Innovation in governance: the productivity benefits of fostering a greater tolerance for uncertainty and ambiguity

Talk given at the ANZSOG workshop on
'Twenty-first century public management: the experimentalist alternative'

Crawford School of Public Policy
11 & 12 Feb 2014

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A Joint Australian Government – Australian National University initiative

Summary of Key Points

The current dominant paradigm in public management is characterised by an intolerance for ambiguity and uncertainty. Although governments are the uncertainty and risk managers of last resort (coping with the uncertainties and risks that markets and businesses cannot cope with), this aspect of governance sits rather uneasily against managerial systems and cultures that view ambiguity and uncertainty as dangers to be avoided. Indeed, ambiguity and uncertainty are themselves viewed as risks. This stance is especially visible in ISO3100, which frames risk as uncertainty over the achievement of clearly specified objectives.

In this paradigm, various important activities, including the manner in which output-outcome budgeting has been implemented favours *precision*: commitments to firm targets that cannot be fudged. The assumption is that a rather mechanistic stance enhances transparency and accountability and contributes to the legitimacy of governance.

This mechanistic approach can restrict the ability to learn-by-doing, share insights amongst peers and generally experiment with better ways of governing. In such a context, the experimental governance approach is refreshing because it prioritises learning, sharing insights, ideas and experiences. I don't need to labour these advantages in this particular workshop as they should be familiar to all here. I point you

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to Ian Marsh's contribution to this workshop for a useful summary of this perspective. Suffice to say that a tolerance for ambiguity is central to experimental governance because it involves open-ended approaches characterised by learning under conditions of substantive uncertainty. Intended outcomes are broad, provisional and can be modified in the light of experience. Governance shifts from a command and control architecture to a distributed learning architecture. Effective public policy is not a matter of 'getting things right' ex ante, but rather establishing the conditions for learning-by-doing in an uncertain world in which objectives are rarely 'right' in the light of hindsight and unfolding, frequently unexpected, events and experiences.

It is worth stressing that my own approach to these public policy matters is influenced by Austrian (subjectivist) perspectives, and von Hayek in particular. This is because (if one ignores some of the sillier axiomatic and self-consciously untestable theoretical assumptions) subjectivist economics starts by assuming a condition of ignorance and Knightian uncertainty (rather than perfect information) and treats markets as exploratory learning mechanisms. As I argued in an earlier piece on cooperative federalism (and somewhat paradoxically), reframing key aspects of the policy narrative along neo-Austrian lines in terms of the 'management of uncertainty' rather than the 'management of risk' does more to *reinforce* the importance of the State than undermine it. The trick is to recognise that whilst most of the discussion on the management of uncertainty and risk in current policy narratives focuses on the management of *risk*, the management of *uncertainty* is in fact what governments spend more of their time actually grappling with (Matthews, 2009).

Given this reality, I think it would be far more useful if the policy narrative shifted to a concern with how best to cope with uncertainty and ambiguity rather than risk per se. Risk is driven by the existence of uncertainty and ambiguity – and these are factors that rarely go away. As I stressed at the start of this talk, governments are the uncertainty and risk managers of last resort, attempting to cope with levels of uncertainty and associated risk that business and markets cannot cope with.

This means that simply adopting risk management methods developed in the private sector (a notable characteristic of the dominant 'new' public management paradigm) is not effective or especially helpful. Rather paradoxically then, whilst the private sector does have useful experience in defining and managing the appetite for risk necessary to innovate (the risk-reward relationship etc) this is not the aspect of private sector practice that has shaped approaches to risk in the public sector.

My aim today is to examine the concepts of innovation in governance, and in particular the potential to increase public sector productivity, from the perspective of fostering a (greater) tolerance for *ambiguity*, and in particular the productivity benefits of getting better at dealing with ambiguity, uncertainty and risk.

My objective here has been strongly influenced by a point stressed by my *Australian National University* colleague Michael Smithson and other colleagues: exhibiting a tolerance for uncertainty both signals and reinforces the importance of social capital. If I signal that I am willing to tolerate uncertainty about what you are doing then I signal that I trust you. This opens up a window for self-empowerment and, potentially, innovation because it avoids the restrictions of the principal-agent dynamic.

As someone who works in partnership with a range of government officials in helping to try to address challenges myself and my colleagues in the HC Coombs Policy Forum are keen to explore ways of increasing the cost-effectiveness of what governments do. I am therefore especially interested in finding ways for government to eliminate wasted effort and therefore cost.

My own past experiences in working closely with aerospace manufacturing business in the UK and to some extent the USA has left me with a lasting respect for the advantages of focusing attention on wasted work (scrap, excessive inventory, re-work, warranty claims, customer litigation etc). This focus on the outputs that one does <u>not</u> want can be a useful framework for thinking about processes in government. Whilst the difficulties in measuring outputs makes in hard to measure productivity in the public sector it is of course far easier to measure prevailing levels of wasted effort - and reductions over time in these wasted efforts.

I suspect that if we were ever to transition to a governance paradigm in which a tolerance for uncertainty and ambiguity was much stronger then we could eliminate vast swathes of cost to taxpayers. If we have a low tolerance for uncertainty and ambiguity then we lock ourselves into a cost-escalation spiral driven by attempts to reduce ambiguity - especially if big data and associated ICT costs are involved. In a manner similar to the arms race dynamic we have to spend more and more taxpayers funds to try to re-assure ourselves that we know what our stakeholders are doing. This stance reduces empowerment and fosters a passive, compliance oriented culture. This contrasts with the alternative of fostering a tolerance for uncertainty and ambiguity with the aim of breaking this cost-escalation cycle and, in so doing, encouraging self-reliance,

innovation etc. The two contrasting dynamics are illustrated in the following two diagrams.

INSERT EXHIBIT 1 HERE

It is, of course, essential to set clear transgression boundaries when being more tolerant of ambiguity and uncertainty (i.e. tests for identifying circumstances and behaviours for when I should stop trusting you).

We have already started to make some progress in improving the cost-effectiveness of handling uncertainty and ambiguity by developing and piloting a more parsimonious approach to evaluating government interventions based on the use of structured hypothesis testing techniques – expressed as conjectures and refutations in a short tabular format.

This approach emerged from efforts to assist a state government in Australia to develop a cost-effective internal evaluation capacity that also significantly reduced the (often onerous) reporting burden on those being evaluated.

This work has adapted methods widely used by the US national security community. In essence, these methods implement the scientific method (conjectures and refutations) but within the command and control systems characteristic of that arm of government. Structured hypothesis testing, especially when it uses competing hypotheses, is especially useful because it leaves room for uncertainty and risk as core challenges, rather than attempting to treat risk management as a compliance exercise. The approach is, of course, compatible with the 'developmental evaluation' approach that makes it both legitimate and desirable to address evolving objectives in the light of experience (an approach with is I understand from recent discussions at the OECD gaining in importance outside of Australia).

Experience to date in pilot work carried out in partnership with government departments suggests that structured hypothesis-testing methods can significantly increase the speed and accuracy of two key governance activities: the analysis of evidence and monitoring & evaluation processes. As a result, a range of government departments and agencies in Australia are now expressing strong interest in the use and further development of this sort of approach. In situations where sufficient data are readily available, structured hypothesis testing can significantly reduce the cost of evaluations of government spending in comparison to conventional audit and narrative-based evaluation methods. Monitoring & evaluation findings are expressed in a tabular manner that does not require lengthy written explanation or rely on nuancing of phrases

in the finalisation of conclusions. This format is illustrated in the following fictional (and partial) version of a real but confidential evaluation framework.

INSERT EXHIBIT 2 HERE

One of the major advantages of this succinct method is cost-effectiveness: it can eliminate swathes of 're-work' in finalising often long reports as they journey up and down the government hierarchy on the winding road to completion and sign-off.

Experience to date also indicates that the ability to 'nest' hypothesis tests in evaluation and review work may have some significant productivity advantages. Diagnostic nesting allows for more parsimonious approaches to be adopted by using the test of a high-level hypothesis to determine whether or not further diagnostic scrutiny of evidence on that issue is required. This nesting is illustrated in the following diagram.

INSERT EXHIBIT 3 HERE

The main challenge encountered to date in using this approach within government is when these diagnostic hypothesis tests need to rely on expert opinion rather than quantitative data (if this is not available). Some officials are uncomfortable if expert opinion is treated as a form of evidence.

We are now moving on to pilot this more parsimonious approach as a means of designing government interventions explicitly as competing hypotheses and, also, as a means of identifying and managing risk in policy and program design. This hypothesis-based approach is illustrated in the following diagram.

INSERT EXHIBIT 4 HERE

Interestingly, when I discuss these (fairly radical ideas) with senior government officials in Australia they tend to be well received because the productivity dividend is easily grasped and understood via the reduced re-work loop dimension.

Framing this sort of approach against experimental governance, the issue that intrigues me is: can we find practical ways of fostering a greater tolerance for ambiguity in government that has the twin advantages of helping governments to be better at being the uncertainty and risk manager of last resort and also delivering a significant productivity dividend?

My guiding proposition is that a greater tolerance for ambiguity can reduce the costs of seeking spurious precision in how intervention rationales and objectives are set, programs and designed and their efficacy assessed and communicated.

This objective recognises the value of the experimental governance approach and intersects with it, but also works in parallel in the sense that the main focus is on trying to improve demonstrable cost-effectiveness by working in partnership with practitioners. Efforts to achieve a productivity benefit in austere times drive the emphasis on an increased tolerance for ambiguity. In a sense, austerity can be used like a judo move to highlight the (high) costs to taxpayers' of the current intolerance for ambiguity.

A major problem with the current 'risk averse' paradigm in governance is that risk is approached as a distinct stage in project planning, a stage in which success is defined as demonstrating awareness of a set of well-defined risks and then putting in place risk mitigation tactics that reduce these risks to acceptable levels. This amounts to an approach that says in effect "I've dealt with the risks and we can now get on with delivering". There is little scope in this approach for continuously monitoring and reacting to emerging risks. Risk is a problem – not, as it is in the private sector, a source of competitive advantage. Whilst businesses pay considerable attention to framing and managing their appetite for risk in order to innovate, vast swathes of the public sector seek, in effect, to have to appetite for risk at all (and of course in doing so they actually amplify risks).

In recognition of this fact, a few years ago I collaborated with Grahame Cook and the *Australian National Audit Office* (ANAO) to produce a better practice guide on innovation in the public sector that proposed a decision-support framework intended to make it easier for government departments and agencies to take the risks necessary in order to innovate. We based this framework on Demming's familiar 'plan-do-check-adjust' cycle because, unlike the develop-prototype-roll out approach adopted by the UK we thought it critically important that 'check' and 'adjust' functions (i.e. learning) are central to the process.

INSERT EXHIBIT 5 HERE

The final point I want to make is that operationalising effective risk and uncertainty aware learning cycles of the type alluded to here requires suitable monitoring and evaluation tools. This requires risk management to be continuous discipline rather than a 'tick the boxes and forget' approach.

In an uncertain and ambiguous world it is likely that setting up competing hypotheses over risks - hypotheses designed to identify emerging risk factors and to treat

risk management not as a compliance exercise but as a creative tension and debate over risk can help us to get much better at coping with, and indeed benefiting from, risk.

The ability to access monitoring & evaluation tools that facilitate 'failing early' in experimental initiatives is important here – although that fail early capacity in turn raises important political considerations as the party-political blame game can be exacerbated.

We therefore see great potential in developing an approach to risk management in public policy that is based upon the structured analysis competing hypotheses as a process of continuous monitoring. Such an approach has the potential to contribute to experimental governance because it provides a more cost-effective method for mutual learning and peer assessment based on establishing and exploiting creative tensions over uncertainty, risk and ambiguity – rather than assuming these things away by virtue of the way in which risk management is approached.

To summarise. I am making the following case:

1. Experimental governance is a good thing because it is better aligned with the reality of what governments have to do as uncertainty and risk managers of last resort (it avoids spurious mechanical precision in defining intended outcomes).
2. Doing experimental governance requires the development of a greater tolerance for ambiguity and uncertainty.
3. A greater tolerance for ambiguity and uncertainty opens up the potential to break a vicious cycle of cost-escalation, hence increasing cost-effectiveness in public policy delivery (a public value outcome).
4. Realising this potential requires suitable tools for handling risk, uncertainty and ambiguity within governments, i.e. finding ways of meeting modern transparency accountability norms whilst also giving room for experimentation.
5. We are starting to make progress in developing and using these enabling tools in partnership with government officials, based upon the structured analysis of competing hypotheses – and moving beyond the notion that it is possible to 'get it right' at the outset.

Two final thoughts: what would it take to make the general community (given the role of the media) more comfortable with government becoming more

experimentalist? Can structured hypothesis testing methods be used as KPIs? (thus solving the problem of onerous and often irrelevant KPIs).

EXHIBIT 1

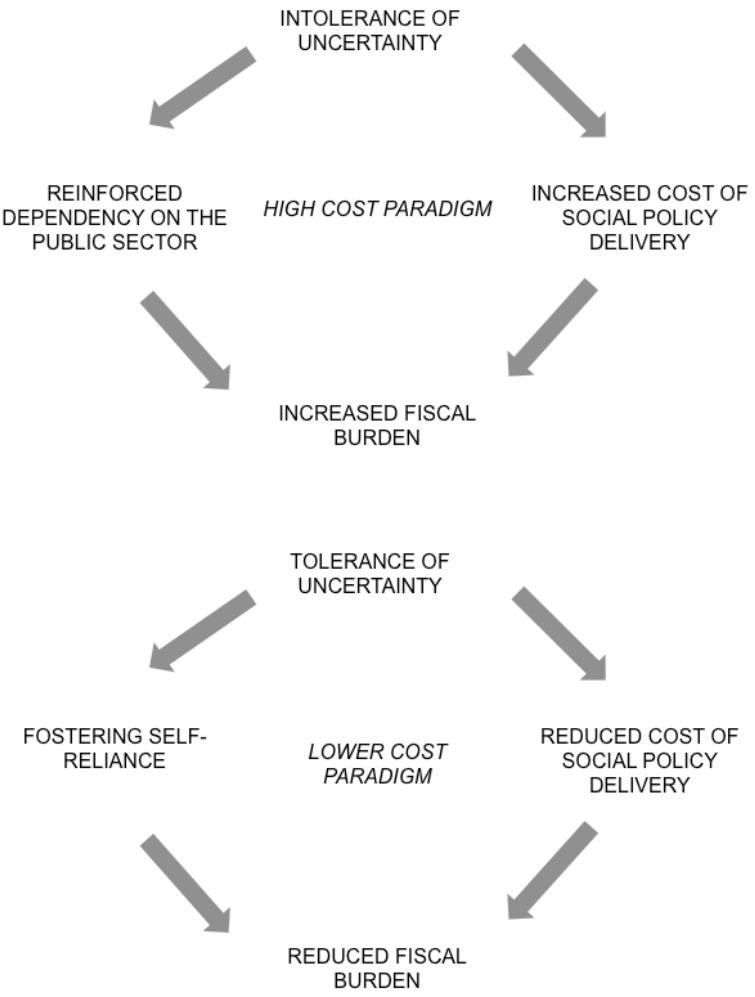


EXHIBIT 2

	Propositions	Evidence	Conclusion (based on balance of probabilities)	Observations
1.	The Institute developed and demonstrated *world-class* research capacity in public policy	• The research impact (as reflected in global citations) is very high by world standards • The proportion of Institute publications with an author from the rest of the world increased to 56% from 23% over the observation period • More than half of Institute publications with an overseas author also involve authors from the USA and/or Europe – linking them to international networks	**Proposition supported**	No further evidence required
2.	The Institute attracted increased funding from Federal and State governments, the business sector and from overseas (demonstrating its increased global standing)	• The Institute attracted levels of Federal and State funding ($23M and $3M respectively) that compares well with benchmark institutes • The share of its income represented by competitive research grants had increased to over 63% by 2012 – a 12% above benchmark institutes • The levels of business funding – and as a proportion of total income – were higher than benchmark institutes	**Proposition supported** with regard to domestic sources of funding **but no evidence as yet on overseas funding**	No further evidence required with regard to domestic sources of funding. Clarification required on definition of business income for KPI purposes Evidence required on overseas funding
3.	The Institute reached full capacity and met its targets in terms of employment and PhDs	• The target level of employment was achieved 3 years early and it has continued to operate well above that level since then • The Institute produces more PhDs and honours students than benchmark institutes even when controlled for differences in institute incomes	**Proposition supported**	No further evidence required
4.	The PhD outputs from the Institute provided research and technical skills in public policy for Australia with associated long-term national benefits	• 78% of the PhDs in stayed in Australia and 19% went overseas • 63% gained employment in the public sector	**Proposition supported but no evidence yet on the associated long-term national benefits**	No further evidence required on PhD numbers and destinations Evidence required on associated long-term national benefits

EXHIBIT 3

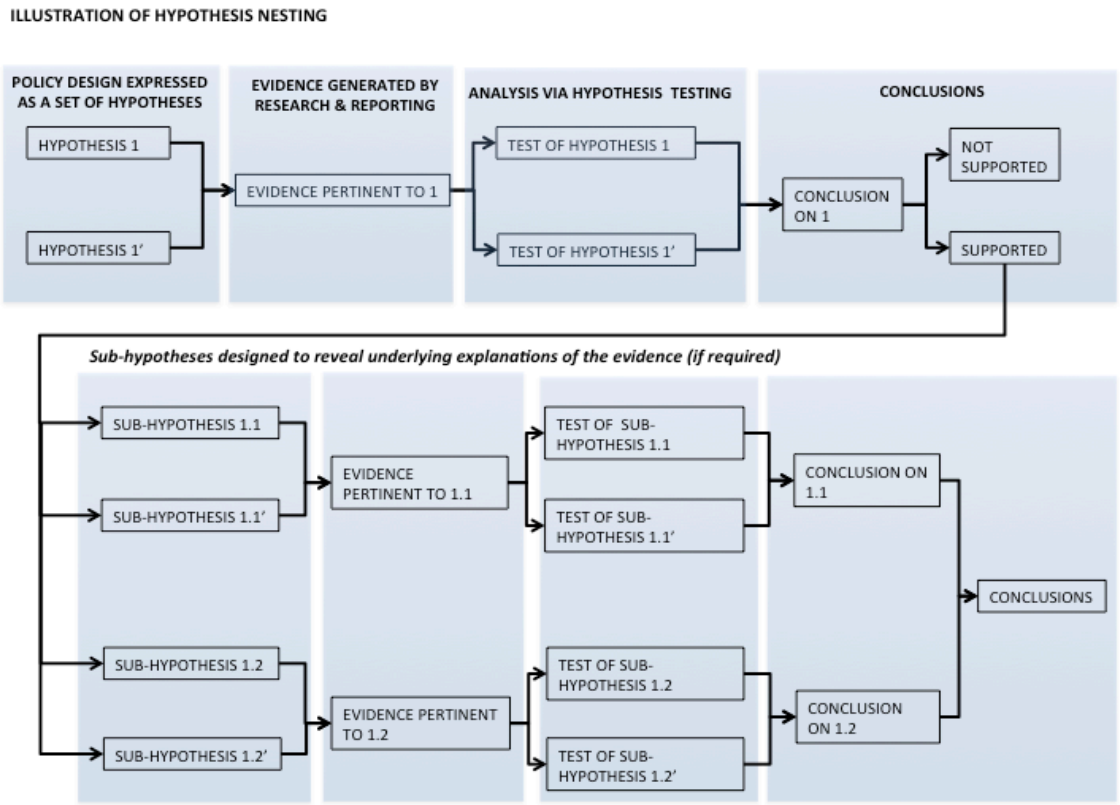


ILLUSTRATION OF HYPOTHESIS NESTING
POLICY DESIGN EXPRESSED AS A SET OF HYPOTHESES
EVIDENCE GENERATED BY RESEARCH & REPORTING
ANALYSIS VIA HYPOTHESIS TESTING
CONCLUSIONS
HYPOTHESIS 1
HYPOTHESIS 1'
EVIDENCE PERTINENT TO 1
TEST OF HYPOTHESIS 1
TEST OF HYPOTHESIS 1'
CONCLUSION ON 1
NOT SUPPORTED
SUPPORTED
Sub-hypotheses designed to reveal underlying explanations of the evidence (if required)
SUB-HYPOTHESIS 1.1
SUB-HYPOTHESIS 1.1'
SUB-HYPOTHESIS 1.2
SUB-HYPOTHESIS 1.2'
EVIDENCE PERTINENT TO 1.1
EVIDENCE PERTINENT TO 1.2
TEST OF SUB-HYPOTHESIS 1.1
TEST OF SUB-HYPOTHESIS 1.1'
TEST OF SUB-HYPOTHESIS 1.2
TEST OF SUB-HYPOTHESIS 1.2'
CONCLUSION ON 1.1
CONCLUSION ON 1.2
CONCLUSIONS

EXHIBIT 4

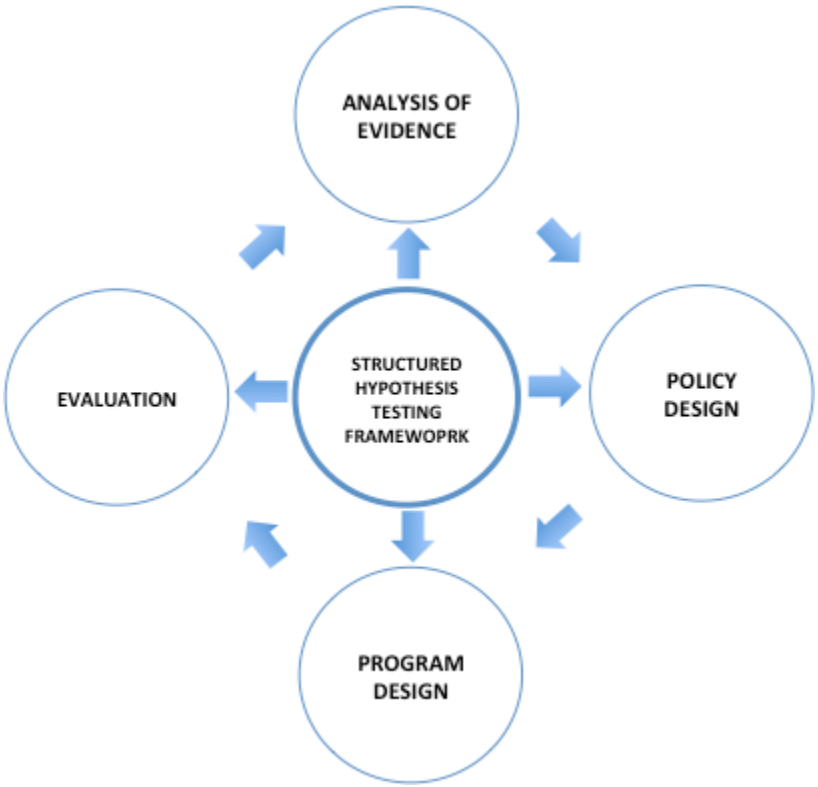
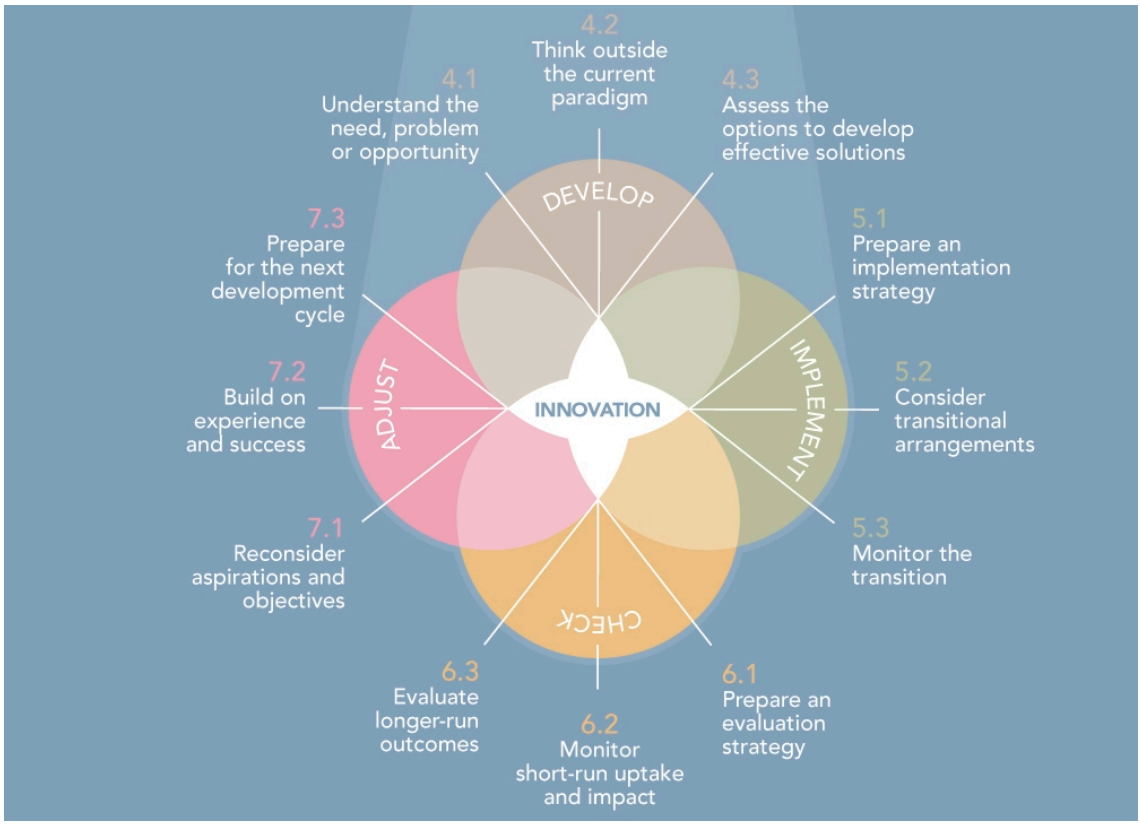

ANALYSIS OF EVIDENCE
POLICY DESIGN
PROGRAM DESIGN
EVALUATION
STRUCTURED HYPOTHESIS TESTING FRAMEWOPRK

EXHIBIT 5


4.2
Think outside the current paradigm
4.1
Understand the need, problem or opportunity
4.3
Assess the options to develop effective solutions
DEVELOP
7.3
Prepare for the next development cycle
5.1
Prepare an implementation strategy
7.2
Build on experience and success
ADJUST
INNOVATION
IMPLEMENT
5.2
Consider transitional arrangements
7.1
Reconsider aspirations and objectives
5.3
Monitor the transition
CHECK
6.3
Evaluate longer-run outcomes
6.2
Monitor short-run uptake and impact
6.1
Prepare an evaluation strategy