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National  
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# More than Research Skills: A Multi-dimensional Approach to the Research Process and Research Training

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## Overview

- Point of departure
- Argument
- Contextual dynamics
- Extra-methodological dimensions
  - Policy
  - Funding
  - Grantsmanship
  - Utilisation of research findings
  - Project management
  - Science ethics
- Systemic perspective



## Point of departure

- No compromise on requirement that research *must* be of a high quality
- Continuum from addressing relatively simple to highly complex research questions
- Range from basic and curiosity-driven research through to strategic and applied



## The argument (1)

If this country wants to move towards a knowledge society,

The complexities of challenges of modern society

- Separately and in interaction -

Make effective research an imperative

*(Effective research:* Soundly designed and executed research project which attains its primary goal [knowledge production, solution of technical problem, etc.]*)*



## The argument (2)

Effective research **presupposes**

- Firstly, sound research methodology and
- Secondly, accounting for all significant extraneous factors that could confound the impact of the research

Effective research therefore **requires** that extra-methodological forces be accounted for

- in the research process and
- in training of the new generation of researchers



## Extra-methodological forces

Moderating/confounding variables  
in the research model

- STI policies and government steering of R&D
- Funding conditions
- Grantsmanship
- Planning for implementation and utilisation
- Project management
- Science ethics

(Textbooks on methodology and research training)



## Government steering

Public funding inextricably bound by government orientation and policy

- Government priorities
- Performance auditing – outputs and outcomes
- Permeability of sectoral boundaries
- Increased steering through policies and strategies
- Growing frustration



## Funding (1)

Funding is an important policy/strategy instrument,  
and yet

*Own survey: Which of the following sources of information (on the particular grant) have you used in preparing your application?*

	Unaware	No	Perhaps	Often	N/A
Official criteria	25%	6%	22%	45%	1%
Own institution	8%	12%	26%	52%	2%



## Funding (2)

### Selected evidence

- Current economic meltdown
- Budget cuts
  - Tougher competition



## Planning for utilisation (1)

Utilisation / implementation ranges from

- Scientific - e.g. publication
- Socio-political - e.g. policy evaluation
- Economic-technical - e.g. new software



## Planning for utilisation (2)

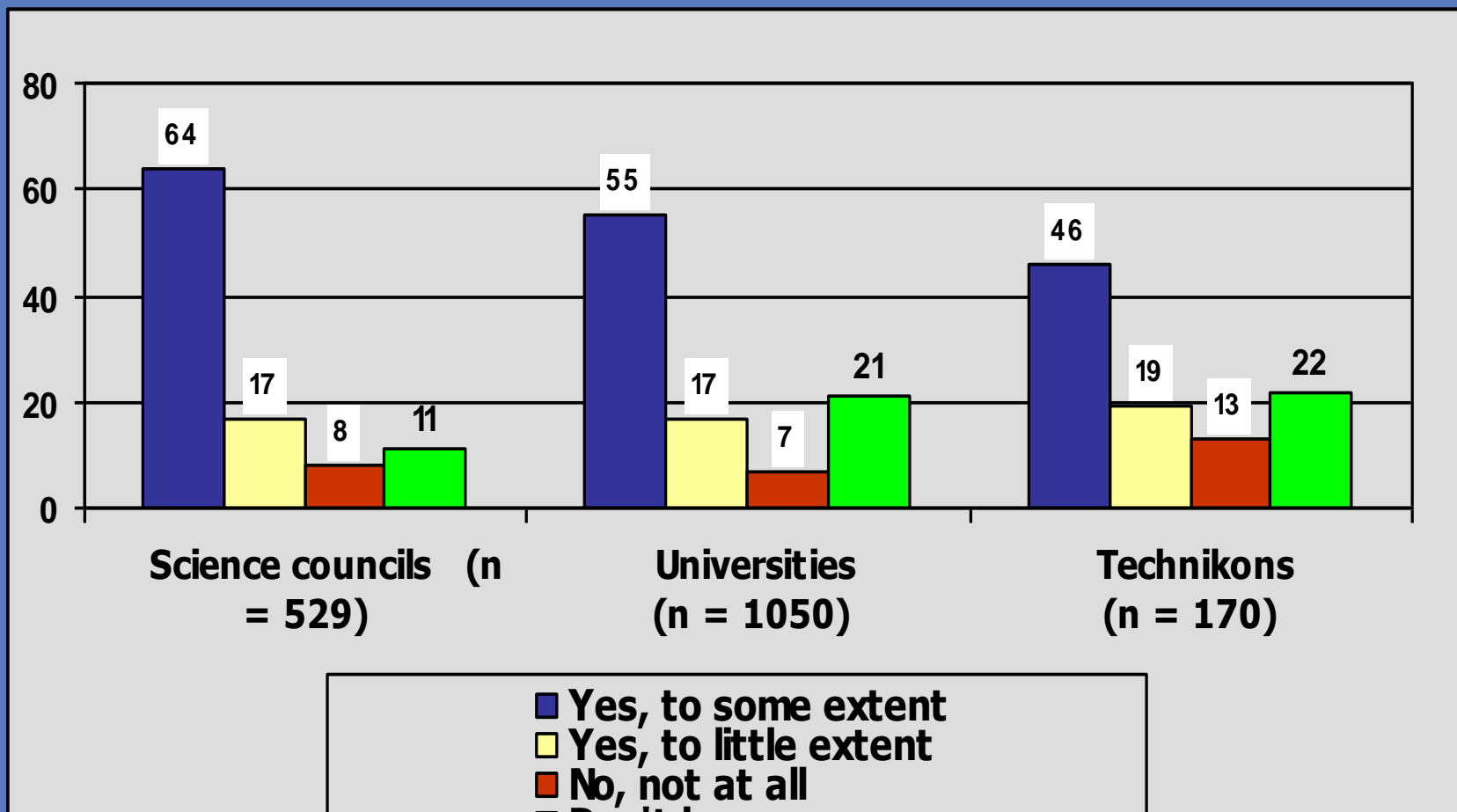
Studies (e.g. NACI) show that

A: Rate of utilisation in SA is relatively **low**

B: Successful utilisation/implementation of research findings requires **deliberate planning** throughout the life cycle of a project

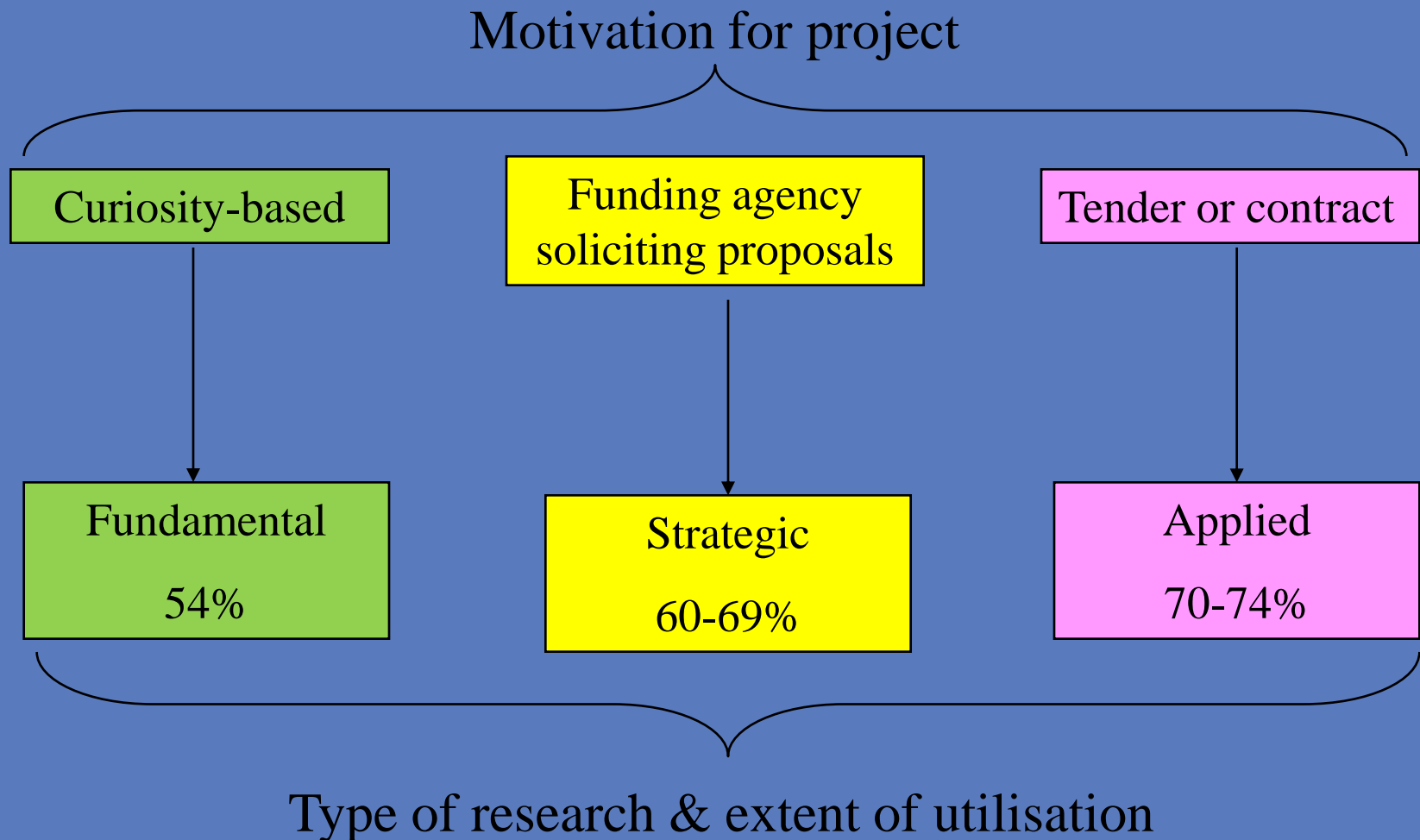


## A: Utilisation by *institutional type*





# A: Utilisation by *research type*





## **B: Planning for utilisation: An example**

(Marais & Gathua – SARIMA 2008)

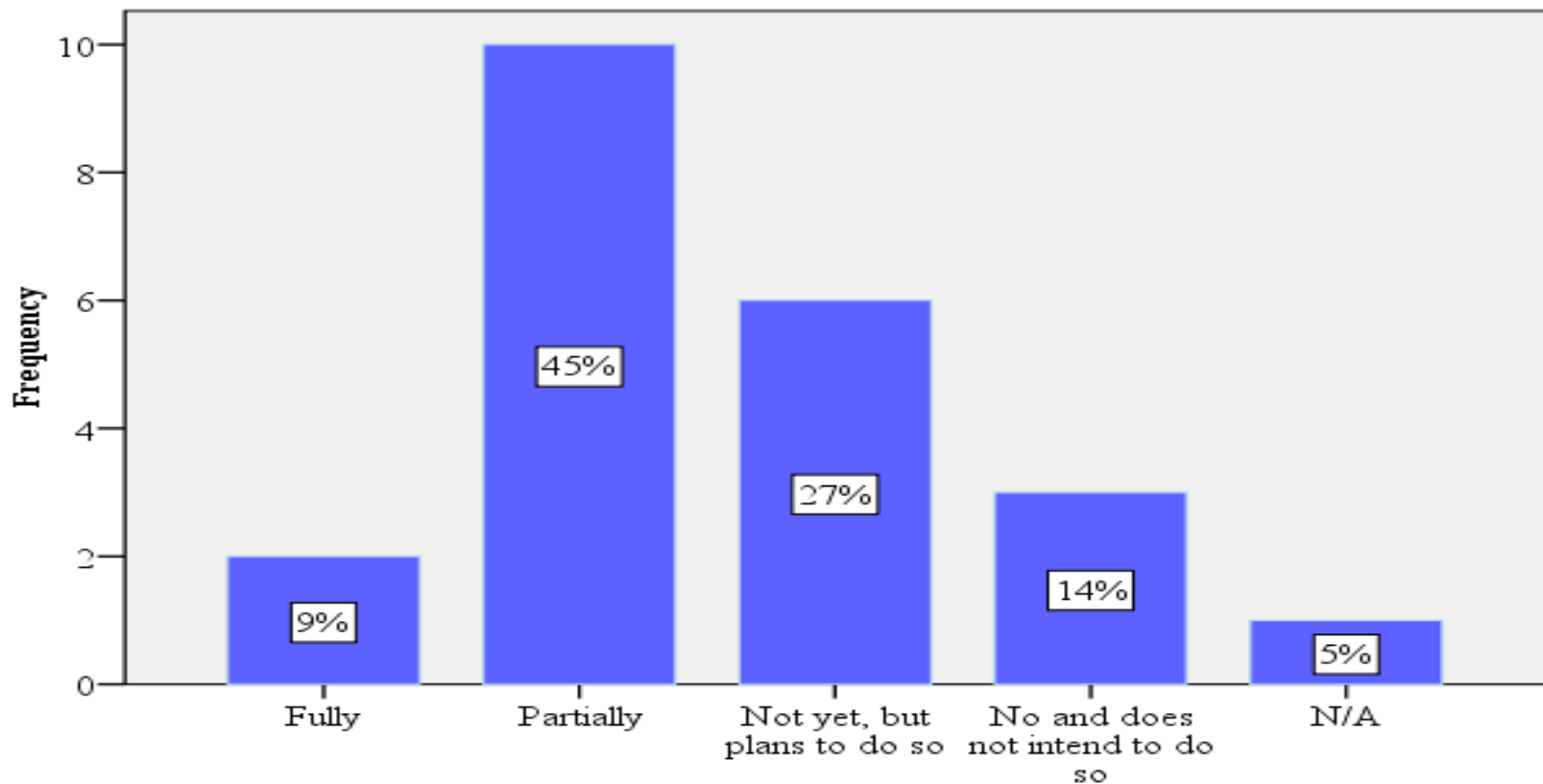
### *Da Vinci Institute for Technology Management*

- Offers professional M and D degrees
- Training in research methodology
  - Apart from technical topics includes knowledge mapping, ethics and planning for implementation
  - Chapter in dissertation on implementation strategies
  - Outcomes favourable



## B: Have Findings been Implemented?

(Marais & Gathua – SARIMA 2008)



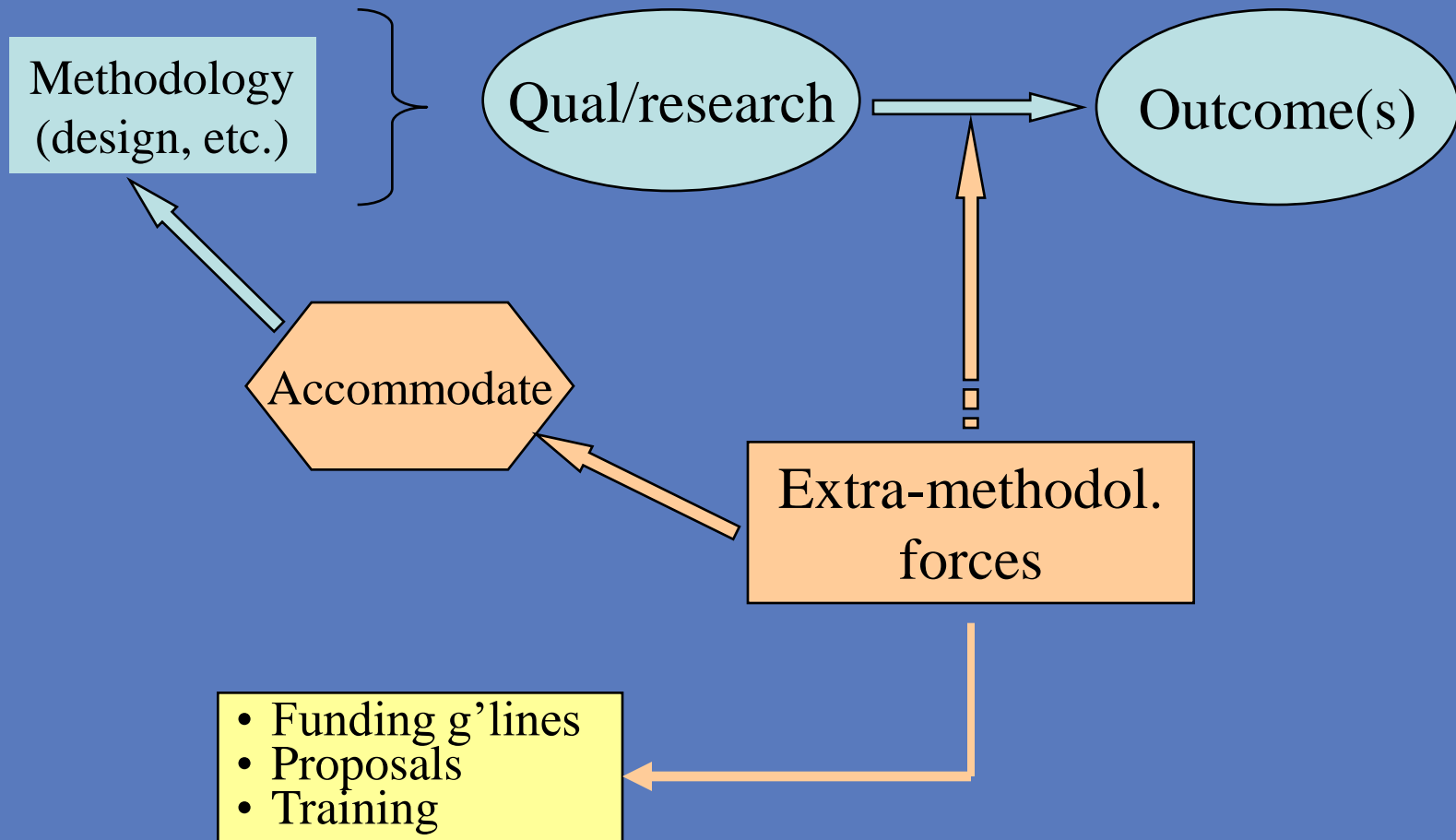


## B: Predictors of utilisation

- Good quality research
- Collaboration (e.g. inter-institutional, interdisciplinary)
- Experience of the project leader (also: well-networked, good communication skills, etc.)
- The size of the project
- Institutional commitment to and policy on utilisation
- Demand for research base and information – problem inspired
- Well established relationship with significant users of research findings
- Adequate financial, human and infrastructural resources
- Prior agreement on the potential outcomes of the research, e.g. IPR



# A systemic perspective





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# Thank you

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