

Why do projects ‘fail’ and more to the point what can we do about it? The case for disciplined, ‘fast and frugal’ decision-making

By Stephen Jenner

Introduction

It’s almost an article of faith that somewhere between 50% and 70% of projects and programs fail. Studies by academics, professional bodies, consulting firms (and even Nobel Prize winners¹), paint a depressing picture of consistent and continuing failure. The issue appears to apply globally and to all sectors – for example, the UK National Audit Office (NAO) report² that, “*the evidence shows that two thirds of public sector projects are completed late, over budget or do not deliver the outcomes expected*” and, “*The track record of project delivery in the private sector is equally mixed.*” The problem also seems to affect most categories of project or program, for example:

- **Business Change initiatives** – “*change remains difficult to pull off, and few companies manage the process as well as they would like...The brutal fact is that about 70 per cent of all change initiatives fail.*” Beer & Nohria³.
- **Information Technology** – “*It is the remarkable ubiquity of the failure of ICT projects – particularly large ICT projects – and the large sums of money that can disappear as a result that should be of most concern.*” Gauld & Goldfinch⁴.
- **Infrastructure investments** - “*At the same time as many more and much larger infrastructure projects are being proposed and built around the world, it is becoming clear that many such projects have strikingly poor performance records*”. Flyvbjerg et al⁵
- **Business process reengineering** – “*reengineering efforts had failure rates as high as 70% and one source estimated that 85% of reengineering projects failed.*” Pfeffer & Sutton⁶.
- **Mergers and Acquisitions** - “*70% to 80% of acquisitions fail, meaning they create no wealth for the shareholders of the acquiring company. Most often, in fact, they destroy wealth*” Seldon & Colvin⁷.
- **Olympic games** – “*average cost overrun in real terms of 179% - and 324% in nominal terms*” Flyvbjerg & Stewart⁸.

¹ Daniel Kahneman was awarded the 2002 Nobel Memorial Prize in Economic Sciences.

² NAO (2011) *Initiating successful projects*.

³ Beer, M. & Nohria, N. (2000) *Cracking the Code of Change*, Harvard Business Review, May.

⁴ Gauld, R. & Goldfinch, S. (2006) *Dangerous Enthusiasms*, Otago University Press.

⁵ Flyvbjerg, B., Bruzelius N., and Rothengatter W. (2003) *Megaprojects and Risk: An anatomy of Ambition*, Cambridge University Press.

⁶ Pfeffer, J. & Sutton, R.I. (2000) *The Knowing-Doing Gap*, Harvard Business School Press.

⁷ Seldon & Colvin (2003) quoted in Cameron, E. & Green, M. (2009), p. 228, Kogan Page.

⁸ Flyvbjerg, B. & Stewart, A. (2012) *Olympic Proportions: Cost and Cost Overrun at the Olympics 1960-2012*, *Saïd Business School working papers*.

Furthermore, there's little evidence that things are improving significantly - research in Australia by Capability Management⁹ found, “*The success ratio of projects has not increased in 15 years*”; and the PMI's 2014 Pulse of the Profession® report¹⁰ noted, “*Change initiatives are time consuming and costly, significantly impacting an organization's drive toward success. And nearly half of them fail.*” With regard to megaprojects, Flyvbjerg (2014)¹¹ concludes that, “*overruns have stayed high and constant for the 70-year period for which comparable data exist...Similarly, benefit shortfalls of up to 50% are also common and above 50% not uncommon, again with no signs of improvements over time and geography.*”

A number of questions arise from this:

- Firstly, how accurate is the picture painted of consistent and continuing failure?
- Secondly, what do we mean by failure?
- Thirdly, what are the main causes of failure? and
- Fourthly, what can we do to address the issue?

I'll briefly address the first three, before focusing in more detail on the actions we should take, and specifically, I'll argue for a portfolio investment management approach based on disciplined, but 'fast and frugal' decision-making.

Do 50-70% of projects and programs fail?

So, is the picture of 50%-70% project failure a complete and accurate picture? Most of the project and program professionals I speak with accept that there are too many well-publicised failures, but their personal experience is that far more projects and programs are delivered broadly as envisaged than fail. This would seem to support our everyday experience – in a world in which organizations are increasingly project-based¹², most things seem to work, most of the time.

Note also that research consistently finds post-implementation reviews are poorly or rarely performed, and many organizations do not track the benefits realised - for example, the NAO reported¹³ that 80% of UK government departments don't use Gateway 5s (Benefits Evaluation). The problem is not one that is restricted to the public sector – Ward et al¹⁴ found in one European survey that 80% of respondents reported that the review and evaluation of completed projects was inadequate. In

⁹ Capability Management (2006) *Research into the Management of Project Benefits, Findings Report 2004-06*.

¹⁰ PMI (2014) *Pulse of the Profession – In Depth Report Enabling Organizational Change Through Strategic Initiatives*, March.

¹¹ Flyvbjerg, B. (2014) What you Should Know About Megaprojects and Why: An Overview, *Project Management Journal*, Vol 45, No 2, 6-19.

¹² Which are defined by Alan Stretton as organizations that, “*derive most (if not all) of their revenue and/or other benefits from creating and delivering projects/programs to external customers.*” PM World Journal, Vol. IV, Issue 2, February 2015.

¹³ NAO (2009) *Helping Government Learn*.

¹⁴ Ward J., Daniel, E. & Peppard, J. (2008) Building Better Business Cases for IT Investments, *MIS Quarterly Executive*, 7 (1).

which case, how do we know that 50%-70% of projects and programs fail? Without a comprehensive evidence base derived from a comparison of forecast against actual costs, benefits and time taken, there's no way we can reliably know the scale of success or failure.

This is not to discount the evidence quoted above – indeed whilst we may not reliably know the scale of failure, we do know that failure is more common than it need be, and the scale of overspend and benefits shortfall is often far greater than should be the case, sometimes with catastrophic results, including corporate bankruptcies¹⁵. In short, failure may not be as common as often claimed, but when it does happen the impact is often massive. For example, with regard to large IT projects, Flyvbjerg and Budzier¹⁶ found that whilst the average overspend was ‘only’ 27%, the real area for concern was the ‘fat tail’ i.e. one in six projects studied was a black swan with overspends of 200% and delays of 70%.

Furthermore, failure is correlated with size, duration and complexity:

- Size - Flyvbjerg¹⁷ refers to the, “*iron law of megaprojects...Over budget, over time, over and over again*”;
- Duration – the first factor in the Boston Consulting Group’s DICE® model¹⁸ for assessing project risk; and
- Complexity - Remington and Pollack¹⁹ conclude, “*We can manage straightforward projects. We can also manage certain types of large complicated projects, such as building large chemical plants. But it has been increasingly clear over recent years that projects are becoming more complex and it is the complex projects that we aren’t very good at managing – in fact we aren’t very good at understanding how they behave at all.*” Research by Deloitte in Canada²⁰ similarly finds, “*a strong correlation between project complexity and project outcomes.*”

So size, duration and complexity appear to be associated with the worst examples of project and program failure. These are factors that we will re-visit later in this article in determining what actions are appropriate to improve the track record of success.

So whilst we may lack solid evidence on the exact scale of project/program failure, we do know the failure rate, scale and impact is greater than should be expected. The

¹⁵ For example, see <https://hbr.org/2014/05/the-it-project-that-brought-a-bank-to-its-knees>; and KMART and Auto Windscreens, where major IT project failures contributed to the companies bankruptcy – quoted in Flyvbjerg, B., and Budzier, A. (2011) Why your IT project might be riskier than you think, *Harvard Business review*, 89(9), 24-27.

¹⁶ Flyvbjerg, B., and Budzier, A. (2011) Why your IT project might be riskier than you think, *Harvard Business review*, 89(9), 24-27.

¹⁷ Flyvbjerg, B. (2014) What you Should Know About Megaprojects and Why: An Overview, *Project Management Journal*, Vol 45, No 2, 6-19.

¹⁸ See <http://dice.bcg.com>.

¹⁹ Remington, K., & Pollack, J. (2007). *Tools for Complex Projects*, Hampshire, UK: Gower.

See <http://www2.deloitte.com/content/dam/Deloitte/ca/Documents/Analytics/ca-en-analytics-PPA2014-report.pdf>.

²⁰ See <http://www2.deloitte.com/content/dam/Deloitte/ca/Documents/Analytics/ca-en-analytics-PPA2014-report.pdf>.

result in a world of finite resources is seen not only in the direct results of failure, but in the opportunity cost of other projects that don't get progressed due to resources being allocated to projects that fail. As William Hazlitt said²¹, “*Man is the only animal that laughs and weeps; for he is the only animal that is struck by the difference between what things are, and what they ought to be.*”

What do we mean by ‘failure’?

Is a project delivered one week late on a two year schedule, but on budget and which meets the required specifications, a failure? Presumably yes if it's a sporting event such as the Olympics or World Cup, but what about other less time sensitive projects? What about a 10% budget ‘blowout’ but where delivery was on time and met a real and pressing business need? Perhaps more contentiously, is cancelling a project because business conditions have changed really a ‘failure’, or is it a success because the organization avoids throwing good money after bad? ‘Success’ and ‘failure’ are therefore often contestable notions.

What are the main causes of ‘failure’?

Sir Peter Gershon argued at the 2010 APM Conference that, “*projects do not fail for novel reasons, they fail for the same boringly repetitive reasons.*” As far as what these reasons are – well, the NAO/OGC published a list of eight common causes of project failure²². See Table 1.

Table 1 – The NAO/OGC List of Common Causes of Project Failure

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|---|
| <ol style="list-style-type: none"> 1. Lack of clear link between the project and the organisation's key strategic priorities, including agreed measures of success. 2. Lack of clear senior management and Ministerial ownership and leadership. 3. Lack of effective engagement with stakeholders. 4. Lack of skills and proven approach to project management and risk management. 5. Too little attention to breaking development and implementation into manageable steps. 6. Evaluation of proposals driven by initial price rather than long- term value for money (especially securing delivery of business benefits). 7. Lack of understanding of and contact with the supply industry at senior levels in the organisation. 8. Lack of effective project team integration between clients, the supplier team and the supply chain. |
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But as Sir Peter said, none of this is new. We are thus left facing what is known as Cobb's²³ paradox: “*We know why projects fail; we know how to prevent their failure – so why do they still fail?*”

²¹ Quoted in Hastie, R. & Dawes, R.M. (2001) *Rational Choice in an Uncertain World*, Sage.

²² http://www.nao.org.uk/wp-content/uploads/2006/11/060733_centres.pdf.

²³ Named after the comment by Martin Cobb, CIO for the Secretariat of the Treasury Board of Canada, 1995.

In answer, one can point to a whole host of causes including those outlined by the NAO/OGC above, as well as the issues of size, duration and complexity. Others include: the separation of strategy formulation (‘choosing’) from implementation (‘doing’) which according to Martin²⁴, “almost guarantees failure”; adopting activity-based rather than results or benefits-led change (Schaffer & Thomson²⁵); failing to adequately address transition management (the ‘build it and they will come’ fallacy²⁶); failing to include all required business changes within the scope of the initiative (which is one of the drivers behind the increasing adoption of program management); poorly defined requirements; and governance failures – and particularly according to Neilson et al²⁷, decision rights and information flows i.e. success depends on ensuring that, “people truly understand what they are responsible for and who makes which decisions – and then giving them the information they need to fulfil their responsibilities”.

Additionally, I argued in a previous PM World Journal article²⁸ that a fundamental cause of project failure is that too often we build on the (unsafe) foundations of unrealistic forecasts. If costs estimates are understated and benefits forecasts overstated (which they too often are), it should come as no surprise when the final outcome indicates (often massive) benefit shortfalls and budget overspends. This forecasting failure can be due to cognitive bias (what Professor Daniel Kahneman calls the ‘planning fallacy’ – the belief that our project will succeed, despite an awareness that many similar projects have failed to do so in the past) or ‘strategic misrepresentation’ which Professor Bent Flyvbjerg²⁹ defines as the, “the planned, systematic, deliberate misstatement of costs and benefits to get projects approved”. The solutions outlined in my previous article include: more accurate (reference class) forecasting and more effective governance with enforcement of organizational accountabilities and independent and regular review.

Looking beyond the above factors which apply at the individual project/program level, research also finds that organizations typically undertake too many projects and programs³⁰. In summary, if you want to deliver more successful projects and programs, do fewer projects and programs. This in turn requires more consistent and disciplined portfolio prioritization to ensure we do the ‘right’ projects and programs, and terminate failing ones. It is to this area that we now turn.

²⁴ Martin R.L. (2010) The Execution Trap, *Harvard Business Review*, July-August.

²⁵ Schaffer R.H. & Thomson H.A. (1992) Successful Change Programs Begin with Results, *Harvard Business Review*, January–February.

²⁶ See Mayfield, P (2012) *What's the Big Idea with Transition Planning?*
<https://www.youtube.com/watch?v=VDd6qmTCPry>.

²⁷ Neilson, G.L., Martin K.L., Powers E. (2008) The Secrets to Successful Strategy Execution, *Harvard Business Review*, June.

²⁸ See Jenner, S (2012) Benefits realization – building on (un) safe foundations or planning for success?, *PM World Journal*, Vol.1, Issue 1, July.

²⁹ Flyvbjerg, B., Mette, K., Skamris, H. & Søren, L.B. (2005) How (In)accurate are Demand Forecasts in Public Works Projects, *Journal of the American Planning Association*, Vol. 71, No. 2, Spring 2005.

³⁰ For example, see Kendall, G. & Rollins, S. (2003) *Advanced project portfolio management and the PMO*, Florida: J. Ross Publishing.

What can be done? A Portfolio Investment Management approach

The last issue referred to above is fundamental and is at the heart of a portfolio investment management approach that treats projects and programs as investments – with:

- Clear investment criteria that ensure limited resources are allocated to optimum effect and recognizes that approved projects and programs have an opportunity cost in terms of the alternative projects and programs that are delayed or never get started.
- Balancing return against risk, and considering potential projects and programs from the perspective of their incremental impact on the project portfolio as a whole.
- Strict start gates to control the set up of projects and programs. The NAO report that³¹, “*the quality of project initiation is highly predictive of project success*” and yet, “*very few projects do enough feasibility work to develop a robust understanding of what is needed, if this is deliverable and how much it will cost.*”
- Regular ‘gates with teeth’³² i.e. robust end of stage/phase/tranche reviews to ensure that the project or program remains the best use of available funds and when necessary, to terminate the investment. As Warren Buffet says³³, “*When you find yourself in a hole, the best thing you can do is stop digging.*”
- Active intervention to address interdependencies and to remove obstacles to delivery.
- Periodic portfolio-level reviews to assess portfolio performance as a whole, the continued balance of the organization’s change portfolio, and to ensure that the allocation of resources continues to represent the best return on investment in the context of current strategic objectives and business priorities.

Disciplined and consistent decision-making

Central to an effective portfolio investment management approach is a commitment to disciplined decision-making. Research by Professor Bob Cooper in the area of new product development³⁴ finds that the difference between the ‘winners’ and ‘losers’ is often not so much that the latter don’t engage in portfolio management, but rather that they don’t do it consistently i.e. they allow managers to bypass the agreed procedures and apply the agreed decision criteria inconsistently. A recent report from McKinsey³⁵ notes, “*as one executive observed, his company’s biggest failures occurred when senior managers overrode established processes and methodologies.*”

³¹ NAO (2011) *Initiating Successful Projects*.

³² Jenner, S. (2010) *Transforming Government and Public Services: Realising Benefits through Project Portfolio Management*, Gower.

³³ From Hammond, S.H., Keeney, R.L. & Raiffa, H. (1998) The Hidden Traps in Decision Making, *Harvard Business Review*, Sept–Oct 1998.

³⁴ Cooper, R. (2006) *From Experience: The Invisible Success Factors in Product Innovation*, Working Paper No. 19, The Product Development Institute.

³⁵ Bishan, M., Nangia, I., & Wenger, F. (2014) Preparing to make big-ticket investment decisions, *McKinsey & Company Corporate Finance Practice*, July.

The importance of disciplined decision-making is also illustrated by research from the oil industry. According to Spetzler³⁶ analysis of oil company returns over the period 2006-2011 indicates that Chevron significantly outperformed its competitors: if Chevron had performed like Shell it would have been worth \$78bn less; and if BP had performed like Shell it would have been worth \$130billion more. Chevron stakeholders were asked to what they attributed the company's outperforming its competitors – the two key factors identified were ‘the Chevron way’ (values and culture) and their commitment to ‘Organizational Decision Quality’ i.e. a “*collaborative and systematic search for the highest value rather than a politicized or autocratic process.*”

The point is reinforced by a McKinsey study of the returns generated by 1,600 US companies from 1990-2005³⁷. They found that the best indicator of Strategic Business Unit (SBU) funding in any year, was the funding they had in the previous year i.e. most organizations, despite much effort in strategic planning, find it very difficult to re-allocate funds. For fully one third of the companies, the average correlation of SBU funding year on year was .99; and across all companies the average correlation was .92. On the other hand, the payback to the minority of companies that were able to re-allocate funding to match strategy was impressive – they were worth an average 40% more over a 15 year period.

Similar findings have been reported in the public sector – according to the NAO³⁸, “*There was a consensus among the non-Executive Directors in our workshops that reallocating resources occurs too infrequently. They asserted that while senior management in departments increasingly have access to the necessary information to make this kind of decision, action is often not taken.*”

Part of the reason for this failure lies in the cognitive biases already mentioned – and in particular a combination of the ‘status quo’ and ‘sunk cost’ biases. The result is what Tim Banfield³⁹ calls, “*the conspiracy of continuation*” i.e. once a project or program gets started it's often very difficult to stop it.

The solution to enabling greater agility in resource allocation? Well, greater transparency and accountability would help - Courtney et al⁴⁰ argue, “*Our consulting experiences suggest that most organizations can manage those biases if, when a strategic decision is being considered, managers choose their decision-making approach in a systematic, transparent, public manner during which their judgements can be evaluated by peers.*” This would at least help address the planning fallacy – as Armor and Taylor⁴¹ say, “*the very awareness that one's predictions will be publicly tested motivates people to try to be more accurate when making predictions; people in*

³⁶ Spetzler, C.S. (2011) *Chevron Overcomes The Biggest Bias Of All*, SDG White Paper.

³⁷ Hall, S., Lovallo, D., and Musters, R. (2012) How to put your money where your strategy is, *McKinsey Quarterly*, March.

³⁸ NAO (2008) *Managing Financial Resources to deliver better public services.*

³⁹ Banfield, T. (2011) Director of NAO. Reasons to be Cheerful, *Project Magazine* May, 2011.

⁴⁰ Courtney, H., Lovallo, D., and Clarke, C. (2013) Deciding How to Decide, *Harvard Business Review*, November.

⁴¹ From Gilovich, T., Griffen, D., and Kahneman, D (eds) (2002) *Heuristics and Biases: The Psychology of Intuitive Judgment*, Cambridge University Press.

this view, feel accountable to their own performance and then respond to this accountability by critically evaluating the basis of their predictions.”

The McKinsey report referred to above, also calls for setting target corporate portfolio allocations, regular performance reviews and, “*remaking the corporate centre so it can provide more independent counsel*”. So an independent Portfolio Office can play a crucial role by challenging the biases and self-interest that compromise effective portfolio investment management (providing what Daniel Kahneman refers to as ‘adversarial collaboration’⁴²). Beyond this, McKinsey argue for clear investment criteria and ‘simple decision rules’ for each portfolio category to, “*remove as much politics as possible from the resource allocation process.*” But do simple rules suffice and if so, what would these simple decision rules look like for portfolio investment management?

The case for ‘fast and frugal’ decision-making

Research into effective decision-making finds that⁴³:

- Organizations often seek more information than they require – and more information does not necessarily lead to better decisions as it can result in information overload and over-confidence (Russo & Schoemaker⁴⁴).
- Experts generally rely on relatively few factors in coming to their decisions. The exceptions are instances where feedback is prompt and precise e.g. weather forecasting – which is rarely the case in the project and program management world where project lives can span many years.
- These few factors can however be remarkably effective as a basis for what Gerd Gigerenzer⁴⁵ refers to as ‘fast and frugal’ decision-making.
- Unfortunately experts often fail to apply these factors consistently and when irrelevant information is presented, they tend to become more confident in their decisions (an example of another cognitive bias, the ‘conjunction fallacy’). They also over-rely on their intuition, but as Russo & Schoemaker say, “*To those who study decision-making, the most striking feature of intuitive judgment is not its occasional brilliance but its rampant mediocrity.*” The results:
 - Low levels of inter-expert agreement – Hastie and Dawes comment, “*In important domains like medical diagnosis, this conclusion is disturbing, because we would like our medical experts to agree with one another (and with biological theory) when they make diagnoses*”;
 - Inconsistent decision-making by individual experts - Russo and Schoemaker⁴⁶ argue, “*Certainly such results support the standard advice to seek a second opinion in important medical decisions. What is especially unsettling is that you may be able to get that second opinion from the same doctor a week later!*”; and

⁴² Kahneman, D. (2011) – See: <http://skepticalblog.wordpress.com/2011/06/20/adversarial-collaboration/>.

⁴³ Hastie, R. & Dawes, R.M. (2001) *Rational Choice in an Uncertain World*, Sage.

⁴⁴ Russo, J.E. & Schoemaker, P.H. (1990) *Decision Traps Decisions – How to Make the Right Decision First Time*, Simon & Schuster.

⁴⁵ Gigerenzer, G. (2007) *Gut Feelings*, Penguin Allen Lane.

⁴⁶ Russo J.E., and Schoemaker P.J.H. (2001) *Winning Decisions – Getting it right the first time*, Crown Business.

- In study after study, formal application of the criteria identified by experts using scorecards/checklists, consistently outperforms the judgments of those same experts.

The answer therefore lies in utilizing expert advice in determining the key factors relevant to decision-making in a specific context; applying these factors in a disciplined manner by utilizing scorecards/checklists to keep the factors at the forefront of the decision-maker’s mind (with weightings if appropriate); and then monitoring the outcomes and adjusting the factors (and weightings) where relevant.

This approach based on disciplined, but ‘fast and frugal’ decision-making, also applies to organizations’ investment in projects and programs. McKinsey⁴⁷ argue that in considering project investment decisions, we should examine, “*the handful of characteristics that are most critical to a project*”; and Kahneman, Lovallo & Sibony⁴⁸ say that, “*executives need to be prepared to be systematic...Using Checklists is a matter of discipline, not genius. Partial adherence may be a recipe for total failure.*” Scorecards can therefore be used to sift out the best initiatives, but they can also be used to improve the chances of success – by identifying areas in which corrective action is required.

The conclusion – identify the key factors relevant to investment in projects and programs; document these factors on a scorecard/checklist; and apply this scorecard/checklist consistently in making project investment/re-investment decisions. But what might these factors be?

Towards a project/program ‘fast and frugal’ investment scorecard

Review of the relevant project and program management and decision-making literature identifies a degree of agreement in the factors that represent ‘the difference that makes the difference’ in terms of success and failure. This literature encompasses:

- Reports by consultants including the various studies from McKinsey quoted above, and Boston Consulting Group’s DICE® model for assessing project risk which is referred to in the ‘Achievability’ checklist below;
- Harvard Business Review articles – including those quoted from throughout this article;
- Research by academics including Daniel Kahneman and Bent Flyvbjerg, as well as researchers in the field of decision-making including: Hastie and Dawes, Russo and Schoemaker, Kahneman, Gigerenzer, and Klein; and
- Guidance from professional bodies (including the PMI, APM, AIPM, and CIMA) and government agencies such as the UK NAO, OGC, Cabinet Office and Treasury, and the Victorian investment Management Standard.

⁴⁷ Bishan, M., Nangia, I., & Wenger, F. (2014) Preparing to make big-ticket investment decisions, *McKinsey & Company Corporate Finance Practice*, July.

⁴⁸ Kahneman, D., Lovallo, D., & Sibony, O. (2011) Before You Make That Big Decision...*Harvard Business Review*, June 2011, pp51-60.

The emerging view on the key questions to include on these ‘fast and frugal’ checklists has also been enhanced by feedback from participants in my classes at QUT’s Graduate Business School. In this way I’ve sought to combine the ‘best of the best’, within the framework of a portfolio-based approach i.e. one that combines consideration of return (or attractiveness) in the context of risk (or achievability). As John Ward (2006) says, “the more successful organisations select projects on the basis of desirability and their capability to deliver them, not just desirability.”⁴⁹

Table 2 shows the Attractiveness Checklist and Table 3 the Achievability Checklist⁵⁰.

Table 2 - Attractiveness Checklist

Key Question	Explanation & Comments
1. Is the problem the project/program is designed to solve (or the opportunity to be exploited), clearly defined?	<p>The Victorian Government’s Investment Management Standard⁵¹ starts by confirming that there is a real problem and that it needs to be addressed at this time. This can be facilitated via techniques such as:</p> <ul style="list-style-type: none"> ➤ Sakichi Toyoda’s ‘5 why’s’; ➤ Ethnography – observing users in real-life situations to gain a deep understanding about their behaviour; and ➤ User Stories in the format - “As a < Type of User > I want < Goal > So that <Reason>” – this can then be validated with the user(s). <p>Such techniques help ensure we address the root cause of a problem rather than its symptoms.</p>
2. Are the resulting outcomes and benefits that will result from successfully addressing the problem/exploiting the opportunity, clearly identified in measurable, or at least observable, terms?	<p>Stephen Covey’s 2nd habit of successful people is to ‘begin with the end in mind’ i.e. in project and program terms, we should start by identifying the desired outcomes and benefits (including clear measures) and then design the project or program to deliver them.</p>
3. How confident are we that the project/program will result in the desired business outcomes and benefits realisation?	<p>Courtney et al⁵² suggest asking two fundamental questions – do we have a clear causal model, “that is, a strong understanding of what critical success factors and economic conditions, in what combination, will lead to a successful outcome”; and can we predict the range of possible outcomes</p>

⁴⁹ Ward, J. (August 2006) *Delivering Value from Information Systems and Technology Investments: Learning from success A report of the results of an international survey of Benefits Management Practices in 2006.*

⁵⁰ It is suggested that in practice, a rating scale be added, for example: ‘strongly agree’, ‘agree’, ‘neutral’, ‘disagree’, ‘strongly disagree’.

⁵¹ [http://www.dtf.vic.gov.au/Publications/Investment-planning-and-evaluation-publications/Investment-management/Investment-management-standard-version-5.](http://www.dtf.vic.gov.au/Publications/Investment-planning-and-evaluation-publications/Investment-management/Investment-management-standard-version-5)

⁵² Courtney, H., Lovallo, D., and Clarke, C. (2013) Deciding How to Decide, *Harvard Business Review*, November.

Key Question	Explanation & Comments
	and their probabilities? This is facilitated by driver-based analysis ⁵³ - a technique whereby the implicit value chain underpinning the strategic objectives, or the organization’s business model, is made explicit i.e. what are the elements in the value chain, what factors drive achievement of each element, and how are they linked? Project/program benefits can then be stated in terms of their impact on the drivers of each element in the value chain.
4. Do we understand how the identified benefits will contribute to the organization’s strategic objectives?	The NAO/OGC Common causes of project failure includes – ‘ <i>Lack of clear link between the project and the organisation’s key strategic priorities, including agreed measures of success</i> ’. Benefits should therefore be expressed in consistent terms (to enable portfolio-wide comparison and consolidation) and in terms that demonstrate the contribution of each initiative to the strategic objectives. This can be facilitated by driver-based analysis and compiling a benefits eligibility framework ⁵⁴ .
5. Has a range of credible and genuine options to address the problem/opportunity and deliver the desired outcomes and benefits been identified?	Kahneman et al ⁵⁵ note that, “ <i>individuals and groups are prone to generating one plausible hypothesis and then seeking only evidence that supports it.</i> ”; and Herbert Simon ⁵⁶ referred to the tendency to ‘satisficing’ i.e. seeking a ‘just good enough’ rather than an optimum solution. So ensure a range of credible options are identified and appraised. This is helped by seeking a fresh pair of eyes and a diversity of views. At the very least include front line workers and/or customers in the assessment.
6. Do the forecasts of cost, time to deliver, and benefits reflect the organization’s track record in delivery of similar projects/programs?	Basing forecasts on a reference class of similar initiatives (Lovallo and Kahneman ⁵⁷) helps overcome the cognitive biases and strategic misrepresentation that affect traditional forecasting.
7. Are forecast benefits validated by ‘booking’ them i.e. <ul style="list-style-type: none"> • Financial benefits (cost savings and revenue increases) ‘booked’ in unit budgets/financial plans? • Non-financial performance improvements ‘booked’ in unit and individual performance plans. 	‘Booking’ benefits is one way in which responsibility and accountability for benefits realisation can be aligned with the organization’s performance management regime. <p>Note - In the case of compliance and replacement projects the key question does not concern validation of benefits (since they relate to the avoidance of the implications of not investing) but rather: Is it clear that the solution adopted or</p>

⁵³ See Chapter 3 in Jenner, S. (2014) *Managing Benefits*, APMG-TSO.

⁵⁴ See Chapters 3 & 10 in Jenner, S. (2014) *Managing Benefits*, APMG-TSO.

⁵⁵ Kahneman, D., Lovallo, D., & Sibony, O. (2011) Before You Make That Big Decision..., *Harvard Business Review*, June 2011, pp51-60.

⁵⁶ Simon, H. A. (1956) Rational Choice and the Structure of the Environment, *Psychological Review* 63 (2): 129–138.

⁵⁷ Lovallo, D. & Kahneman, D. (2003) Delusions of Success: How Optimism Undermines Executives’ Decisions, *Harvard Business Review*, July.

Key Question	Explanation & Comments
	recommended represents the most cost-effective way of meeting the requirements?
8. Have all relevant benefits been identified?	<p>Doz and Hamel⁵⁸ note that we often fall into two traps: firstly, overly optimistic forecasting and secondly, defining the range of benefits too narrowly. As, Kahneman et al (2011)⁵⁹ say, “we tend to overlook what is missing” – i.e. WYSIATI or ‘What You See Is All There Is’. So develop a benefits eligibility framework with standard benefit categories – and then ask whether all potential benefits have been identified in the project/program business case. Typical benefits categories include:</p> <ul style="list-style-type: none"> ➤ User benefits – time savings, cost savings, improved user experience; ➤ Financial benefits – cost savings, revenue increases; ➤ Risk reduction; and ➤ Service/product quality enhancement/effectiveness.
<p>9. Is it clear that the project/program represents best value for money? i.e.</p> <ul style="list-style-type: none"> ➤ Projects and programs with a financial investment objective: is there a positive return on investment that justifies the risk inherent in the initiative? ➤ Projects and programs with a non-financial investment objective – is it clear that the outcome and benefits cannot be achieved more cost-effectively by an alternative solution?; and ➤ There are no other more pressing calls on available funding or no alternative investments with a greater strategic contribution? 	<p>All investments have an opportunity cost in terms of the next best alternative foregone. We therefore need to ensure that:</p> <ul style="list-style-type: none"> ➤ All investments have a positive return on investment (not necessarily in financial terms); and ➤ This return represents the best available use of limited resources when compared with alternative options and alternative projects and programs.
10. Have adequate arrangements been made to identify and exploit emergent or unplanned benefits?	<p>Not all benefits that are realized will be planned from the outset – many will be ‘emergent’. These are benefits that are unanticipated, but which emerge as the initiative is developed and, most often, as it is deployed or implemented. Arrangements should be established to ensure such benefits are recognized and fully exploited.</p>

⁵⁸ Doz, Y.L. & Hamel, G.H. (1998) *Alliance Advantage The Art of Creating Value through Partnering*, Harvard Business School Press.

⁵⁹ Kahneman, D., Lovallo, D., & Sibony, O. (2011) Before You Make That Big Decision..., *Harvard Business Review*, June, pp51-60.

Key Question	Explanation & Comments
	<p>One way in which this can be achieved is by applying what Andrew & Sirkin⁶⁰ refer to as a ‘scout and beacon’ approach in which:</p> <ul style="list-style-type: none"> ➤ ‘Scouts’ scan the environment for potential opportunities and emergent benefits. ➤ ‘Beacons’ are ‘lit’ clearly communicating that ideas and information on unplanned benefits are welcomed.

Table 2 - Achievability Checklist

Key Question	Explanation & Comments
1. Has the project/program been designed around modular/incremental releases of output/capability?	As was noted above, failure is often associated with project/program size and duration. The NAO/OGC list of common causes of project failure includes, “ <i>Too little attention to breaking development and implementation into manageable steps.</i> ” The BCG’s DICE® model similarly identifies ‘Duration’ as one of the four key components of project risk i.e. all other things being equal, the longer the project the more risky it is. This can be addressed by: breaking the project/program down into modular/incremental parts and applying regular independent stage or phase gate reviews. This reduces risk and facilitates funding reallocation if conditions change.
2. Has adequate and effective provision been made for stakeholder engagement?	The NAO/OGC list of common causes of project failure includes, ‘ <i>Lack of clear senior management and Ministerial ownership and leadership</i> ’ and, ‘ <i>Lack of effective engagement with stakeholders</i> ’. Similarly, the BCG’s DICE® model identifies ‘Commitment’, by both senior management and those in the area undergoing the change, as one of the four key components of project risk. Regular re-appraisal of the adequacy and effectiveness of the project/program’s stakeholder engagement is therefore crucial.
3. Does the project/program team have the requisite skills, resources and experience (and do they have the track record to demonstrate this)?	<p>The NAO/OGC list of common causes of project failure includes, ‘<i>Lack of skills and proven approach to project management and risk management.</i>’ Similarly, the BCG’s DICE® model identifies performance ‘Integrity’ (i.e. the ability to deliver the project on time which depends on the skills and traits relative to the project’s requirements) as one of the four key components of project risk.</p> <p>The key question also includes – does the team have a <u>demonstrable track record</u> of successful</p>

⁶⁰ Andrew, J.P. & Sirkin, H.L. (2006) *Payback*, Harvard Business School Press, Boston, MA.

	delivery of similar projects and programs (or projects and programs of similar complexity)?
4. Have adequate and effective steps been taken to minimise the downside risk?	Consideration needs to be given as to how the organization’s exposure to a failed initiative can be mitigated. Managing ‘downside’ risk can be facilitated by: modular/incremental delivery; scenario planning; and by undertaking what Gary Klein ⁶¹ calls a ‘pre-mortem’, using what Russo and Schoemaker refer to as ‘prospective foresight’ ⁶² , i.e. a facilitated workshop is undertaken at the start of an initiative at which the project/program team imagine a future state in which the project/program has failed; and then use their creativity and experience to explore the causes of this failure. Another idea is that of ‘decision circles’ ⁶³ where a range of staff provide feedback on the obstacles the project will face.
5. Has provision been made for all required enabling, business and behavioural change i.e. does the scope of the project/program encompass all required changes upon which benefits realization depends?	Failing to make adequate provision for business change has been regularly identified ⁶⁴ as a cause of the failure to realize planned benefits. This can be addressed by benefits dependency mapping/networking where a map is documented identifying all required changes (enabling, business and behavioural) upon which benefits realization is dependent. This can then be checked against the scope of the project/program.
6. Has adequate provision been made for transitioning from the ‘as is’ to ‘to be’ states?	The BCG’s DICE® model identifies ‘Effort’ (the additional effort required of local staff to complete the change) as one of the four key components of project risk. It is crucial that adequate provision be made to help customers and staff transition to the new ways of working. It has also been suggested ⁶⁵ that anything between 30%-50% of the development budget should be allocated to transition management.
7. Are the governance arrangements adequate in relation to the complexity of the project/program and do they include regular independent review?	Garland ⁶⁶ emphasises that governance represents the organizational framework that enables effective investment decision-making (as opposed to technical decision-making which comes within the

⁶¹ Klein, G. (1998) *Sources of Power*, MIT Press.

⁶² Russo, J.E. & Schoemaker, P.H. (1990) *Decision Traps Decisions – How to Make the Right Decision First Time*, Simon & Schuster.

⁶³ Straw, B.M. and Ross, J. (1987) Knowing When to Pull the Plug, *Harvard Business Review*, March-April.

⁶⁴ For example see: Bradley, G. (2010) *Fundamentals of Benefits Realization*, TSO; and Ward, J. & Daniel, E. (2012) *Benefits Management: How to Increase the Business Value of Your IT Projects*, 2nd edition, Wiley.

⁶⁵ See Mayfield, P (2012) *What's the Big Idea with Transition Planning?*

<https://www.youtube.com/watch?v=VDd6qmTCPrY>.

⁶⁶ Garland, R. (2009) Project Governance, Kogan Page.

	<p>remit of project and program managers). As such he identifies four governance principles:</p> <ul style="list-style-type: none"> ➤ Single point of accountability; ➤ Service delivery ownership determines project ownership; ➤ Ensure separation of stakeholder management and project decision-making; and ➤ Ensure separation of project governance and organizational governance. <p>Effective governance also includes regular independent stage/phase gate review: independent – because even when we are aware of the main cognitive biases we find it hard to escape them – as Kahneman et al say, “<i>knowing you have biases is not enough to help you overcome them. You may accept that you have biases, but you cannot eliminate them in yourself.</i>”⁶⁷</p>
<p>8. Have lessons learned from previous projects and programs been learnt and applied?</p>	<p>There is a tendency to believe that our project/program is different from all those that came before (uniqueness bias) and any previous failure was due to bad luck or external factors (self-serving bias). We are therefore slow to learn from experience – as the following comment from a Director at the NAO in a feature interview in Project Magazine (May, 2011) shows, “<i>The fact that we see the same issues coming up time and again on projects suggests lessons are not being learned when investment decisions are being made. If people acted on the lessons you would hope they would become less prevalent over time. But the truth is we’re not seeing much change.</i>”</p> <p>The solution is to take dedicated steps to ensure learning occurs and is applied – for example, by:</p> <ul style="list-style-type: none"> ➤ Requiring lessons learned and the steps taken to be recorded in the Business Case; and ➤ Making specific provision for evaluation in the Business Case, which should clearly identify when reviews will take place, by whom, and that provision for the costs of monitoring and evaluation has been included in the project/program budget.
<p>9. Has the project/program methodology,</p>	<p>As noted above, complexity is one of the main</p>

⁶⁷ Kahneman, D., Lovallo, D., & Sibony, O. (2011) Before You Make That Big Decision..., *Harvard Business Review*, June, pp51-60.

<p>lifecycle and management style been adapted to suit the complexity of the project/program?</p>	<p>causes of project/program failure – as Shenhar and Dvir say⁶⁸, “executives as well as project teams failed to appreciate up front the extent of uncertainty and complexity involved (or failed to communicate this extent to each other) and failed to adapt their management style to the situation.”</p> <p>Approaches to complexity include:</p> <ul style="list-style-type: none"> ➤ Adopting a program management approach (Remington & Pollack⁶⁹). Heaslip⁷⁰ argues for a ‘third generation’ approach in which project managers address operational complexity, program managers address outcome complexity, and governance committees manage environmental complexity; and all three (project managers, program managers, and governance committees) collectively manage organizational and stakeholder complexity); ➤ Choosing the appropriate project lifecycle – Hass⁷¹ suggests that as complexity and uncertainty increase so we should shift along the spectrum from linear, incremental, iterative, adaptive to extreme lifecycles; ➤ Adapting the management style from ‘command and control’ approaches for routine projects, to ‘adapt and learn’ for highly complex projects and programs - characterised by agile, iterative and incremental deployment of capability.
<p>10. Is the project/program affordable:</p> <ul style="list-style-type: none"> ➤ Has sufficient resourcing (financial and otherwise) been allocated to the project/program, including contingency?; and ➤ Is it clear how the scope will be adjusted should costs escalate beyond the agreed contingency? 	<p>Clearly affordability is a key factor – yet cost escalation is a reality due to under-estimating the funding required (optimism bias) and scope creep. The assumption too often is that funds will be found if required – but this has an opportunity cost in terms of other projects and programs that are consequently delayed or never start due to the shortage of funds. As referred to above, the answers lie in reference class forecasting; regular independent review; and being clear about where scope can be adjusted to accommodate cost escalation.</p>

⁶⁸ Shenhar, A & Dvir, D. (2007) *Reinventing Project Management: The Diamond Approach to Successful Growth and Innovation*, Harvard Business School Press.

⁶⁹ Remington, K., & Pollack, J. (2007). *Tools for Complex Projects*, Hampshire, UK: Gower.

⁷⁰ Heaslip, J. (2014) *Managing Complex Projects and Programs – How to Improve leadership of complex initiatives using a third generation approach*, Wiley.

⁷¹ Hass, K. B. (2009). *Managing Complex Projects*, Vienna, Virginia: Management Concepts.

Conclusion

Researchers in the field of decision-making emphasise the importance of separating planning from doing: we need to be realistic in planning our projects and programs, and then enthusiastic in their implementation. Yet too often we see the reverse: over-optimism in planning and then pessimism in delivery. No wonder the failure rate seems so high.

The solution is to adopt a portfolio approach that treats projects and programs as investments. This in turn is dependent on effective portfolio prioritization – which research shows relies heavily on consistent and disciplined application of clear investment criteria. The research in this regard is compelling - process trumps analysis, and by a factor of six, because as Lovallo and Sibony say⁷², “*one of the things an unbiased decision-making process will do is ferret out poor analysis.*”

Furthermore, the answer lies in identifying the few key factors as a basis for ‘fast and frugal’ decision-making about which projects to invest (and re-invest) in. A review of the literature has identified two sets of 10 key questions under the headings of ‘Attractiveness’ and ‘Achievability’. Further study is required in terms of:

- How should these questions be adapted to suit a specific organization?
- Are there other factors that should be included (in addition to, or to replace some of the above)?
- Which questions are of most importance and therefore should be weighted (and by how much)?

Ultimately these questions can only be answered by application in the real world. But at its heart, the issue is relatively simple – as with most fields of human endeavour, find out what works and then apply it consistently. One might argue we’ve done this in determining how to manage projects and programs (although the consistent application bit may need further work). Now it’s time to do the same for the process for deciding which project and programs we should invest in, and in so doing, overcome what Spetzler⁷³ calls the biggest bias of all, “*the perception that we are good at making decisions.*”

⁷² Lovallo, D. and Sibony, O. (2010) *The case for behavioural strategy*, McKinsey Quarterly, March.

⁷³ Spetzler, C.S. (2011) *Chevron Overcomes The Biggest Bias Of All*, SDG White Paper.

About the Author



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