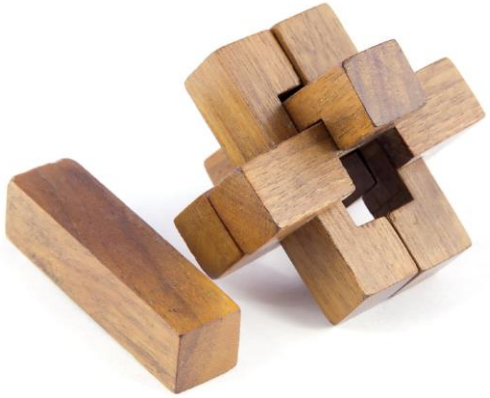


The International School
on Research Impact Assessment

Performance Management and Logic Modeling

Gretchen B Jordan, Ph.D.

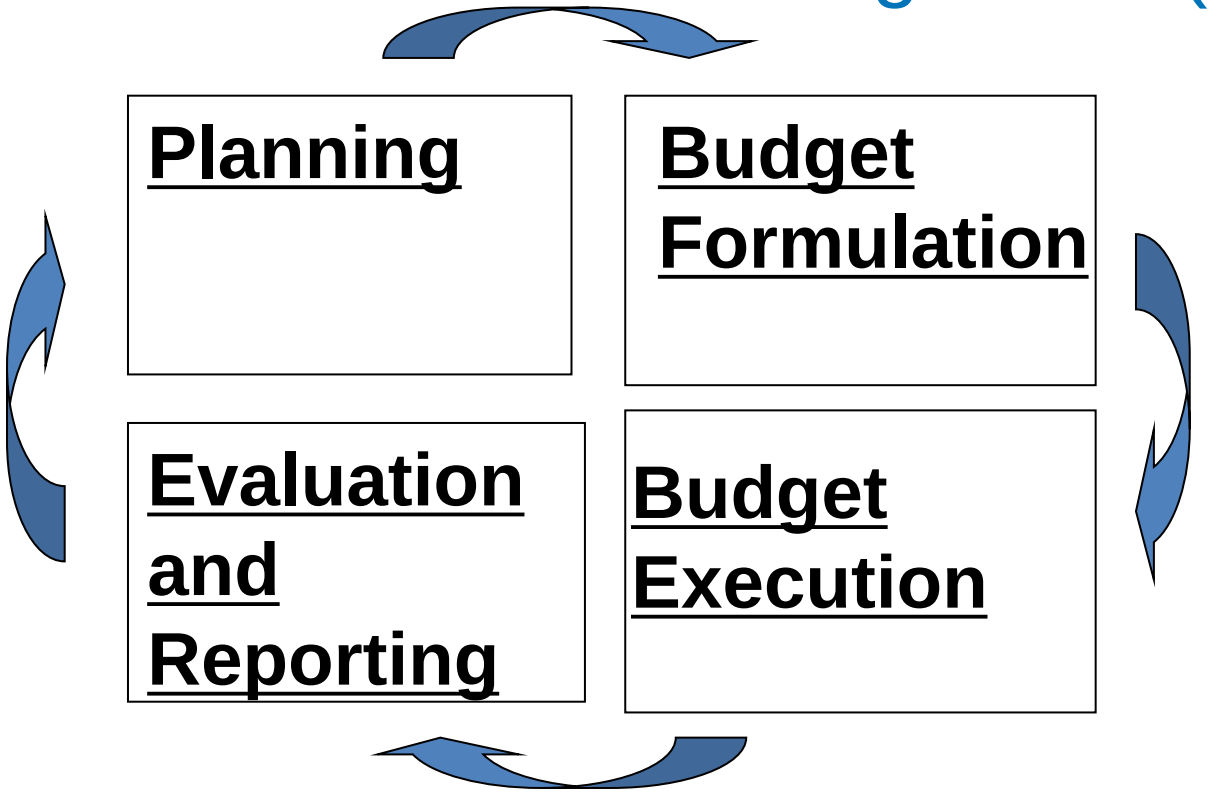
360 Innovation LLC

Pacific Grove, CA USA

Learning Objectives

- To understand how impact assessment fits in performance management information
- To know why it is important to choose success indicators carefully.
- To be introduced to the logic model tool for thinking through a theory of programme strategy
- and then choose a set of indicators that covers key aspects.

Impact Assessment is One Part of Performance Based Management (PBM)



Performance information is used in all areas of PBM, will improve decisions and can be used to foster accountability.

Managing for Results (PBM) is required around the world

In legislation like the U.S. Government Performance and Results Act (GPRA)

- Strategic Plan (Agency Level)
- Annual Performance Plans (Budget Level)
- Performance Report (Budget Level)

Fundamental!
Measure Your Strategy

- Performance planning is in relation to the overall organization's Mission, Vision and Goals.
- Strategy describes pathways to reach goals.
- A Balanced Scorecard approach looks at four perspectives/elements in a logic model:
    - Learning & Growth (Resources)
    - Operations (Activities, Outputs)
    - Customer (Transfer, Short, Intermediate Outcomes)
    - Financial/Mission (Long term/Ultimate Outcomes)

Bad Practice and Why You Don't Go There

Bad practice:

- Measure something because you can, or already are.
- Not measuring something because it "isn't measureable" or you don't have the data, or the measure isn't perfect.
- Measure too many things.

What happens with bad practice:

- Goal displacement when indicators are too simple.
- Rigid use of indicators means can't respond to changes.
- Use of too narrow a set of indicators means inferior projects/contractors may be chosen.

Advice on choosing key indicators

Various levels of the organization each need a small set. Each indicator in the set will

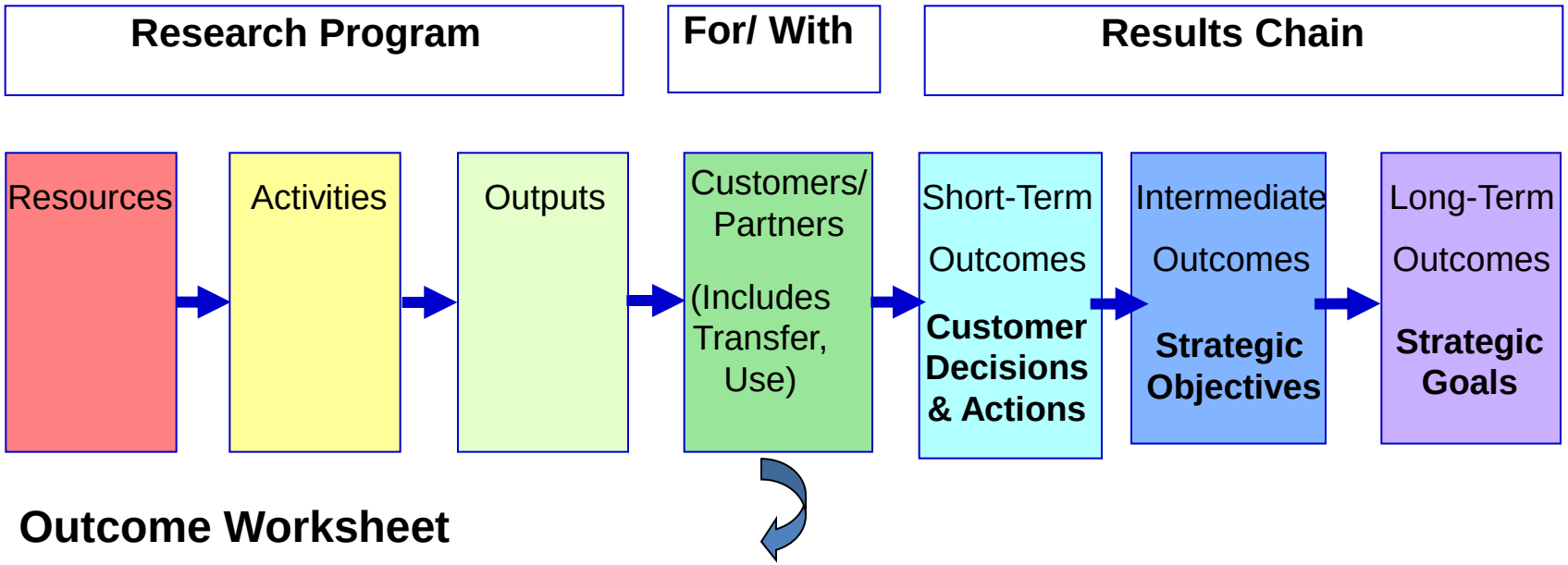
- **Link to desired outcomes.**
- **Communicate well**.
- **Benefits greater than costs to collect (feasibility).**
- **Drives performance the right way.**

A Balanced Set/Scorecard tells a brief, convincing performance story and drives performance the right way by measuring the strategies and by covering all aspects of the programme logic and of stakeholder information needs.

How to Develop a Strategic or Programme Theory (Logic) Map

- Describe the underlying assumptions about how a programme causes intended outcomes.
- Involve a full range of programme managers, stakeholders.
- Concentrate on the sequence of outcomes.
- Look at outcomes from different perspectives such as Research Capacity, Progress Toward Social Outcomes.
- Think through why things could go wrong to illuminate assumptions, risks.
- Make it a dynamic, iterative process.

A logic map/model is *a process*, which results in a diagram and text that describe key logical relationships.

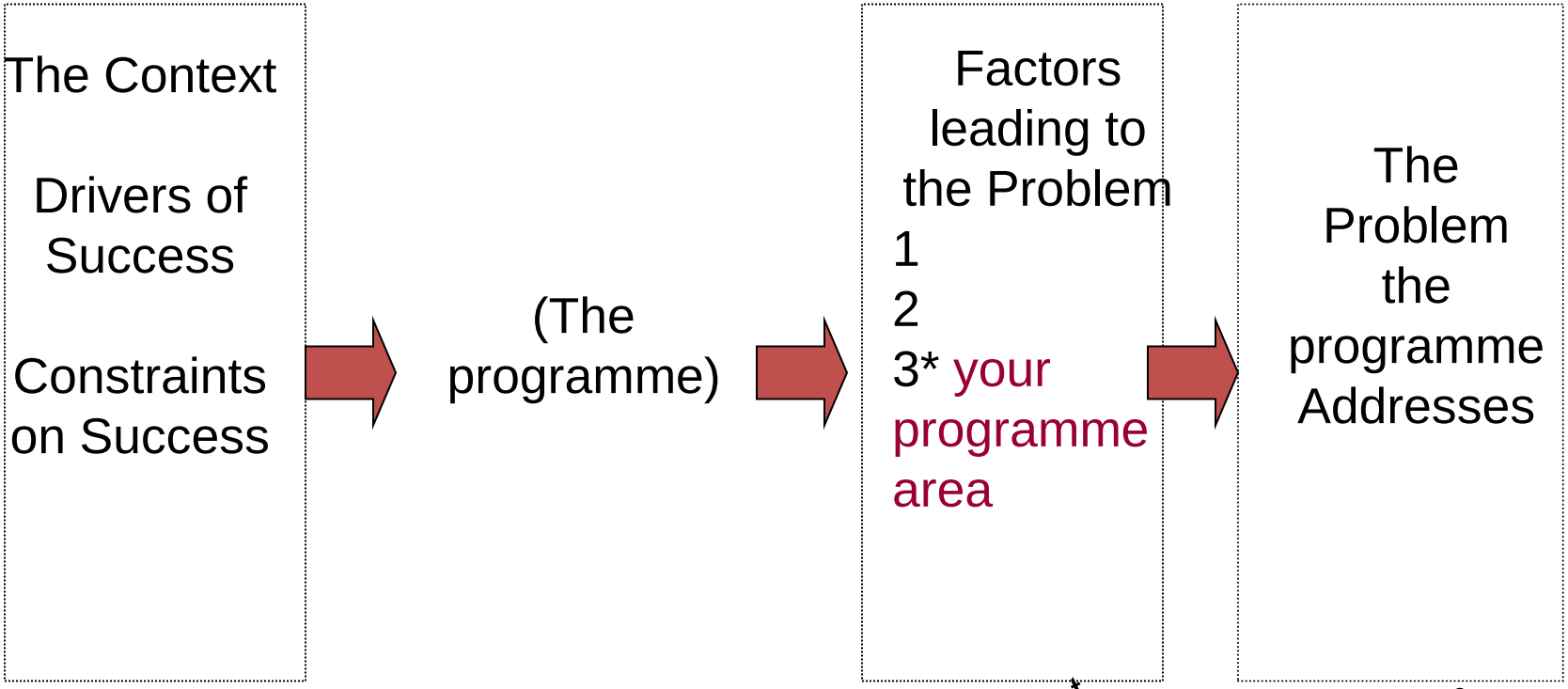


Outcome Worksheet

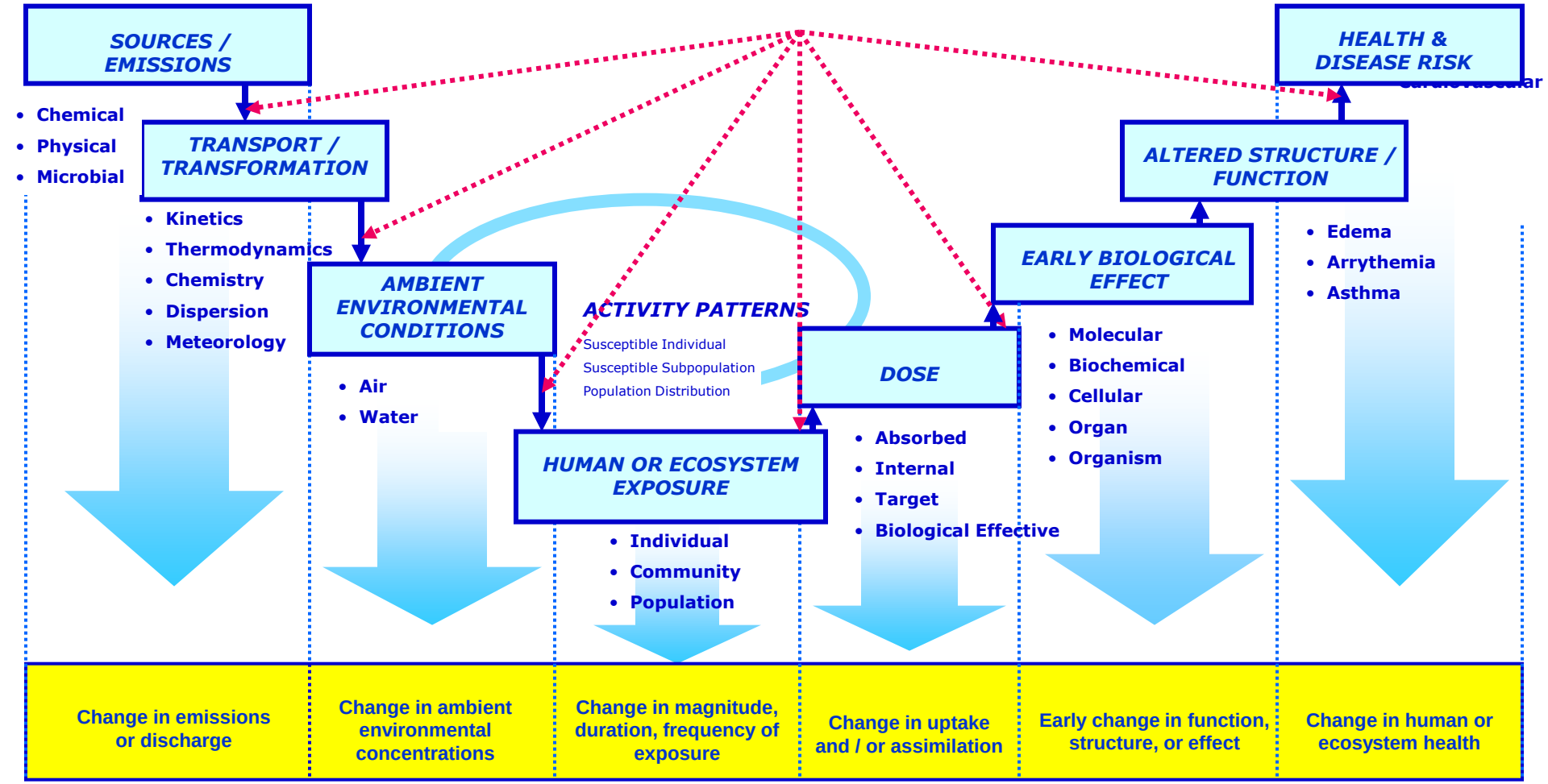
Strategic Goals	Intermediate Outcomes	Short term outcomes	Customers/ Partners reached	Outputs	Activities	Resources

Modified from RAND- NIOSH

Define the problem the programme addresses and the context. Start with the big picture.



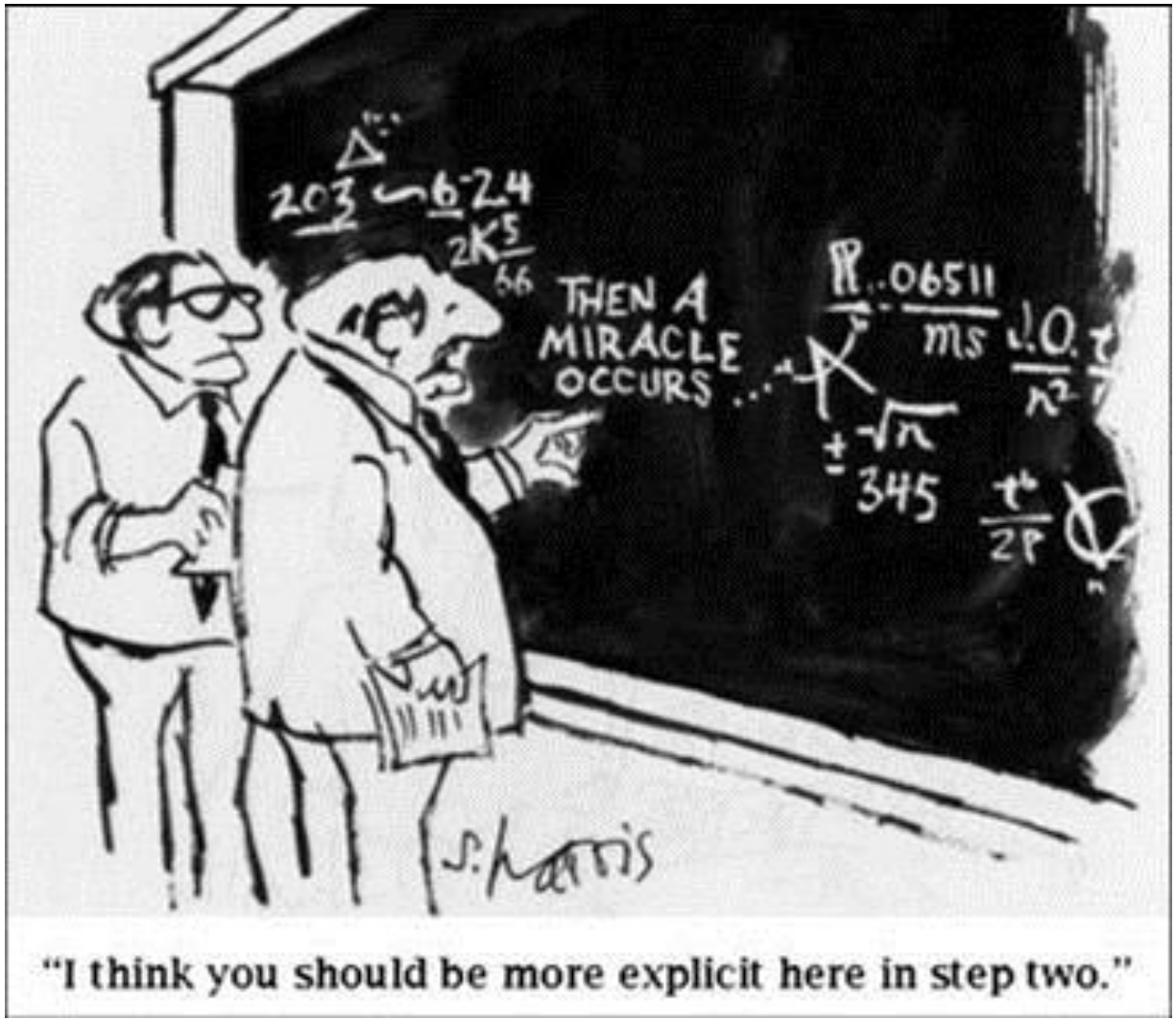
Example: A map of research topics needed to create the scientific foundation for environmental decisions



--critical links related to sources, exposure, health effects, risk assessment, and regulatory decision-making

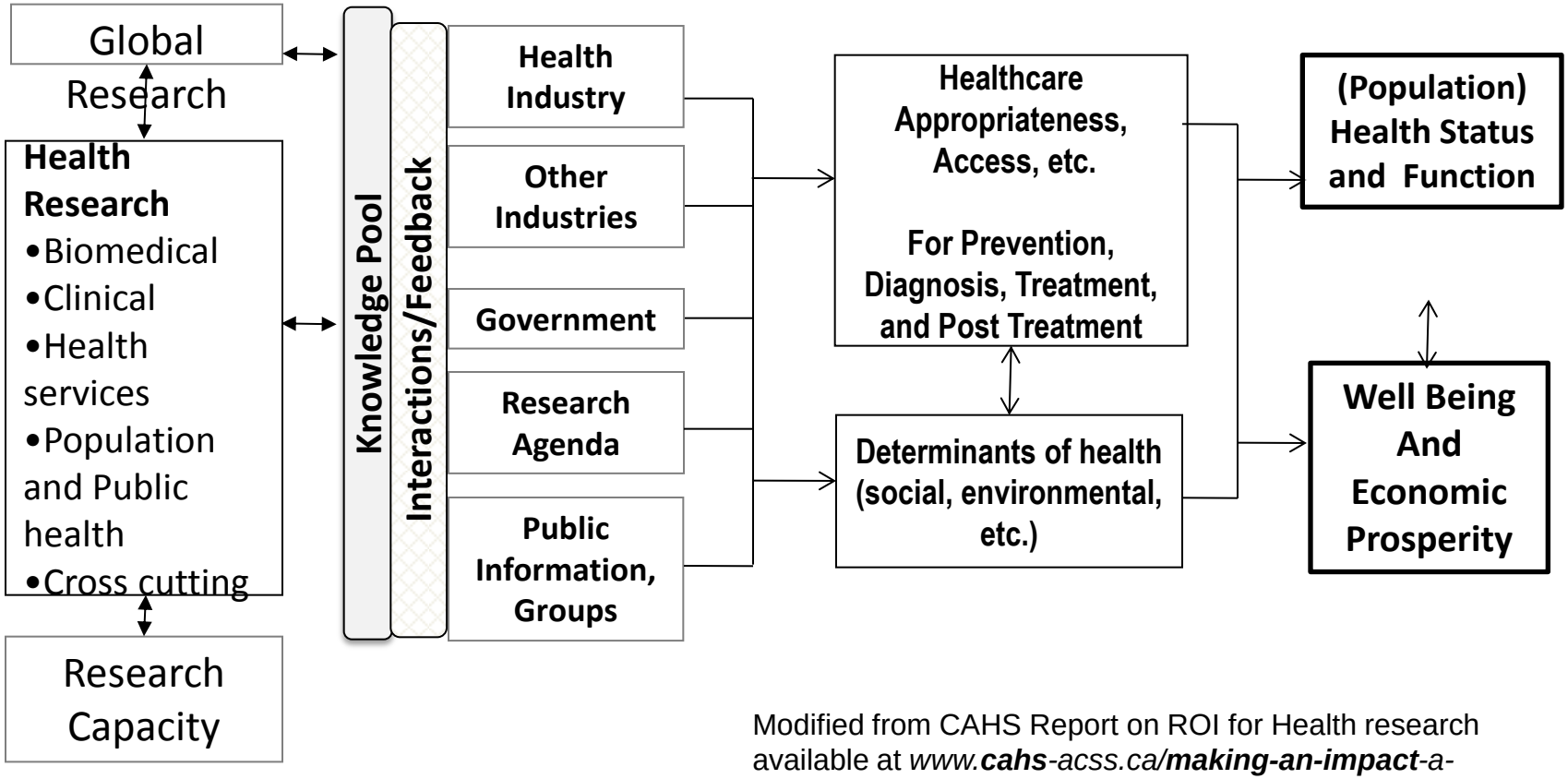
Source: US EPA, Pahl, et al, AEA 2007

The pathways from inputs to outcomes – magic in the middle



"I think you should be more explicit here in step two."

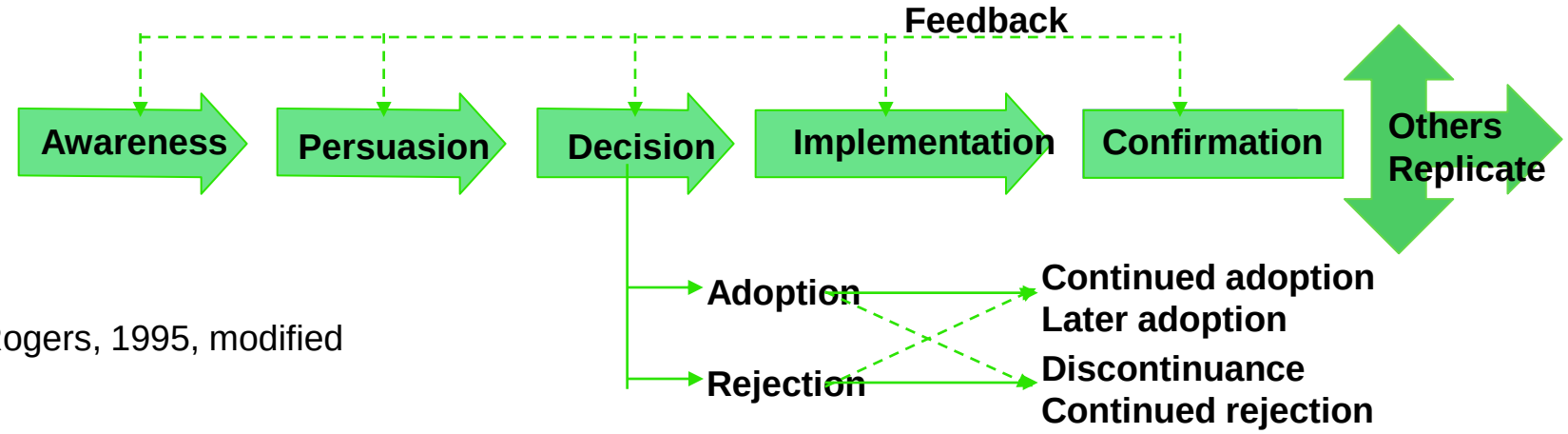
Describing Pathways – an example
The Canadian Academy of Health Sciences Logical Framework for Understanding the Impacts of Health Research



Modified from CAHS Report on ROI for Health research available at *www.**cahs**-acss.ca/**making-an-impact**-a-preferred-framework-and-ind...*

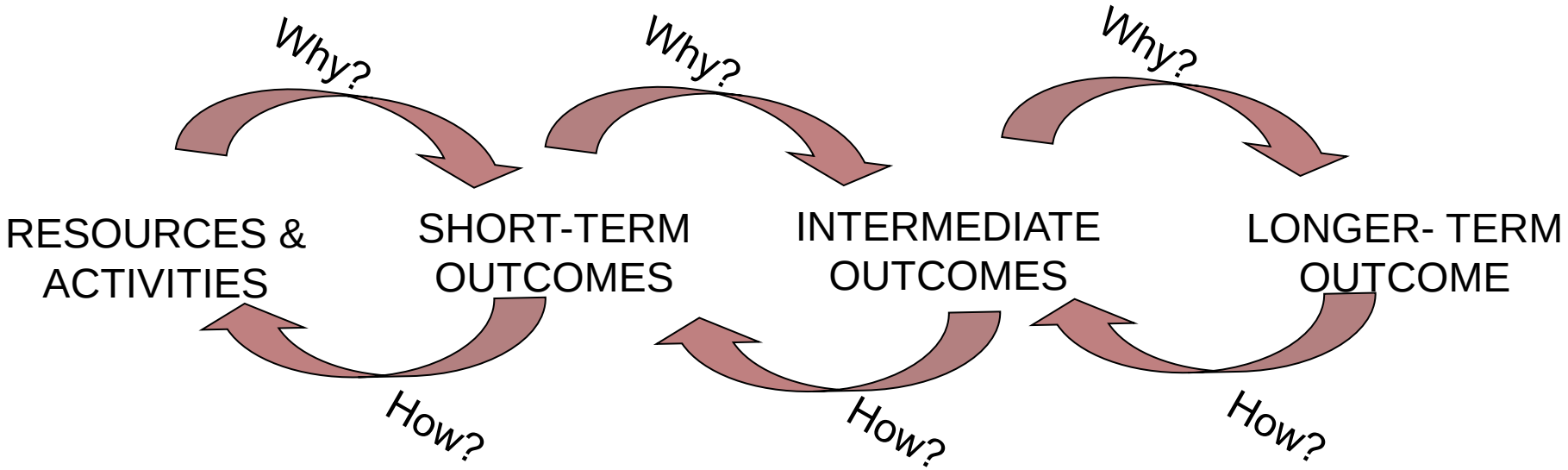
TOOL:
Identify the sequence of programme outcomes.

A commonly used sequence of Direct and Intermediate Outcomes:



E. Rogers, 1995, modified

TOOL: Do Forward Mapping (Why? or If-Then) and Backwards Mapping (How?)

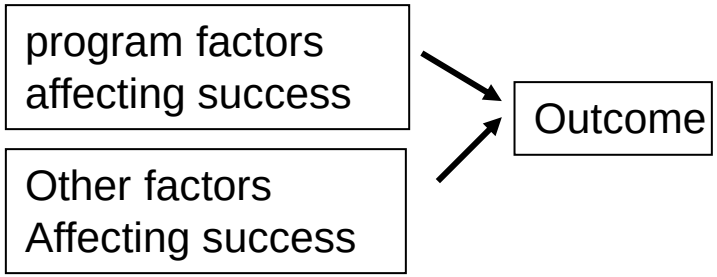


If Evidence is found then Guidelines are changed

If Doctors use new guidelines then Patients get additional tests

If ⟶

TOOL: define risk and success factors for each outcome

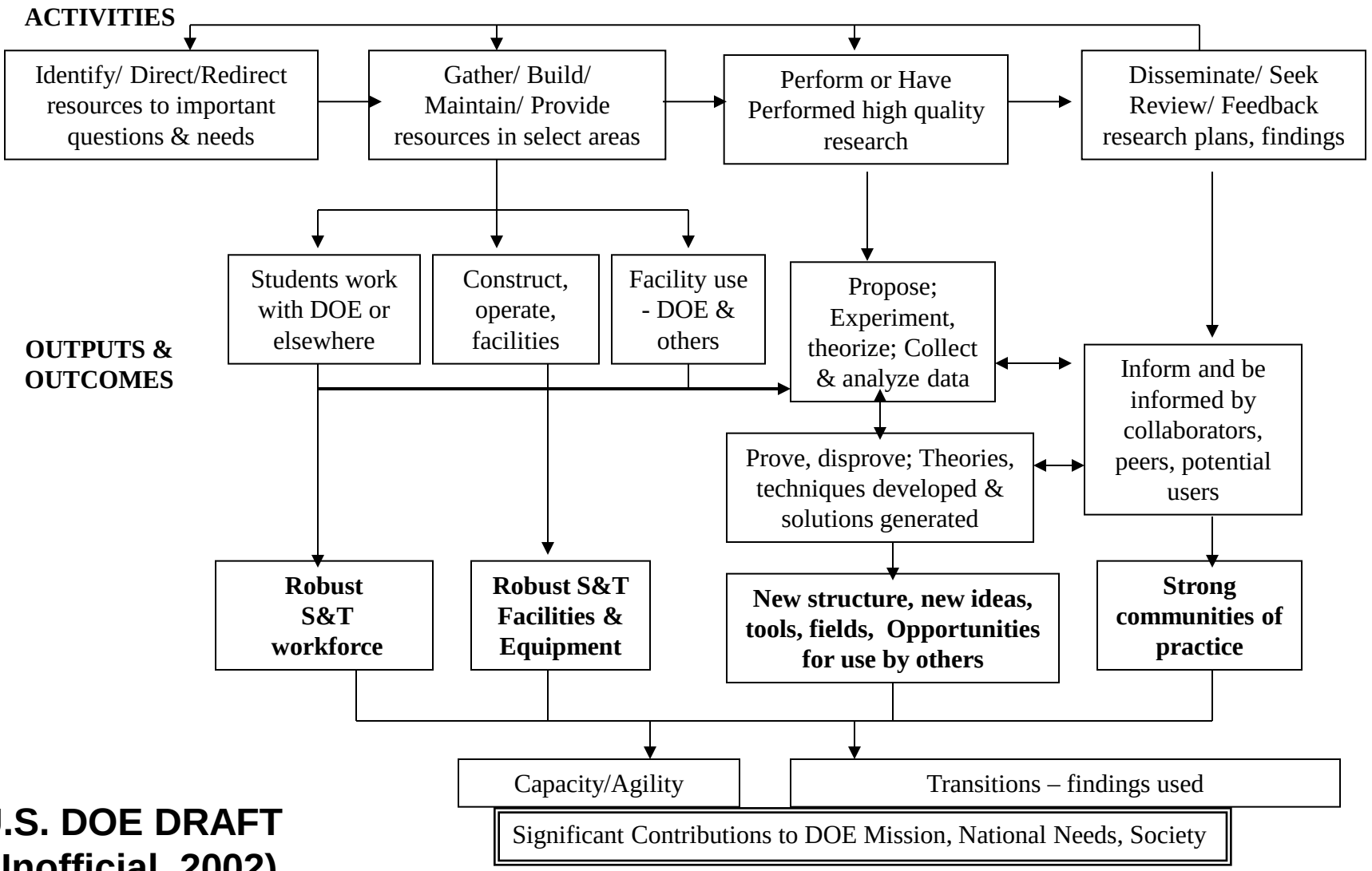


These can be described in a programme logic matrix.

Intended Outcome	Success Criteria	Program Factors Affecting Success	Non program Factors Affecting Success	Activities & Resources of program	Performance Information
Changes in attitudes of target businesses toward being willing to change practices	Agreement to meet to discuss action; Action plans; Specific examples of increased willingness	Availability of confidential advisory assistance, etc.	Business beliefs, past experiences, etc.	Promotes advisors and makes commitments about confidentiality, etc.	% business that request assistance, compared with targets; % that do actions plans; etc.

Sources: Sue Funnell, 2000

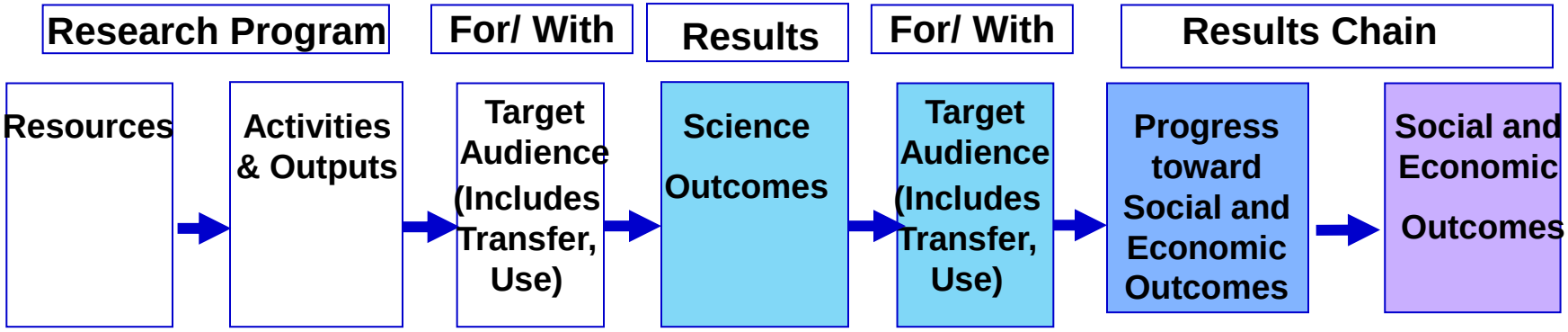
Example: The Logic Model of an Organization Funding Basic Research



(U.S. DOE DRAFT –Unofficial, 2002)

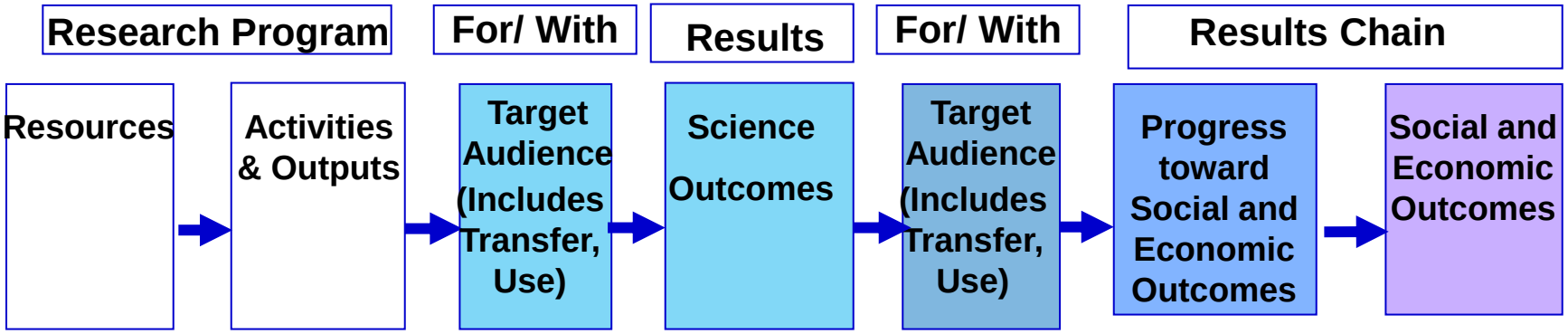
Using The Logic Model to Define Key Evaluation Questions and Performance Measures

A Generic Research Programme –Three Areas of Outcomes



G. Jordan 2013

Research Impact Assessment: Outcomes and Questions



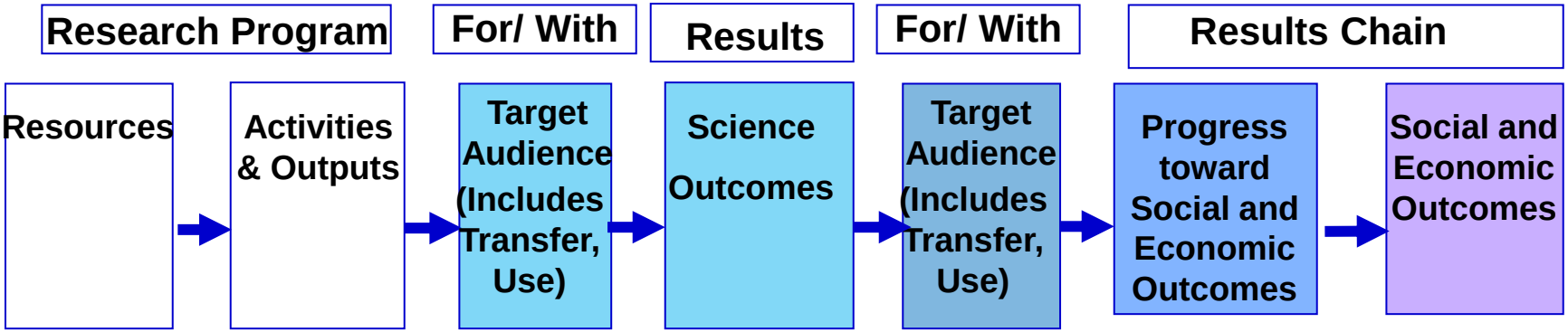
Expenditure? (Funds, People, Tools)	What did the programme produce?	Who did/might the output transfer to? (relevance)	What science outcomes have occurred?	Where has/might science outcomes be applied? (relevance)	What progress is being made?	What social, or economic outcomes have occurred?

How does this compare to others?

Value for Money? Was it Worth It?
What did programme cause/contribute?
How can programme impact be improved?

G. Jordan 2013

Research Impact Assessment: Outcomes and Indicators



Typical Indicators

Expenditures Capacity measures	Quality of outputs; Volume; Esteem; Range of interactions	Dissemination of research; Engagement, collaboration in research; Industry engagement	Knowledge advances; Research tools, methods; Knowledge exchange capacity (networks); New research capacity	Transition to application Translational or cross-functional teams	Inform/ influence decisions (product development, policy, practice, attitudes) Product commercialized Policy /Practice implemented; Behavior changed	Health status Quality of Life Security Environmental Quality Sustainability Production levels Income levels Cost savings Jobs Competitive-ness

G. Jordan 2013

In summary, key messages are

- Performance-based (or results- or evidence-based) management is a worthy objective.
- Define programme strategy because that is your performance plan.
- Then choose a balanced set of performance indicators. What gets measured gets done.

Selected References

Jordan, Gretchen B. 2013. Logic Modeling: A Tool for Designing Program Evaluations, in *Handbook on the Theory and Practice of Program Evaluation*, Albert N. Link and Nicholas S. Vonortas, Editors, Edward Elgar Publishing, April.

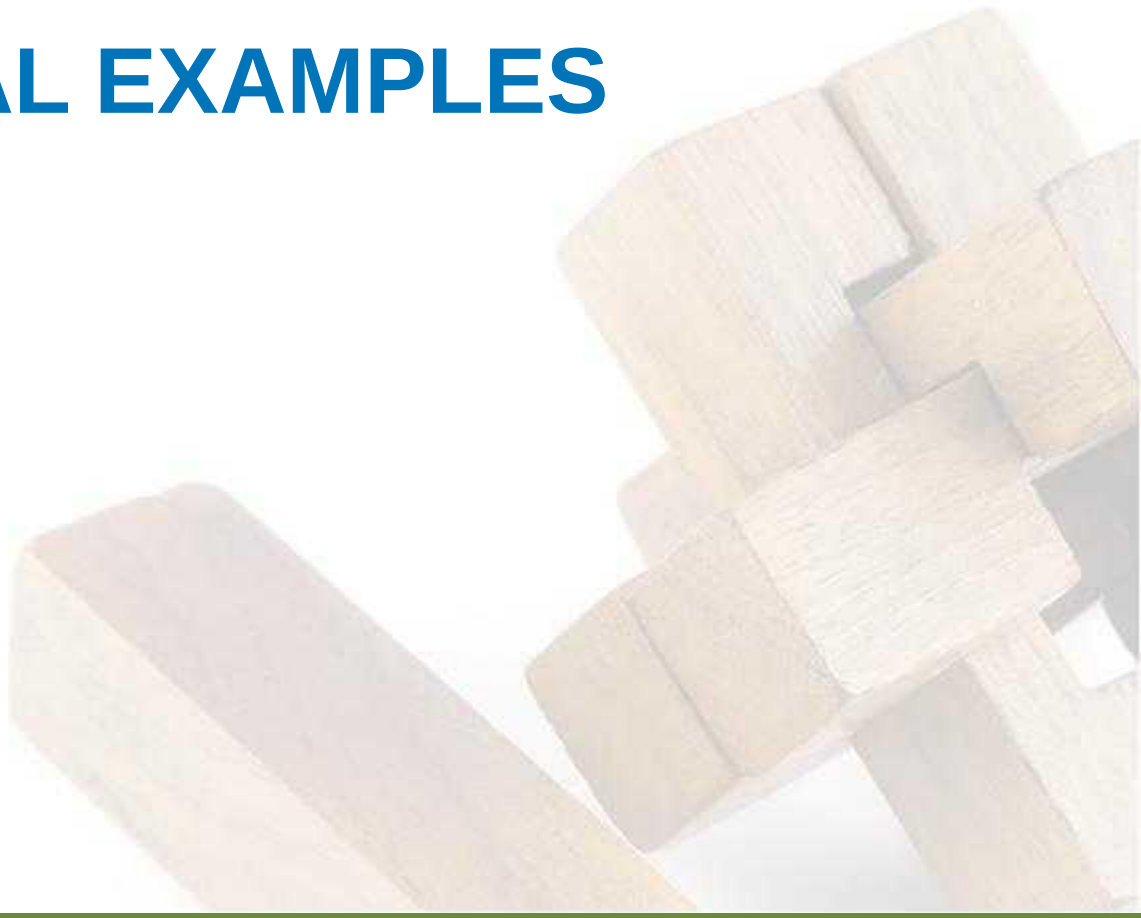
Funnell, S. (2000). "Developing and Using a Program Theory Matrix for Program Evaluation and Performance Monitoring," in *New Directions for Evaluation*, Rogers, et.al. Eds., San Francisco: Jossey-Bass, Number 87, Fall, pp. 91-102.

Reed, John H, G. Jordan, Using Systems Theory and Logic Models to Define Integrated Outcomes and Performance Measures in Multi-program Settings, in *Research Evaluation,* Volume 16 Number 3 September 2007.

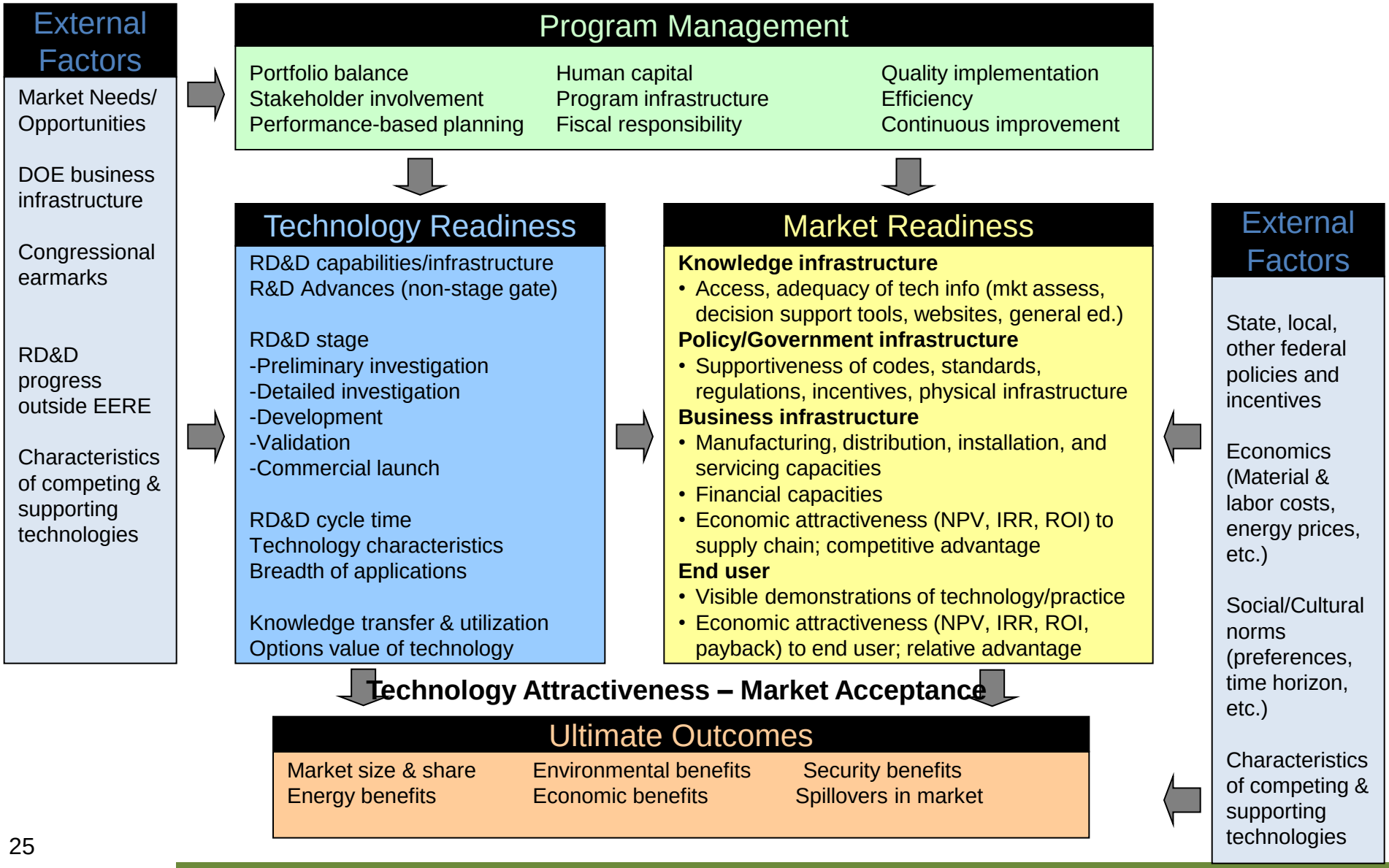
Rohm, Howard. Balanced Scorecard Basics, accessed 12 August 2013. **http://www.balancedscorecard.org/BSCResources/AbouttheBalancedScorecard/tabid/55/Default.aspx**

Ruegg, Rosalie, and Gretchen Jordan, 2007. Overview of Evaluation Methods for R&D Programs, U.S. DOE, March.

ADDITIONAL EXAMPLES

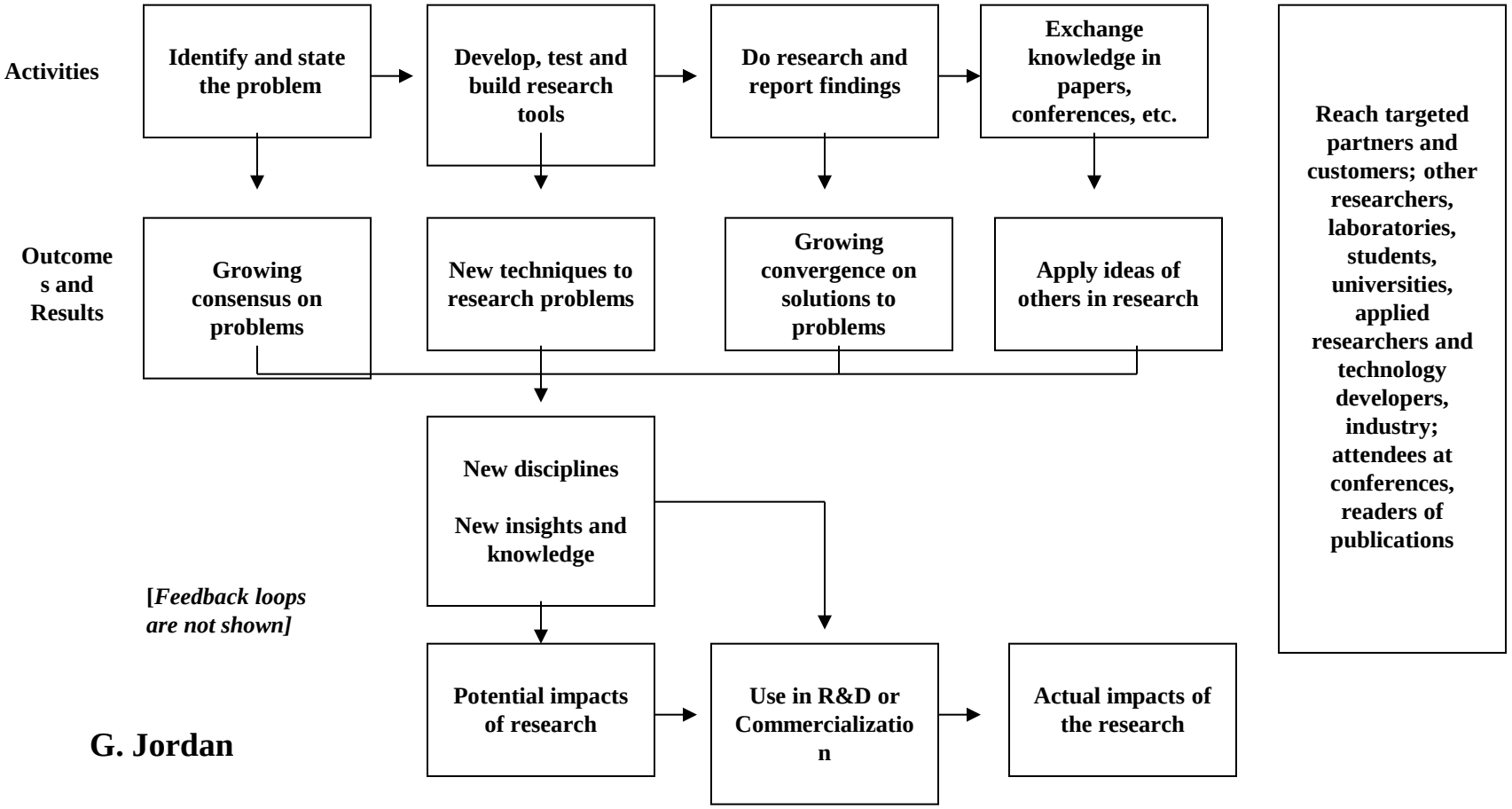


Example: Model for Technology Development



Example: Logic of a Basic Research Program

Manage Resources: expenditures by types of activities, skilled staff, core competencies; environment for quality research, soundness of research planning and evaluation, use scientific method



G. Jordan