

## **Towards more context-specific representations of the role of project management <sup>1</sup>**

*By Alan Stretton*

### **INTRODUCTION**

Quite recently in this journal I published a series of seven articles on project contexts (starting with Stretton 2019e). The basic reason for developing that series was that non-contextual representations of project management tend to dominate the literature, with relatively little attention being given to the contexts of projects. Yet, as most project management practitioners can attest, managing contextual matters related to a project is typically a demanding task, and often a critically important one

This article discusses the current situation, and potential ways of developing more context-specific representations of project management. I will first discuss the context that is common to virtually all projects, namely that of the organisation(s) within which, and/or for which, the projects are undertaken – the Owner Organisation(s). Four main ways in which project-related services contribute to helping achieve the strategic objectives of such organisations will be identified, with comments on available guidelines, and their limitations.

I will then discuss the context of various types of organisations, the context of various types of projects undertaken by such organisations, and then propose a matrix to help identify combinations which could seriously merit relevant context-specific guidelines for the management of projects within these organisations.

An additional contextual issue is the escalating VUCA environment (Volatile, Uncertain, Complex, Ambiguous) of projects. Most non-contextual representations only cover predictable environments. We discuss the NTCP (Novelty, Technology, Complexity, Pace) project “dimensions” approach of Shenhar & associates, and their many substantial management guidelines, as part of the VUCA context.

Finally, I discuss the operational domains of Owner Organisations and their projects, and the importance of knowing how things are done therein. There are substantial published materials on project management in many industries, as is exemplified by two recent project/program handbooks, which together discuss seventeen different industry sectors. It is argued that there is a major opportunity to amalgamate, consolidate and publicise broad industry-specific guidelines for a wide range of sectors, as a starting point for developing a broad base of context-specific guidelines

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## **PROJECTS AND THEIR CONTEXTS**

### **The prevalence of non-contextual representations of project management**

*In the search to define a distinct body of knowledge and set of practices that could be claimed as “project management”, the focus has been on the project. It is largely isolated from its context and stripped to its bare essentials to enable the development of generic standards.*  
(Crawford & Cooke-Davies 2010)

The above quote appears to me to rather neatly summarise the situation with regard to the widespread representation of project management in non-contextual modes. The reasons for this being the case are readily understandable, and a multitude of beneficial developments in project management have ensued.

However, there are also some downsides. One of these is that such non-contextual representations of project management tend to reinforce a perception of projects as being ends in themselves (“projects-in-their-own-right”), which is still a rather prevalent perspective of so many in the project management community. However, the above perspective tends to ignore the fact that project management is a practice. It is therefore always undertaken in a real-world context.

### **Projects both influence, and are influenced by, their contexts**

Projects are not ends in themselves, but invariably contribute to achieving broader ends in their real-world contexts – i.e. projects influence their contexts. Additionally, as noted in the introduction, most project management practitioners can attest that their projects are always influenced by their contexts, and that managing contextual issues is typically a demanding task, and often a critically important one.

We can then ask the question about whose broader ends the project is helping achieve. Or, putting this question into a more contextually prioritised mode, we can ask, what is the project’s most immediate broader context?

### **The most immediate context of virtually all projects is the Owner Organisation**

The most immediate context of virtually all projects is the organisation within which, and/or for whom, the project is being undertaken – i.e. the organisation/entity whose broader strategic objectives it is helping achieve. As noted earlier, I describe this as the Owner Organisation (OO). We will look at this context first.

## **THE CONTEXT OF ORGANISATIONAL STRATEGIC MANAGEMENT (OSM)**

### **A basic organisational strategic management (OSM) sequence**

We start with an organisational strategic management sequence which I have been using for some time, as shown in Figure 1. Hopefully the summarised notes for each stage are largely self-explanatory.

ORGANISATIONAL STRATEGIC MANAGEMENT SEQUENCE				
<b>1. Establish and shape strategic objectives</b>	<b>2. Develop strategic initiative options, evaluate, choose best</b>	<b>3. Elaborate/consolidate strategic initiatives</b>	<b>4. Execute strategic initiatives</b>	<b>5. Achieve strategic objectives.</b>
Establish and shape both deliberate and emergent strategic objectives; Confirm desired outcomes/ benefits	Develop alternative strategic initiatives to achieve strategic outcomes / benefits; Evaluate alternatives; Choose the best	Elaborate and define chosen strategic initiatives; Confirm feasibilities; Prioritise and consolidate	Execute strategic initiative component projects/programs and <i>other strategic work</i>	Achieve strategic outcomes and realise benefits

**Figure 1: A basic organisational strategic management framework/ sequence,**

**Four types of project-related services in the context of this OSM sequence**

In Stretton 2020h I discussed various ways in which we have expanded from more conventional project management into broader types of services in an organisational strategic management context. This was summarised in Figure 7 in that article.

In the context of discussing more context-specific guidelines on project management, I have amended and slightly simplified that figure to the format in Figure 2 below, to show four types of project management services in the organisational strategic management context.

ORGANISATIONAL STRATEGIC MANAGEMENT SEQUENCE				
<b>1. Establish and shape . strategic objectives</b>	<b>2. Develop strategic initiative options, evaluate, choose best</b>	<b>3. Elaborate/consolidate strategic initiatives</b>	<b>4. Execute strategic initiatives</b>	<b>5. Achieve strategic objectives.</b>
+ Helping to establish organisation's Strategic Business Objectives (SBOs)	+ Studies to help shape organisation's strategic undertakings	+ Internal strategic initiative program management (and/or external FEL/CND-services), to help choose the "right" project(s)	+ Project mgt. of pre-execution 'front-end' project phases	EXECUTION-DELIVERY
PROJECTS IN A STRATEGIC INITIATIVE PROGRAM MANAGEMENT CONTEXT			MANAGEMENT OF PROJECTS (MOP)	
ADDING EARLY PROJECT-RELATED SERVICES IN THE STRATEGIC MANAGEMENT CONTEXT				

**Figure 2: Four types of project-related services in the context of the OSM sequence**

We now discuss each of these four types of project-related services identified in capital letters in the lower sections of Figure 2.

**Project execution/delivery and guidelines in the OSM context**

Project execution/delivery-only forms of project management services are still widely practiced, and are the main focus of most project management "standards" and similar guidelines, which still tend to dominate in the project management literature.

These guidelines are usually presented in a "projects-in-their-own-right" mode. A kind of lip service is sometimes given to the place of the project in the organisational strategic management context, with some references to progression from project outputs to organisational strategic outcomes and benefits. However, there is seldom any detailed analysis of these contextual connections.

Additionally, it is generally not recognised that project management very often does not have any active role in ultimate benefits realisation – as I discussed in Stretton 2020e & 2020i, for example. We would all benefit from more detailed analyses of the project output-outcomes-benefits realisation connections in specific contexts.

### **“Management of projects” (MOP) in the OSM context**

Peter Morris has long described the extended scope of project management (PM) into the definition and development of projects, or managing the “front end”, as the “Management of Projects” (MOP). In his words (Morris 2013:235),

*The Management of Projects* is as concerned with management of the front-end as with down-stream execution.

As Dalcher 2019a noted,

...the early stages play a key part in defining, constraining and shaping the project, and yet our life cycles pay little attention to early decisions and their impacts.

Yet, the main focus of guidelines in the literature has tended to remain on project execution/ delivery. However, the increased use of Agile in software development and other contexts has modified this situation very substantially, with increasing numbers of guidelines which focus increasing attention on components of the strategic objectives of the Owner Organisation. More guidelines on these, and other types of iterative approaches, appear likely to be published, particularly as organisations and projects respond to ever-changing challenges and opportunities associated with Covid-19, and beyond.

### **Projects represented in a strategic initiative program management context**

In Stretton 2020h I discussed a well-known extension of program management into the role of effectively managing organisational strategic initiatives from inception to completion. I now describe this as *strategic initiative program management*, to distinguish it from what might be described as more conventional forms of programs, and program management, which do not extend into this earlier strategic domain.

Amongst its other contributions, *strategic initiative program management* is usually in a position to help choose the “right” strategic initiatives, and thence the “right” component programs and projects. Also, as noted in Figure 2, this representation may also include the provision of external FEL (Front End Loading) or CND (Client Needs Determination) services.

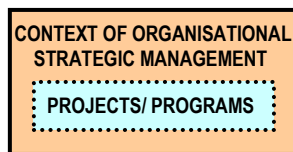
In addition to the above, in some organisational contexts, portfolio managers are appointed to manage all programs and projects. Some representations of portfolio management imply that it is introduced early in Stage 2, and covers strategic initiative programs in the context just discussed. Others imply a later appointment, well after choices of (more conventional) programs and projects have been made.

All told, we are some way along the track of having guidelines for both strategic initiative program management and its counterpart in portfolio management. However, I would like to see these better integrated, and further developed in the specific context of their contribution to organisational strategic management.

### **Adding early project-related services in the OSM context**

Finally, Stretton 2020h went on to discuss other ways in which extended project-related services have sometimes contributed even earlier to organisational strategic management. These are summarised in the additions shown below in Figure 5, which is also a summary of how the various representations of projects discussed in this section relate to the basic organisational strategic management sequence. These are relatively rare, and do not appear to have any published guidelines.

As a final note on guidelines relating to the above types of projects in an organisational strategic management context, I would like to see a lessening of depictions of projects and programs as being the star of the show, and more on the organisational strategic objectives in this role.



We now move on to look at broader contexts related to projects and the organisations in which they are undertaken. I will be using the representation shown on the left as a summarised version of Figure 2.

## **CONTEXT OF TYPES OF ORGANISATIONS, AND TYPES OF PROJECTS**

### **Context of types of organisations**

In the final article of the earlier series (Stretton 2019k) I briefly introduced the context of types of organisation, but had not included this context in the earlier mainstream discussion. Instead, I had discussed differences between supplier organisations (SOs), and owner organisations (OOs) of project management services. On reflection, different types of organisations rather obviously present a richer variety of contexts in relation to organisational strategies than the simple two-fold classification of SOs and OOs, as we now discuss.

### ***Different types of organisational contexts for strategic management***

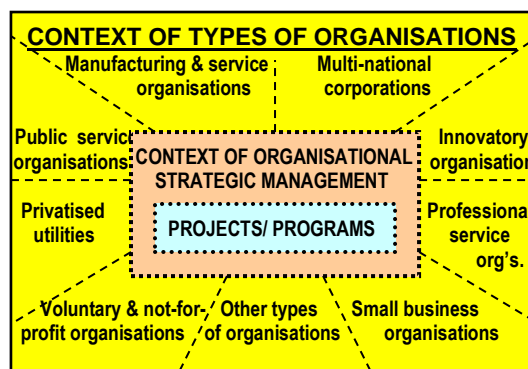
Johnson & Scholes 1999 identified the following different contexts in which organisational strategic management is undertaken.

- The small business context
- The multinational corporation
- Manufacturing and service organisations
- The innovatory organisation
- Strategy in the public sector
- Privatised utilities
- The voluntary and not-for-profit sectors
- Professional service organisations

This appears to represent as good a listing of types of organisations which have been directly related to organisational strategic management as I have seen. I don't believe the authors claimed that this was a comprehensive list, so will add "Other types of organisations" in the following representation.

### **Representing the context of types of organisations undertaking strategic mgt.**

In Figure 3 below I have representing the context of the above types of organisations undertaking strategic management in the manner shown, and have embedded the context of organisational strategic management, and its component projects/ programs within this broader context.



**Figure 3: Adding the context of types of organisation to that of organisational strategic mgt.**

In relation to the place of Supplier Organisations (SOs) and Owner Organisations (OOs) in the above, it is clear that only *Professional services organisations* are specifically in the SO category. In all the other types of organisations, projects could be undertaken internally (by OOs), or by external service providers (SOs), or both.

Most of these types of organisations could be expected to undertake many different types of strategic initiatives, so that it could be difficult to find patterns that apply significantly across all organisational types.

It is to be expected that each individual organisation will usually have its own particular approach to undertaking its projects/programs. Its approach may be also influenced, at least in part, by practices which are undertaken by other organisations of a similar type.

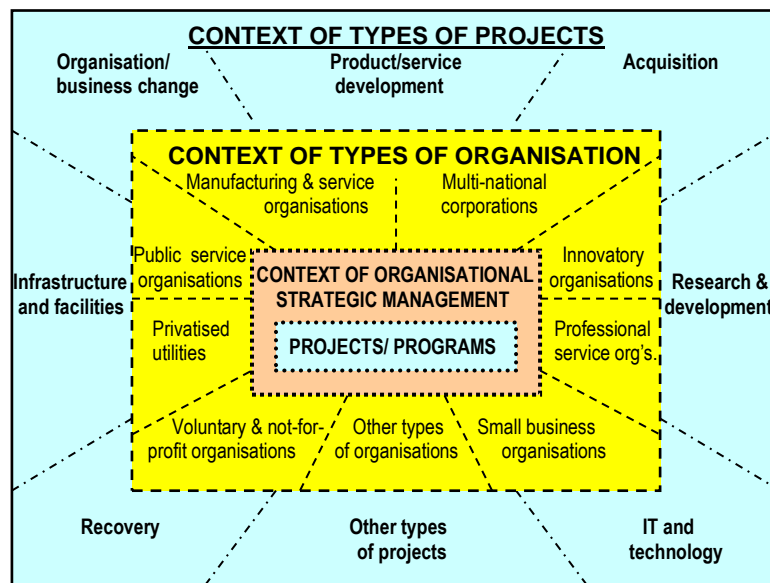
### **Relevant project management guidelines?**

In these circumstances we would not expect to find significant common patterns of project management amongst the various types of organisations to be even thinking about guidelines. However, if we arrange the types of organisation against an array of different types of projects they can undertake, we may be able to identify combinations which are prominent enough to warrant the generation of specific guidelines for each. We will now look at the contexts of types of projects.



## Context of types of projects

In Stretton 2019e I discussed several listings of types of projects/programs from various sources, and amalgamated these to come up with the types shown in Figure 3. There are, of course, many different possibilities in amalgamating and summarising the vast numbers of different types of projects that are undertaken in practice – but hopefully the *Other types of projects* sector will accommodate those types which others might believe should have been specifically nominated.



**Figure 4: Adding context of types of strategic initiatives to Figure 3**

### ***The importance of know-how re the (technical) nature of the project work***

Stretton 2019e discussed the key importance of the project manager being familiar with the specific nature of the work involved in the project, in the technical or equivalent sense. In addition to appropriate skills in project management per se, the project manager and project team members need to bring specific nature-of-work related knowledge, skills and experience to bear on their project to ensure that the totality of the work is effectively prosecuted.

Additionally, since different types of project work need different project management approaches/skills, a project manager skilled in one type of project domain can often be out of his/her depth in a different domain – for example, an R&D project manager is unlikely to have the requisite skills to successfully manage recovery projects.

### ***Specific guidelines for some common project types***

The above indicates potential benefits from specific guidelines for some of the most common types of projects. These already exist for pharmaceutical development projects. They may well have been developed for other types of projects, but I am a bit too isolated these days to be aware of them.

However, there does appear to be real potential for identifying particular types of projects which are commonly associated with certain types of organisations, and developing appropriate guidelines.

**Potential for guidelines for combinations of organisation and project types?**

We now array the above types of projects against the types of organisation in matrix form, as shown in Figure 5. This appears to be a convenient format to identify combinations prominent enough to warrant the generation of specific guidelines for particular types of projects associated with specific types of organisations.

Types of organisation	Types of projects							
	Product/service development	Infrastructure & facilities	IT and technology	Research & development	Organisation/business change	Recovery projects	Acquisition	Other project types
Small business								
Multinational corporation								
Manufacturing & service								
Innovatory organisations								
Public sector organisations								
Privatised utilities								
Voluntary & not-for-profit								
Professional service orgs.								
Other organisational types								

**Figure 5. Matrix - Intersections between Types of Organisation and Types of Projects**

**Types of projects and the context of the VUCA environment**

As noted in the Introduction, an additional contextual issue which affects all organisations and their projects is the escalating VUCA environment (Volatile, Uncertain, Complex, Ambiguous). With regard to projects, most non-contextual representations of project management, particularly bodies of knowledge and similar guidelines, tend to cover projects in only relatively stable, predictable environments.

However, for over a quarter of a century, a few prominent project management writers have been developing guidelines for projects with high initial uncertainties about project goals, and/or methods of achieving them (Turner & Cochrane 1993), and higher levels of technological uncertainty, complexity and pace (Shenhar 1995, 1996), for example – all of which we can associate with VUCA contexts.



The best coverage I know of is the NTCP (Novelty, Technology, Complexity, Pace) project “dimensions” approach of Shenhar & associates, who have developed a substantial range of relevant projects management guidelines, as now discussed.

## CONTEXT OF THE NTCP PROJECT DIMENSIONS (PART OF VUCA CONTEXT)

### The NTCP (Novelty, Technology, Complexity, Pace) model

I discussed the NTCP “diamond” model of Shenhar and associates in Stretton 2019h. In the following we will be mainly concerned with the quite substantial guidelines the authors developed for managing projects at the various levels of their four project dimensions. The basic NTCP model is illustrated in Figure 6.

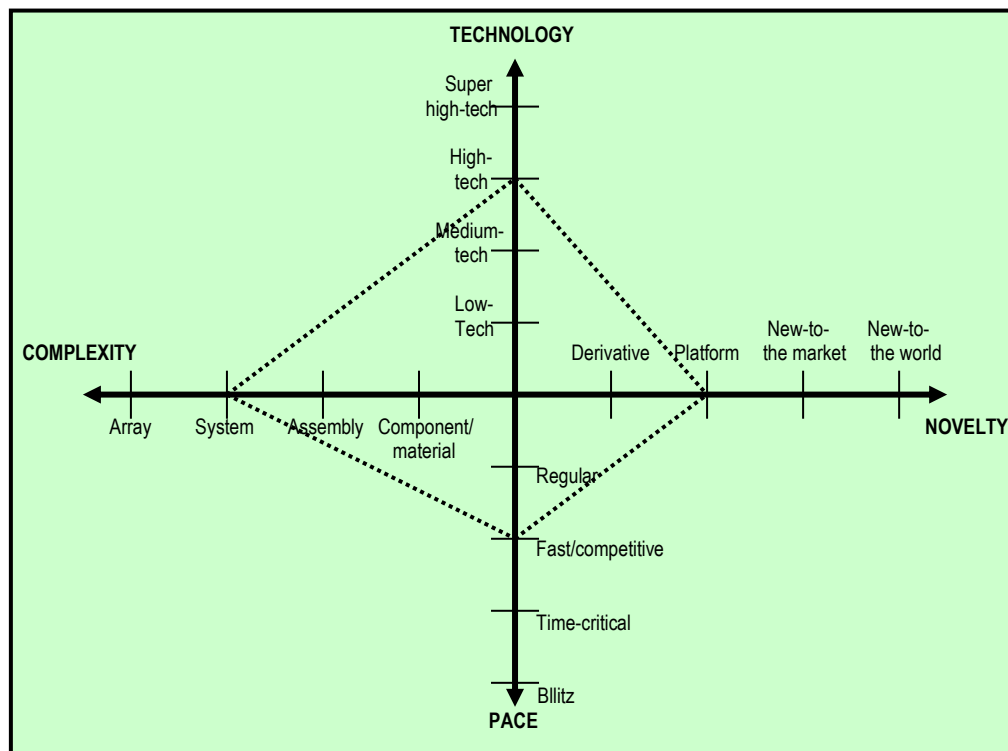


Figure 6: The NTCP model, adapted from Shenhar et al 2016

In Shenhar et al 2016 these four project dimensions are described as follows.

- **NOVELTY: Market Innovation** – How new is the product to the market, users, and customers.
- **TECHNOLOGY: Technological Innovation** – How much new technology is used
- **COMPLEXITY: Level of System Innovation** – Represented by the complexity of the product or the organization.
- **PACE: Urgency of the Innovation** – How critical is your time frame.

Turning now to the descriptors of the four levels of each dimension shown in Figure 6, most of the descriptors of the levels of the Technology and Pace dimensions appear to be reasonably self-explanatory. Regarding the Novelty dimension, the descriptor *Derivative* denotes improvement in an existing product, and *Platform* a new generation on an existing product line.

For the Complexity dimension, the descriptions of the four levels are as follows.

- **Component/Material:** The product is a discrete component within a larger product, or a material
- **Assembly:** Subsystem performing a single function (e.g. CD player, cordless phone)
- **System:** Collection of subsystems, multiple functions (e.g. aircraft, car, computer)
- **Array:** Widely dispersed collection of systems with a common mission (e.g. city transit system, air traffic control, Internet)

The reason for focusing on this NTCP model is that Shenhar and his associates have developed substantial guidelines for managing the levels of each of the four dimensions in this model, notably in Shenhar & Dvir 2007, as now discussed.

### NTCP management guidelines related to the PMBOK Guide knowledge areas

This group of guidelines comprises four tables in the Appendices – one for each dimension. Each table shows each level, and indicates how these can affect the traditional processes of project management characterised by the (then) nine major PMBOK Guide knowledge areas (PMI 2004). The format of these four tables is illustrated as follows.

DIMENSIONS & Levels PMBOK Knowledge Areas	NOVELTY	TECHNOLOGY	COMPLEXITY	PACE
	Levels: 1; 2; 3; [4]	Levels: 1; 2; 3; 4	Levels: [1]; 2; 3; 4	Levels: 1; 2; 3; 4
Integration				
Scope				
Time				
Cost				

**Figure 7: Format of Shenhar & Dvir 2007 tables in Appendices 4, 5B, 6B, and 7**

An example of appropriate management processes for each level of the technology dimension, in this case for the PMBOK knowledge area Scope, is shown in Fig.8.

DIMENSIONS & Levels PMBOK Knowledge Areas	DIMENSION: Technology			
	Level: Low-tech	Level: Medium-tech	Level: High-tech	Level: Super-hi-tech
Integration				
Scope	<ul style="list-style-type: none"> <li>• Tight scope control from project initiation</li> <li>• Allow only changes requested and approved by customer</li> </ul>	<ul style="list-style-type: none"> <li>• Allow changes only before design freeze</li> <li>• Tight scope control after design freeze</li> </ul>	<ul style="list-style-type: none"> <li>• Define top-down work from scratch</li> <li>• Allow more time for design cycles</li> <li>• Tight scope control after design freeze to ensure product integrity</li> </ul>	<ul style="list-style-type: none"> <li>• Flexible scope management to enable changes based on technological feasibility and prototype testing</li> </ul>
Time				
Cost				

**Figure 8: Format of Appendix 5B, Table 4, Shenhar & Dvir 2007, with details re project scope**

This series of four tables with management guidelines for each PMBOK knowledge area, for each level of each dimension, comprises well over a hundred individual guidelines, with more than two thirds of these relating to “non-traditional” contexts.

**Other NTCP project management-related guidelines in Shenhar & Dvir 2007**

Each of the four NTCP dimensions also has a separate table which summarises the impact of its various levels on other project management processes that are particularly relevant to that individual dimension.

The broad format of this type of table for the technology dimension is shown in Figure 9, together with an example of the type of guidelines developed by the authors, in this case relating to appropriate management styles and attitudes.

DIMENSION: Technology				
Variable \ Project Type	Level: Low-tech	Level: Medium-tech	Level: High-tech	Level: Super-hi-tech
Development, testing, prototypes				
Design cycles & design freeze				
Project reviews				
Management style and attitude	<ul style="list-style-type: none"> <li>• Firm style</li> <li>• Sticking to the initial plan</li> </ul>	<ul style="list-style-type: none"> <li>• Less firm style</li> <li>• Readiness to accept some changes</li> </ul>	<ul style="list-style-type: none"> <li>• More flexible style</li> <li>• Many changes are expected</li> </ul>	<ul style="list-style-type: none"> <li>• Highly flexible style</li> <li>• Living with continuous change</li> <li>• “Looking for trouble”</li> </ul>
Communication and interaction				
Project manager & project team				
Project contingent resources				

**Figure 9: Basic format of part of Table 5-3, Shenhar & Dvir 2007, with details re mgt. styles**

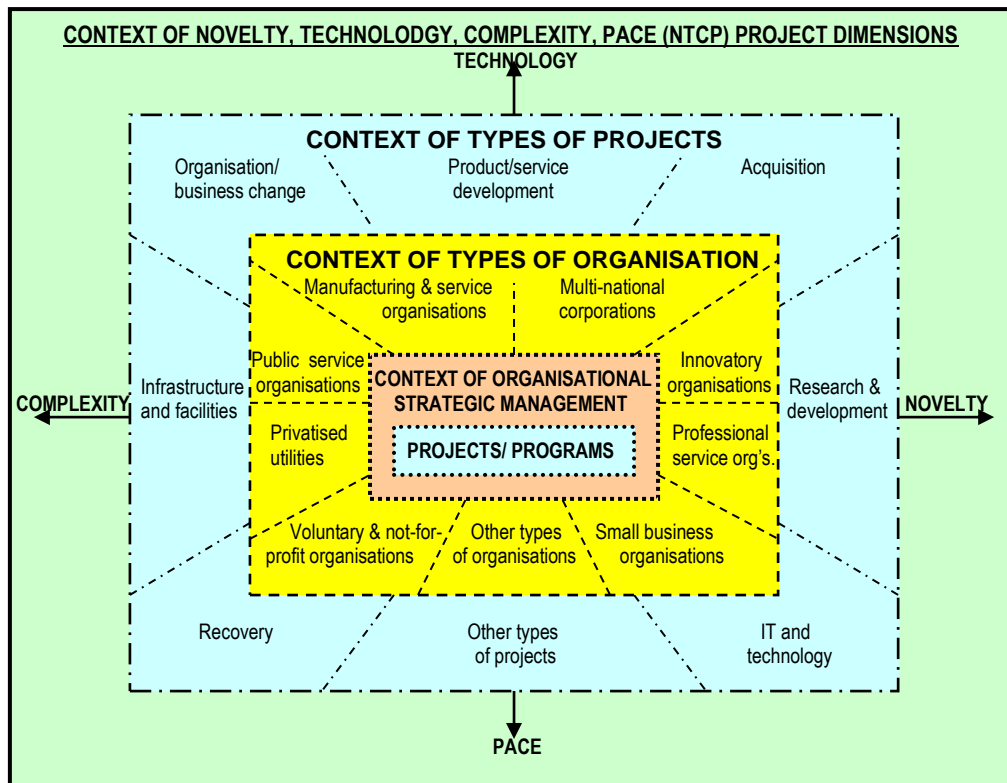
In Figures 8 & 9 the Low-tech segments are coloured differently, to indicate that this level is more in the domain of “traditional” PMBOK-like practices (although in some cases it could also be extended at least partly into the Medium-tech segment).

There are broadly similar tables to Figure 9 with management-related guidelines for the other three dimensions – namely Table 4-3 for the Novelty dimension, Table 6-3 for Complexity, and Table 7-2 for Pace. These add substantially to the above guidelines associated with the PMBOK knowledge areas.

There are also several other management-related tables and guidelines in Shenhar & Dvir. For example there is Table 4-2: *Project Novelty and project success: What to expect*, which has a corresponding Table 5-2 for the Technology dimension. There are also some broader-based tables, such as Table 9-2: *The impact of project type on project management*, and Table 10-1: *Characteristics of projects for various customers*.

All in all, something of the order of two hundred guidelines emerge from the above, and at least two thirds of these are concerned with the management of “non-traditional” contextual items – i.e. items that are not covered in bodies of knowledge of project management, and similar documents. Combined, these constitute a treasure-trove of guidelines over and above those already existing for more traditional domains.

**Adding an outline of the NTCP dimensions to the context of types of projects**



**Figure 10: Adding the NTCP dimensions to the context of types of projects**

**Guidelines for complex major projects and mega-projects?**

Complex major projects and mega-projects could be seen as an extension to the Complexity dimension in the NTCP model. However, they are not well covered in the mainstream project management literature. The best coverage I know of is by Prieto 2015d, in his book *Theory of management of large complex projects*. As he noted,

Large complex projects differ from those that comprise the traditional domain of projects as defined and served by the Project Management Institute and its Project Management Body of Knowledge (PMBOK). Remember its admonishment that PMBOK provides a management framework for **most projects, most of the time**. Large complex projects appear to live outside these boundary conditions.

Prieto has published many guidelines over the years on managing large complex projects, including the very recent project startup guidelines in Prieto 2020b.

## CONTEXT OF TYPES OF OPERATIONAL DOMAINS

### The importance of knowing how things are done in your operational domain

It is obviously important to project success to have a very good knowledge of how things are done in the operational domain in which you are undertaking your project, no matter what type of project it is. Shenhar & Dvir 2007:198 discussed this topic in the context of the industry in which the project is being undertaken as follows.

One of the major contextual factors affecting project management is the specific industry in which the project is being run. It is no secret that different industries have different ways of managing projects. .... The differences can be found in, among other things, processes, tools, techniques, standards, applications, and, of course, the technical differences and the specific technologies.

### Some different project characteristics in five major industries

Shenhar & Dvir identified differences between five major industries in relation to seven characteristics of projects, in the format shown below in Figure 11.

CHARACTERISTIC ATTRIBUTES OF PROJECTS IN VARIOUS INDUSTRIES					
Attributes \ INDUSTRY	Pharmaceutical and health care	Process	Equipment and devices	Software	Construction
Project focus	Impact on public health, longevity, and quality of life	Volume, cost, continuity, efficiency	Cost, product performance, & product features	Functionality, cost, upgrade capability	Functional & architectural aesthetics
Product definition					
Reg's, standards, approval					
Processes					
Preparation for production					
Risk issues					
Product support					

**Figure 11: Showing format of Table 10-2, Shenhar & Dvir 2007 – Characteristics of projects in various industries – with example of how Project Focus varies between industries**

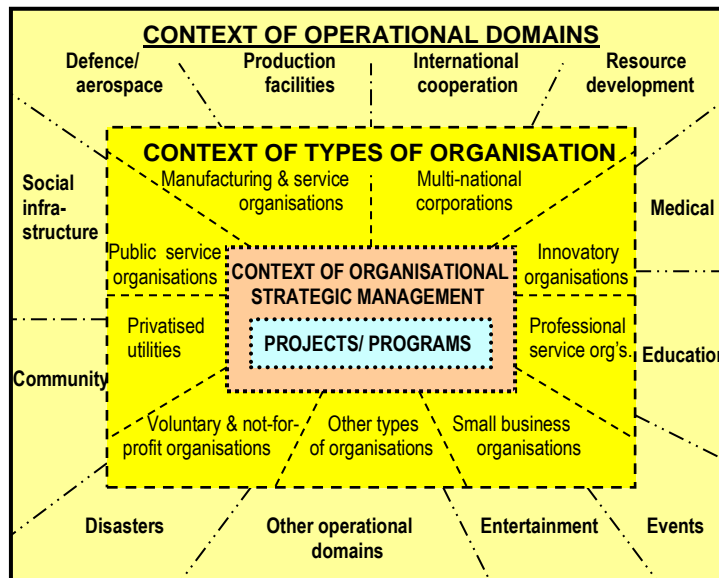
The authors recognise, of course, that other industries could also have been discussed. However, in their words, this grouping of major industries “may be a good starting point to further focus on projects in a specific industrial environment” (p.198). Shenhar & Dvir 2007:262 also record that

There are some specific project management books, most of them on construction and software development. There are also some books on automobiles or pharmaceutical projects, but very few on other types of projects.

We will pursue this further in a moment. But first we will look a little further into various types of operational domains, and industry classifications.

### Adding types of operational domains from Stretton 2019j

In Stretton 2019j I identified twelve *project application areas*, which had been derived mainly from Japan's P2M (PMAJ 2008), with the additional of a *Disaster* application area, plus an *Other application areas* component, and with *Aerospace/Defence* substituted for *Administrative initiatives*. These are reproduced under the heading of operational domains in Figure 12.



**Figure 12: Adding types of operational domains from Stretton 2019j to Figure 3**

I have attempted to align some of the types of organisations with operational domains with which they might be more commonly associated, but these hardly scratch the surface of possible combinations of types of organisation and domains in which they typically operate. Further, these operational domains fall far short of being as representative as one would like to see - which led me back to looking further at industry classification systems and the like.

### Adding three further listings of operational domains/industries

#### **Pells 2011: Project management industry classification system**

Pells 2011 developed a *project management industry classification system*, which is the most complete such classification I have come across. His listing is partly reproduced in Figure 13 (alongside the Stretton 2019j listing) with the numbers in parenthesis indicating further specific industrial subgroups which Pells nominates within the broader group in each case.

Whilst it would clearly be impossible to have guidelines for projects in all the operational domains identified by Pells, there are many existing partial guidelines.



**Two examples of industry-specific articles from recent handbooks**

Figure 13 also shows two examples of industry sectors for which such industry-specific case studies and implied guidelines have been set – both from relatively recent handbooks. The first example comes from the second edition of the *Gower Handbook of Programme Managers* (Lock & Wagner, 2016), which has chapters on program management in each of the eleven sectors shown. The other example comes from the fifth edition of the *AMA Handbook of Project Management* (Dinsmore & Cabanis-Brewin 2018), which has chapters on project management in each of the ten sectors shown in Figure 13.

APPLICATION AREAS (Stretton 2019j)	PROJECT MANAGEMENT INDUSTRY CLASSIFICATION SYSTEM (Pells 2011)	Gower PgM Handbook (Lock & Wagner 2016)	AMA PM Handbook (Dinsmore & Cabanis-Brewin 2018)
Medical [Healthcare] Social infrastructure Community	<b>1. Human health &amp; well being</b> Food (5); Water (2); Wastewater & sanitation (3); Healthcare (2); Clothing (4); Housing (3); Education (3); Police & security (3)	Pharmaceutical	Healthcare
Resource development Production facilities	<b>2. Basic industries</b> Mining & natural resources (5); Materials (6); Energy (3); Food & drugs (4); Telecommunications (3); Transportation & logistics (11), Packaging	Mining Aviation Transport	
Defence/ aerospace Entertainment; Events	<b>3. Advanced industries - Manufacturing</b> Aerospace; Automobiles; Defence & military (8); Capital goods (3); Social goods (2); Consumer goods (5); Broadcast & news media (4); Entertainment & leisure	Space Aircraft Automotive	
	<b>4. Information technology</b> Software & information systems; Hardware & electronic devices (4); Internet & web-based systems & services; Telecommunications systems & equipment (2)	ICT	Information technology
Education	<b>5. Professional services</b> Education; Health & medical (5); Engineering & construction (3); Employment & human resources; Accounting & business; IT (3); Financial (8); Management (2); Retail, wholesale & selling; Environmental (3); Security; Other professional services	Construction & eng'g Police	Eng'g & construction New business Financial services Marketing
International cooperation Disasters Other	<b>6. Emerging/future industries</b> Earth sciences & planetary monitoring; Life sciences & bio-technology; Humans in space; Molecular physics & nano-technology; New materials; New energy; Others	Humanitarian & development	Humanities & social Mergers & acquisitions Global infrastructure Rescue missions

**Figure 13: Adding three further listings of operational domains to Stretton 2019j**

Even from just two sources we have industry-specific materials on managing programs/projects in seventeen different sectors – and, of course, there will be many more, not only for these sectors, but for many of the other industrial sectors listed in the Pells classification.

**Apparent opportunities to consolidate many industry-specific guidelines**

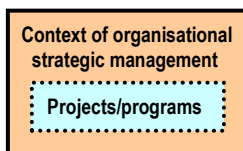
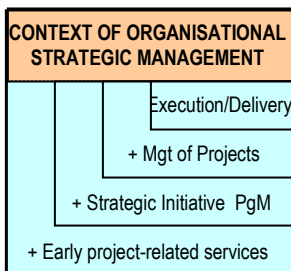
This appears to be an opportunity area waiting to be exploited. There are so many industry-specific project management materials already available that it would seem to be a relatively straight-forward task to collect, amalgamate and augment these to come up with useful guidelines for project management in quite a wide range of specific industries.

## SUMMARY

We first commented on the prevalence of non-contextual representations of project management in the literature. However, it was then emphasised that projects both influence, and are influenced by, their contexts, and, that in practice, their management is often a demanding task, sometimes critically so. It was argued that the most immediate context of virtually all projects is the Owner Organisation. In this context, projects can be seen as being means to help the Owner Organisation achieve its strategic objectives, which we then went on to discuss in more detail.

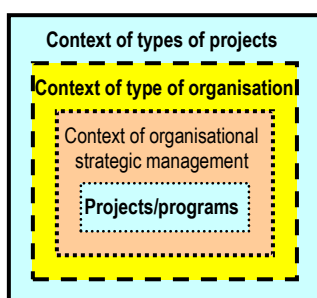
### Context of organisational strategic management

We identified four main ways in which project-related services contribute to helping achieve the strategic objectives of Owner Organisations.



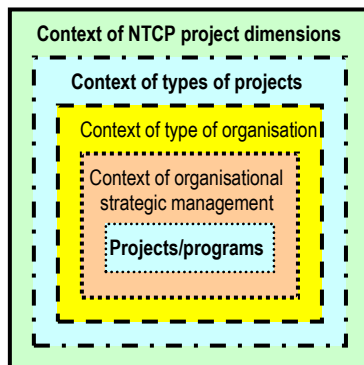
- *Execution/delivery-only*: The project management literature focuses heavily on project execution/ delivery, usually in a “projects-in-their-own-right” mode. Little attention is usually given to its place in the organisational strategic management context.
- *Management of projects*: Comparatively little coverage is given to managing project “front-ends” in most project management standards. However, Agile-type guidelines are increasingly available and used, and thence more attention is being given to this area of project contributions to organisational strategic management.
- *Strategic initiative program management*: We are some way along the track of having guidelines for both strategic initiative program management and its counterpart in portfolio management. But these need to be further developed in the specific context of their contribution to organisational strategic management.
- *Added early project-related services*: These are relatively rare, and do not appear to have any published guidelines

### Contexts of types of organisations, and types of projects



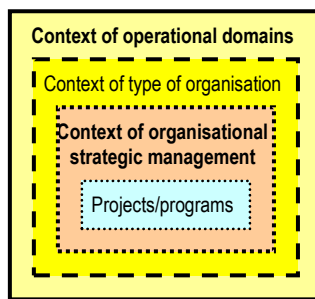
We then went on to discuss the context of various types of organisations, and identified nine different types of organisations in the strategic management context. We then identified eight broad types of projects undertaken by such organisations, after which we proposed a matrix format to help identify relevant combinations of organisation and project types which could seriously merit context-specific guidelines. Some such guidelines probably already exist, but I am unaware of any which are widely available.

## Context of the NTCP project “dimensions” (Part of VUCA context)



After pointing out that traditional project management guidelines covered only a small proportion of projects undertaken in these VUCA times, we discussed the NTCP project “dimensions” classifications of Shenhar and colleagues, and the substantial management guidelines developed by them. These included some very important guidelines which relate management of the various “VUCA” levels of each of the four project dimensions to the PMBOK Guide knowledge areas, as well as several other guidelines on various project-related topics.

## Context of operational dimensions



The final main context is the operational domain in which projects are undertaken. Here we added to a listing from an earlier article with a very detailed listing from Pells’ 2011, which he called a *Project management industry classification system*. Whilst it would clearly be impossible to have guidelines for projects in all the operational domains identified by Pells, it was recognised that there are already many existing partial guidelines.

We then added listings from two examples of industry sectors for which such industry-specific guidelines have been set – both from relatively recent handbooks. Even from just two sources we found industry-specific materials on managing programs/projects in seventeen different sectors, and recognised that there will be many more, not only for those seventeen sectors, but also for many of the other industrial sectors listed in the Pells classification. It was concluded that this appears to represent a major opportunity to amalgamate, consolidate and publicise broad industry-specific guidelines for a wide range of sectors.

## CONCLUSION

This latter undertaking to amalgamate, consolidate and publicise broad industry-specific guidelines for a wide range of sectors would be a very major contribution to much-needed context-specific project management representations and guidelines in its own right.

However, it could also be seen as part of an even broader potential extension of context-specific guidelines. In particular, it could help facilitate the development of further, and more detailed, guidelines on some of the more prominent combinations of organisation and project types as discussed above.

This type of progression would appear to be a reasonable and practical way to expand the range of project management guidelines beyond non-contextual representations, which cover only a small proportion of the total project management task, into a wide range of context-specific guidelines which more immediately relate to the scope of the real-world task.

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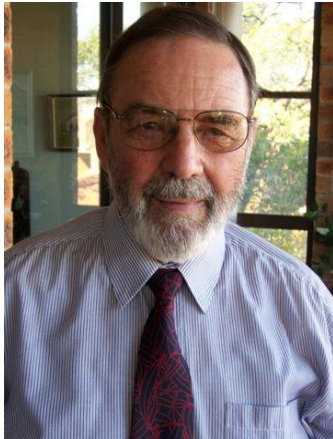
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