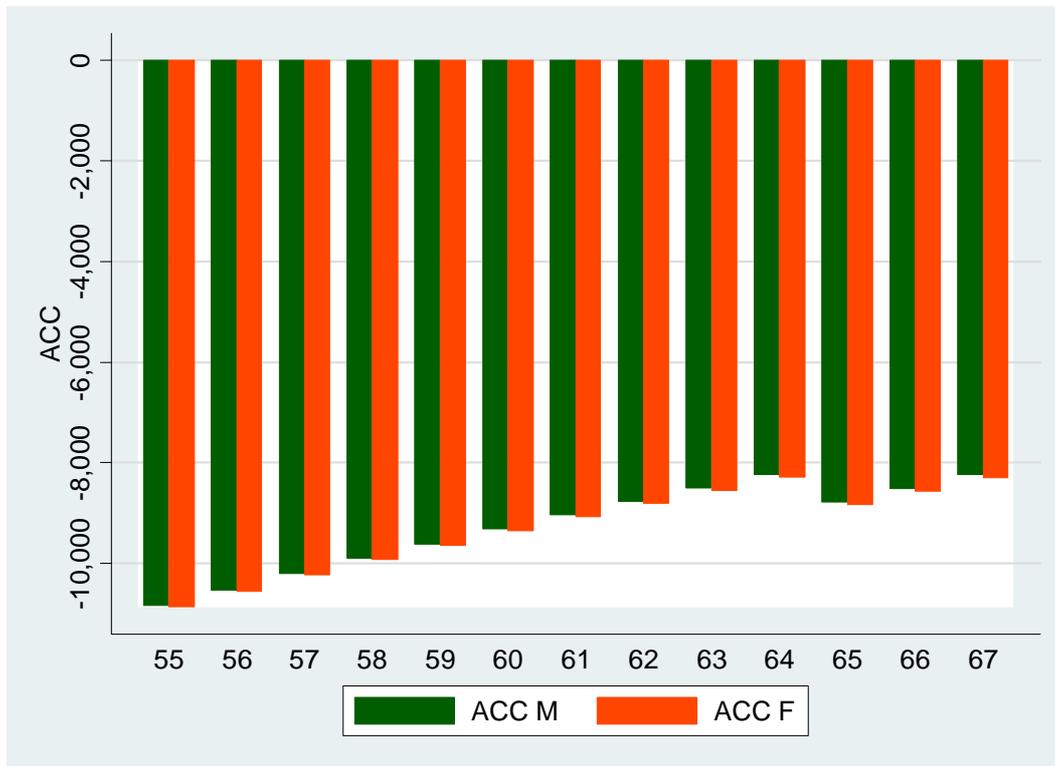


Source: Authors' own calculations.

Notes: Social security wealth is the actuarial present value of expected lifetime pension benefits coming from a disability (Euros 10,909.60 per anno) or old-age pension (Euros 11,975.60 per anno) in Ireland. Social security wealth is calculated for illustrative male or female agents having no dependants. All numbers are discounted to age 55, and expressed in 2009 Euros.

For our illustrative Irish worker, the age profile of ACC is pictured in figure 3. From age 55 to 67, one experiences a negative accrual. Theory suggests that this should provide an incentive to retire as soon as possible, because every year of postponement would result in a loss of pension wealth. Therefore, the public pension system in Ireland is potentially *actuarially unfair*. Since postponing retirement would result in a loss of SSW, the pension system signals to older workers to retire as soon as possible. An *actuarially fair* system would imply that the accruals are at least non-negative. Then, someone would not forego pension wealth for each year of postponing retirement.

Figure 3. Age profile of the accrual (ACC)

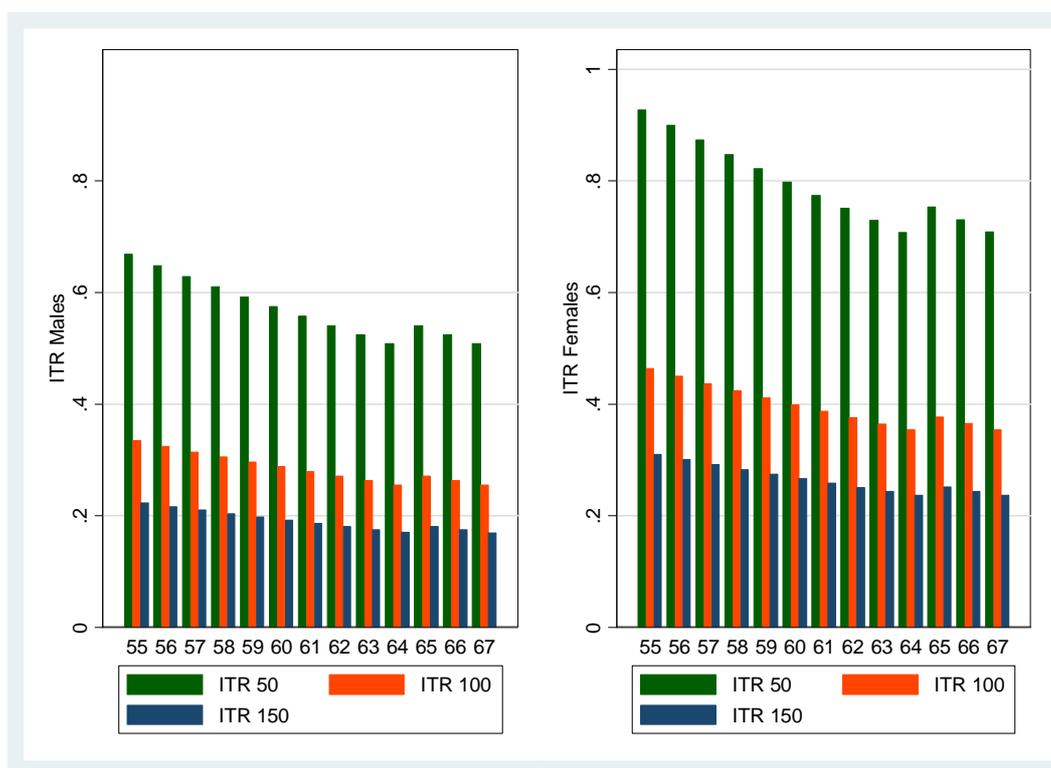


Source: Authors' own calculations.

Notes: The accrual is the gain or loss in *SSW* from postponing retirement for one more year. It is calculated for illustrative male or female agents having no dependants. All numbers are discounted to age 55, and expressed in 2009 Euros.

We also consider potential earnings from postponing retirement (in (6) we saw that the relative price of retirement leisure consists of an earnings and an accrual component). Therefore, we relate the accrual to potential earnings Y_R in the year of postponement. In (10), we called this measure implicit tax or subsidy rate on work *ITR*. We calculate the *ITR* at sex specific earnings levels being either 50, 100, or 150 percent of average industrial earnings (Central Statistics Office Ireland, 2009b). Overall, implicit tax rates on work are positive and less than 1 (figure 4). Again, a positive *ITR* indicates a tax or penalty on work. An *ITR* less than 1 means that this penalty is rather weak, since the loss in *SSW* is smaller than prospective earnings Y_R . Females would have a slightly higher incentive to leave work than males. Their implicit tax rates are higher for all earnings levels and ages, since they face higher accruals and lower earnings than men. In general, the disincentive to work is higher for low income earners than for middle income earners, and lowest for high income earners. As earnings go up, the implicit tax rate decreases for equal accrual age profiles, since not taking retirement leisure can be compensated by higher earnings from work.

Figure 4. Age Profile of the Implicit Tax Rate (ITR), by Sex and Earnings Level



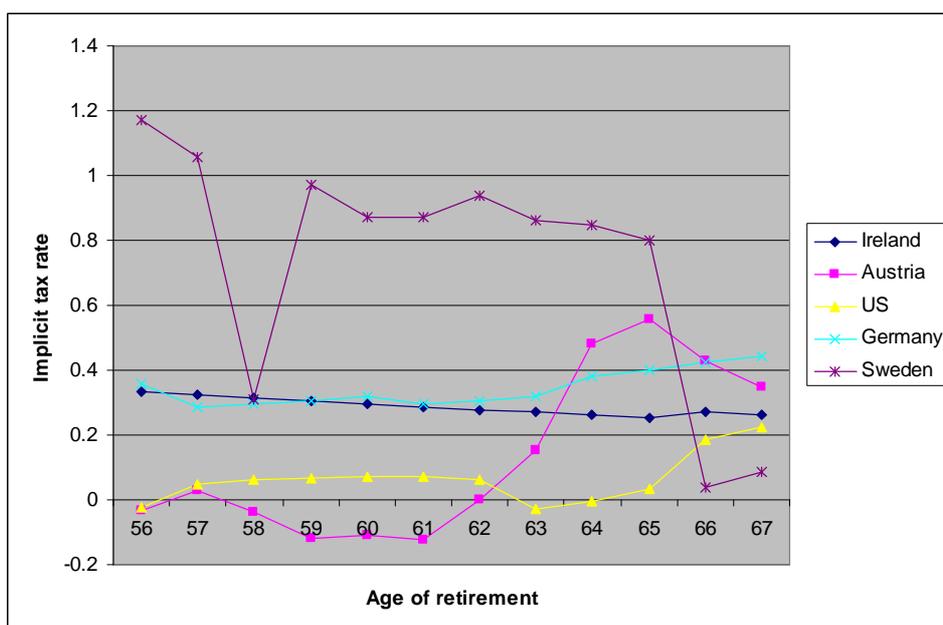
Source: Authors' own calculations.

Notes: The implicit tax or subsidy rate is the negative ratio of the gain or loss in *SSW* from postponing retirement from age R to age $R+1$ divided by potential earnings from work in the year of postponement. A positive tax rate can be interpreted as a penalty on work, a negative tax rate as a subsidy on continued labour force participation. It is calculated for illustrative male or female agents having no dependants, and facing potential earnings of 50, 100, and 150 percent of gender specific average industrial wages in Ireland. All numbers are discounted to age 55, and expressed in 2009 Euros.

How does the tax on work in Ireland compare to other countries? In figure 5, we compare implicit tax or subsidy rates in Ireland to selected OECD countries. The flat rate character of the Irish pension benefit payoffs causes an almost monotonically decreasing age profile of the *ITR*. Other countries like Austria and the US have multiple pronounced spikes of this incentive to leave work. Typically, there are spikes in the range of early retirement ages (or even before, like in Austria), and around the official retirement age. So, the Irish pension system embeds a relatively modest incentive to leave work. However, in the age range where only a disability pension is available, the *ITR* is relatively high. This could give rise to an evasion into retirement on disability pension, where no other income sources are available. The retirement hazard function in figure 1 with multiple early retirement spikes indicates this may be the case. Indeed, this compares favourably to Gannon (2006) that showed that misreporting of disability status occurred for some individuals who were near retirement age but were not yet in a position to avail of public retirement pensions.

In summary, our simulations suggest that the Irish state pension system is *actuarially unfair*, i.e., later retirement is financially penalised. If policy switched to a system of flexible retirement ages, these incentives could result in more flexible retirement behaviour.

Figure 5. Implicit tax rates on work, international comparison



Sources: Authors' own calculations, Boersch-Supan et. al. (2004), Diamond and Gruber (1999), Hofer and Koman (2006), Palme and Svensson (1999).

Notes: see notes to figure 4. This figure depicts ITRs for males.

7 CONCLUSIONS

Unlike most continental European countries, on average, Irish workers retire at the statutory retirement age, most likely because the routes to retirement are not very flexible. However, as we noted in this paper, the public pension potentially does lend itself to early retirement. This is an interesting result based on latest data available. In the past year, as financial security for many people has reduced it is quite probable this scenario would not now result in excessive early retirement, even if more flexible routes become available. In this scenario, if decisions to retire were based primarily on financial factors people would not rush into early retirement. Nonetheless, we should also note that health and other personal factors are important determinants of retirement. The question is, if channels became more flexible, would people now leave early? Recent news has shown that people are not availing of voluntary redundancies. Results from this paper suggest that they would retire earlier.

In terms of policymaking, this is a critical issue as government policy usually wants to increase the working life of people due to the effects of demographic changes. But in this recession year, it may be more desirable to take older workers out of the labour force to free jobs for younger workers. There are some options with this that we propose. First, introduce a retirement test for receipt of a state pension: then, people couldn't get a state pension when they continue working. Second, have a partial retirement option, whereby from a certain age, people could choose to get a partial pension and work part time, if they want to. Third, introduce an (early) retirement corridor: for example from 63 to 66, and then, those who retire later within this corridor should be rewarded, (increase in replacement rate for later retirement) in order to comply with the actuarial fairness principle. rewarded People who have ill health or a disability, or have some chronic disease within the family might have a lower life expectancy. Therefore, they could choose to retire earlier in order to "compensate" for

their shorter expected duration of retirement. The latter option would require high levels of monitoring.

In conclusion, for the government to say people should retire earlier and when the recession is over, they say the opposite, would not be favourable. However, in the case of a retirement corridor with bonifications for later retirement, many people would retire earlier because some just do not care about getting a higher pension, some with nicer jobs would probably respond to financial incentives and retire later at 65 or 66. So overall, the average retirement age might most likely go down. So, building incentives into the system could solve some problems by providing compensation for shorter life expectancy, early retirement for people with very low preference for work, deferred retirement is rewarded and finally, early retirement does not have to become compulsory.

This paper focused on financial incentives only. An overall assessment would require the impact of health and other personal factors. Demand side factors should also be taken into consideration. Nonetheless, this supply side analysis provides an excellent starting point to address a gap in research in Ireland. An ongoing programme of research will focus on a comprehensive analysis to include health and other factors.

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