



Beyond theory and logic: Exploring **sound value** **propositions** in evaluation

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ARTD Partner and Chief Evaluator

Canberra, AES, September 2025



Acknowledgement of Country



We also acknowledge the talent and artistry of Emma Walke, who designed the artwork for our acknowledgment of Aboriginal and Torres Strait Islander peoples. The design shows a story of connection to country and people, representing the breadth of work we do with Aboriginal and Torres Strait Islander communities across Australia. The colours represent the land, and the lines in between represent the water that connects us all.

VUCA world to VUCA action

VUCA world

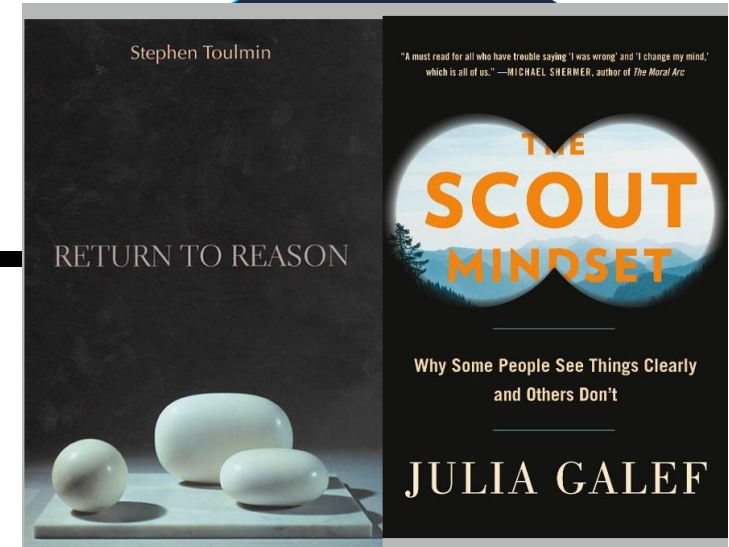
Volatile, **U**npredictable, **C**omplex
and **A**mbiguous

Outcomes of interventions into complex adaptive systems will always be non-linear, unpredictable and emergent...



vuca programs
vain, unfounded,
confused, absurd?

VUCA action
Valid, Understood,
Coherent, Adaptive



...Sound value propositions for action that are humble and empathetic

19 September 2025, Australian Financial Review, This Morning

re
ft,

university has rep-
investing plutocrats, investigating
politicians, cancel culture commissars
and encampment bullies. Some of
them are not so serious. Every year
since 1946, the university's greatest
scholars have debated the universe's
dumbest subject: whether latkes or
hamantaschen are the better Jewish
food (latkes, obviously).

As undergraduates, we were
conscripts in this culture. This wasn't
particularly political. I can remember
witnessing only one tiny protest—
against Douglas Ginsburg, a circuit
court judge, of all people—in my four
years at the college. But almost every
undergraduate could not avoid reading
the classics or Western thought. Far
from being a form of ideological
indoctrination, it was an antidote to it.

What is the soul of the Western
tradition? Argument. Socrates goes
around Athens investigating the claims
of the supposedly wise and finds that
the people who claim to know things
don't. The Lord threatens to destroy
Sodom for its alleged wickedness, but
Abraham reproaches and bargains
with him—that for the sake of 10
righteous people he must not destroy
the city.

In both traditions, Athens' and
Jerusalem's, the lone dissenting voice is
often the heroic one.

To read Western philosophy and
literature was our chance to
understand these dissents. Where did
the anti-federalists differ from the
federalists, or John Locke from
Thomas Hobbes, or Jean-Jacques
Rousseau from them both?

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The Trump operating in something Cambodia understand
Virak Ou, Future For



Sotha Ros, ex-bodian Human believes Trump o his predecessors release rights act uses power," he Cambodia, that i But it is preme planning to pivc says Kin Phea, c national Relati Academy of Car ten our impo Because US for one administr always be a Phnom Penh One unreso Cambodia is can ships to have full, u Dararoth, the When Jap the port earl of two piers analysed by ency Initia Centre for The ot ban used gung "Cl some facil crical rol or trade business between last year load "Xi tion for t Cambod another The dep would b "Donald THE WASH

violations. He earlier this year defunded US projects supporting civil society in Cambodia and closed Voice of America, which had been one of the last remaining news outlets in the country publishing criticism of the CPP. President of the Senate Hun Sen—Prime Minister Hun Manet's father—openly cheered the move, calling it "a major contribution to eliminating fake news, disinformation, lies, distortions, incitement, and chaos around the world".

In a statement, a State Department spokesperson said the US "has consistently called on the Cambodian government to respect the human rights and fundamental freedoms of all the people of Cambodia".

In Phnom Penh, however, Cambodian officials have growing confidence the US Republican Party has "shared values" with the CPP and that Trump, as its leader, will "show respect" for Cambodia's internal politics, Suos Yara says. In return, he adds with a smile, "Cambodia can become the most trusted US partner in the Mekong."

Mu Sochua, a former opposition politician and human rights activist accused of conspiracy by Cambodian authorities, sees things differently. "It is so clear," she says over the phone from Germany. "The US, under the Trump administration is about to be thoroughly manipulated by Cambodia."

Cambodia forged a security partnership with the US after emerging from the genocidal Khmer Rouge regime in the 1990s. This ruptured in 2017 and 2018 amid mounting US criticism of the CPP's crackdown on opposition, which prompted Hun Sen to cancel the US ambassador a "liar" and call the US ambassador a "liar".

At Phnom Penh's Peace Palace one recent morning, however, Siphon Phay, Hun Sen's former spokesman, dismisses that turbulent era of relations. "It was just rhetoric. Only rhetoric," he says, waving his hand. In reality, he adds, Cambodia had never wanted to turn from America.

Since the COVID-19 pandemic, when Cambodia's investment and tourism sharply dried up in Southeast Asia, there's been growing alarm in Cambodia over the country's dependence on China, say analysts. In 2023, after taking over power from Hun Sen, Hun Manet began showing interest in mending ties with the US.

AFR Friday 19 September 2025
www.afr.com | The Australian Financial Review

Shorten pushes

Julie Hare
Education editor

Former Labor politician and now vice chancellor of Canberra University Bill Shorten has urged Australia to create a system of specialist universities to nurture the innovation necessary to build a more resilient and complex economy.

"Reimagining our modern universities is not simply an architectural reform, it is a national security and foreign policy imperative," he told the Australian Institute of International Affairs on Thursday night.

"Like the previous generation that built the physical infrastructure of modern Australia, our task is to build the intellectual infrastructure for the century ahead. It is time to stop admiring the problem and start building the solution."

Shorten said a system of highly specialised universities would boost sovereign skills capabilities in areas of national importance, such as defence, cybersecurity and artificial intelligence, while acting as a "bulwark against authoritarianism and radical extremism by embedding critical thinking in every graduate".

This new model would be "the forge that will allow us to turn the raw materials from our quarry into the high-value, sophisticated products of a truly sovereign nation," Shorten said.

He noted that on the Harvard Kennedy School's Economic Complexity Index, Australia ranked 105th out of 145 nations.

"Our near neighbours are Botswana, Panama, Namibia and Togo," he said.

"This is not an academic curiosity, it is our central strategic problem. We have become a nation with a world-class campus but no factories: a quarry but no forge."

Australia's economic structural fragility is "the single greatest threat to our long-term security", he said.

The University of NSW is developing a new campus in Canberra, similar to Shorten's idea, offering a suite of degrees in highly technical and in-demand areas: cybersecurity, space, systems engineering, defence and national security.

Shorten also called for an overhaul of

'Trust shattered': New ANU boss slams past

Purpose and intended outcomes

1. Discuss the tools we use to evaluate before a program is funded and in its early stages.
2. Provoke thoughts about the use of logic and theory in evaluation.
3. Create incremental innovations (or more radical ideas?!) for prospective and developmental evaluation

Time	Task
11:30	Welcome & Introduction (1-5)
11:40	Q1 on own (6)
11:45	Q2 discuss with group (7)
11:50	My problems with TOC (8-9)
12:00	Pause (10)
12:03	My problems with PL (11-13)
12:05	An alternative: sound value propositions
12:20	Innovation development

Early stages in the program lifecycle



Prospective and Developmental: Innovation and risk management

- **NEW POLICY PROPOSAL:** From a bright idea to a reasonable proposition for action. What reasons are there to think this proposed approach will address the problem that is motivating it in our context?
- **SEED STAGE:** Working out the kinks. A focus on innovation and managing the risk of failure. This is usually the right place to start with a new policy or program once it is funded.



Formative: MID STAGE: Knowledge and understanding



Summative: MATURE STAGE: Evidence for difficult funding decisions

1. New policy proposal

- Think like a venture capitalist: if you were funding a program with your own money, how would you convince yourself it was likely to work and worth putting money into?
- What information or tools would give you the confidence to fund it?

2. Developmental evaluation

- During delivery of a large, complex and developing initiative, how would you identify the risks that it might fail?
- What tools would help you?

My problems with Theory of Change (ToC)

1

Vague

ToC is vague and difficult to define so no one really knows what it means, or whether someone has created a good one. The literature is full of complaints about unclear terminology. Simple definitions of 'Logic' and 'Theory' are eschewed.

Often a successionist theory of causality is implicit in a proponent's mental model but rarely is an explicit theory of causality provided.

2

Jargon

While valorising the process of reasoning, the jargon serves to exclude diverse voices and reinforces the power of 'social scientists' over citizens using common sense.

ToC tends to ignore the entire corpus of knowledge about ethics and effective reasoning (e.g. fallacies, bias, warrants, deductive, inductive logic etc) that is fundamental to understanding the value of human endeavours. This should be Eval101.

3

Scientism

ToC implies interventions can be understood as a kind of 'theory' or transfactual claim about cause and effect. This leads inevitably to a focus on measuring outcomes for two reasons. First, we conflate outcome measurement with science. Second, experimental outcomes are widely considered the best way to test a theory. In both cases evidence usually tells a program history rather supporting a scientific claim.

4

Reputationally Risky

Evaluation is at risk of being brought into disrepute for being unable to identify much in the way of 'what works', beyond simple interventions, despite 80 odd years of promises.

Finding stable cause and effect relationships in complex phenomena has generally eluded us and is getting harder – but we seem to be doubling down on failure.

5

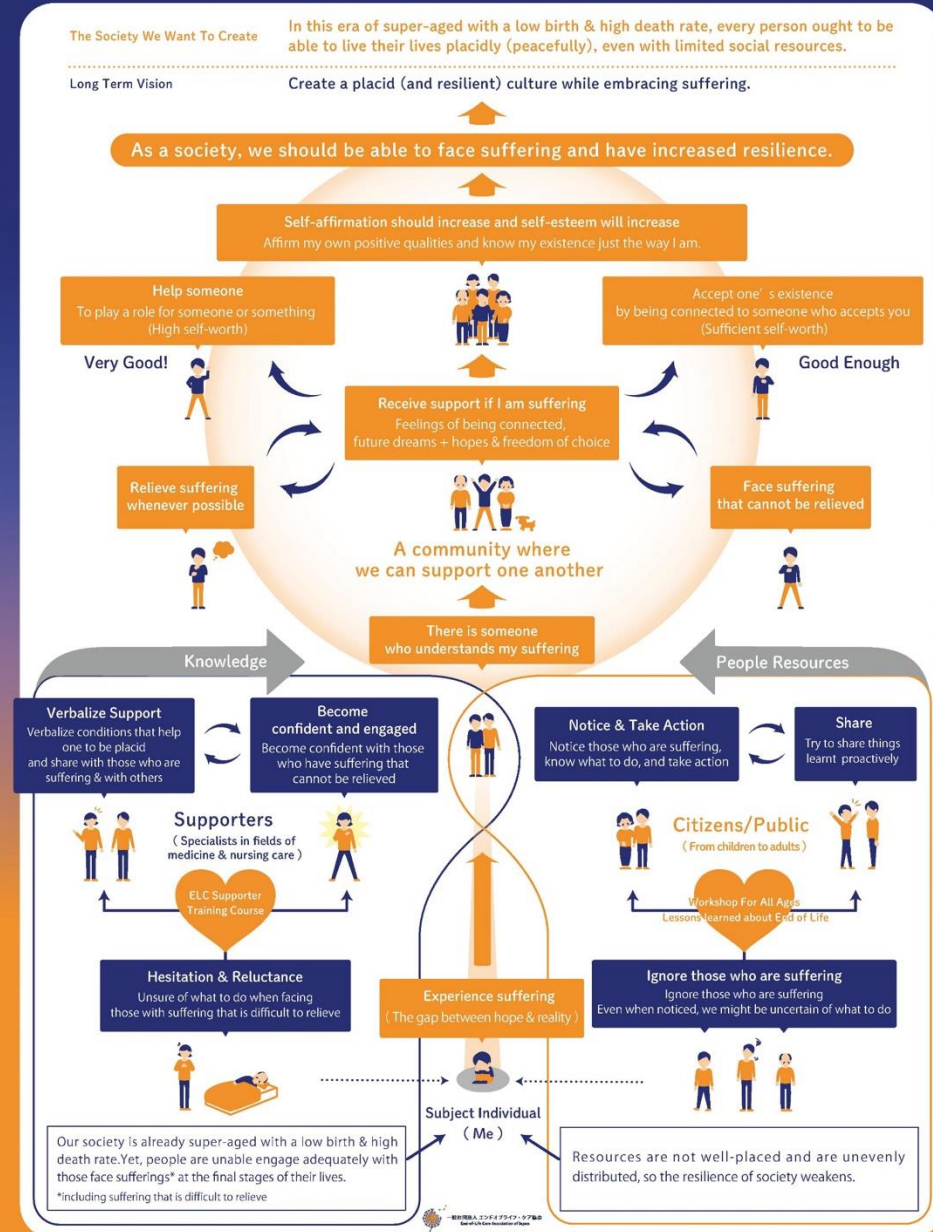
Unethical

Evaluation is at risk of being an unethical accomplice to the status quo by allowing program proponents to apply a veneer of scientific respectability to a proposition or program that is wholly inadequate for its expressed purpose.

Let's be real – programs exist in the minds of proponents and participants. They are abstract propositions for action – not facts or theories about the world.

A program is a possibility for its participants to interpret and a course of action for its proponents to shape.

Theory of Change



A theory of change' is often analogous to a strategic vision, mission and set of objectives.

Impact = vision

Outcomes/ outputs = objectives

Reasons or principles of action = mission.

This is why it has survived as a useful tool for program designers and evaluators.

2. Pause – lets catch our breath



Problems with hopeful program logic

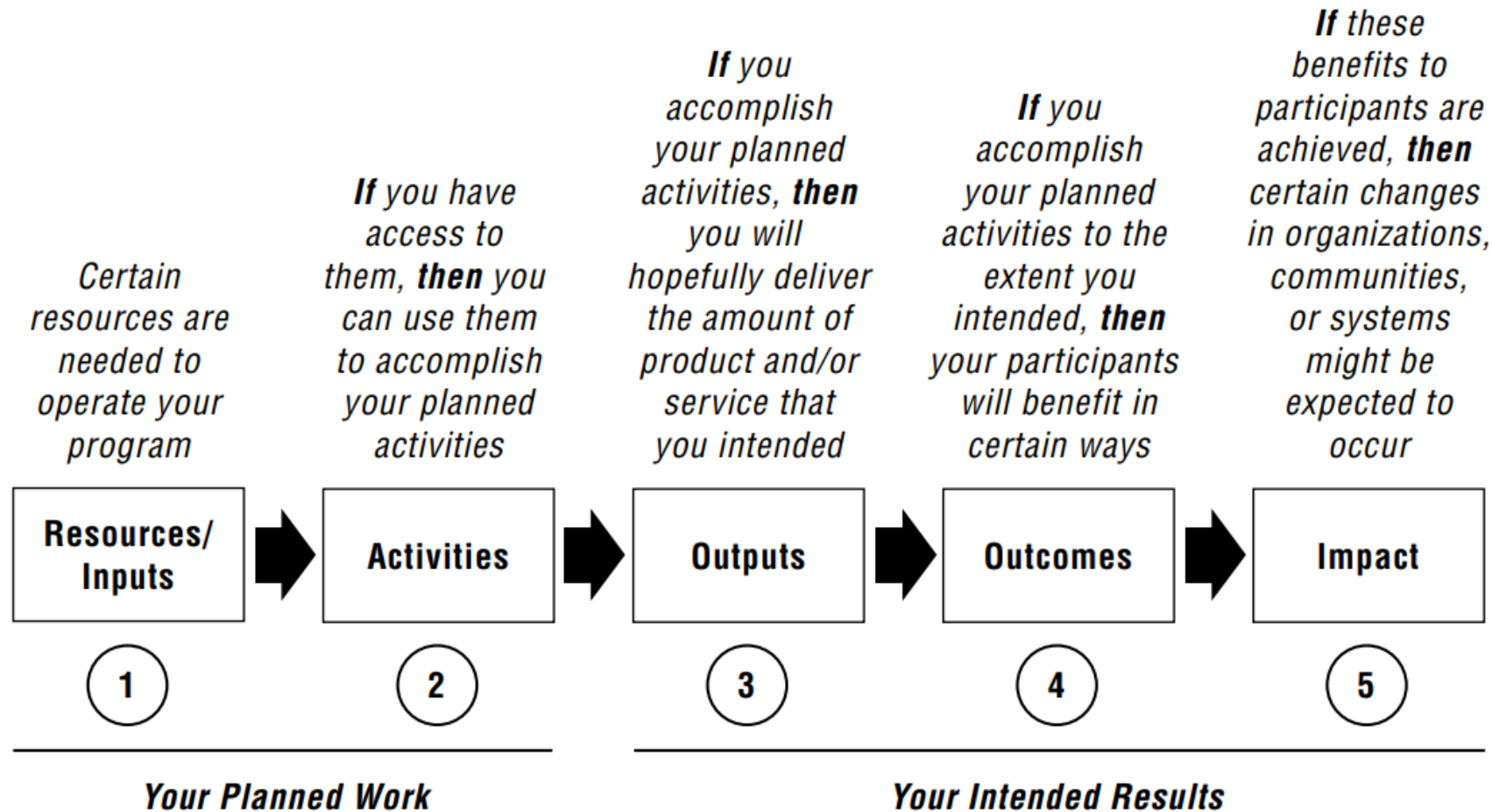
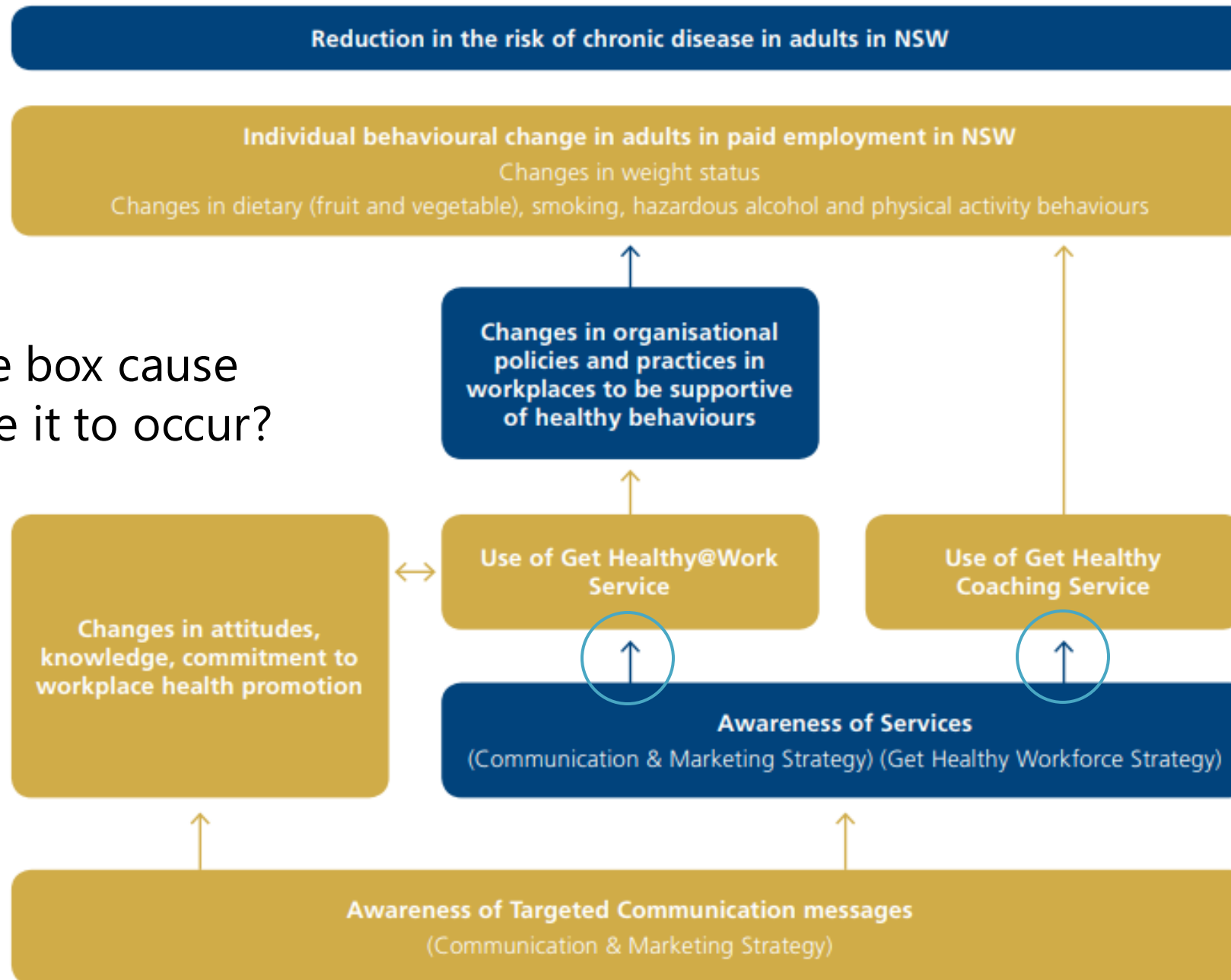
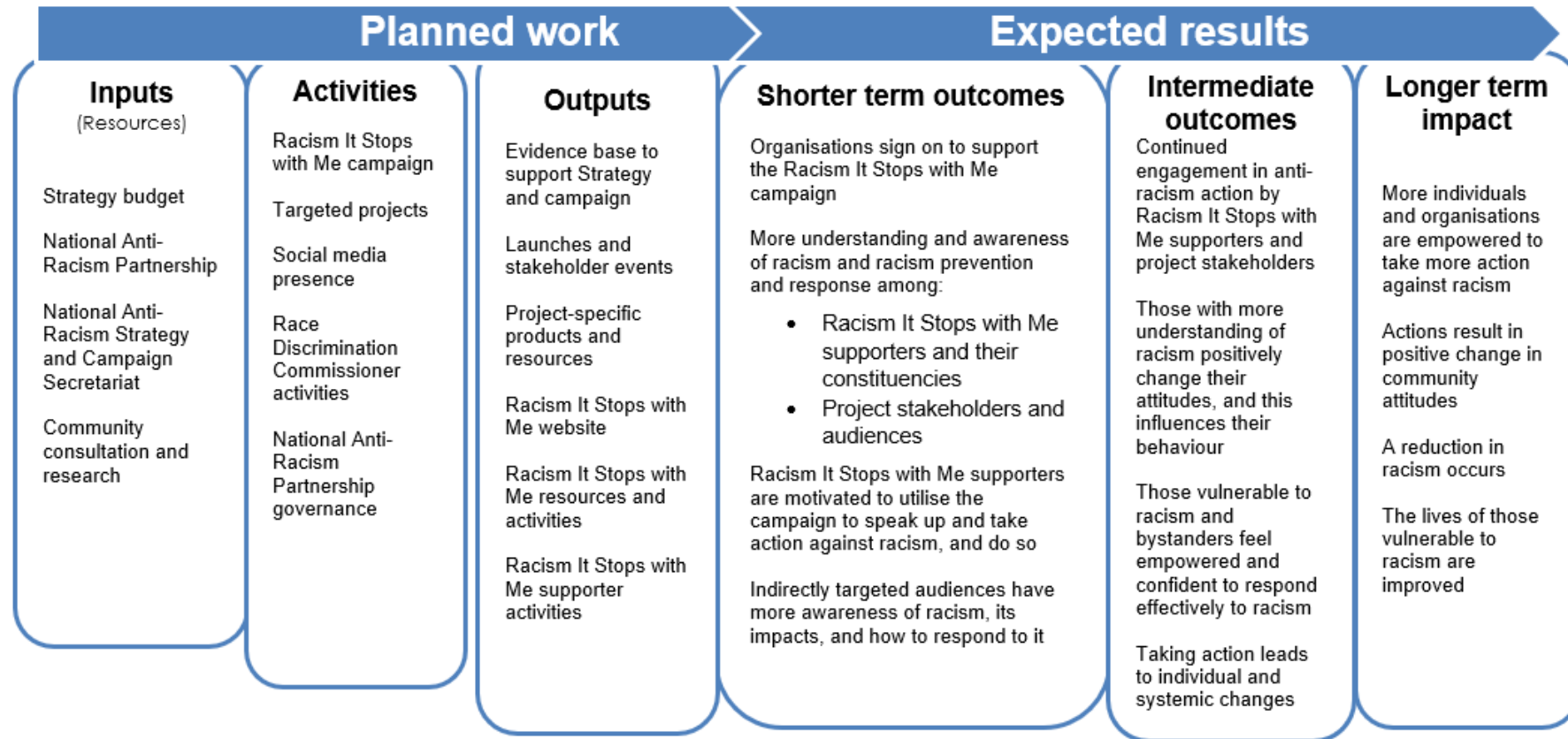


Figure 1. Example of an outcomes hierarchy for the NSW Implementation of the Healthy Workers Initiative



Does the blue box cause the box above it to occur?

Anti-Racism Strategy logic model



Is this collection of outputs enough to ensure the outcomes occur? What's the connection between these and outcomes, is it causal, logical, hopeful?

Let's get back to basics: what is 'evidence'?



- Evidence is a property of claims not methods.
- Evidence is always evidence *for* something.
- Evidence is usually something we can observe that gives us a reason to believe something that is harder or not possible to observe directly (e.g. program outcomes)
- Facts become evidence for claims through logic and argumentation
- Facts do not support a program, evidence supports a program and evidence is part of an argument for something.
- Program logic when composed of necessary and sufficient conditions provides an argument structure that can be evaluated.

A word on formal logic and program logic

Premise

Whenever it's a weekday morning, I catch the 7:30 bus

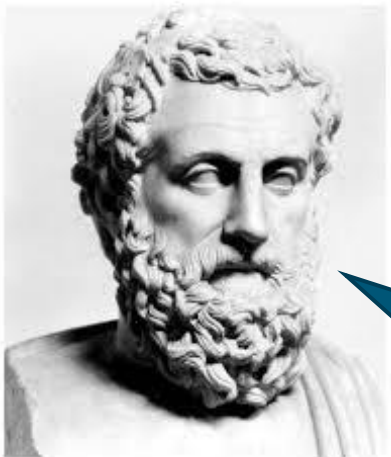
Premise

Today is a weekday morning

Conclusion

Therefore, I will catch the 7:30 bus

Syllogism



Premise

It is Wednesday morning

Conclusion

Therefore, I will (probably) catch the 7:30 bus

Assumption

Today is a weekday morning

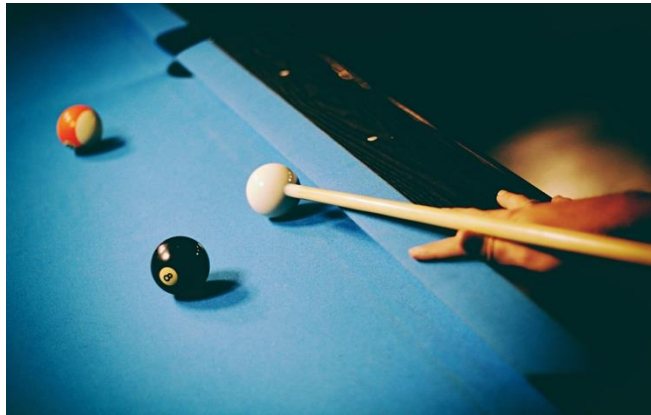
Assumption

It is not Christmas day

Enthymeme

"Remember. When deliberating about action, premises and conclusions are probable not certain. Many assumptions are unstated."

Let's go deeper - can you even have a ToC or PL without an explicit theory of causality?



Successionist



Generative



Configurational

- **INUS/configurational** theory of causality is often most useful for describing programs.
- The program must be sufficient for an outcome in a specific context, while outputs are conditions we think are necessary to be brought about when we implement the program
- We determine if a proposition for action is sufficient using logic
 - When people with subject matter expertise (including lived experience) agree that 'outputs (major premise) + assumptions (minor premise) = outcomes (conclusion)' we say it is, **valid**.
 - When we measure each condition to the extent expected we say it is, **sound**.

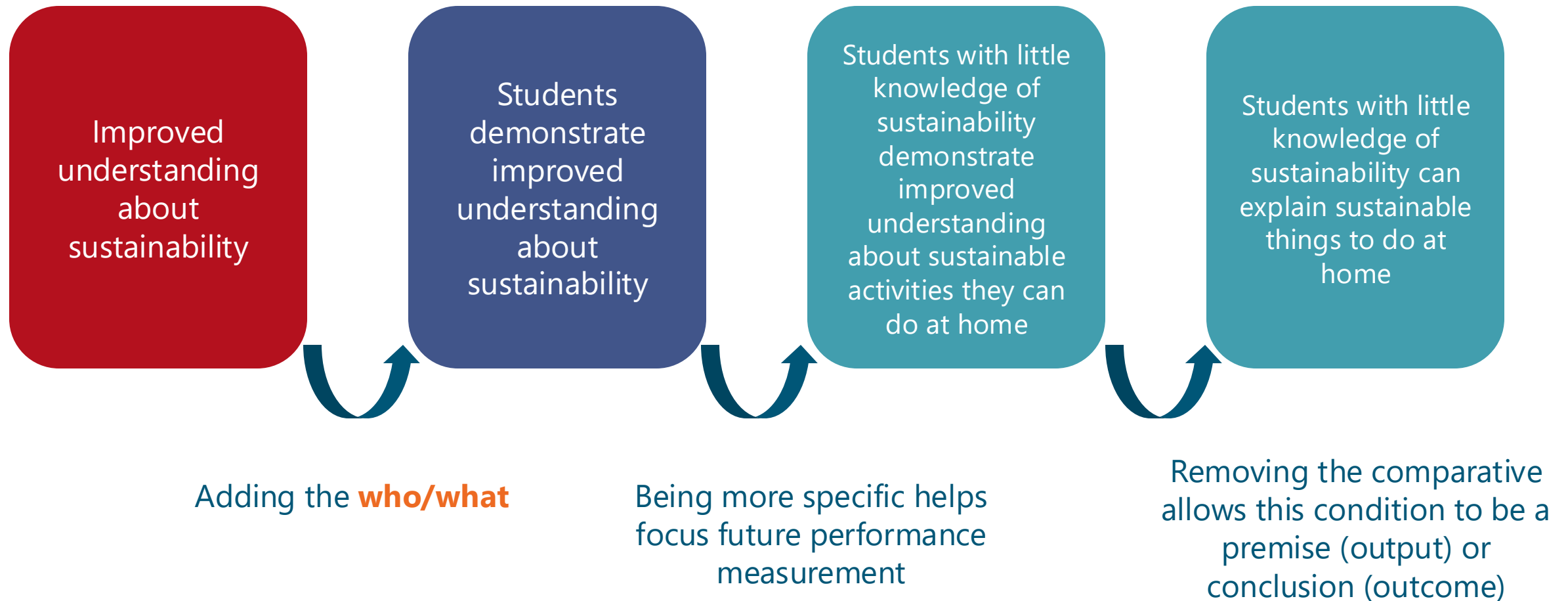
The end result is a deceptively simple formula



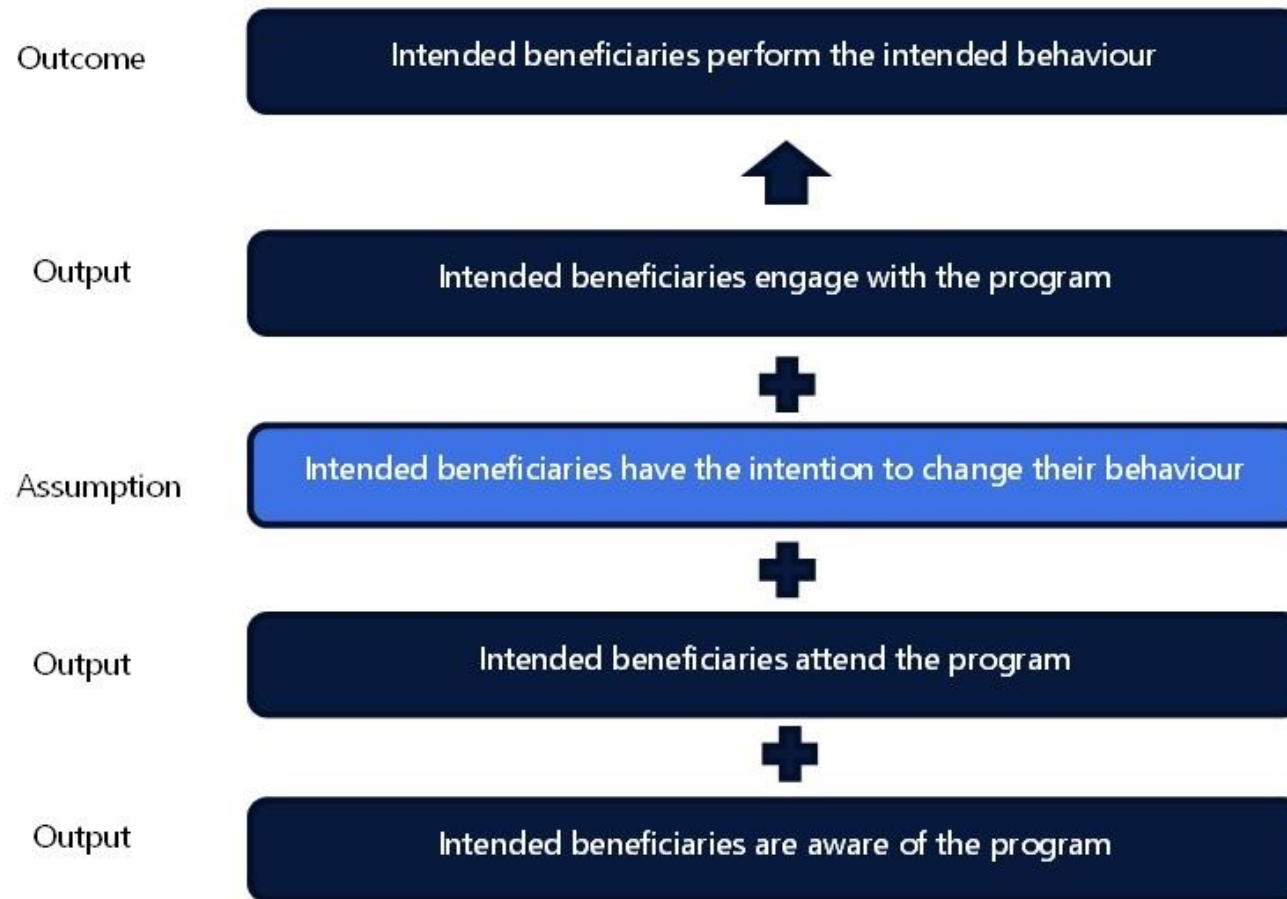
A proposition for action is a logical set of condition statements.

Outputs (major premises) + Assumptions (minor premises) = Outcomes (conclusion)

The golden rule = **who/what** is in **what condition**



Top tip: replace **arrows** with **plus** signs



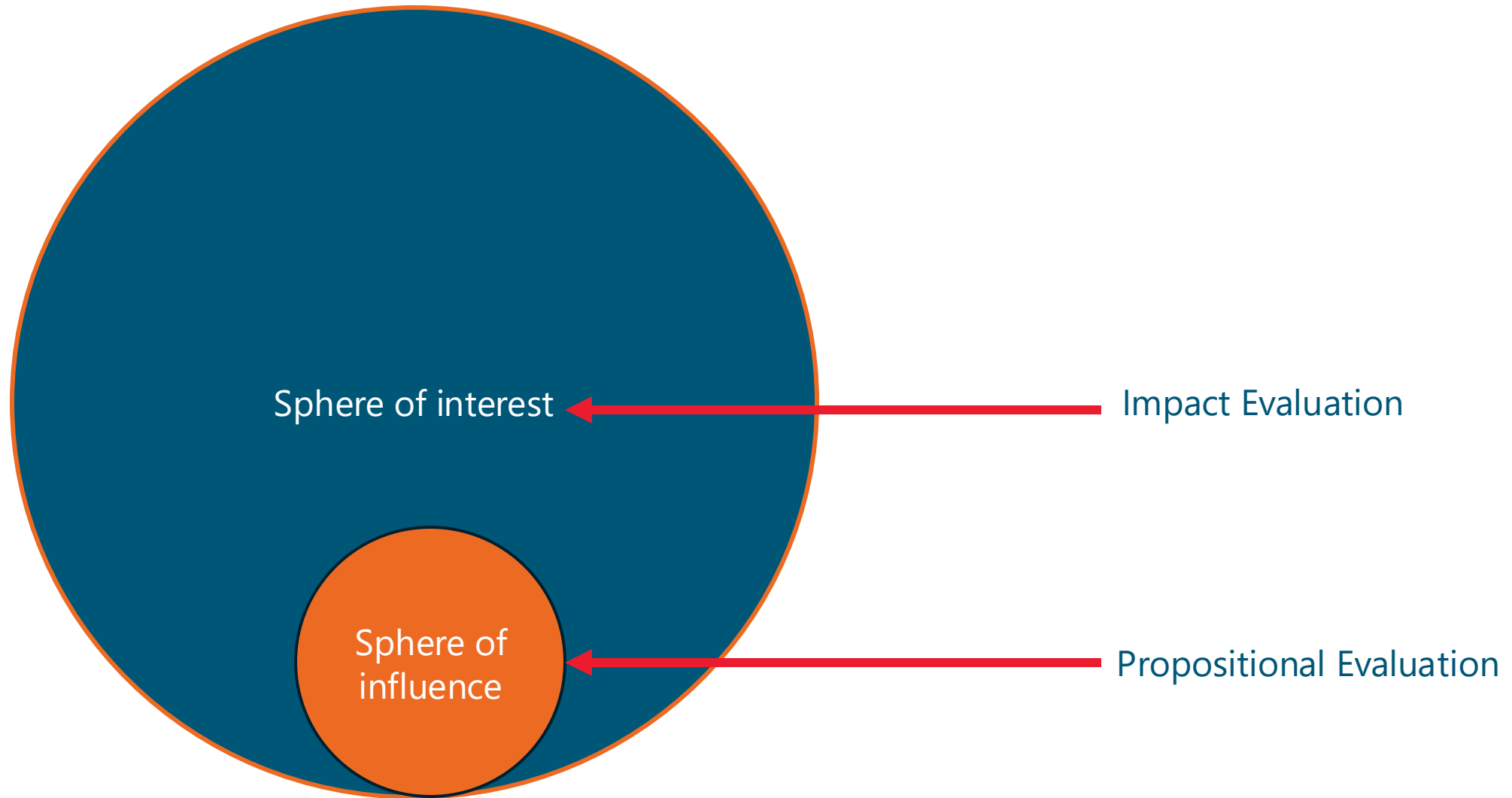
We are displaying a proposition in the causal language of the INUS model of cause and effect (Mackie 1974)

That is, our set of outputs are collectively sufficient and individually necessary, for the program to be sufficient for our intended outcome(s)

This focus shifts out attention from measuring long term (and often indirect) outcomes of a proposition towards what it can actually be sufficient for achieving

The easiest way to 'fix' your program logic

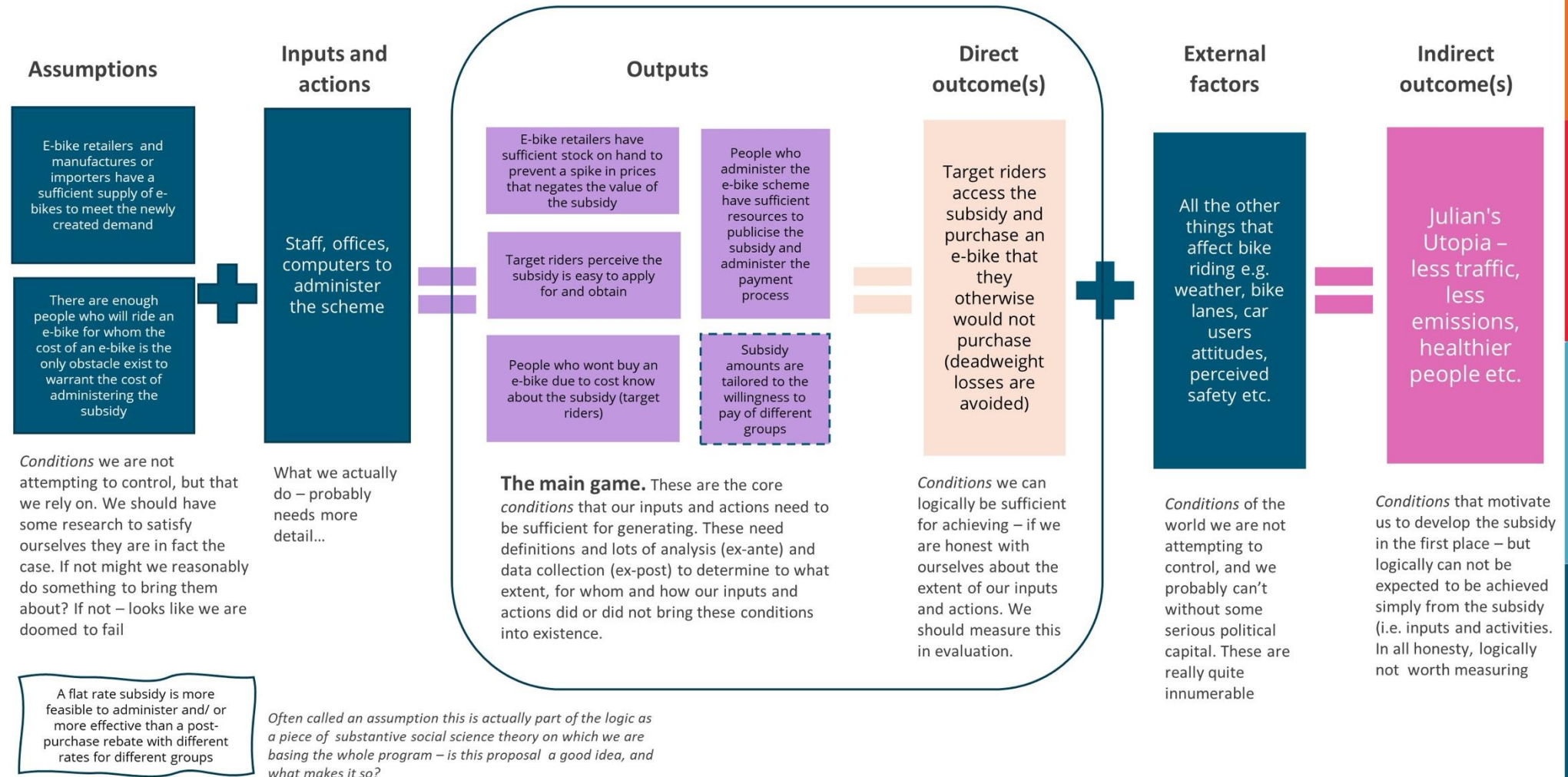
Humble ambitions



A fictitious e-bike example

Program Design Logic (or Propositional Program Logic) of an e-bike subsidy scheme

This logic could be rendered in many different ways, boxes across the page, up and down, or simply written in text as a **valid** argument based on argumentation theory and informal logic



Program logic checklist

1. Is it clear and simple? (without being naïve)

- ☐ Does it identify all the key activities?
- ☐ Are outputs, assumptions and outcomes well expressed?
e.g. outcomes written as [who/what] is [in what condition]
- ☐ Have the key assumptions and external factors been identified and stated?
- ☐ Do the indirect or long-term outcomes link to policy positions and government priorities?

2. Is the logic plausible and reasonable?

- ☐ If the order of activities is important, is this reflected in the diagram?
- ☐ Is it likely that inputs + activities will → outputs?
- ☐ Is it likely that outputs + assumptions will → direct outcomes?

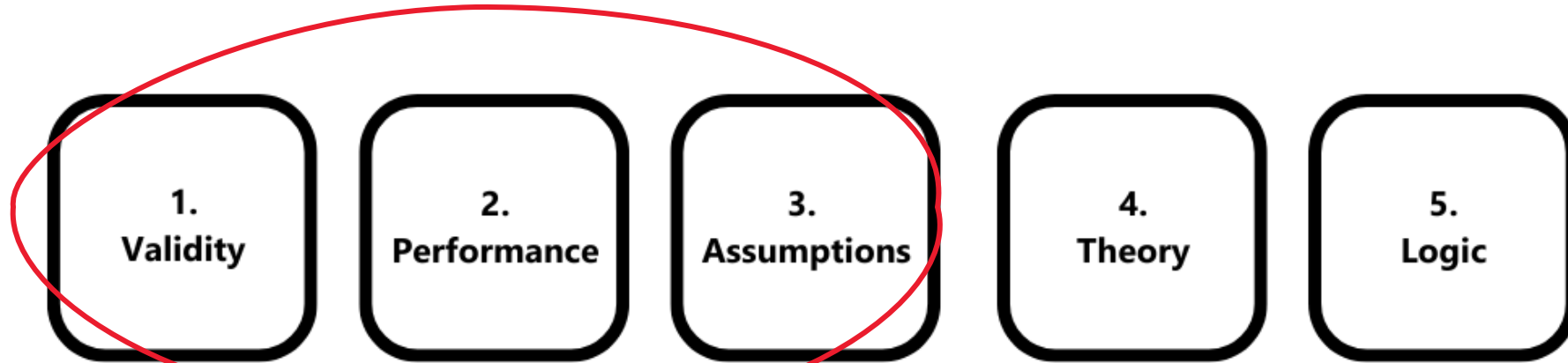
If what follows the '→' seems unlikely...

- ☐ Do we need to articulate (more) assumptions?
- ☐ Do we be more realistic about the outcomes?

3. Does it cover everything 'important'?

- ☐ Does it show all the elements that key stakeholders keep talking about?
- ☐ Can we locate our key stakeholders' questions in the logic?
- ☐ Do the outputs and outcomes link with any proposed or existing monitoring indicators?
- ☐ Does it highlight key risks that should be considered in an evaluation?

Monitoring risks becomes the key task



Critical risks that determine whether outcomes are achievable

Residual risks that determine the magnitude of outcomes, relative to cost



3. Innovation exploration

What kind of incremental innovations (or more radical ideas?!) can we develop to justify public expenditure and do rigorous developmental evaluation on new, emerging and complex but potentially valuable ideas?

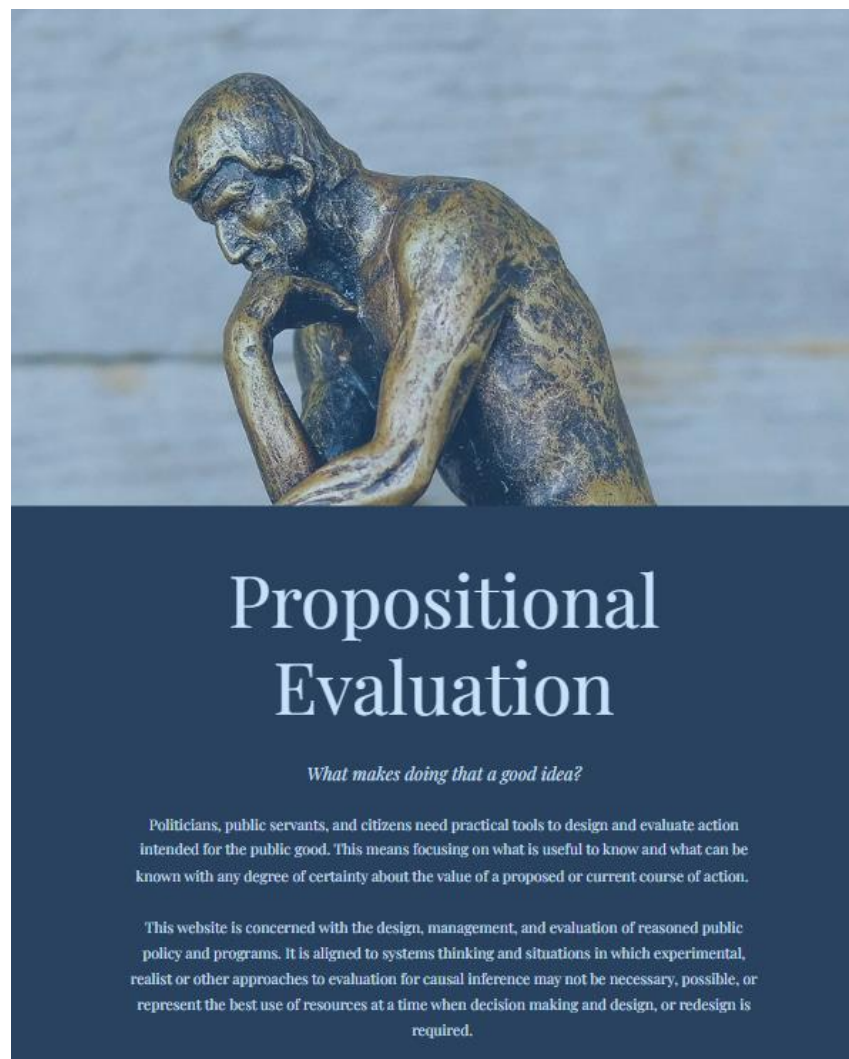
- What should be the goal for evaluators in these situations?
- How can we deal with the need for both learning and accountability?
- How do we bring values in more explicitly?

In a nutshell: what to take away from this session



1. Evaluators have overextended the role of theory and underdeveloped the role of logic.
2. Establishing the value of programs prospectively and in very early stages needs a pragmatic yet rigorous approach to justify public expenditure.
3. Propositional Evaluation is a different way of thinking: it is about establishing a reasonable and transparent basis for action, and a structure for developmental evaluation of maturing interventions or situations of great uncertainty.

www.propositionalevaluation.org



Academic Article

EJA | EVALUATION
Journal of Australasia

Managing the risk of program failure: Propositional Evaluation as a tool for risk management

Evaluation Journal of Australasia
2025, Vol. 25(1) 23–44
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Abstract

Public policy and programs fail for a range of reasons, some preventable and some much harder to treat. Program administrators require methods for managing risk. This article argues that evaluation can be a useful tool for identifying and managing risk. It offers Propositional Evaluation as a cost-effective, risk-based approach to the evaluation of any policy, program, initiative, or simply, plan of action for the public good. Propositional Evaluation treats programs as propositions for action and focuses on developing sound, that is, valid and well-grounded propositions. It begins in the design phase and continues through delivery to provide a means for identifying and managing risks to achieving intended outcomes. This article situates Propositional Evaluation approach in the evaluation theory literature. It reflects on common causes of program failure and identifies those evaluators may help program administrators identify and mitigate. It provides a description of five critical and five residual risks that derive from the propositional approach. Evaluating these risks provides a structure for evaluation and adaptive management. The intended audience is program administrators, and evaluators working to support them who require prospective evaluation and adaptive management or rapid and cost-effective evaluation for program design and re-design.

Connect with us



What are your thoughts?



What do we gain and what do we lose by referring to evaluation as an 'applied' social science?



How might the field or discipline of evaluation BEST be described?



In a society with different values, how can we manage to bring values (even ones we disagree with) into evaluation?



What are the signs of 'quality evaluation that makes a difference'?



What tools do we most need to create for ourselves as evaluators?

Fit for purpose evaluation: getting started

Evaluation must match the stage of development of the evaluand

There is lots of information about how to do formative and summative evaluation

New Policy Proposals and developmental evaluation are less well understudied - few tools exist other than the ex-ante CBA which is known to have its limits.

How do we get started?



Developmental: Innovation and risk management

- From a bright idea to a reasonable proposition for action and working out the kinks. A focus on innovation and managing the risk of failure. This is usually the right place to start with a new policy or program.



Formative: Knowledge and understanding

- Drawing on the full range of applied social scientific approaches and methods to identify causal mechanisms and contextual conditions affecting outcomes. Often mixed methods.



Summative: Evidence-based funding

- Making hardheaded decisions about what to fund based on evidence of effects in a range of contexts (e.g. RCTs) and at what cost (e.g. CBAs) relative to other ways to spend money.

Claim: Evaluation is an art that employs science



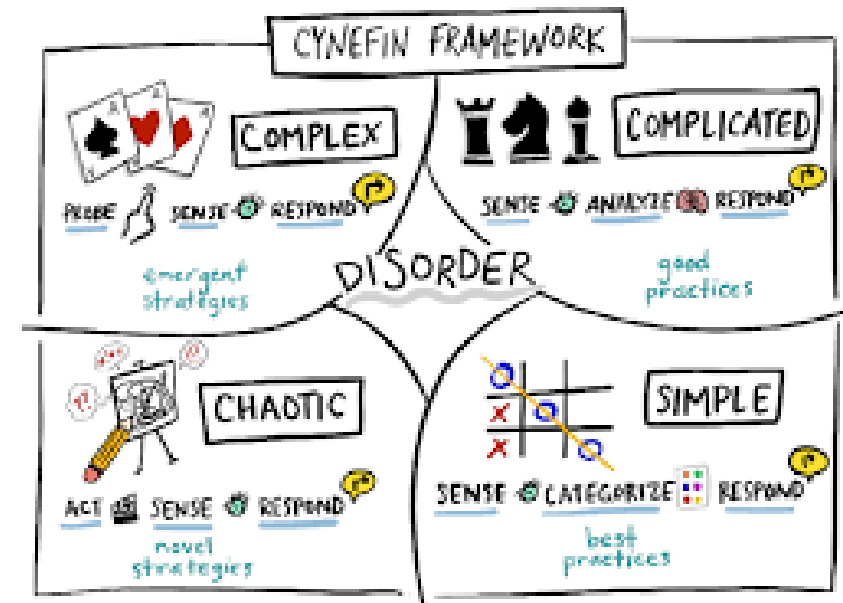
Evaluation serves groups of people discussing propositions for public action

How we consider the value of action in the world

- We have lots of words to describe 'trying to make the world a better place'.
- Most of them are about doing something we think will improve things.
- Not everything we do in the world is or should be well thought out.

"That's not the way the world really works anymore. We're an empire now, and when we act, we create our own reality. And while you're studying that reality—judiciously, as you will—we'll act again, creating other new realities, which you can study too, and that's how things will sort out."

- But mostly, our plans should aspire to the standard of 'making sense'



Program logic and theory of change

- In evaluation, 'action' or the evaluand is often legislation, policy, programs or other kinds of interventions operating in complex adaptive systems.
- As a discipline, evaluators often talk about **program logic** and/ or **theory of change** to describe these.
 - What do these terms mean to you?
 - What is the difference between them?
 - What are the major 'sins' you see in program logic and theory of change?
 - How can these be fixed?
 - How would you know if a program logic or a theory of change was a good one?

Informal logic

Claim: *It was not raining too much this morning*

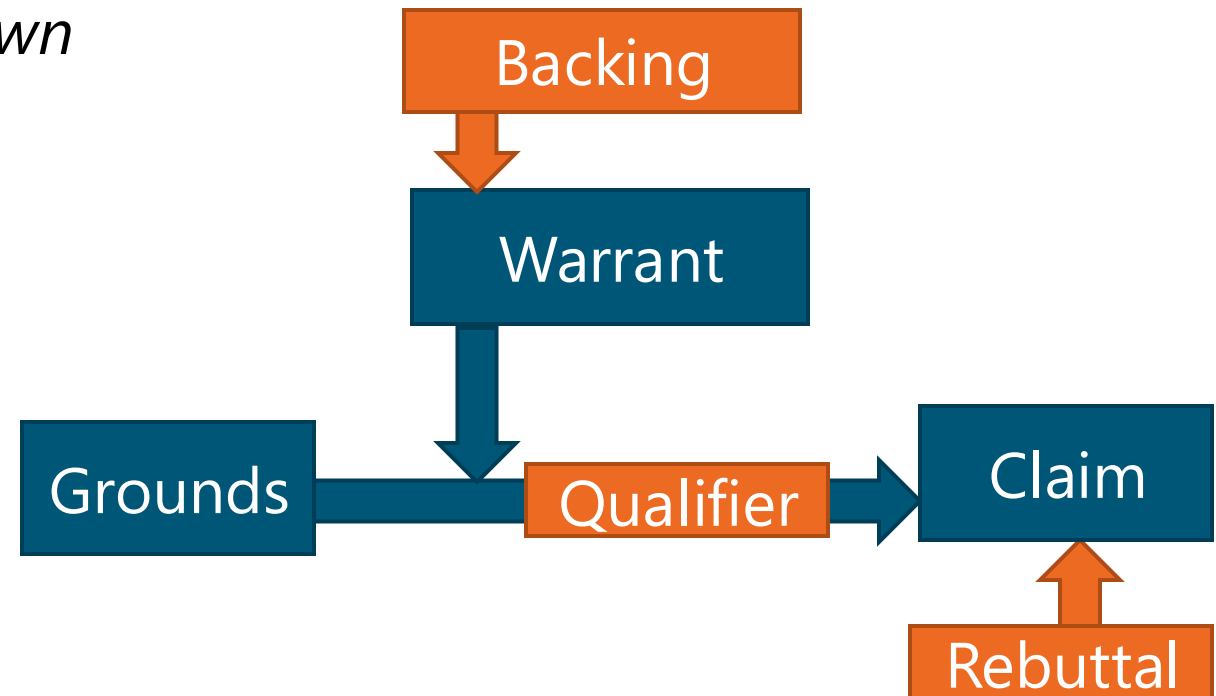
Grounds: *I caught the bus to work this morning*

Warrant: *I only catch the bus when it is not raining too much*

Backing: *my travel history shows a strong pattern of catching the bus when there is less the 5mm of rain*

Qualifier: *my mood might also affect my decision to get on the bus*

Rebuttal: *my car was not an option because it was broken down*



Typical evaluation findings use informal logic

Claim

The breakfast program was effective*

Grounds

because 90% of children that attended the program attended school more often, increased their engagement in class, and obtained better results in standardised tests. At the same time there was a slight overall improvement in engagement and test results for all children and no increases in the reported levels of bullying in school as measured in student surveys. The students involved in the program reported they enjoyed the breakfast and parent volunteers reported more positive feelings towards children that had previously been considered 'problem' children.

Backing

Literature
Review

Qualifiers

CMOs

Warrant

These are the major criteria that have been shown by research to be important for an effective breakfast program.

Rebuttal

RCT

Some key terms

- ***Inputs or activities***: funds or actions necessary to implement the initiative as intended.

CONDITIONS

- ***Outputs***: conditions the initiative must create to be delivered as intended.
- ***Direct Outcomes***: conditions that will be achieved if Outputs are delivered and Assumptions hold.
- ***Indirect Outcomes or Impacts****: conditions the initiative will contribute towards, also affected by external factors.
- ***Assumptions***: conditions we are relying on to generate our outputs and/or outcomes, but are not 100% sure about, so we need to keep an eye on them. They are not reasons or warrants.
- ***External factors***: conditions outside our control that we are pretty sure will also affect impacts.

Key concept

Program Design Logic is obsessed with *conditions* - outputs, outcomes, impacts, assumptions and external factors are all types of condition.

'Who/what is in what condition'

Clients develop
resilience

Staff have good knowledge and
relationships with internal and
external services their clients need

Clients engaged at site

Young people with
disability participate in
meaningful work
experience

Staff have a clear understanding of
their role

Simple calculation

Inputs + Assumptions = Outputs

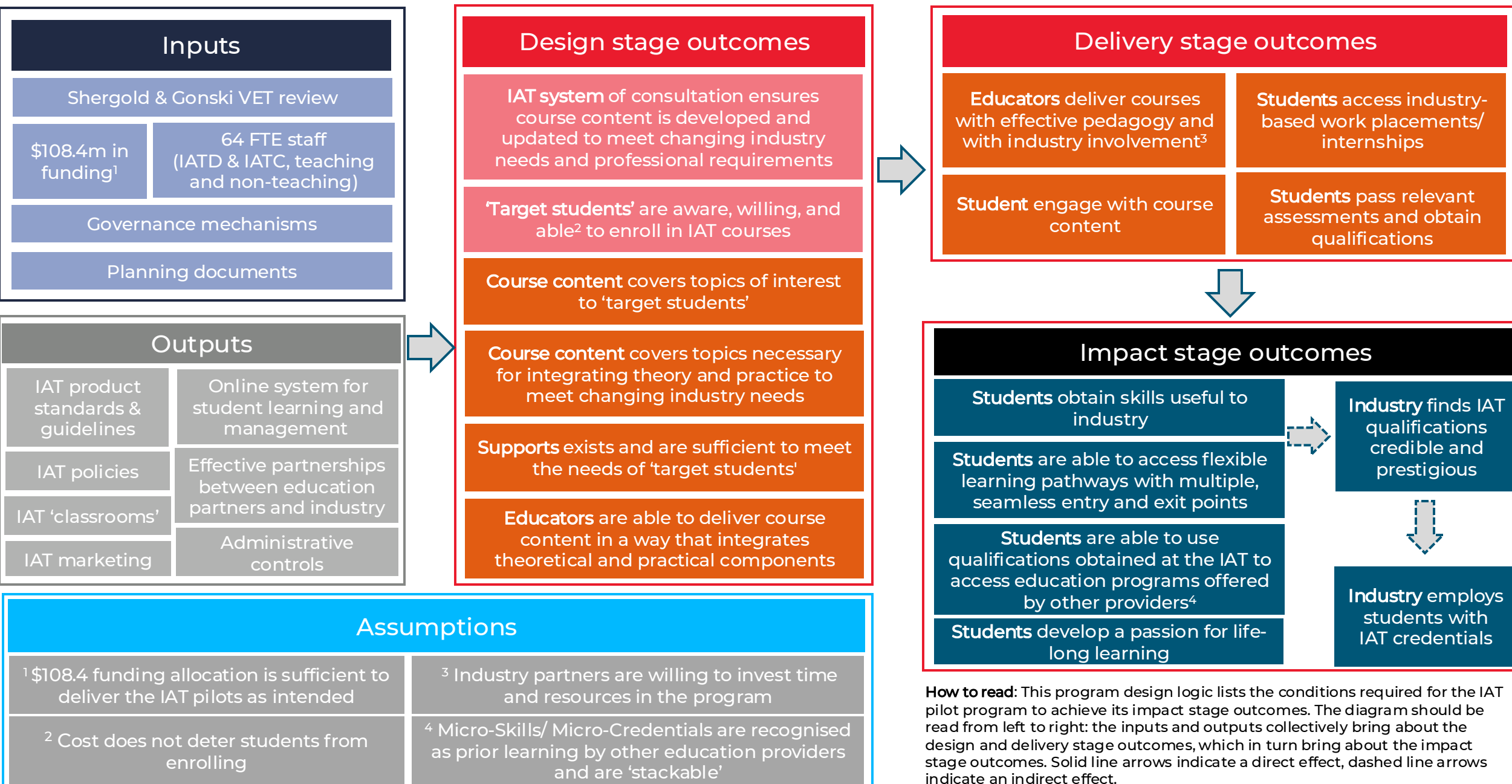
Outputs + Assumptions = Direct Outcomes

Direct Outcomes + External factors = Indirect Outcomes

If what follows the = sign seems unlikely, what can we do about it?

1. Can we **add activities** to deal with unrealistic assumptions, so we no longer need to assume them?
2. Can we **be more realistic** and reclassify direct outcomes as indirect outcomes?

Education Initiative – Program Design Logic



How should evaluators describe interventions into complex adaptive systems?

- A promise to be kept
- A hypothesis to be tested
- A theory to be harnessed
- A plan to be discussed
- Something else....

What does that mean for the evaluator tool kit?

Program logic example

- Let's consider a program designed to make staff happy at work on a particular day by eating cake.
- This is based on key activity of baking a cake and sharing it.



People are happy at work that day

Our intervention needs to *contribute* towards this

People eat cake

Our intervention needs to be *sufficient* for this to occur



Cake is distributed

Cake is baked

Ingredients are combined in the right order

Necessary ingredients are available

These are *necessary* for our intervention to be a success

People are happy at work that day



Only partially achieved by our cake

People eat cake



Sometimes we distribute the cake, but it may not be eaten.

What if people aren't hungry?

What if they don't like any form of cake?

Cake is distributed



Cake is baked



Ingredients are combined in the right order



Necessary ingredients are available

These do not lead to the next step – but are *necessary* preconditions for the cake to be eaten.

They are not the only way to ensure a cake is eaten at work – but they are needed for our course of action to work.

People are happy at work that day



People eat cake



Assumption: People in the office like cake

Cake is distributed



Cake is baked



Ingredients are combined in the right order



Necessary ingredients are available

People in the office like cake

Assumption or **output**?

People in the office like cake



VUCA world to VUCA action

Outcomes are non-linear, unpredictable and emergent...



...Sound value propositions for action