



THE AUSTRALIAN NATIONAL UNIVERSITY

Do We Need a New Discipline to Document and Transmit Problem-based Learnings?

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My answer

- Yes!
- Integration and Implementation Sciences (I2S)
- www.anu.edu.au/iisn

Overview



- Why do we need Integration and Implementation Sciences?
- What are the core concepts and methods?
- Issues for application and institutionalization

Why do we need Integration and Implementation Sciences?

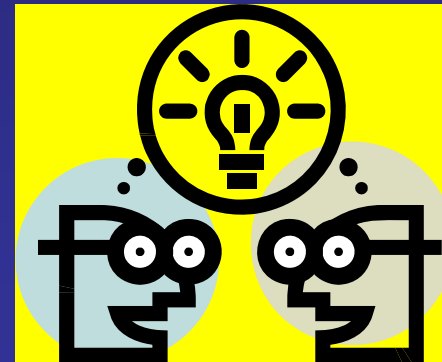
- Boost contribution of university research
- No well-established institutional structures
- No core methodological underpinning
- Recurrent methodological challenges that are no-one's mandate

Core concepts and methods...1

1. Compiling work of others through an 'integration and implementation' lens



2. Application in projects



Core concepts and methods...2

Primary areas:

- population health



ARACY

- environment

LWA

- policing and security



GECAFS

(- technological innovation)

(SDPS)

Core concepts and methods...3

Fresh thinking for
intractable problems

Integrating disciplinary
and practice
(stakeholder) knowledge

Understanding and
managing ignorance and
uncertainty

Providing research support
for decision making and
practice change

Fresh thinking for intractable problems ...1

Range of methods to promote creative thinking

Focus on Executive Sessions methodology

- Harvard University
- 17 completed since 1984
- Around 30 innovative and influential participants
- 2/3 practitioners, 1/3 researchers
- Ideological diversity
- 6 x 3day meetings over 3 years
- 'Ripe' topic

Fresh thinking for intractable problems ...2

- America's Juvenile Justice System 1984
- Policing 1985 – 1993
- State and Local Prosecutors 1987 – 1990
- Making the System Work for Poor Children 1988 – 1990
- New Paradigms for Child Protective Services 1994 – 1997
- Medical Error and Patient Safety 1998 – 2000
- Public Defense 1999 – 2001
- Future of Philanthropy 1999 – 2002
- Domestic Preparedness 1999 – 2003
- American Indian Constitutional Reform 2001 – 2003
- Faith-based and Community Approaches to Urban Revitalization 2002 – 2003

Core concepts and methods

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Integrating disciplinary and practice knowledge ...1

Systems approach

- View of the whole
- Systems principles and methods

Integrating disciplinary and practice knowledge ...2

Scoping, problem framing and boundary setting

- Better methods
- Cant do everything:
 - Importance of knowing that what is included, excluded and marginalised
 - Importance of understanding, managing and communicating uncertainty better

Integrating disciplinary and practice knowledge ...3

Importance of collaboration = harnessing difference

- Integrating relevant differences
- Managing incidental differences

Integrating disciplinary and practice knowledge ...4

Integration Framework:

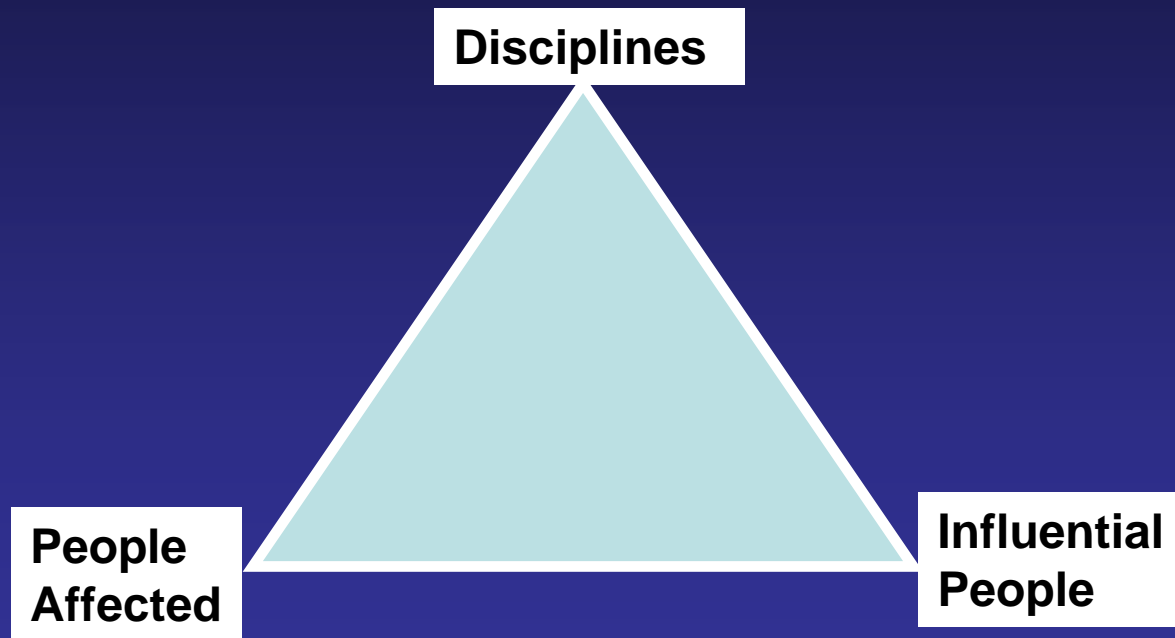
1. For what and for whom?
2. Of what?
3. By whom?
4. How?
5. Context?
6. Impact?

For what and for whom?

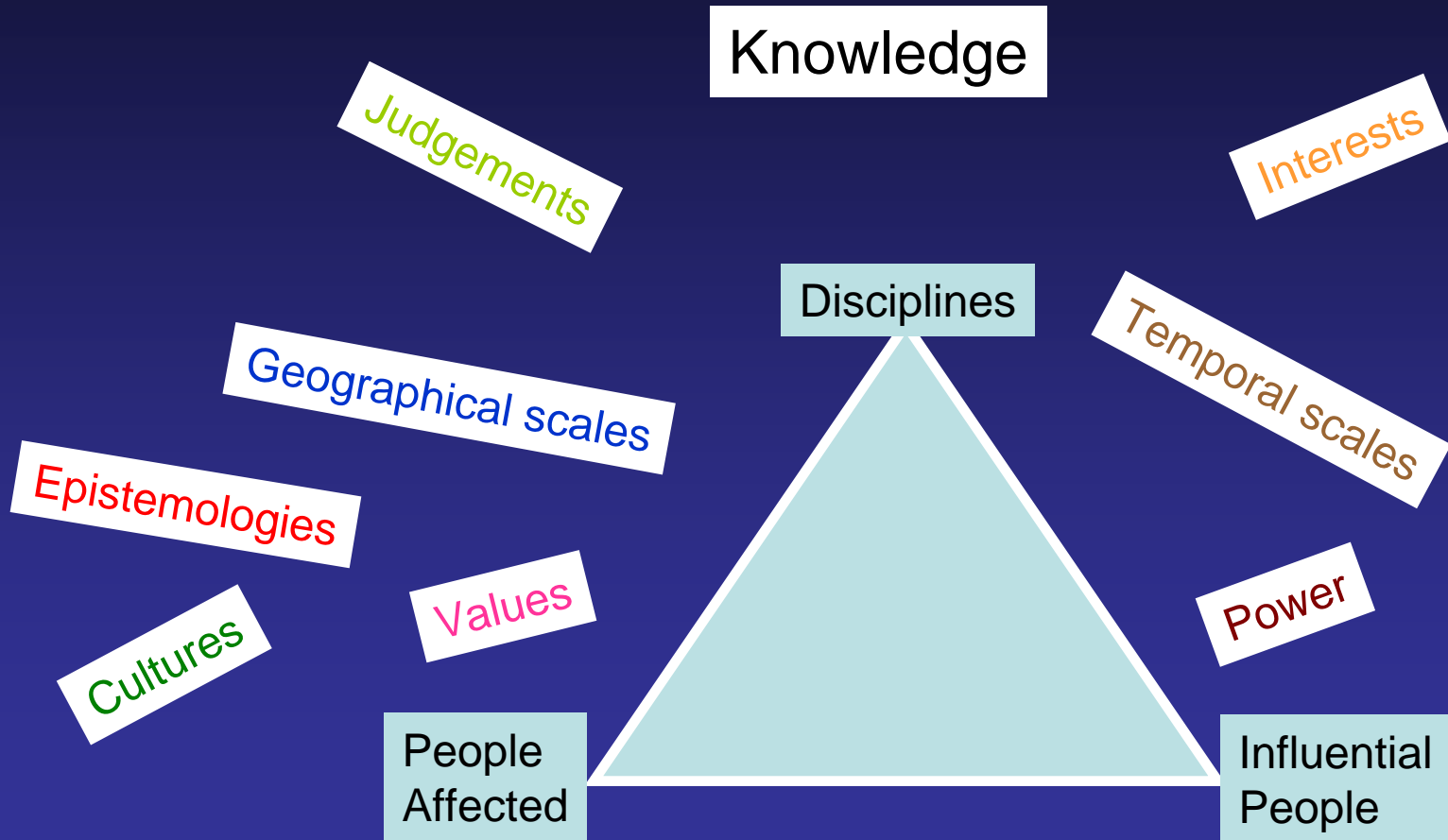
What are the aims of the integration and who is intended to benefit?

Differentiate integration aims from project aims and big picture aims

Integration of what?



Integration of what – more detail



Integration by whom?



Whole group



Subgroup



Individual



Integration 'specialist'

How?

No existing toolkit

Models

Dialogue

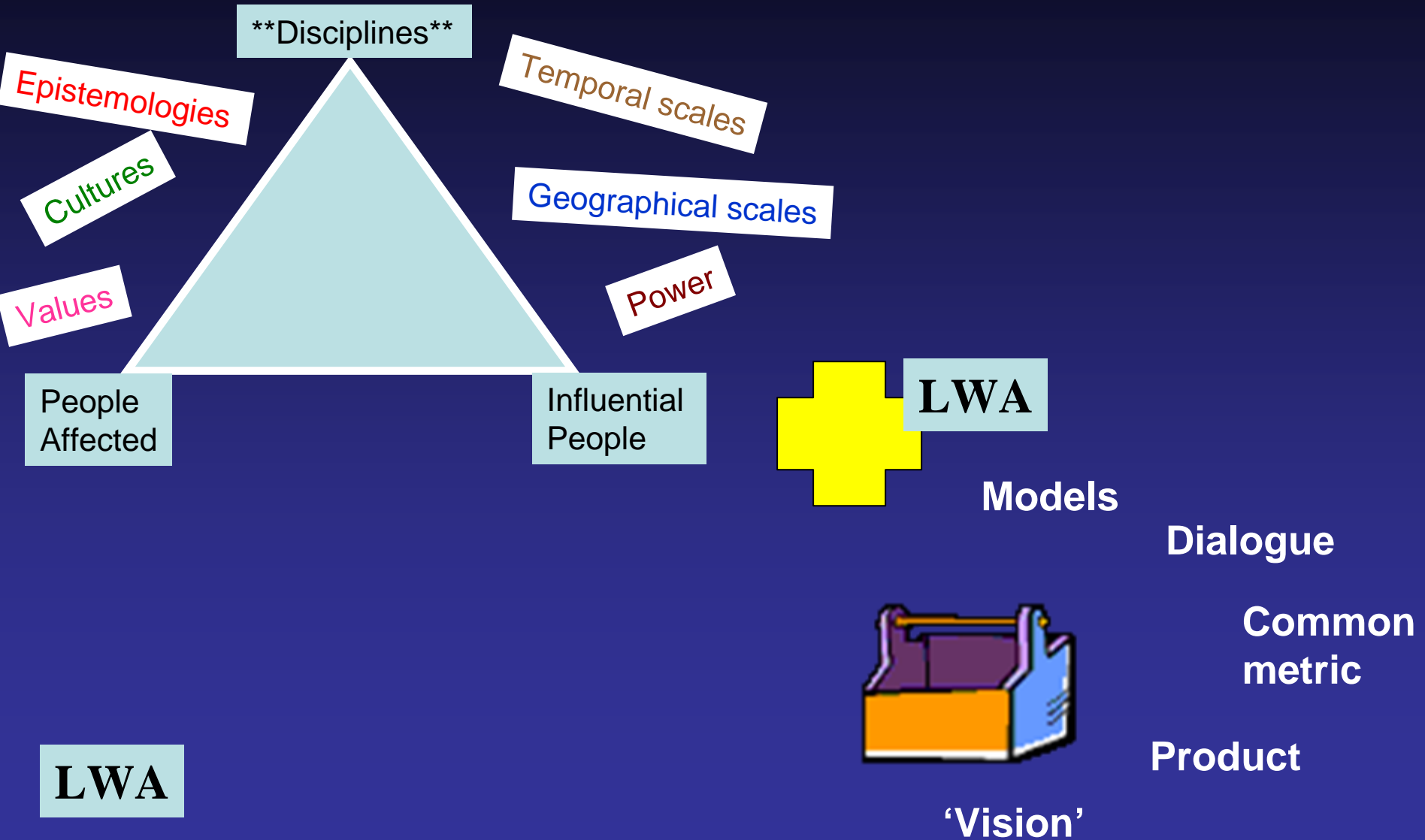
Common metric

Product

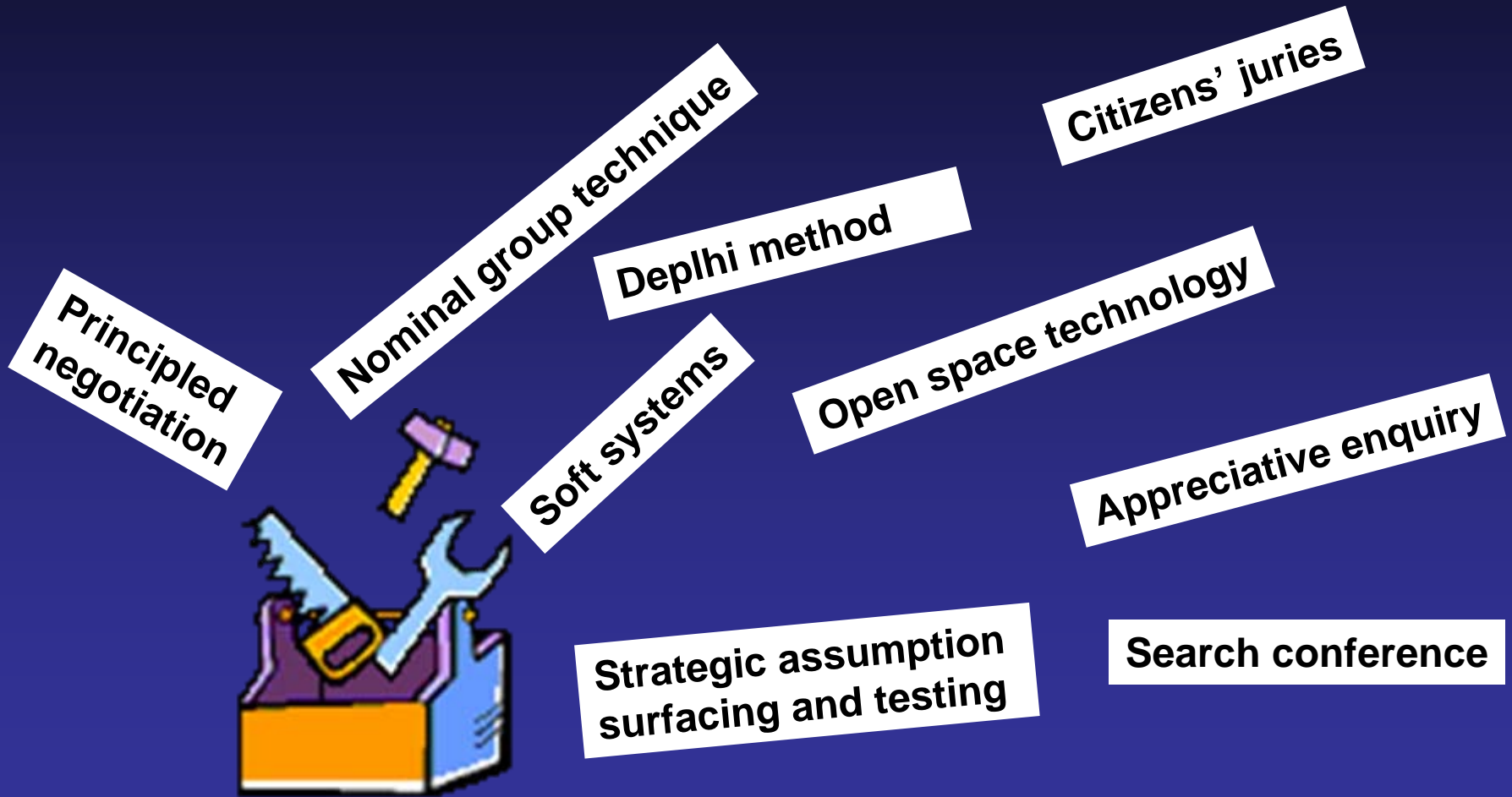
'Vision'



Toolkit especially for matching 'of what' and 'how'



Dialogue tools



Context?

Relevant political context, history of the problem,
institutions involved, etc

Anything that might affect the integration approach

Impact?

Success of the integration processes?

Did the integration contribute to the project success?

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Ignorance and uncertainty...1

- Understanding is comparatively unsophisticated
- Problems include multiple types of ignorance and uncertainty
- Decisions require strong appreciation of ignorance and uncertainty
- Nobody's mandate to pull different approaches together

Ignorance and uncertainty...2

STATISTICS - probability theory

Music – essential for creativity

History – moral dimension

Intelligence – gaps or overload

Art – certainty and uncertainty are a continuum, not opposites

Complexity - irreducible

Futures – unknown unknowns

Religion – desirable vs fundamentalism

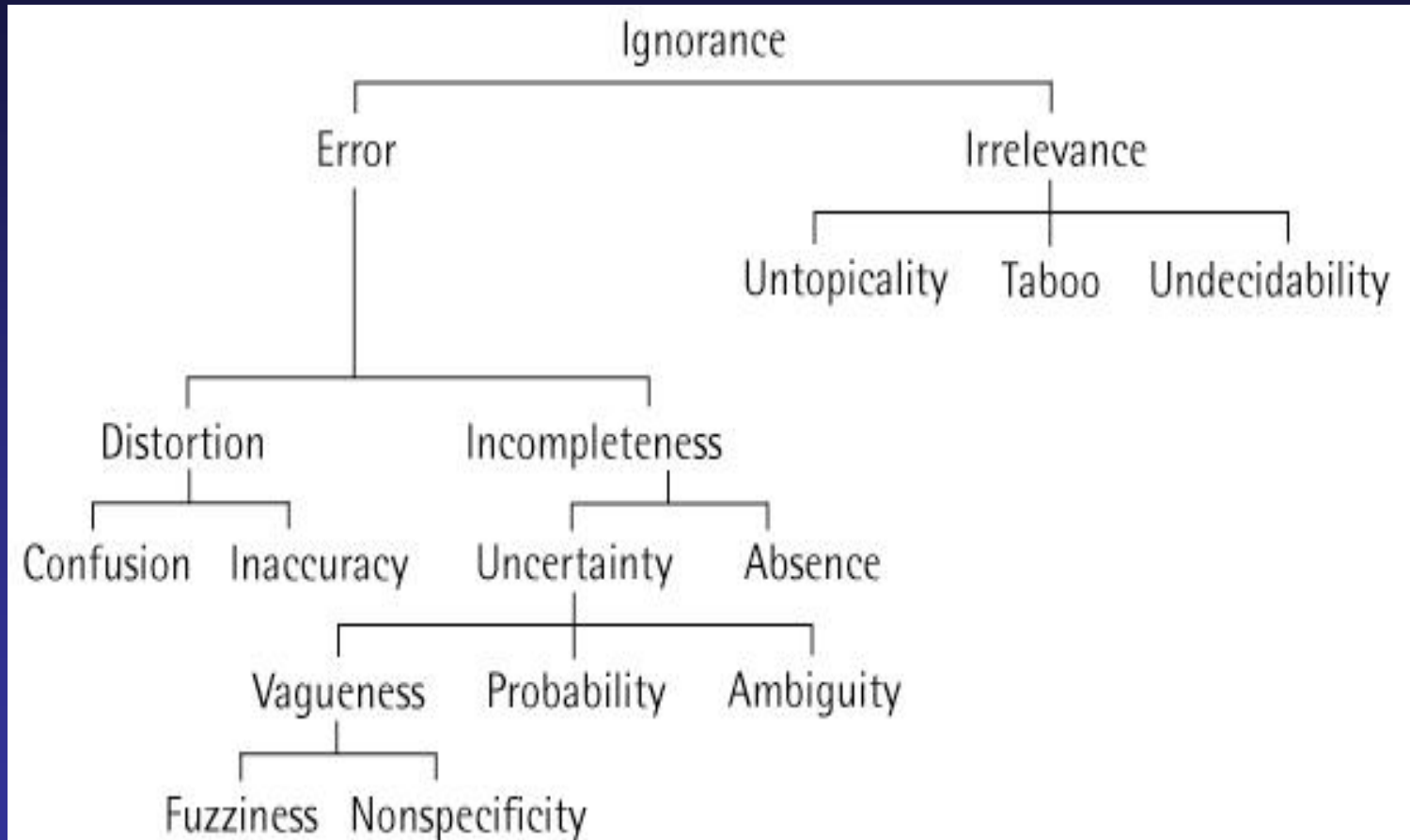


Ignorance and uncertainty...3

Known knowns	Known unknowns
Unknown knowns (tacit knowledge)	Unknown unknowns

Ignorance and uncertainty...4

Typologies eg Smithson, 1989



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Decision support

1. understanding decision making processes, eg government policy making or business commercial decision making
2. appreciating the attributes of influential research
3. delineating different types of researcher-decision maker engagement – ranging from one-way communication to the co-production of knowledge – and their strengths and weaknesses
4. understanding how institutions can influence which research is taken up by decision makers
5. developing more effective ways to evaluate research support for decision making

Effective change – what can we learn from

- Advertising
- Organisational change
- Agricultural extension
- Health promotion
- Counselling
- Diffusion of innovation
- Social entrepreneurship
- Community organising

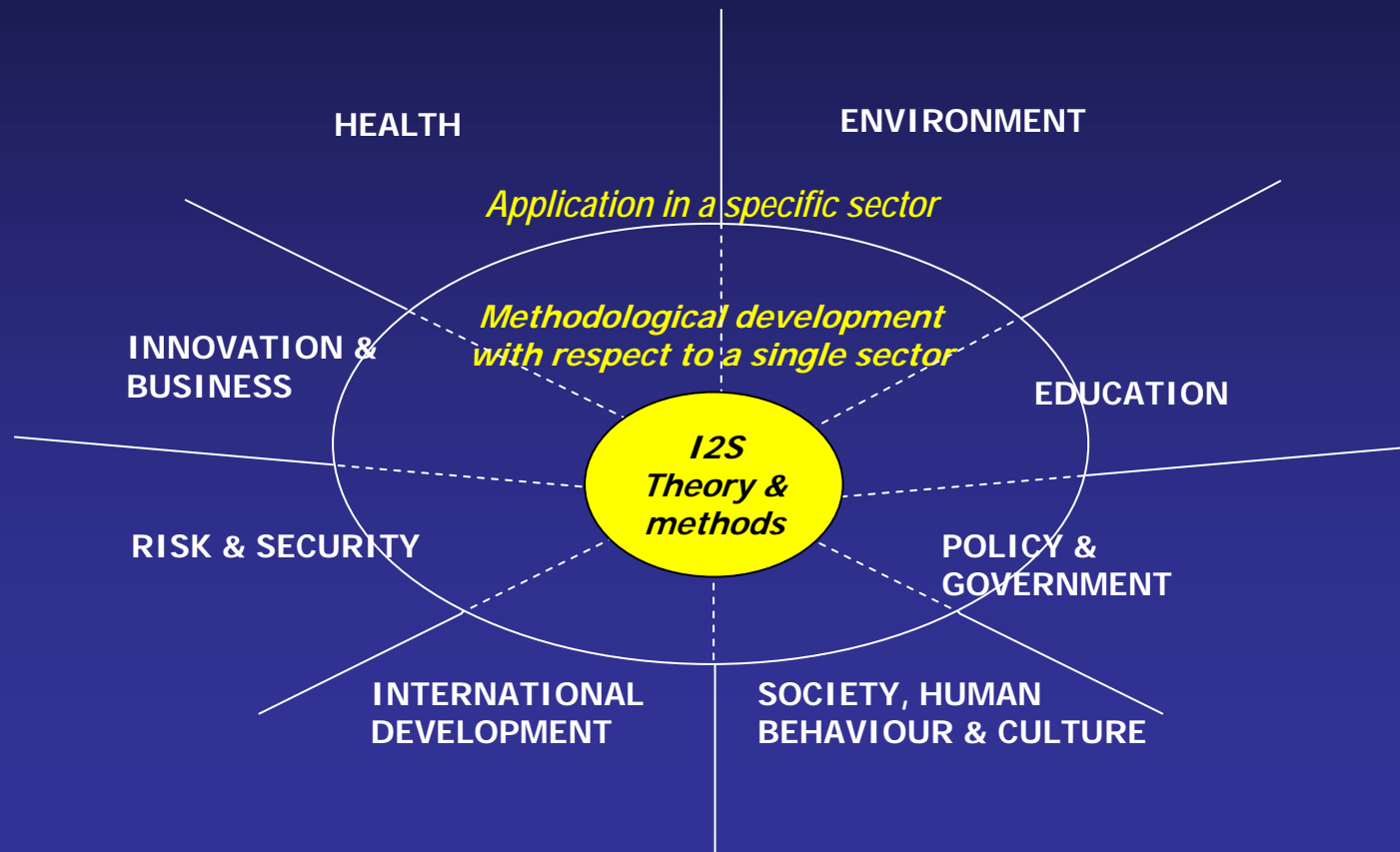
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- **Issues for application and institutionalization**

Application and institutionalization ...1

- Academic orphans
- Cross-cutting discipline



Application and institutionalization ...2

- Graduate Courses
- Courses for Research Managers
- Integration and Implementation Sciences Network
www.anu.edu.au/iisn

Join us!

Acknowledgements

Funding: Fulbright, Colonial Foundation Trust, NHMRC, LWA, Hauser Center, NCI (ISIS), GECAFS, CCES (ETH-Zurich), ARC Centre of Excellence in Policing and Security

Caryn Anderson, Peter Deane, Lorrae van Kerkhoff, David McDonald, Lyndall Strazdins, Helen Berry; NCEPH, Hauser and CID colleagues

Gerald Midgley, Wendy Gregory, Pascal Perez, Anne Dray Gertrude Hirsch Hadorn, Christian Pohl, Christoph Kueffer

DPMP – Alison Ritter, Margaret Hamilton

Uncertainty – Michael Smithson, Damon Muller

Post-amble

- “Multidisciplinarity is the way of the future”
- How to operationalize research that crosses disciplines
- 1991-1997 The ACT Heroin Trial
- Systematize process

