

**Series on project integration, interfaces and  
context management<sup>1</sup>**

Article 3 of 3

**Managing project contexts**

*By Alan Stretton*

**BACKGROUND**

This series of three articles is concerned with project integration. The first article (Stretton 2016h) was essentially an overview of the literature on project integration per se. In spite of its perceived importance to project management, materials specific to the subject are somewhat scarce, fragmented, and disparate, and do not provide good insights about the essential elements of project integration.

Many authors strongly associate project integration with project interfaces and their management, which was the subject of the second article (Stretton 2016i). Some thirty-odd project interfaces were identified, and broadly classified and accumulated into a table, which could be seen as a basic checklist for project managers who are establishing and/or managing this component of project integration. It also provided a listing of project contexts which are relevant to this third article.

The first article also noted that some of the differing broad viewpoints on project integration may be due to the fact that project management knowledge is not context free. Shenhar & Dvir's NTCP model, and its four 'dimensions' and component 'types' were briefly discussed. The authors recommend a wide range of different integration approaches for each 'dimension' and component type. Although these are not contexts in their own right, they are largely determined by contextual factors in the project's environment. Therefore the recommended integration approaches are indirectly relevant to this final article on project contexts and their management.

**INTRODUCTION**

As Morris 2013 has noted, project management knowledge is not context free. Also, of course, in practice all projects have their own particular contexts. As Morris 2013:60 also observes, there is "...a need to manage, or influence, in some way the project 'externalities' – its context".

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<sup>1</sup> Editor's note: This series of articles is by Alan Stretton, PhD (Hon), Life Fellow of AIPM (Australia), a pioneer in the field of professional project management and one of the most widely recognized voices in the practice of program and project management. Long retired, Alan is still accepting some of the most challenging writing assignments; he is a frequent contributor to the *PM World Journal*. See his author profile at end of this article.

In spite of its ubiquitous nature, the management of project contexts as a topic in its own right receives little attention in project management standards and guidelines. There are few guides that emphasise influencing context, let alone guidelines on how to go about it.

As Morris 2013:282 says, speaking of project management standards and guidelines,

.....contextualisation...[is] left in the hands of practitioners, which is reasonable, but with little guidance on how to do this, which is not.

Perhaps one of the problems is that, judging from Table 3-1 following, the possible types of project contexts are so numerous and varied that it is hardly surprising that there is so little direct overall guidance in the literature on how to manage them.

In the following, we will look at project context management as a topic in its own right, and particularly at an approach developed by Morris 2013, who has identified seven variables which influence project contexts. We will look at how these relate to a basic project life cycle, how important they are in the early project initiation phases, and thence how important it is to have project management involved ASAP.

## TYPES OF PROJECT CONTEXTS

### Project interfaces

In the second article of this series we accumulated some thirty five types of project interfaces from the literature, and broadly categorised them into the three types shown in the following table. Although this does not claim to be a comprehensive listing, it does appear to be reasonably representative.

It would appear that the majority, if not all, the interface types listed for the project's (wider) environment, and the rest of the (matrix) organisation for production-based companies, are interfaces with various elements of a project's context.

INTERFACES WITH THE PROJECT'S (WIDER) EXTERNAL ENVIRONMENT	INTERFACES WITH THE REST OF THE (MATRIX) ORGANIZATION	INTERNAL PROJECT INTERFACES
<ul style="list-style-type: none"> <li>▪ Government</li> <li>▪ Economic climate</li> <li>▪ Finance</li> <li>▪ Community groups</li> <li>▪ Media</li> <li>▪ Regulatory agencies</li> <li>▪ Competitors</li> <li>▪ Suppliers (subcontractors, consultants)</li> <li>▪ Other disciplines</li> <li>▪ Owner (customer, client)</li> <li>▪ Cultural interfaces</li> <li>▪ Other external stakeholders</li> </ul>	<p><b>Organisational interfaces</b></p> <ul style="list-style-type: none"> <li>○ Other projects</li> <li>○ Top management</li> <li>○ Line management</li> <li>○ Line personnel</li> <li>○ Social contacts</li> <li>○ Personnel and training</li> <li>○ Financial system</li> <li>○ Technical support</li> <li>○ Computer programmers</li> <li>○ Customer or client</li> <li>○ Sales and marketing</li> <li>○ Operations and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Major breakpoints in the PLC</li> <li>• Major breakpoints between activity subsystems within phases</li> <li>• Change of responsibility interfaces</li> <li>• Information interfaces</li> <li>• Material interfaces</li> <li>• Time interfaces</li> <li>• Geographic interfaces</li> <li>• Technical interfaces</li> <li>• Social interfaces</li> <li>• Personal interfaces</li> <li>• Review points</li> </ul>

**Table 3-1: A summary of project interfaces derived from the literature**

Therefore, most of items listed in the first two columns could be renamed project contexts, and could provide a useful checklist of possible contexts the project manager will need to cover in managing the context of individual projects.

There are varying amounts of materials in the project management literature on managing many of these contexts, particularly under the heading of stakeholder engagement/management. However, there have been few attempts to tackle the management of project contexts as a topic in its own right.

The following reviews one important approach to this subject. We start by looking at two broad approaches in a generalised sense.

## **TWO BROAD APPROACHES TO MANAGING PROJECT CONTEXT**

Morris 2013:10 says that different contexts create the need for different management responses. Many contextual factors can, and typically do, affect the project, and how it is managed. There are two approaches to managing these.

### **Passive approach**

The sense of what I have called the passive approach to project contexts is reflected in the following two quotations from Morris 2013:252-3.

.... contextual 'givens' to which the project management response must adapt.

.... the more traditional approach to contingency management, which posits management as responding to given environmental and project characteristics ....

The essence of this passive approach is that project management basically accepts the contextual 'givens', and adapts accordingly.

### **Pro-active approach**

The other approach is what I have called pro-active. As Morris 2013:252 says, "Management doesn't have to be that passive and supine: it can shape context".

The background to this quotation lies in Morris' discussion of what he calls independent variables that significantly affect the context of the project. In this situation, 'independent' means independence from the project's response.

What Morris is saying is that, in many instances, apparently independent variables can be what he calls 'malleable' (later described as semi-independent variables), as exemplified in the following quotation which immediately precedes the above. The contextual examples he uses are a mixture of his own, and some from Shenhar & Dvir 2007, and their NTCP model (novelty, technology, complexity and pace).

But sometimes some of them [the independent variables] may be potentially malleable. Management can mitigate, influence or even utilise them. Thus, for example, innovation (novelty) can be chunked-up and parts managed discreetly;

urgency (speed, pace) may be modified through phasing, fast-tracking or concurrent engineering; size or complexity may be reduced by breaking the project into parts and simplifying. All these are partial solutions which management can leverage to modify what previously have been presented as contextual 'givens'.....

Morris goes on to illustrate the types of options available to management in responding to independent or semi-independent 'givens' and in deploying shaping actions. These will be introduced in the following section, together with some dependent variables that significantly affect the context.

More detailed discussions regarding shaping actions will come later, in the context of linking these variables with a basic project management life cycle.

## **INTRODUCING SEVEN VARIABLES INFLUENCING PROJECT CONTEXTS**

Morris 2013:252-4 identifies three independent (or semi-independent) variables, and four dependent variables, as now briefly summarised.

### **Independent (or semi-independent) variables**

#### **1. The sponsor's (and hence the project's) strategic intent**

*What strategically is the sponsor trying to achieve; what are his aims, objectives, goals? Why? What are the strategic benefits and advantages?*

#### **2. Capture the project requirements**

*What are the requirements (user, system, other – business, functional) that the project will need to satisfy? Are they clearly captured? Are they the right ones?*

#### **3. Environmental effects on project**

*What is the effect of the 'environment' – the project's milieu – on the project's business proposition/business intent?*

Morris discusses four major types of environmental elements, namely physical, political, economic and social.

### **Dependent variables**

#### **4. Funding requirements**

*On what terms will finance and insurance be available for the project, and how will this fit with the business case?*

Funding iterates with 'solutions development'

#### **5. 'Solutions development'**

*Following the elicitation of user, system and other requirements, the basic technologies need choosing. What risks are involved?*

*Requirements and acceptable technology lead to specifications against which designs are developed.*

#### **6. Contracting, procuring, resourcing**

*Choose organisational forms*

*Choose contracting strategies*

## **7. Planning and controlling**

*Including active decision making to pull everything together and to move the project forward*

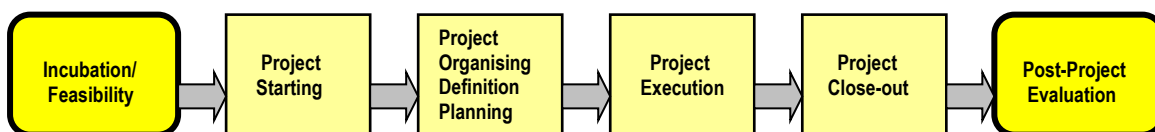
At this point I want to make the following terminological note about the descriptor “sponsor”. This is a commonly used term in the project management literature, but it was not a descriptor I ever heard in my nearly forty years working in project-based organisations. Rightly or wrongly, I associate “sponsor” with production-based organisations, where it appears to be used in the same sense as “client” is used in project-based organisations. However, I will retain the descriptor “sponsor” in the more detailed discussions of these context-influencing variables which follow shortly, where we link them with phases and processes of a typical project life cycle.

But first we look at an extended project life cycle model.

### **AN EXTENDED PROJECT LIFE CYCLE MODEL**

#### **A basic six-phase project life cycle model**

In Stretton 2015c, I used an extended project life cycle developed by Archibald et al 2012, which was presented as follows.



**Figure 3-1: Archibald et al 2012, Figure 7: Proposed six-phase comprehensive top level project life cycle model**

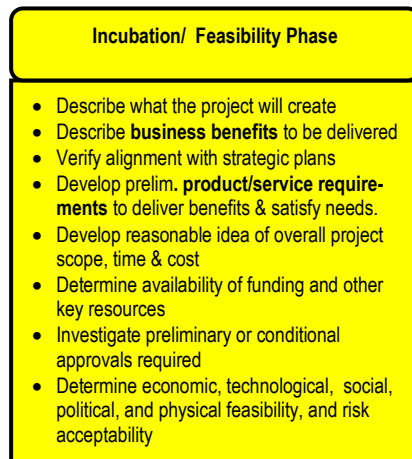
For the purposes of this article I am particularly concerned with the three phases preceding project execution, to which we now turn. We first look at the Incubation/Feasibility phase.

#### **The Incubation/Feasibility phase**

Healy 1997 calls this the Transition phase. Archibald et al 2012 say that

A project will not normally be authorised to enter the Project Starting Phase (as that phase is now described in various project management standards) until sufficient information, as listed above, is available and its feasibility has been established.

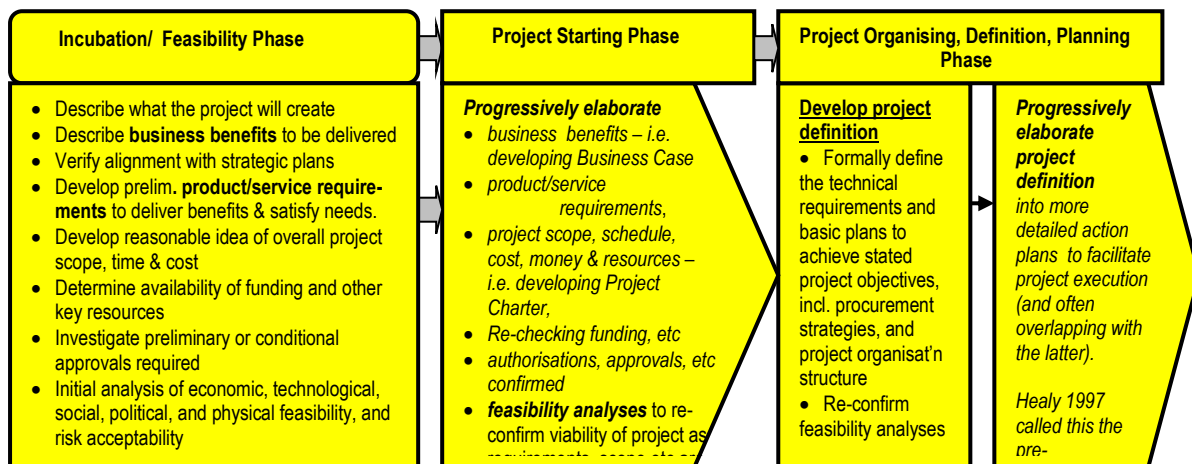
The listing that they refer to is summarised in the following figure. I have abbreviated the contents of their bullet-pointed list, added an initial action verb in each case, and made a separate bullet point for availability of funding, which Archibald et al had included in the previous bullet point. But it is still the basic list of processes they developed for this first phase of the above project life cycle.



**Figure 3-2: Components of the Incubation/Feasibility phase**  
 (adapted from Archibald et al 2012:12)

**The three pre-execution phases**

I have developed the next two pre-execution phases as progressive elaborations of the components of the first phase, so that the three pre-execution phases are depicted as follows.



**Figure 3-3: Detailed pre-execution phases of the project life cycle**

We now turn to linking the seven variables influencing project contexts with these phases and processes of the project life cycle.



## LINKING INFLUENCING VARIABLES WITH THE PROJECT LIFE CYCLE

### Independent (or semi-independent) variables

#### 1. The sponsor's strategic intent

*What strategically is the sponsor trying to achieve; what are his aims, objectives, goals? Why? What are the strategic benefits and advantages?*

As Morris 2013:253 says, the sponsor's strategic intent "sets the project off on a unique trajectory which is then articulated in its strategy". The examples Morris gives are all at very high organisational or supra-organisational levels. For example, "To go to the Moon and back – to achieve political kudos on Earth?"

These strategic intents or objectives lead into developing strategic options, then to the development of strategic portfolios of projects, and thence to individual projects, as I discussed in some detail in Stretton 2016e, and summarised in its Figure 7. If the processes follow this route, the individual project(s) will automatically be aligned with the organisational strategic plans.

However, if a project is originated in a more emergent manner, then it will need to be verified that it does align with the strategic plans. The latter is one component of the Incubation/Feasibility phase, as indicated in Figure 3-4. Links are made with this, and also with the first two processes.

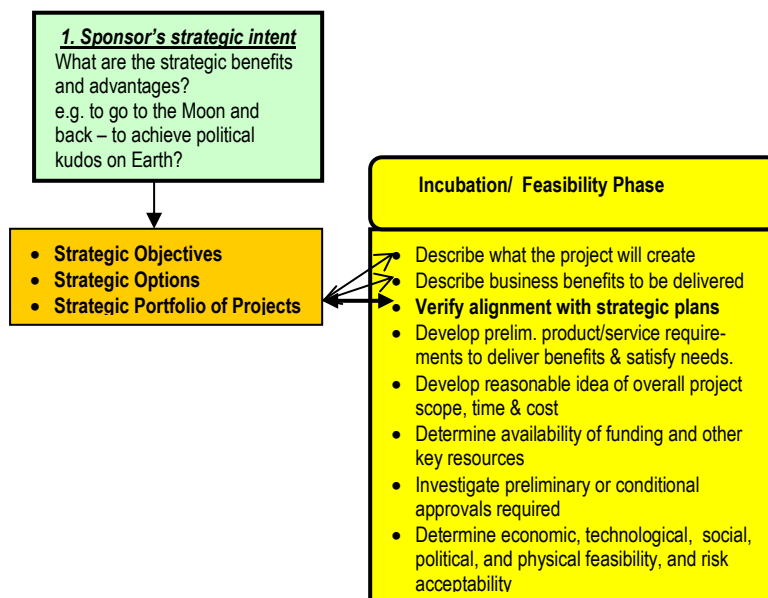


Figure 3-4: Linking the sponsor's strategic intent with the project life cycle

#### 2. Capture the project requirements

*What are the requirements (user, system, other – business, functional) that the project will need to satisfy? Are they clearly captured? Are they the right ones?*

Morris 2013:253 points out that, although the project requirements initially have to be treated as a “given” (i.e. as independent of the project response), in the course of later progressive elaboration, some may need to be modified. In his words,

...this is precisely one of my arguments for [project] management being engaged in the requirements-elicitation process rather than just rather vaguely ‘identifying requirements’....

This variable has a direct counterpart in the Incubation/Feasibility phase – namely “Develop preliminary product/service requirements to deliver benefits and satisfy needs”, as shown in Figure 3-5.

### **3. Environmental effects on the project**

*What is the effect of the ‘environment’ – the project’s milieu – on the project’s business proposition/business intent?*

Morris discusses four major types of environmental elements, as follows.

- *Physical:* Sustainability, carbon emissions, threat of flooding, pollution, physical isolation, etc
- *Political:* Support for the project, political stability, legislation, fiscal regime, regulation, employment rules, licences, etc
- *Economic:* Inflation, product or service demand forecasts, foreign exchange issues, funding constraints, etc
- *Social:* Community support/opposition, availability of labour

He points out that, as is the case with ‘requirements’, although these start out as independent variables,

...in practice there may be some degree of influencing and modification that the project’s management might be able to achieve to mitigate any negative influences on its chances of successfully achieving its objectives and goals...

These environmental variables have a direct link with the Incubation/Feasibility phase, which is addressed in terms of determining the project feasibility in these contexts – i.e. “Determine economic, technological, social, political, and physical feasibility, and risk acceptability”, as illustrated in Figure 3-5.

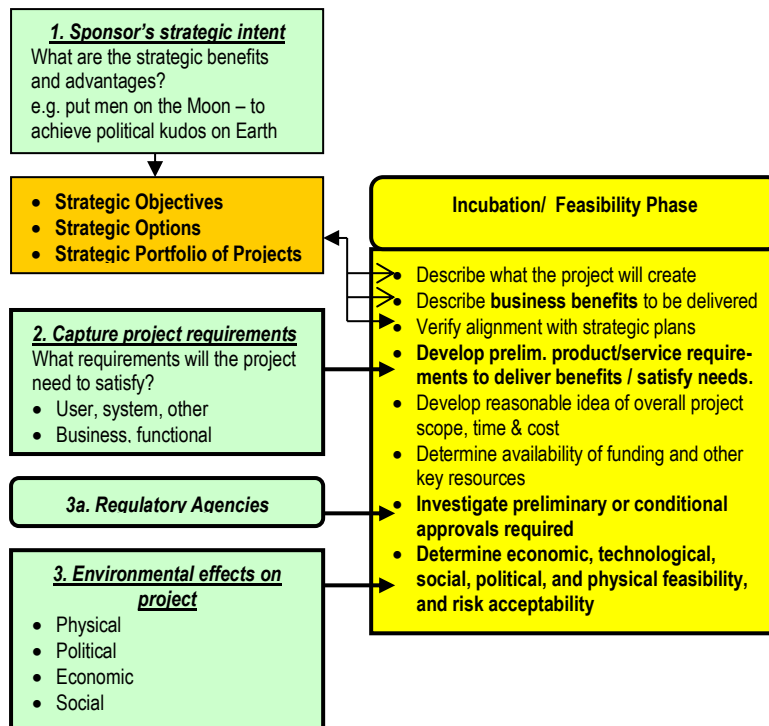
#### **3a. Regulatory agencies**

Archibald et al have included a specific item for “Investigating preliminary or conditional approvals required” in their Incubation/Feasibility phase. It therefore appears appropriate to draw on the Regulatory Agencies context from the first column of Table 3-1, and to add Regulatory Agencies to this section on Independent (or semi-independent) variables, and how they link with the project life cycle.



In the normal course of events regulatory agencies are most certainly independent of the project response. The link between this variable and the first phase of the project life cycle is illustrated in Figure 3-5.

**Linking the independent (or semi-independent) variables to components of the basic project life cycle**



**Figure 3-5: Adding links from other independent variables to the project life cycle**

**Dependent variables**

We now move on to consider how the dependent variables listed by Morris 2013 link with various components of the project life cycle.

**4. Funding requirements**

*On what terms will finance and insurance be available for the project, and how will this fit with the business case?*

It is important to gain an initial appreciation of availability of funding, insurance and allied resources at the outset, as is indicated in the corresponding component of the Incubation/Feasibility phase.

However, rather obviously, ‘funding’ iterates with ‘solution development’. Further, as Morris 2013:254 says,

Funding requirements may then result in re-scoping or re-design, in de-risking, in choosing specific suppliers, in changing the pace of development (e.g. to secure income before drawing down full funding), etc.

This, and the other dependent variables, can interact with the project life cycle in any of the phases, in the course of the progressive elaboration processes, as illustrated in Figure 3-6.

### **5. 'Solutions development'**

*Following the elicitation of user, system and other requirements, the basic technologies need choosing.*

Their stability, maturity, and risk all need assessing. As Morris 2013:254 notes,

Requirements and acceptable technology lead to specifications against which designs are developed. .... How should we best transfer from design to build, code, manufacture, assemble, etc? Are there implications for testing, verification and validation, and commissioning?

'Solutions development' iterates with resourcing, as represented in Figure 3-6.

### **6. Contracting, procuring, resourcing**

*Choose organisational forms  
Choose contracting strategies*

This variable involves contracting, procuring and organising the resources to do the work. Project management can shape the response. As Morris 2013:254 notes

...options amongst project, program, matrix or network organisational forms will need choosing; different contracting strategies will radically affect the project's staffing needs and responsibilities. Individuals and teams will need managing to get the best from them.

### **7. Planning and controlling**

*Including active decision making to pull everything together and to move the project forward.*

Morris 3013:254 makes the following observations (my bullet points):

- Governance arrangements might sit here; in any event, they will set the tone for the way the project is to be managed.
- Schedule urgency will reflect the project's 'strategic intent', modified by items 2 to 6.
- Budgets and risks ditto.

### **Linking the dependent variables to components of the basic project life cycle**

All four dependent variables link to the basic project life cycle at several different points, depending on how much interaction there is between the variable and the project response. This is not so easy to depict on a model, but hopefully Figure 3-6

will give some idea of the various interactions which may take place as the components of the Incubation/Feasibility phase are progressively elaborated.

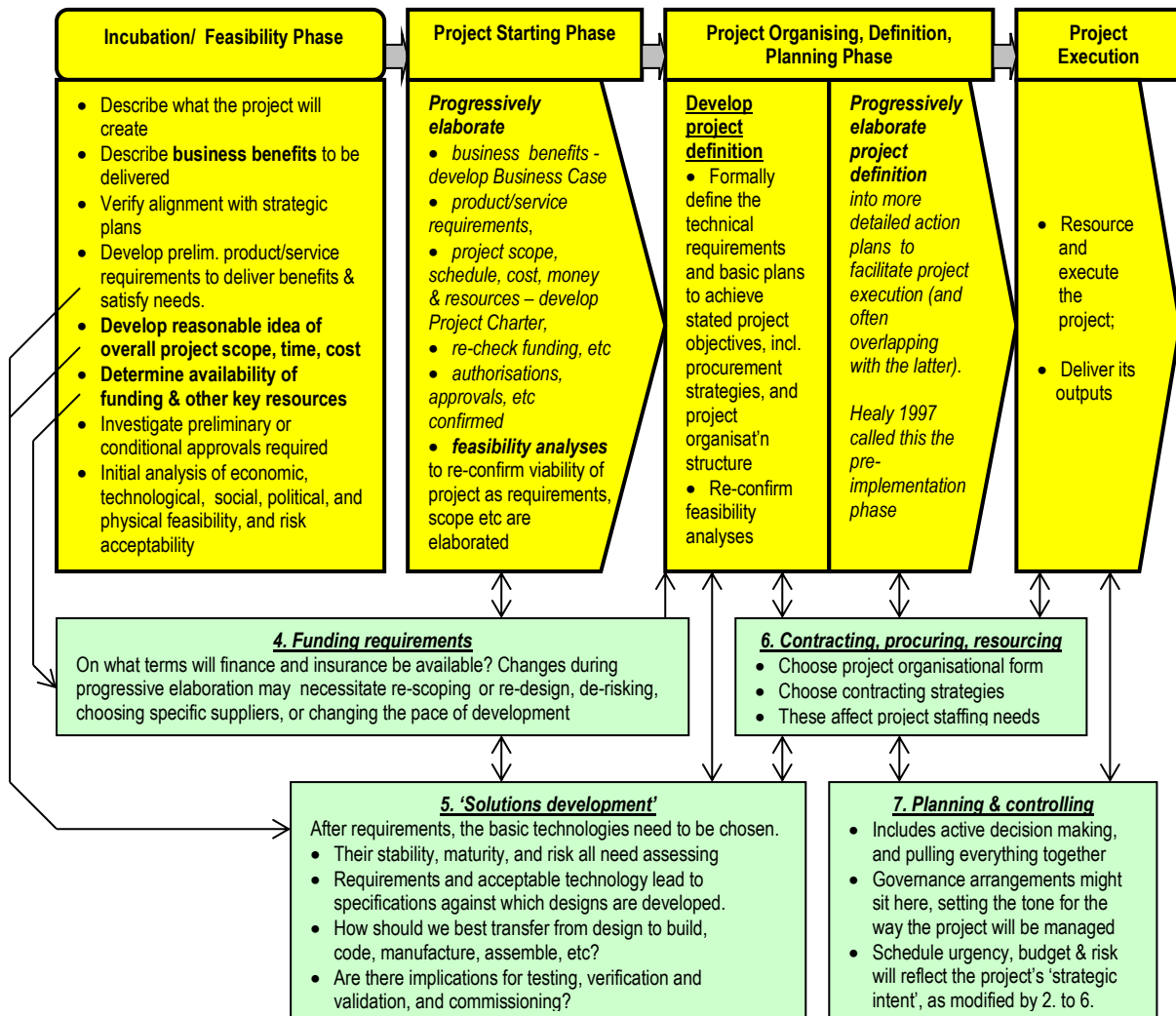


Figure 3-6: Linking the dependent variables to components of the basic project life cycle

## SUMMARY OF THIS ARTICLE

The first article of this series discussed project integration, and recognised how strongly this overlapped with project interfaces and their management, which was the subject of the second article. These, in turn, strongly overlap with project contexts and their management, which has been the subject of this third article.

We began with a table of some thirty five project interfaces from the second article, many of which are interfaces with the project's contexts. There are varying amounts of materials in the project management literature on managing many of these contexts, particularly under the heading of stakeholder engagement/management. However, there have been few attempts to tackle the management of project

contexts as a topic in its own right, probably because the range of possible project contexts is so large.

In this situation, I turned to Morris 2013, who has approached this topic by introducing seven variables that significantly affect the context of a project. He describes three of his variables as independent (or semi-independent) of the project's response, but illustrates how pro-active management of two of these variables could influence and/or modify the relevant contexts in ways that benefit the project. Such pro-active management is integral to managing the four dependent variables. Additionally, all seven variables and their management were connected with distinct processes in the initiation phases of the project life cycle, as shown in Figures 3-5 and 3-6. Discussions re Morris' contributions are summarised as follows.

- All but the first of Morris' seven variables – i.e. *the sponsor's strategic intent* – can be pro-actively managed in ways which can influence and/or modify the relevant contexts for the benefit of the project and/or its management.
- Variables 2 through 5 – i.e. *capture the project requirements, environmental effects, funding requirements, and 'solutions development'* – all link directly with the first phase of an extended basic project life cycle.
- Therefore pro-actively managing variables 2 through 5 can only be really effectively undertaken if project management is already actively involved in the Incubation/ Feasibility Phase of the project life cycle – i.e. in the very first phase where the project is initiated.
- Pro-actively managing variables 6 and 7 – i.e. *contracting, procuring, resourcing and planning and controlling* – is also best initiated in earlier phases of the project life cycle, before the project execution phase.

Overall, the above gives us some guidelines relevant to managing six variables relevant to project context, and doing this in the early phases of the project life cycle, when it adds the greatest value to the project. This type of opportunity strongly strengthens the case for ensuring full project management involvement in all project initiation activities.

## **CONCLUSION TO SERIES**

The first article was on project integration at large, and we found that different author groups had substantially different perceptions/descriptors of the nature of project integration. However, there were two partially common themes.

One was that the management of integrative processes could be seen as simply an integral part of good project management practice – which undoubtedly it is. However, it was also observed that this does not shed much light on what kinds of processes are specifically undertaken in effective project integration.

The other partially common theme was that most authors closely relate project integration with project interface management. The latter was the subject of the second article of the series.

The checklists of project interfaces in Table 2-1 (and repeated in Table 3-1 above) represent a reasonably substantial indicator of many (if not most) of the types of issues that project managers need to look at in undertaking project integration.

The first two columns of the three in these checklists also represent interfaces with various aspects of the projects context, which has been the subject of this third article, as summarised above. It is noted that the majority of the contexts in the first two columns of Table 3-1 might be seen to be associated with the management of the project execution phase. However, as we saw with Morris' seven variables that significantly affect project contexts, and their links with the project life cycle, it appears that probably the most effective management of contexts is that associated with the initiation phases of the life cycle. This therefore strongly reinforces the case for project management to be involved right from the start of these initiation phases.

Finally, practicing project managers know that management of a project's context is a continual and very demanding part of the project management task. It is vitally important that the project manager has an explicit understanding of the context of each project, to ensure that project integration is managed in a bespoke manner for that project.

Indeed, one reviewer (Blythman 2016) suggested that

This may be the hidden factor in the ART of project management – the unknown factor which differentiates a disciplined practitioner from a good project manager – i.e. anyone can follow the process, but how do we understand when the process is not enough. It's the context and the nuances around the integration which are determined by the context.

This is an interesting thought, and perhaps an appropriate one to conclude this series.

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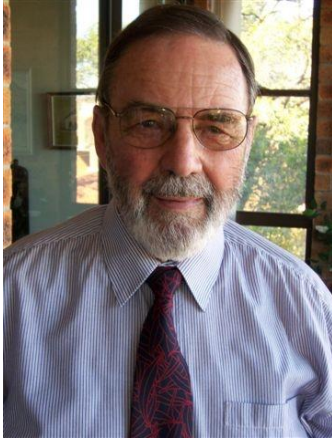
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## About the Author



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**Alan Stretton** is one of the pioneers of modern project management. He is currently a member of the Faculty Corps for the University of Management & Technology (UMT), USA. In 2006 he retired from a position as Adjunct Professor of Project Management in the Faculty of Design, Architecture and Building at the University of Technology, Sydney (UTS), Australia, which he joined in 1988 to develop and deliver a Master of Project Management program. Prior to joining UTS, Mr. Stretton worked in the building and construction industries in Australia, New Zealand and the USA for some 38 years, which included the project management of construction, R&D, introduction of information and control systems, internal management education programs and organizational change projects. He has degrees in Civil Engineering (BE, Tasmania) and Mathematics (MA, Oxford), and an honorary PhD in strategy, programme and project management (ESC, Lille, France). Alan was Chairman of the Standards (PMBOK) Committee of the Project Management Institute (PMI®) from late 1989 to early 1992. He held a similar position with the Australian Institute of Project Management (AIPM), and was elected a Life Fellow of AIPM in 1996. He was a member of the Core Working Group in the development of the Australian National Competency Standards for Project Management. He has published over 160 professional articles and papers. Alan can be contacted at [alanailene@bigpond.com.au](mailto:alanailene@bigpond.com.au).

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