Series on organisational strategic planning & execution[1]

Stage 2: Develop strategic options, evaluate, and choose the best

By Alan Stretton

INTRODUCTION

This is the second of a series of five articles on organisational strategic planning and execution. I am using the following basic strategic management framework, based on earlier articles in this journal, as the common base for this series.

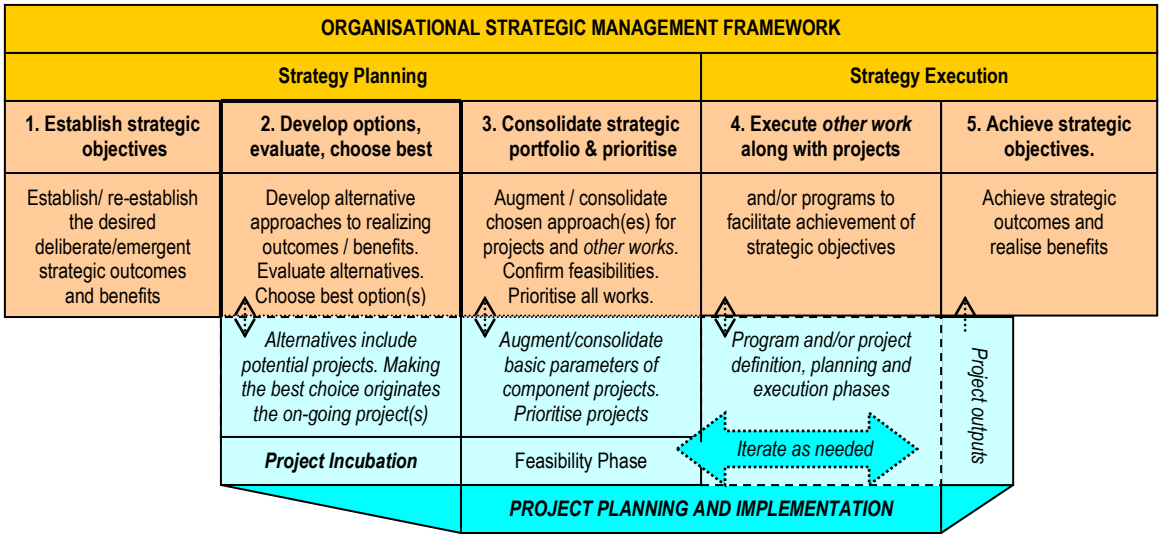

Figure 1: An organisational strategic management framework, with project contributions

This model places project planning and implementation in the broader context of organisational strategic planning and execution. In this series I am focusing more attention on certain elements in the top strategic stages, although projects will also figure in many of these discussions.

The articles in this series discuss each of the five stages in strategic planning and execution in turn. The first article (Stretton 2018d) addressed *Stage 1: Establish strategic objectives*, and summarised some of the extensive preliminary work that needs to be done before strategic objectives can be reasonably established; the increasing importance of "emergent" strategies in times of increasingly rapid change; and the need to re-establish strategic objectives as the latter come into play.

[1] This is article two in a five-part series on strategic planning by Alan Stretton, one of the world's experts in program and project management. This series is based on Alan's research and writing on this topic over the last several years, much of which has been published in previous editions of the *PM World Journal*.

This second article addresses *Stage 2: Develop strategic options, evaluate and choose the best*. It will focus particularly on the importance of developing alternative strategic initiatives to achieve the strategic objectives, and on the importance of good conceptual level estimates, to help get meaningful comparisons in evaluating the alternative options, and to ensure that the chosen alternative will be viable.

DEVELOPING STRATEGIC OPTIONS

This second stage begins with developing alternative approaches – i.e. alternative strategic initiatives – for achieving the desired strategic outcomes and thence realising the benefits.

The importance of developing alternative strategic initiatives

In Stretton 2017k I emphasised the need to develop alternative "approaches" to achieving the desired organizational strategic outcomes and benefits. In my substantial experience in many types of planning, I have found that the first approach is rarely, if ever, the best. The development of such alternatives receives a moderate amount of attention in the project management literature, and I discussed specific contributions by Archibald 2009 and Prieto (in Archibald et al 2012:22) in that article. However, I also believe that it does not always get the kind of direct attention in the literature that its importance deserves, in spite of the fact that it is often implicit in discussions by some who do not address it directly.

I also noted in that article that, in my time in Lend Lease, it was virtually mandatory to consider all available options in planning activities, including strategic planning.

Checklists re developing alternative strategic initiatives

At this point I will summarise and adapt a checklist from Archibald et al 2012, which relates to what they called a project incubation/feasibility phase. Instead of "project", I am going to use the broader descriptor "strategic initiatives", which include both project and non-project components. This checklist essentially says that a strategic initiative "must begin with a reasonable understanding of what the principle objectives, scope, schedule, and cost" of the initiative is expected to be, including:

- What outcomes will this strategic initiative create?
- What business benefit will be produced?
- Does it align with the broader strategic objectives?
- Conceptual level estimates: Reasonable idea of overall strategic initiative scope, time, cost, availability of funding and other keys resources
- Preliminary or conditional approvals required
- Overall economic, technological, social, political, and physical feasibility and risk acceptance

APM 2012 describes its "strategic choice" stage, and inputs to it, as follows:

> ***Strategic choice*** involves the generation, evaluation and selection of strategic options. Inputs to this process include:
>
> - stakeholders' expectations and aspirations;
> - the organisation's strengths;
> - the opportunities created by the external environment;
> - demands imposed by external influences.

We now move on to look at evaluating the alternatives, and choosing the best.

EVALUATING THE ALTERNATIVES AND CHOOSING THE BEST

Some factors mitigating against reliable conceptual level estimates

The planning fallacy

Under a heading *Fallacy, bias or misrepresentation?* Dalcher 2016b first discusses what Kahneman and Tversky first identified in 1979 as the phenomenon of *planning fallacy*, which implies that plans tend to embody the best-case scenario. Dalcher goes on to record that,

> Lovallo and Kahneman put forward an expanded definition suggesting a tendency to underestimate time, costs and risks, whilst overestimating the potential benefits.

Bob Prieto has also frequently discussed the *planning fallacy* in the context of mega-projects, as for example in Prieto 2015. This fallacy is also implicit in the classic book by Flyvbjerg et al 2003, although they do not specifically use this descriptor. In Australia, we have had some highly visible examples of the *planning fallacy* in action, notably in inner-city toll roads, tunnels and the like, where there is a woefully consistent record of under-estimation of costs, and over-estimation of usage and revenue. But this phenomenon is certainly not confined to very large projects.

Optimism bias

Dalcher 2016b notes that a similar phenomenon to the planning fallacy occurs with *optimism bias*. He says,

> Optimism bias is a recognised cognitive bias, often acknowledged in the risk management literature that causes people to underestimate the risks of experiencing negative effects and impacts. In recent times it has been adopted by the project management community to refer to overoptimistic trends in estimates related to projects.

Dalcher goes on to briefly note that public sector guidance in the UK makes a direct reference to optimism bias, and has some advice on how to take it into account, which I will discuss further below in *Improving reliability of conceptual estimates?*

Guesstimating

Lombard 2014 rather neatly describes the essence of guesstimating.

> For many years as a project manager, I thought the most common approach to estimating was PIDOOMA, an acronym for *Pulled It Directly Out of Mid-Air*. In other words, we guessed.

Frame 1994:195 is quite direct about this situation, when he says,

> One major cause of poor estimation is that the people making the estimates don't know what they are doing.

Shortly after, Frame says (p.196)

> The problem, then, is that most estimates are being made by amateurs. Amateur estimators typically fall into the following traps:
>
> - They tend to be optimistic about what is needed to do the job and consequently understate potential problems.
> - They tend to leave things out of their estimates. …. (….the "missing components" problem).
> - They follow no consistent methodology in deriving their estimates, so that it is difficult to recreate the rationale for their estimating procedure. ….

It would appear that guesstimating is still alive and well, although I have no way of knowing how prevalent it is. But there can be little doubt that too many order-of-magnitude estimates are still made either by amateurs, or by people who do not have any conceptual estimating know-how.

Essentially we have been talking above of estimates of organisational initiatives, which include times, costs, risks and benefits. I would now like to look at various types of cost estimates, and how they may relate to the above discussions.

Types of cost estimates

In the project context, one of the earliest substantial contributions to the subject of cost estimating that I know of is in Turner 1993, Chapter 9.

I will start by following a more recent contribution by Lombard 2014, who says that methods used to build and sustain the cost estimate include:

- Expert judgement
- Analogous
- Parametric – also known as "top-down".
- Bottom up – also known as the "definitive method"
- Three point estimates

We will look at each of these in turn, particularly in the context of conceptual estimating.

Expert judgement estimates

This method might be seen as a particular type of guesstimating, but in this case one or more "experts" are asked to provide an estimate of costs based on their own knowledge or experience. Lombard says that this technique is often used when no prior data exists.

I have never been in a situation where this approach has been used, and would certainly hesitate strongly about using it on its own. However, expert judgement is usually to be valued, and I have often used it in other types of estimating.

Analogous estimates

In the project context, this approach essentially extrapolates broad costs from previous projects to develop an estimate for a current project, making adjustments to compensate for complexity or other relevant factors. Lombard comments on its use in the conceptual estimating context as follows:

> Rightly or wrongly, this technique is often used to develop a quick estimate of costs. However, this can be dangerous if the previous project is not exactly the same and critical special complexities are overlooked.

Parametric, or top-down estimates

As will be seen from the following, conceptual estimates are largely of this type. For example, Morris 2013:135 directly ties the *top-down* method to conceptual, or order-of-magnitude, estimates as follows.

> …. top-down to derive 'ball-park' order-of-magnitude estimates. For example, cost consultants keep data on completed projects such as construction costs per square metre of building space, or mile of pipe laid.

Frame 1994:204 says,

> Parametric cost estimating is also called *top-down estimating*. It focuses on formulating cost estimates by examining fundamental parametric relationships.

Lombard 2014 describes the parametric method thus:

> *Parametric*: This method builds on the statistical relationship between historical data and other variables to calculate an estimate for a given activity. For example, a construction company knows it costs 100,000 euros for each mile of straight road.

I have often used elements of this approach, but only in undertaking order-of-magnitude checks on the results of more detailed bottom-up estimates which I, or others, have made. But I certainly have not had anything like enough experience in this method to be confident about producing an initial conceptual estimate to which an organisation could commit itself. In my experience, this is a special skill, which tends to be in short supply. I will discuss this further shortly.

Bottom-up estimates

Bottom-up estimates can be made when there is sufficient detail available about the components of the project to develop what are essentially very detailed estimates. Lombard 2014 says,

> Normally, all or many of the component work packages or activities have been identified, and each is estimated (cost, time, resources, etc.)

Frame 1994:203 describes these as cost elements, and says

> The question is how to identify these cost elements in a systematic fashion. The most common approach to doing this is to employ a work breakdown structure (WBS) as a guide to identifying cost elements.

Morris 2013:135 says:

> Bottom-up estimating is used as a means of building-up estimates and as detailed checks to verify estimate realism. For example, contractors preparing a bid aggregate the costs of resources required, adding contingencies (for unknowns and risks), overheads and profits. In construction this is pretty straightforward. In software projects it is not.

Morris may well be right in saying that preparing bids in construction is pretty straightforward compared with software projects. However, from substantial personal experience in tendering for construction projects, I can attest that it is still rather an onerous job, particularly when you are being paid to help keep your contracting organisation in business, and a profitable one at that – by not leaving too much on the table, unbalancing bids to enhance early cash-flow, and the like.

Occasionally I have come across situations where there were sufficient, but limited data, available to allow some bottom-up contribution to conceptual estimates. But such situations would appear to be comparatively rare.

Three-point estimates

Essentially this approach allows for risk and uncertainty by making three estimates –

- Most likely: Self-explanatory
- Optimistic: Assumes near-perfect conditions
- Pessimistic: Assumes a "worst-case" scenario

Those familiar with the original PERT approach will be familiar with this, particularly as regards time estimating. We used three-point estimates in Lend Lease from time to time, mostly in cases where levels of uncertainty were substantial. An example was shown in Figure 4 in the first article of this series last month (Stretton 2018d), where the projected demand for office space in Sydney's CBD was represented by three lines of

projected estimates, which were described as *Upper demand limit, Projected demand,* and *Lower demand limit.*

It also seems to me that an insistence on developing three-point estimates might go some way towards overcoming *the planning fallacy*, and/or *optimism bias.* I will return to this shortly.

This brings us to the broader subject of improving reliability of conceptual estimates.

Improving reliability of conceptual estimates?

> *Executives making big strategic choices rely on their team's ability to create reliable business cases.* *(Dalcher 2016b)*

Finding, engaging or developing top class conceptual estimators

Rather obviously, the best way of ensuring reliable conceptual estimates is to have, in the team, top class estimators who specialise in this work. But, as I observed above, such people tend to be thin on the ground, at least in my experience.

To overcome this situation in Civil & Civic, we focused heavily on developing people to undertake this responsibility in several of the specialised fields in which we were helping clients develop and articulate their strategic objectives. I suspect that others may have found, or will find, in-house development of appropriate capabilities the best approach to overcoming such shortages.

Involving project managers in conceptual estimates?

If the project components of the strategic initiatives are prominent, then it is also reasonable to ask**:** *Has a suitably qualified project manager been involved in these conceptual level estimates?* But, as Dalcher 2016b and many others have pointed out, all too often project managers are not involved in Stage 2 activities.

This omission has some downsides. For example, Dalcher 2016a notes the following consequences of viewing projects through what he calls a delivery lens:

> Crucially, it ignores the potential influence of project managers and leaders in shaping, advocating, negotiating, motivating and enhancing potential solutions. It is also worth pointing out that an execution perspective excludes an interest in the longer term, thereby discounting the need to consider benefits, and longer term change impacts

Morris 2013:136 expresses similar considerations as follows:

> Too often, however, the Estimating function is performed by specialists who are not part of the 'projects' function, and project management has little or no engagement in the formulation of the project estimate(s). It would be surprising if the project or program manager did not have an opinion on the validity of the estimates being developed, and it would be regrettable therefore if she, or he, did not contribute to the estimate's preparation.

Many of my recent articles in this journal have been concerned with ways and means of increasing involvement by project managers in earlier phases of an extended project life-cycle. The case in favour of involving project management in the earliest order-of-magnitude estimates appears to me to be unassailable. However, in too many cases we have not found the means of communicating this to those who need to know. This still seems to me to be one of the great challenges facing project management.

Another consideration is that, in all too many situations, conceptual estimates are not done by specialists, but by people who are prone to the planning fallacy, and/or optimism bias, and/or to guesstimating, as discussed above. How can these more amateurish (or politically motived) approaches be handled?

Handling the planning fallacy, optimism bias, and guesstimating?

The planning fallacy has been recognised for nearly forty years, and is quite often written about. However, we still do not appear to have come up with convincing answers which are widely recognised as being effective. I can only repeat my suggestion that three-point estimating, when it can be insisted upon, is likely to be at least partly effective.

In relation to *optimism bias*, I noted earlier that Dalcher 2016b briefly notes that public sector guidance in the UK makes a direct reference to optimism bias, and has some advice on how to take it into account, which I undertook to discuss here.

In more detail, Dalcher said that public sector guidance in the UK advises taking *optimism bias* into account, "To redress this tendency appraisers should make explicit, empirically based adjustments to the estimates of a project's costs, benefits, and duration". He went on to say,

> Ultimately, the suggestion is that estimates for capital and operating costs, benefits values and time profiles require informed adjustments to account for optimism bias and offer more realistic projections.

This could be seen as alarming, or at least disturbing. Who has the qualification and authority to do this kind of appraisal? But, as with *the planning fallacy*, it appears to me that insistence on three-point estimating could help overcome some of the problems related to *optimism bias*.

As regards *guesstimating,* I have little to offer. These appear to be commonly made by people who do not know what they are doing, and/or have agendas that could be political or personal, but who are essentially ignorant of the consequences of making conceptual estimates which have little, if any, basis in realism.

This certainly puts a lot of pressure on sponsors of strategic initiatives, portfolio, program and/or project managers and others, to keep appraising the validity of the guesstimates as more data comes to hand, and to cry wolf when necessary.

Developing 'outline' business cases for the alternatives, & choosing the best

The above concerns about reliable conceptual level estimates are, of course, associated with developing what APM 2012 (in a project/program context) describes as 'outline' business cases for the various alternatives. Essentially, these 'outline' business cases are the first conceptual-level assessments of the benefits, costs and risks associated with each alternative strategic initiative, and provide the main basis for evaluating these alternatives, and choosing the best.

OVERALL RESPONSIBILITIES FOR STAGE 2

Strategic and business planning function?

Smit 2017 evidently sees at least part of this responsibility as residing with what he describes as the *strategic and business planning* role/function, which he describes as follows:

> Function responsible for producing the annual corporate plan, strategic goals and objectives, and strategies.

Strategic portfolio management?

However, Smit also sees Stage 2 work as being part of the responsibility of *strategic portfolio management.* For example, he describes portfolio management as follows:

> Portfolio management is a systematic and continuous decision-making process by which an organisation evaluates, selects, and prioritises the work that is of most value taking into consideration the allocation of scarce resources (financial, physical, human, technological) to best accomplish organisational objectives and strategies …
> Business cases are used as the basis for evaluating, selecting, prioritising and approving portfolio components (programmes, projects and other work) ….

Other authors who include the evaluation and selection of alternative strategic initiatives as integral components of portfolio management include Srivannaboon 2006 and Cabanis-Brewin & Pennypacker 2014. I will be discussing strategic portfolio management in more detail in the next article on Stage 3.

However, *Strategic Portfolio Management* encompasses more than the above – and indeed is a very substantial topic in its own right, with several different perspectives on what is actually involved. I will therefore defer further discussion on this topic to the next article in this series.

In the meantime, we have identified two sets of candidates for undertaking part or all of Stage 2 – which, as we will see in the next article, is reasonably compatible with two or three rather different ways in which portfolios are presented and discussed in the project management literature.

SUMMARY

This article is the second of a series of five articles which discuss the five stages on organisational strategic planning and execution shown in Figure 1, in seriatim. The first article discussed Stage 1, which was concerned with establishing strategic objectives. This second article has addressed Stage 2, which is concerned with developing alternative strategic options to achieving the strategic objectives, evaluating them, and choosing the best.

We first emphasised the importance of developing alternative strategic initiatives, and offered a couple of checklists to help in this process.

We then moved on to look at evaluating the alternatives, and emphasised the rather obvious importance of getting reliable conceptual level estimates, both to facilitate valid evaluation of alternatives, and choice of a viable strategic initiative.

We began by looking at three factors which mitigate against getting reliable conceptual level estimates. The first of these, *the planning fallacy*, is a tendency to underestimate time, costs and risks, whilst overestimating the potential benefits. A similar factor, *optimism bias*, a recognised cognitive bias, has been of particular concern in the UK public service. The third factor is *guesstimating*, which is typically associated with amateurs who simply do not know what they are doing.

We then looked at five types of estimates, namely *Expert judgement estimates; Analogous estimates; Parametric, or top-down estimates; Bottom-up estimates;* and *Three-point estimates.* Conceptual level estimates are typically *top-down*, which require specialists with appropriate skills. *Three-point estimates* can also be very relevant for conceptual estimates.

On the broader question of improving the reliability of conceptual estimates, the most obvious answer is to have top-class conceptual estimators. However, such estimators are generally somewhat scarce, so that these skills may need to be developed in-house.

The case in favour of involving project management in the earliest order-of-magnitude estimates appears to be unassailable. However, in too many cases we have not found the means of communicating this to those who need to know. This still seems to me to be one of the great challenges facing project management. Regarding handling the *planning fallacy* and *optimism bias*, I suggested that, in many cases, three-point estimating could help alleviate these problems.

The next article in this series will look at augmenting and consolidating the chosen strategic initiatives at the end of Stage 2. These chosen initiatives constitute a strategic portfolio, and we will be looking at developing detailed business cases for each chosen initiative to facilitate go/no-go decisions, and at prioritising, balancing and optimising these strategic initiatives in preparation for facilitating their effective execution.

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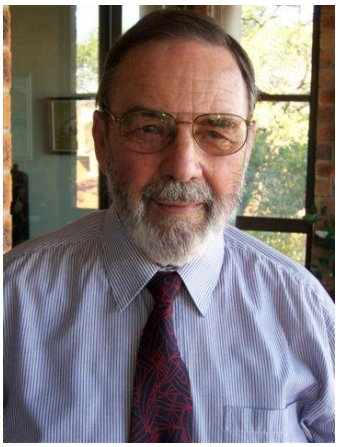
About the Author



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