WORKING FROM THE INSIDE OUT TO IMPROVE UTILISATION OF RESEARCH IN DECISION MAKING

NON-PEER REVIEWED RESEARCH PROCEEDINGS FROM THE BUSHFIRE AND

NATURAL HAZARDS CRC & AFAC CONFERENCE

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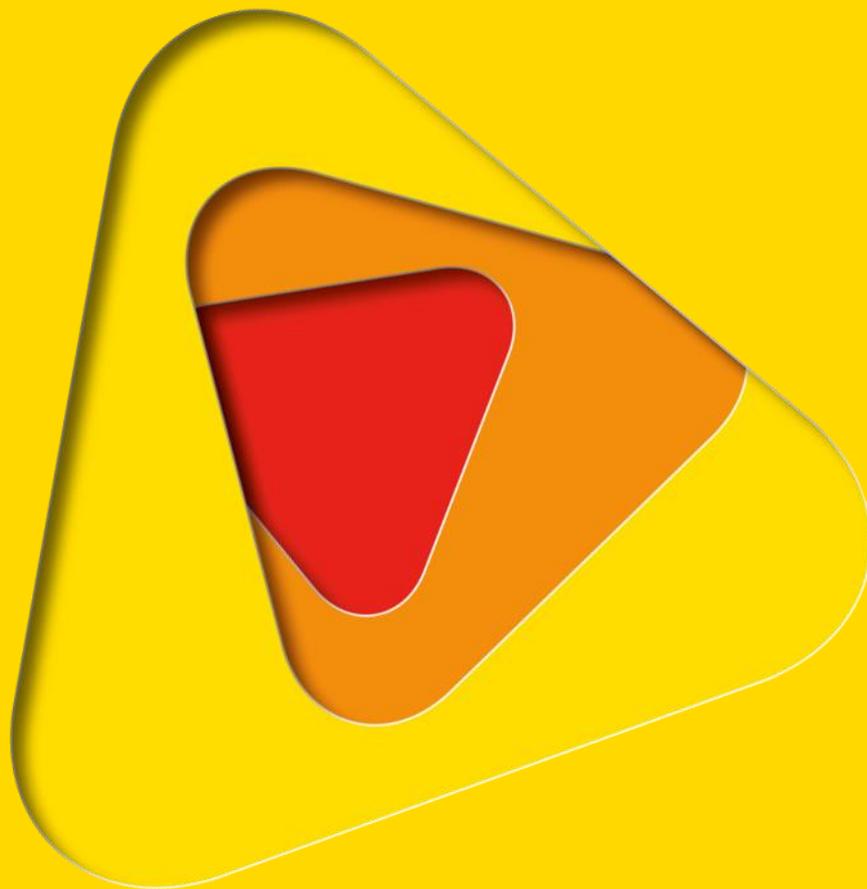
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ABSTRACT

WORKING FROM THE INSIDE OUT TO IMPROVE RESEARCH UTILISATION IN DECISION MAKING

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The most common model for research is still often one where research is produced largely by researchers and delivered to users in the form of data, reports and papers. However if research is to be used it requires the blending of two very different knowledge systems: those of research and practice. Their integration in a transdisciplinary research environment is absolutely necessary if research is to be usable and serve the implementation needs of practitioners and policy makers. Implementation of research in the field of natural hazards is complex because it is a systemic issue and requires a highly collaborative model; one where diverse parties work together to achieve common goals. This can be an uncomfortable space particularly for researchers because this process starts in a fundamentally different place. It requires researchers to develop understanding from inside end user contexts rather than develop knowledge from outside it. It is a process of matching the knowledge to the need and tailoring information so end users can use it. Communication is a key part of this and active listening and negotiation are crucial.

The inside out methodology was developed in 2006 and has since been used to develop a number of practitioner frameworks including the Risk Ownership Framework for Policy and Practice. These frameworks integrate research into decision making systems through co-designing solutions that evaluate end users context, their decision making systems and the drivers that inform them. It is however not without its challenges. This paper outlines some of the key components that are part of this research model.

WORKING FROM THE INSIDE OUT

INTRODUCTION

The world in which we make decisions is rapidly changing and becoming more complex. Drivers such as changing technologies and social, environmental and economic stressors are impacting the type of knowledge needed to address emerging issues and the way it is needed. This has ramifications particularly in relation to research. Much of the focus of research to date in many areas has been to develop highly specialized areas of knowledge which give information to a targeted group. However, over the last decade pressing issues facing society coming to the fore such as climate change and natural hazards, are systemic, multifaceted and require multilayered approaches which are connected and result in action in broader society. One of the key needs arising is for research to be accessible, actionable and salient to end user contexts in a way that supports new ways of thinking and social transformation.

Practice often travels ahead of research and has its own knowledge base which has been developed and tested over time and is built through 'doing.' This knowledge is often excluded by conventional research. This can result in some projects failing to achieve use and uptake of research if the research is not able to be understood and applied practically. To achieve this requires researchers to step back and work collaboratively with practitioners in a way that supports and values all areas of knowledge and contributes to a process of research, rather than leading it. It also requires understanding of and assessment of how decisions are made and why, the systems that shape and supports this and the values and narratives that inform these decisions.

The 'inside out' methodology is a flexible process which guides activities as the work progresses. It requires specific skills, attributes and knowledge to apply effectively. Its key purpose is to integrate research into decision making as part of a process of ongoing learning for both end users and researchers. The key feature of this research is the systemic analysis it undertakes of decision making systems.

Its main application to date has been in relation to the development of decision making frameworks for practitioners and organisations. This paper presents an overview of some of the key aspects of this methodology.

BACKGROUND

The inside out methodology was initially developed in 2006 to analyse decision making systems in BAE systems to provide the basis for an climate change program, Smart Sustainable Secure. As the purpose of the program was to bring about understanding, actions and behaviour change in the organisation, new knowledge needed to be embedded as part of a process of ongoing change. It became very clear in initial meetings that how the research was being communicated and undertaken was often not accessible or useful for the organisation and that a new approach that worked from an end user perspective was needed.

The approach was developed to address this, worked on the premise that complex issues needed an holistic approach and required understanding the organisation from 'the inside out' rather than more convention approach to viewing it 'from the outside in'. It also required understanding the organisational knowledge needs and context. Using a top down bottom up process, knowledge from within the organisation and research was combined, contexualised and integrated it into the decision making processes within the organisation. Communication, co-design and collaboration were critical aspects of the program.

This methodology has been further developed by the author, tested and used in numerous research projects to develop decision making frameworks that support practice. Aspects of this methodology have also informed other research activities undertaken with the research group at VU. Frameworks developed using this methodology include: The Problem Solution Frameworks for Adaptation Practice and Policy (Young 2014), The Green Infrastructure Economic Framework for Local Government (VISES 2015) and a Risk Ownership Framework for Emergency Management Policy and Practice (Young et al, 2017). It is currently being used to develop a framework for managing and measuring Diversity and Inclusion in Emergency Management Sector organisations.

MAKING RESEARCH THAT IS USEFUL

"There is a lot of really interesting research out there but it is difficult to implement, what we need is research we can implement"
Mark Allan, Chairman Property Council of Australia (VIC) Sustainable Buildings Committee Associate Director Billard Leece Partnership – Architect (Young and Jones 2014)

Working from the inside differs from many conventional research methods as it is not driven by the discovery of theory driven ideas that are peer reviewed but provides an evidence base through combining different forms of knowledge and integrating these into the decision making systems as part of the process. Its key focus is on the needs and context of those making the decisions and how they will be using the research. To understand this, researchers need to think from 'inside' the end users context.

Stages of end user research are shown in Figure 1 as a series of tasks and the process starts with ascertaining the end user need and working outwards through the different tasks. The ultimate goal is the integration of the research into the end user's decision making context to enable uptake and use. A key aspect of this process is defining the boundaries for the decision making system and the key social, environmental and economic drivers and influences, so they can be assessed. A key aim of this assessment is to understand what decisions people are making and what is shaping this. It also defines the boundaries of the system and the focus and scope of the assessment and helps ascertain what research is needed and how it needs to be undertaken.
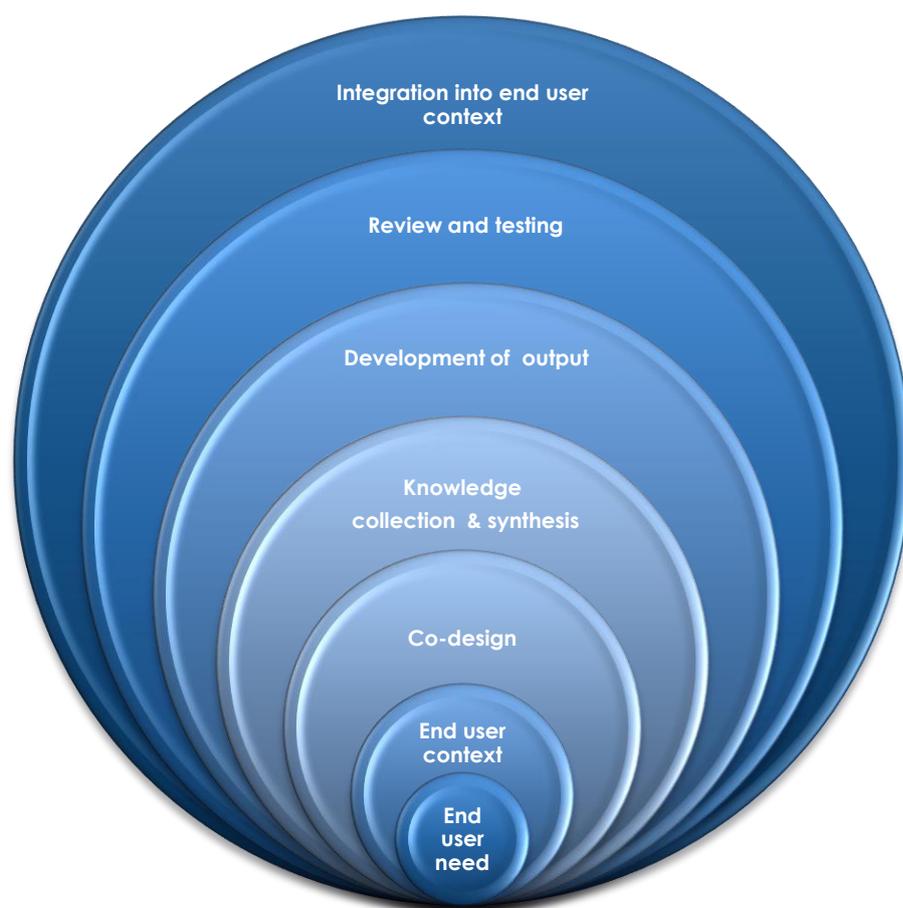
FIGURE 1: KEY TASKS UNDERTAKEN DURING (YOUNG. C 2016)

USING RESEARCH TO CREATE NEW KNOWLEDGE

Use of research requires some sort of action or investment and people cannot act if they do not understand the issue or how it relates to them and what they do.

Inside out is a process of discovery where methodologies and approaches are selected to suit the task at hand and it incorporates aspects of innovation and transformation. It is important when working with end users for them to understand what the different types of research are (Table 1) and how they work, so they form realistic expectations of the research process.

It uses a transdisciplinary approach where different types of knowledge are blended together "to create new knowledge" (Nicolescu 1996). Researchers guide and participate as partners in the research, rather than direct and lead.

Areas of knowledge used often include:
- Expert knowledge
- Research knowledge
- Local/ tacit knowledge
- Documented knowledge (e.g, formal, grey literature or organisational documents)

Key questions for considering what knowledge is needed and how it can be used during this process are:
- What knowledge is already in use by the end user that is relevant to the research task and outcome?
- What new knowledge is relevant to the research task and outcome?
- What new knowledge might be useful for the end users?
- What is needed to ensure uptake and use of research by the end user?

TABLE 1: RESEARCH METHODS AND USE (YOUNG. C 2014, P 54)

METHOD OF RESEARCH	EXPLANATION	USE
Disciplinary	Research undertaken within a boundary of a single discipline.	For specific tasks that require one source of information, for example, research into the migration of fruit bats.
Multidisciplinary	Using more than one discipline to produce work but the areas of research work in isolation during the process. This work is usually brought together in a synthesis report at the end of the research project.	For specific tasks that require more than one level of understanding, for example, the undertaking of an assessment that requires both social and environmental impacts. But for the most part, these disciplines work separately during the research process and the output is the result of different components, for example, a project that looks at an overall theme such as adaptation framing but has economic, political and social researchers.
Interdisciplinary	Using the more than one discipline within another and where there is crossover of understanding between disciplines during the process.	This uses one type of research as an umbrella for other areas of research who work together to address a specific task. The different disciplines work together during the process, but do not necessarily change how they undertake research in their own area. For example, risk researchers and social geographers undertaking an impact assessment for climate change on a vulnerable community.
Transdisciplinary	Multiple disciplines that work together beyond discipline boundaries with the possibility of new perspectives. This can include multiple sources of knowledge and levels of discipline and non-academic parties.	This involves multiple disciplines and knowledge to develop new understandings, perceptions and technologies, and can change the way people think and practice, for example, research to develop a new institutional framework for adaptation governance using both local and expert knowledge that can be integrated into current systems.

CREATING THE RIGHT RESEARCH ENVIRONMENT

A key part of the success of this method relies on creating the right environment for interactions between researchers and end users. Knowledge exchange, flexibility to adjust, ongoing review and co-learning by end users and researchers are central to creating the healthy collaborative working relationship needed. This can very uncomfortable for people who are not used to working in this way.

Managing expectations during this process is critical, so it is important to ensure that both end users and researchers are clear about what the aim of the research is and to ensure that there are appropriate governance arrangements, from the onset of projects. Also to ensure time and resources are allocated to communication and engagement activities to support the process.

Key aspects of that create the right environment are:
- Active listening and negotiation
- Translation and contextualization of research between all the different stakeholders in the project
- Mechanisms for reaching shared agreement and resolving conflicts
- Sense making and socialisation of new concepts and research
- Co- learning for both researchers and end users
- Respect and valuing all types of knowledge.

Knowledge belongs to people in different ways so how end user concepts and expertise are used and acknowledged in the research process and outputs is important. This should be negotiated and agreed upon at the beginning of each project to avoid possible conflicts or IP issues (Young 2015). Maintaining trust and respectful conduct between different parties during the research process is critical. This can be particularly challenging for people who are used to hierarchical knowledge structures which can often place lesser value on non-academic areas of knowledge.

USING WHAT IS OF VALUE

Effective end user based research requires the growth of multiple sources of knowledge and understanding. How to develop structures that identify and enable the consolidation and growth of knowledge is key to this process. Above all, frameworks and structures which result from this research need to enable practitioners to continue to build new layers of knowledge that support deeper understanding and empower ownership and use of the research. Identifying and assessing pre-existing frameworks, methodologies and tools which can support this process to avoid 'reinventing the wheel' is part of the process. This provides the basis for identifying specific points in the decision making process, where research can be embedded. It is particularly important not to 'rebrand' established ideas, tools or concepts that may be used to make them 'unique' as this can confuse people and cause disengagement from the process if they feel their knowledge is no longer their own.

Values also play a role in this process. They are an important aspect of decision making and provide the basis for how people think and act. There are many different types of values but in terms of decision making but they fall broadly into two categories; [1] those that can be seen as "relating to the beliefs that determine what is most important and what motivates action" (Swartz, 2012 p5) and [2] those things we value as important as a result of these (e.g., social, environmental and economic values).

This makes values-based approaches to research useful as they also provide the basis for understanding what is likely to be most effective in terms of framing communication and management of stakeholders. Values based approaches are also useful as basis for the development of narratives which shape and direct decision making.

COMMUNICATION

Inside outside is an iterative process of 'deep engagement' where research is socialized and made sense of collaboratively as part of the process. As a result, it is important to understand and work with stakeholder communication systems, whether it is at a micro level such as a group, or a larger level such as a large organisation or a community. Identifying pre-existing communication systems and leveraging them requires skills and experience. Transparent and open communication is needed to ensure trust is built and maintained for the duration of the project.

Social networks are a key part of this as they are often the pathway to identifying what different stakeholders offer in terms of knowledge and who the key knowledge holders are. When starting this process it is helpful to identify who disseminates information, how this is done and who makes decisions.

Questions that can assist this process are:
- Who is responsible for making decisions?
- Who is responsible for disseminating information and how?
- What is the most commonly used form of communication medium (eg. verbal, written, internet, informal) and how is it used?

THE CHALLENGE

Inside out requires co-designing and working collaboratively in research so it is not a straightforward process. It requires higher levels of interaction with end users than conventional approaches and there are often surprises along the way. Researchers have to be prepared to be challenged and end users have to be prepared to work to discover answers rather than being given them. What you don't know in the process is much more important than what you do know. It can also be hard to measure impact and this research is often seen as lesser value than conventional research. The higher transaction costs needed for collaboration means it can also take longer to achieve some outcomes. This can be challenging in a world that is increasingly becoming accustomed to immediate responses. These challenges need to considered and proactively managed.

CONCLUSION

End user based methodologies are increasing in popularity in areas of research and skills are growing in this area. Inside out is one of the many new approaches which work in a participatory way with end users. Although there may be challenges, for those who persevere and embrace the discomfort of 'not knowing', these methods can provide a tangible pathway between research and practice that leads to understanding and better utilisation of research.

REFERENCES

Nicolescu.B (1996).La Transdisciplinarité. Paris, France: Rocher.International Congress What university for tomorrow?Towards transdisciplinary an evolution of the university. Locarno, Switzerland, April 30 - May 2, 1997.

Schwartz, Shalom H. (2012). An Overview of the Schwartz Theory of Basic Values. Online Readings in Psychology and Culture, 2(1). Doi:10.9707/2307-0919.1116

Victoria Institute of Strategic Economic Studies (VISES). (2015). Green Infrastructure Economic Framework. Victoria University, Melbourne

Young, C. K., Jones, R. N., Kumnick, M., Christopher, G. and Casey, N. (2017). *Risk Ownership Framework for Emergency Management Policy and Practice*. Bushfire and Natural Hazards Cooperative Melbourne, Victoria Institute of Strategic Economic Studies (VISES), Victoria University

Young. C. (2016) Working from the inside out: Implementation based research, Poster, NCCARF Climate Change Adaptation Conference 2016, Adelaide, South Australia. 5 - 7 July 2016.

Young, C. (2014). The problem solution framework: process guidance for adaptation practitioners. VISES Climate Change Working Paper No. 19, Victoria Institute of Strategic Economic Studies, Victoria University, Melbourne.

Young, C. K. and Jones, R. N. (2013) Building Bridges: Supporting Adaptation in Industry Think Tank Context Paper. Victorian Centre for Climate Change Adaptation Research, Melbourne.