A Manual for Project Governance and Asset Management

A MANUAL FOR PROJECT GOVERNANCE AND ASSET MANAGEMENT

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PREFACE

Students, practitioners, and businesses will all benefit from this free eBook, which focuses on project governance and asset management. Documenting best practices from design to implementation, including a review of existing frameworks, this eBook provides direction in the field of governance and asset management. Here, the ideas of assets and governance are brought together, and an agile governance framework is introduced. We hope to examine how these ideas may be used in project management in order to discover beneficial methodologies and approaches.

If you're looking to build trust and transparency in decision-making processes, this eBook is a must-read. It is intended for individuals who wish to create an atmosphere that accelerates strategy execution and the attainment of organisational objectives while offering good advice. Everyone in the organisation, including project managers and stakeholders from outside the company, can have an influence on the governance framework of projects and the management of the business's assets to capture value and strengthen the strategic direction. By providing the necessary leadership, direction, and protocols, an organisation's asset management and project governance frameworks may assist to guarantee that its strategy and execution are in sync.

The structure of this book

The structure of this eBook has been organised so that the reader is able to locate section(s) that are of interest and it is not written to be read in a sequential format. However, it is recommended that the reader begin with Part 1, Module 1 prior to reading other modules, as it establishes the grounds for key concept definitions. In each module we have included a selection of interactive tasks, resources, and reflections to demonstrate how project governance and asset management domains, functions and processes are critical within a project life cycle.

Part 1 of this book describes the theoretical basis of asset management (AM) and concludes with an applied case study contributed by a practitioner. Each module covers a different aspect of the AM field:

> Module 1: Definitions and importance of asset management and project governance

> Module 2: Asset management fundamentals

> Module 3: Asset management standards and models

> Module 4: Product (asset) management case study: A defence perspective

Part 2 follows on from AM presenting the theoretical basis of project governance and integration of its

respective processes. This section also concludes with an applied case study contributed by a practitioner. Each module tailors project governance, models and various forms of frameworks to specific contexts:

Module 5: What project governance comprises

Module 6: Core project governance principles

Module 7: Governance models and frameworks

Module 8: Public governance in practice: A developing economy case study

Module 9: Agile project governance

Part 3 concludes by linking organisation project management, governance, assets and projects in Module 10.

ACKNOWLEDGMENT OF COUNTRY

James Cook University is committed to building strong and mutually beneficial partnerships that work towards closing the employment, health and education gap for Australian Aboriginal and Torres Strait Islander peoples. Our students come from many backgrounds, promoting a rich cultural and experiential diversity on campus. We acknowledge the Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the Australian lands and waters where our staff and students live, learn and work. We honour the unique cultural and spiritual relationship to the land, waters and seas of First Australian peoples and their continuing and rich contribution to James Cook University and Australian society. We also pay respect to ancestors and Elders past and present.

Kassandra Savage (JCU Alumni), Coming together and respecting difference, acrylic on canvas, 2014, 90cm x 90cm. © Kassandra Savage, reproduced with permission of the artist.

ABOUT THE AUTHORS

Associate Professor Carmen Reaiche

From Hong Kong Disneyland to the Australian Public Service, a career in project management has taken JCU Associate Professor Carmen Reaiche across disciplines and around the globe. Carmen first began her journey into project management over 25 years ago while she was working for an international oil refinery in South Australia. With a Bachelor of Business and a Master of Business Administration, Carmen was originally hired as a systems analyst. She has held a number of management positions where she has designed, programmed and supervised the implementation of project management systems and strategic plans for businesses such as General Electric, Mobil, Centrelink and Business SA.

Dr Reaiche holds an MBA from the University of Adelaide and a PhD from the University of South Australia in the area of project management/soft systems self-organisation. Beyond her research successes (including more than fifty papers to date and others in preparation) Dr Reaiche has obtained several research grants and a wide range of cross-cultural teaching and supervisory experience (teaching and supervising research students in Australia, Venezuela, Singapore, Hong Kong, China, Singapore and Malaysia). Her present research interests include project management, innovative systems, digital transformation, cross-cultural leadership and social network aspects of business management models. Prior to joining the College of Business, Law and Governance at JCU she was the Associate Head (Teaching and Learning) in the Entrepreneurship, Commercialisation and Innovation Centre at the University of Adelaide.

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Samantha Papavasiliou holds her PhD in business innovation and digital transformation in government and public sector agencies. She also holds her Master of International Trade and Development, Master of Applied Project Management (Project Systems), Bachelor of Social Science (with Honours) and Bachelor of Psychological Sciences from the University of Adelaide. In addition, Samantha is currently undertaking her Diploma of Modern Greek.

Samantha is a Certified Associate in Project Management, and is currently a Project Manager and Data Analyst at the Australian Taxation Office. Her work focuses on service review and redesign and the implementation of significant and fundamental changes to support lodgement and payment operations. Previously, she was a data scientist with a focus on predictive analytics and real time analysis, used to support the lodgement program.

Samantha is also an Adjunct Senior Research Fellow at James Cook University in the College of Business, Law and Governance. In her role, she is supporting the development of the Graduate Certificate of Project Management. Additionally, her areas of research interests are in supporting digital transformation, understanding digital and complex project management and stakeholder management and engagement within these complex projects. Samantha also teaches project management at the postgraduate level, teaching classes ranging from fundamentals, to control methods and complex project management.

ACKNOWLEDGEMENT OF CONTRIBUTIONS

PART 1. ASSET MANAGEMENT

MODULE 1. DEFINITIONS AND IMPORTANCE OF ASSET MANAGEMENT AND PROJECT GOVERNANCE

Overview: What is asset management?

Asset management is a coordinated activity of an organisation to realise value from assets (AS ISO55000:2014). The activity can also refer to the application of the elements of the asset management system, the approach, the planning, the plans, and their implementation.

Learning objectives:

- contextualise what asset management encompasses
- analyse the process of asset management
- determine the importance of asset management and project governance
- assess the connection between of asset management and project governance.

Asset management (AM), as practised today, is a fundamentally new way of thinking about physical assets and how to use them to create value for the organisation. Because AM is such a vast topic, it should come as no surprise that a number of AM strategies have been formed on the basis of unique organisational practices or distinct personal understanding of individual specialists. However, we can say that AM is a strategic approach to maximising the value of an organisation's assets. Therefore, it represents one of the organisation's critical comprehensive and proactive competitive advantage philosophies.

AM is a set of ideas that can help a company improve how it does business, makes decisions, and processes, uses, and communicates data related to its infrastructure management. AM is largely concerned with how an organisation allocates and uses resources, including money, people, skills, and information. It offers a consistent, integrated framework for planning, programme formulation, and programme delivery across the organisation's various assets. Therefore, it is becoming a critical component of project management.

AM encourages several quality standards within the organisation's processes, such as evaluating all options at each stage of their decision-making process, conducting project economic analysis from a long-term

perspective, assessing trade-offs across initiatives, monitoring program effectiveness and system performance, and leveraging management and information systems throughout the AM cycle. All of these are critical aspects within the project management life cycle. AM is also goal-oriented, with explicit performance and accountability metrics. It is steered by policy objectives and goals and therefore we suggest this be considered, particularly in phase one and two of the project management life cycle (i.e., the design and planning phases).

It can also be stated that AM refers to the management of tangible and intangible project properties, which are typically the processes of managing and rearranging the project deliverables (i.e., outcomes). AM encompasses the classic project management area of version control but in more recent times it has also begun to cover new areas of project property control. Furthermore, with times of disruption and ongoing digital transformation, we would say that the AM process should encompass the whole project life cycle, beginning with design and procurement and continuing through operation and maintenance before finally being retired, resulting in even more project value.

Asset management strategy

Organisational strategy creation and implementation are influenced by actions within the AM system, just as they are by other activities within the organisation. Developing strategy is an ongoing activity that is dependent on the interplay between corporate or company plans and the actions of the organisation in which they are implemented. To achieve sustained competitive advantage, strategy formulation should be viewed as an organisational capacity that can be cultivated at many levels within the organisational structure (Gordon, 1998). AM is thought to be a component of the organisational strategic management system, and to play a role in the creation and execution of organisational strategies. As a result, any architecture for the asset management system should identify the system's role in the creation and implementation of a strategy.

It is believed that the process of value creation may be discovered by the performance of the asset under consideration. Performance of the output is a function of the production or operation process, and it is dependent on the capability and performance of assets throughout the project utilisation phase. When it comes to the capability and performance of assets during this phase, the capability and performance of the design procedures throughout the design phase are critical factors to consider if we aim to reach a strategic framework. So, the execution of asset-related activities throughout their life cycle stages is critical to the value generating the project's success.

Applied to any organisation, AM is also a strategic business model that provides real ways to demonstrate the following characteristics: good asset ownership, effective asset management and service management, responsible stewardship, and long-term sustainability progress. But there is a misconception that AM is a strategic approach which aims only to collect and integrate current management systems and data and, therefore, is perceived to be a continuous process. However, it goes far further than that. The strategic value is in its ability to build on existing procedures and tools, as well as complement and expand current practice,

all via a process of continual evaluation and development. This is a process that results in the creation of an AM blueprint, which acts as a roadmap for improving business and service delivery, and one that you are in charge of as a project manager.

Organisations employ specialised frameworks and guidelines for their individual assets, which are typically taken from the asset manufacturers, but their overall system management is typically established experimentally via their own practice and emphasis. As a result, there are many various viewpoints on what "Total Asset Management Strategy" implies to each distinct organisation's structure. Therefore, we can state that the strategy is shaped around the amount of complexity, design, and specific assets engaged in the organisation.

As mentioned earlier, for AM to make a significant contribution to an organisation's success, important activities, connections, and procedures must be identified, formed, and managed inside the business. In other words, an AM strategy must be investigated, with fundamental AM procedures and enablers established as part of a comprehensive approach to achieving the organisation's strategic goals (Clash and Delaney, 2000).

Projects are responsible for the creation of the assets that will be managed, as well as for the enhancement and some upkeep of such assets. The management of assets and the management of projects are therefore intertwined in many ways. It is therefore important that you, as the project manager, partake in AM frameworks as early as possible and get familiar with all the required actions within AM.

Organisational departments have traditionally been responsible for actions that are connected to assets or life cycle processes, such as asset design, asset operation, and asset maintenance, among other things. In addition to the above, other asset management activities, such as measurement and analysis, planning, development, modification, and any investment work are always carried out by relevant departments for the unique purposes of each department. Yet, the project manager should be a key stakeholder in these actions. Budgets are always stated, resources are always allocated, and information regarding the health and performance of assets is always collected in some form or another. These operations are carried out by numerous departments within the business; however, they may not be integrated and maximised for the achievement of the firm's strategic objectives. It is here that project managers undertake an important task: integration.

To achieve the organisational strategy, the objective of this new discipline known as AM is to generate collaborative activities inside the organisation's system, which are then carried out by the organisation's employees and subsequently support the organisation's strategy. However, if this is misguided, the strategic support to the organisation can be jeopardised. Can the project manager also take a leadership role in this case? There is no simple answer to this question. AM is such a emergent discipline and concept that there is still lots of research to be conducted for us to learn more. But what is clear is that it is a critical component for us, as project managers, to manage.

Researchers have produced a bewildering array of management system types relating to physical assets

over the course of history. Maintenance management, strategic AM, engineering AM, property AM, infrastructure AM, enterprise AM, and other commonly used words are examples of this diversity. As a result, it is clear that AM is important to all sorts of industries and all of the assets that are engaged in those industries. Accordingly, AM systems should be tailored to the alignment, culture and commercial objectives of the individual company or sector in which they are used.

In the early phases of establishing an AM approach, there are typically a great number of unknowns and assumptions that must be made in order to proceed. As a result, it is necessary to begin with a straightforward holistic (i.e., broad) strategy to generate early momentum and establish the foundations of understanding, information, and procedures in the organisation. This initial effort may then be modified by the project manager and the project management team, adapted, and expanded in terms of depth of information and complexity with the use of reference texts, as well as other sources. Figure 1 shows a holistic approach to AM strategy. Each of the processes highlighted in Figure 1 identifies an asset management practice to be implemented. Some of these practices will be discussed in a later module.
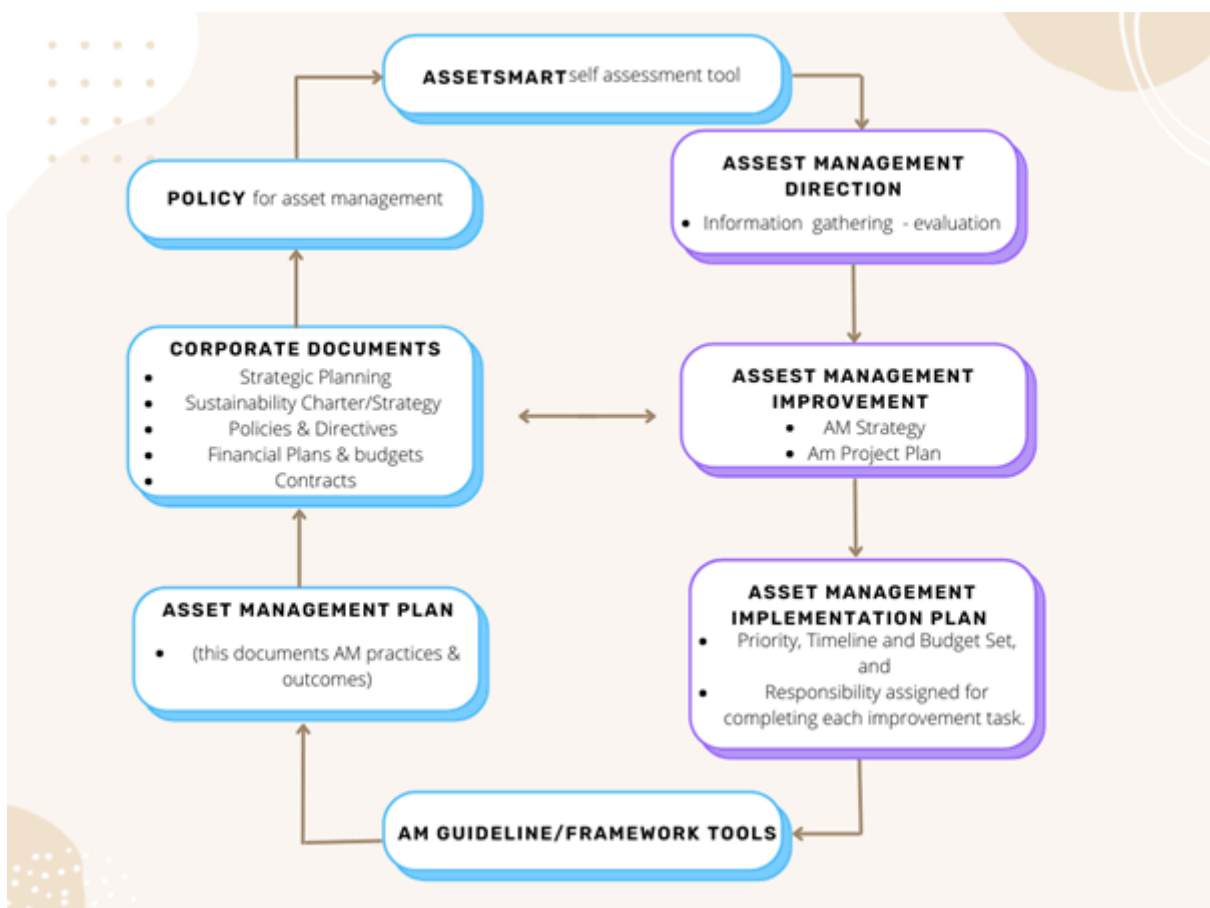
Figure 1. AM strategy, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

Let's pause and test our knowledge:

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An overview of the process of asset management

Taking a third priority within the holistic AM strategy, it is worth noting that an AM plan can be actioned quickly as it is a simple and straightforward process. There are some stages in an asset life cycle that are more prevalent than others, even though the organisation and structure of an asset life cycle may fluctuate amongst various enterprises. It is possible to divide an asset life cycle into four distinct stages. Let's look at these four stages.

1. Make a plan

On the basis of an examination of current assets, planning can assist in determining the need for a particular

item, as well as the critical skill needed for the project. This is accomplished by the implementation of a management system that can analyse trends and data, providing the decision-makers with the ability to determine the necessity for the asset and the value it may offer to the organisation's operations. For all stakeholders, from finance teams to operators, the early stage of an asset's life cycle is critical. The choice to acquire an asset is based on the asset's ability to meet the demands of the organisation and the needs for its projects, in addition, of course, to contributing to the company's operations and creating income.

2. Obtaining the project property: An organisation's asset

Identifying, evaluating and purchasing an asset is the next step. In this process, the project manager makes sure that enough research has been conducted to confirm that the asset is a critical resource required to improve operations and support the successful deliverables of the project. This step will also include consideration of the financial aspects of acquiring an item that is within the parameters of a budget that was established during the planning stage. Using an AM system, after the asset has been procured and deployed, it can then be tracked throughout its full life cycle, allowing for greater efficiency and accountability.

3. Operations and maintenance

Following the installation of the asset, the following stage is operation and maintenance, which is the most time-consuming part of an asset's life cycle. This stage describes how the asset will be used and managed, as well as any maintenance and repairs that may be required in the future. After being placed for its intended use inside the organisation, the asset has begun to improve operations while also contributing to the generation of income. In addition, updates, patch fixes, licences, and audits must be addressed immediately. During operation, an asset will be monitored and examined on a regular basis for any performance concerns that may arise unexpectedly. This is the point at which maintenance and repairs begin to become more frequent occurrences and project managers are required.

As we know, in order to extend the asset's life and worth as much as possible, regular maintenance is required as an asset ages and wear and tear grows. Additionally, alterations and improvements are necessary in order to maintain assets to be up to date with the constant technology changes and ongoing disruptive environment. Maintenance strategies are unique to each organisation. There are many who favour a reactive maintenance method, while others prefer a predictive or preventive maintenance plan. Even so, each maintenance approach strives to achieve certain goals, such as:

1. keeping downtime to a minimum
2. keeping emergency repair expenditures to a minimum
3. increasing the uptime of equipment
4. extending the useful life of an asset to perform better than it did originally by always identifying and addressing possible improvement areas.

4. **Disposal of waste**

Finally, at the end of an asset's useful life, it is removed from service and either sold, repurposed, thrown away, or recycled, depending on the circumstances. Even though an asset has no commercial value at this point, it may nevertheless need to be disposed of in an environmentally friendly manner. Depending on the circumstances, this procedure might potentially include disassembling the item piece by piece or wiping it clean of all data. If, on the other hand, this sort of asset is still required for operating purposes, a replacement is planned, and the asset life cycle can be restarted from the beginning.

Some of the AM values

There is no doubt that organisations that make an investment in AM receive a variety of rewards. However, not all these advantages are associated with financial rewards. Asset monitoring in real time provides an ongoing stream of data, encourages accountability and, with the support of an appropriate AM system, helps maintain planning and equipment maintenance on schedule and on budget.

There are other various possible values.

Recognition of business requirements: All AM techniques recognise the variability in "optimal" conditions connected with the business environment and support logical decisions made on the basis of such aspects, whether or not they are explicitly stated.

Promote best practices: The adoption of techniques such as systems engineering is implicit in standards such as ISO 55000, as well as explicitly stated in more general AM literature, for example, the Asset Management Australian.

Support for decision-making: The idea of line of sight expressly demands that decision-makers at all levels are aware of both the business goals that are coming down from above and the asset performance, cost, and risk information that is flowing up from beneath them. Decision-makers are thus in a position to respond to the following questions:

1. *What kind of performance is being provided?*
2. *Exactly what level of performance and value is desired?*

As we know, nothing is flawless, and there will never be a truly ideal trade-off between performance, cost, and risk that can be identified. But the AM approach's strength is that it recognises this imperfection and builds a continual feedback loop to alter the way assets are bought, managed, maintained, and disposed of to attain a reasonable approximation to optimal performance.

Some of the AM challenges

Unfortunately, not everything is perfect. AM presents a few difficulties. In today's corporate world, AM is a vital and critical component of any successful operation. AM guarantees that all assets are appropriately bought, operated, and managed in accordance with industry standards and specifications, as well as with company policies and procedures. At every stage of a project's lifecycle, from conception to completion, it is critical to ensure that asset management is properly structured and managed. However, issues faced by project managers who oversee the management, tracking, or simply monitoring of assets are numerous and varied. Here are some of the most common issues.

Choosing the right assets: Many business leaders are completely unaware of their company's organisational structure and strategy. In such circumstances, deciding what assets to acquire becomes more difficult. The asset procurement teams can end up spending money on new assets without properly comprehending the necessity for the assets in question. When it comes to acquiring new equipment and software, the project manager can only make informed decisions if they know what assets they have, who else has them, what is currently in use, and how old or expired existing assets are. It becomes a challenge to gather all this information if the organisational structure does not support the right communication and documentation processes required for this decision-making step.

Acquisition of assets that are not under control: A traditional asset strategy that is focused on procurement is frequently responsible for the introduction of additional ungoverned assets into the business. We call ungoverned assets shadow assets. These are assets that are deployed within a firm without the permission of the project management or procurement department. This might result in the introduction of unchecked assets into the organisation, resulting in increased expenditures as well as security and compliance difficulties. This is a common challenge for organisations lacking a procurement department or a formal project management unit.

Assets that are cross-functional: Managing assets across functional departments (i.e., marketing, IT, HR, Finance, etc.) is a significant problem for organisations that want to run efficiently. This is because the various departments desire to use assets in a way that makes sense for their particular internal structure and often neglect the demands of other departments. Assets are frequently borrowed or shared by many departments, raising the likelihood of an operational disruption when an asset is required by more than one department but is already in use by another. It is here that a good work breakdown structure (WBS) identifying the asset usability is needed.

Public sector: A different set of challenges

As discussed before, we can see how the policies and practices of private sector organisations that practise AM are highly aligned: for example, the importance of AM to the organisation's operations and profitability is clearly communicated throughout the organisation and is aligned to encourage highly

effective management practices. However, there is a different layer of challenges for the public sector (i.e., government agencies and/or public organisations). The nature of the organisational structure, administrative and financial environment, as well as the limits imposed by other authorities, all contribute to the difficulty of applying AM concepts to the public sector. The following are some of the attributes of this environment that might make AM more difficult:

- Responsibilities for different areas of the public sector are dispersed among several government entities.
- Funding is frequently confined by prescriptive operations, restricting the freedom in which funds can be allocated and often distributing these to what senior management perceive to be the most critical areas of need.
- In addition, senior management does not often have access to adequate high-quality information to properly assess trade-offs and make funding allocation decisions, which makes it difficult to make successful asset needs judgements.
- Systems and databases are frequently standalone and/or the result of many changing trial versions, compounding challenges of system integration integrity, as well as the concerns of quality and timeliness of the data.

As a result of some of these issues, the implementation of AM inside public sector organisations tend to confront a variety of difficulties. We will touch on some of these challenges later in the book.

The role of the project manager

Project managers are the professionals who are required to handle all the AM information and deliver the projects that are related to it on time and within budget. These expectations can be difficult to meet for project managers due to the arduous task of managing enormous amounts of asset information while also ensuring that the most up-to-date information is made available to the appropriate individuals, at the most appropriate moment. For the project manager to be a valuable contributor to asset life cycle information, it is critical that the data transfer procedure be as easy as possible and they partake in this process from the start.

The project manager is in charge of allocating ownership for the AM plan's implementation and ongoing administration. This includes coordinating all team procedures and tools training. They'll also oversee keeping processes up to date as the project progresses. Project managers want a system that is safe, easy to use and deploy, and has the potential to scale to meet the demands of the organisation. The production, evaluation, release, distribution, and finding of information for asset projects are all functions that must be supported by an effective solution. To conclude, the solution must be capable of identifying data discrepancies and ensuring that they are corrected before it is too late.

Throughout an asset's life cycle, there are a variety of functions that provide support for it. Now, let's look at some of the main roles in AM as discussed in the following video.

VIDEO: THE MAIN ROLES IN ASSET MANAGEMENT

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https://jcu.pressbooks.pub/pmgovasset/?p=5#h5p-16

This creative commons video was created by Martin Kerr, Principal and Founder of Structured Change and Certified Fellow in Asset Management.

In every organisation, it is essential to recognise and comprehend the interactions that take place amongst the primary roles that are involved in the process of AM. Martin Kerr describes the subsequent four responsibilities that are considered to have an effect on the capability of achieving effective AM. The ideas of AM and change management are brought together under the umbrella of structured change in order to provide businesses with excellent AM over the long term.

Other specific roles in asset management

According to the PMI, when it comes to AM, there are two key tasks to consider. It's important to keep in mind that these tasks are assigned to roles and are not characterised as jobs. In small organisations, a single individual may fulfil both tasks, whereas in large organisations, these roles are distributed through the organisational structure and assigned to many of the existing positions. Keep in mind that the nature of the project, its size and context are everything. These tasks are defined by the following roles:

- An asset engineer oversees assets. Their role is guided by the collaboration within the project teams for identifying potentially reusable assets. Once the assets are identified, these are integrated in the WBS with existing assets into their projects. Assets may also be developed, evolved, supported, and retired by this role. If this happens then the role can also be referred to as a "re-use engineer".
- An asset manager is a term used to describe someone who manages. Asset managers are in charge of leading, managing, and governing the purchase and use of assets inside the company. In certain times the project manager also operates as an asset manager.

Now, let's summarise: AM's **objectives** and **good practices** underpin service delivery, responsible stewardship, and risk management, all of which are essential for business success and are under the umbrella of project management processes. Organisations that adopt long-term AM as a way of doing business should be able to achieve good governance, sound long-term financial management, sustainable, equitable, and cost-effective service delivery, effective risk management, and effective asset function, capacity, and preservation management because of their investment.

Video: Asset management for directors

The video [5:36] below provides a great summary of AM. In this video, Dr. Monique Beedles FAICD, author of the book, *Asset management for directors*, discusses why directors are considered to be asset managers and why successful AM involves the entire organisation. Press Play when you are ready.

Asset Management for Directors
Video

Project governance

When it comes to project management, organisations that use many projects to implement strategy, transform their businesses, improve their operations, or develop new products have come to rely on project governance as their primary method of project administration (Winter et al., 2006).

Multi-projects are becoming increasingly popular, and as a result, the need for an approach to provide clear administration and management structure is critical. Management literature has recognised the importance of structured, disciplined project management and the role governance has in creating value for their organisations. When it comes to project governance, we can explain it as the mechanism that ensures that project choices are consistent with the organisation's governance rules and processes, therefore aligning with the organisation's strategy. It also provides project managers and their teams with an organised framework for making choices, carrying out project procedures, and clearly defining their responsibilities throughout the project's life cycle (from conceptualisation to completion). It also establishes the communication channels and approaches within the organisation and with the project team.

The project governance structure for the organisation is developed by internal stakeholders. The governance framework is developed to ensure that projects are completed successfully and in accordance with the aims and goals of the organisation. To establish a blueprint for project strategies, company directors and senior management tend to guide the development of the governance framework. Once finalised and established, project managers and their teams can follow this plan with confidence, knowing that they are tackling their project in the most efficient manner possible and in alignment with the

organisation's goals. However, there are companies that tend to outsource the development of the governance framework to external consultants. This is not as efficient as designing it in house. Outsourcing it is only recommended if business executives are required to devote their attention to other activities throughout the project life cycle.

Project governance helps to make the procedures that take place throughout the project life cycle more understandable. Project governance also helps to clarify several critical issues, some of which are shown in Figure 2 below.

Overall, excellent governance is a key facilitator of effective portfolio and project management, as well as a critical component of successful initiatives. Governance is often concerned with who makes choices, how decisions are made, and whether cooperation is enabled, resulting in the definition of the governance framework within which decisions are made. There is no consistent approach to project governance – this will depend on the organisation's structure and context in which they operate. Although there is a correlation

Figure 2: The Importance of Project Governance – by Carmen Reaiche and Sam Papavasiliou is licensed under CC BY (Attribution) 4.0

between the governance resources and procedures needed, there is also a link with the complexity of projects. As the complexity of a project grows, the governance structure, resources, and organisational structure often grow in proportion to that complexity. Risk, organisational culture, and project maturity are all elements that influence the governance architecture.

Governance as a conceptual framework

The term governance is often used in conjunction with phrases such as government, governing, and control (Klakegg et al., 2008). When applied to organisations, governance is a framework for ethical decision-making and management action that is based on openness, accountability, and clearly defined responsibilities within the company (Muller, 2009). In the literature, the phrases "practical governance" and "academic governance" are often used interchangeably yet have distinct meanings. In practice and within this manual we will refer to the term "governance".

When it comes to governance, there are two schools of thought. One school of thought holds that different styles of governance are required in different sub-units of an organisation. This perspective on governance appears to have been established by information technology managers, project managers, officials in government ministries, and academics who operate only in their respective fields of expertise. The organisation's administration or anybody responsible for making choices and/or managing (controlling)

the work of the organisation or its initiatives, in their opinion, is accountable for governance. Unlike other governance practices, each one acts independently of the others, and there is no unified philosophy of governance practice.

In the second school of thought, organisations such as the Organization for Economic Cooperation and Development (OECD, 2021), various Institutes of Directors (for example, the Australian Institute of Company Directors, 2019) and the agencies responsible for regulating stock exchanges have all contributed to the development of the concept. The governance process is viewed here as a single process with several components. We will further expand on the concept, characteristics, and models of governance later in Module 5.

Test your knowledge:

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An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://jcu.pressbooks.pub/pmgovasset/?p=5#h5p-6

Key Takeaways

- AM is largely concerned with how an organisation allocates and uses resources, including money, people, skills, and information.
- Project managers adopt AM as a strategic approach to help them maximise the value of an organisation's assets.
- Businesses are increasingly recognising the importance of excellent AM in ensuring the efficient delivery of services that fulfil the needs of their customers and other stakeholders, including government agencies.
- The right AM framework can improve the organisation's processes and procedures and improve the governance of decision-making and capital approvals.
- Remember: AM is an integrative approach.
- Project governance is a framework within which project choices are made – a crucial component of every project.

References

Clash, T., & Delaney, J. (2000). New York State's approach to asset management: A case study. *Transportation Research Record: Journal of the Transportation Research Board*, *1729*, 35-41.

Gordon, D. B. (1998). *A strategic information system for hospital management* [Unpublished doctoral dissertation]. University of Toronto.

International Organization for Standardization. (2014). *Asset management — management systems, Guidelines for the application of ISO 55001, ISO 55002:2014(E), 2014.* https://doi.org/10.1007/978-94-007-2724-3

Kerr, M (n.d). *The Main Roles in Asset Management.* Licencing: Creative Commons.

Klakegg, O. J., Williams, T., Magnussen, O. M., & Glasspool, H. (2008). Governance frameworks for public project development and estimation. *Journal of Project Management*, *S1*, 39.

PMBOK guide. (2021). *A guide to the project management body of knowledge* (7th ed.). Project Management Institute.

Marnewick, C., & Labuschagne, L. (2011). An investigation into the governance of information technology projects in South Africa. *International Journal of Project Management, 29*(6), 661–670.

Müller, R. (2009). *Project governance.* Gower Publishing, Ltd.

Winter, M., Smith, C., Morris, P., & Cicmil, S. (2006). Directions for future research in project management: The main findings of a UK government funded research network. *International Journal of Project Management*, *24*(8), 638–649.

MODULE 2. ASSET MANAGEMENT FUNDAMENTALS

Overview

So, let's remind ourselves of what assets are.

An asset is a resource having economic value that is owned or controlled by an individual or company with the intention that it will deliver a future benefit to the owner or controller. The International Standard for Asset Management (ISO 55000) defines an asset as any object, thing, or entity that offers potential or current value to an organisation. The value can be material or intangible, financial or nonfinancial in nature, and it also considers risks and responsibilities.

Asset management (AM) and project management are heavily interrelated. Asset portfolio planning is difficult without the planning data provided by projects. Based on the project information, the project portfolio manager may be required to undertake a scenario analysis, which shows how all projects will evolve in the future, considering all their tasks, activities and their interdependencies and timelines. AM is impossible to accomplish without the assistance of project management, and vice versa. AM is therefore essential for projects, and portfolio managers working in organisations with a significant emphasis on assets. It is important for project managers to become familiar with AM and begin aligning their operations with the AM system of the project host organisation.

Like project management, AM is cross-disciplinary and easily applied to various fields. Financial, enterprise, infrastructure, public, information technology, fixed, and digital AM are all types of AM used interchangeably in the business context. However, as the definition of AM may vary from one company or department to the next, the majority of AM can be simplified and divided into three types: physical, financial, and contractual.

Learning objectives:

- assess the components of the asset management processes
- contextualise the phases of the asset management life cycle
- determine the importance of asset maintenance.

1. *Physical asset management*: includes the process of dealing with things like fixed assets, stock control, infrastructure, and publicly owned assets.
2. *Financial asset management*: is defined as the process of managing procurement, formulating an investment plan, regulating budgets and expenses, and dealing with financial instruments such as

cash, bonds, and stocks.

3. *Contractual asset management*: compliance with contractual obligations simplifies business operations such as technology asset management, digital asset management, contractual maintenance, and the management of intangible assets, among other things.

In the field of AM, everyone has a role to play. For senior management and the organisation's directors to be proactive, they must consider the organisation's variety of stakeholders, how they are involved in asset management, what their expectations are, and how these expectations will be met and communicated.

It is important to note that AM is also closely linked to the change management process. This is a function that must be created as a foundation to allow the baselining of project deliverables and project change control. This activity entails identifying both deliverable and non-deliverable goods, as well as building an appropriate organisational structure for project assets to effectively govern and manage them. Therefore, a plan for AM should also be devised. The precise AM procedures and particular security protocols should be included in this plan as well as all the stakeholders' requirements. The business has invested in project deliverables, which are important assets. It is then up to the project manager to initiate the AM plan, and if needed, assign this task to the asset manager while jointly working in its execution up to the deliverable phase.

The first step in adopting good AM is to figure out what function customers play and what type, form, and shape of documentation they require. It also entails determining the scope of project deliverables that are subject to change control and the asset manager's responsibilities. Although the principal asset of a project can be highly diverse, in practice, as mentioned before, the scope is frequently limited to tangible and intangible assets, for example, software application vs training documentation. User requirements documentation, scoping documents, functional specifications, and acceptance test scripts/data are also examples of deliverables that may be subject to AM. However, AM may also apply to non-deliverables such as vendor proposals (which may be necessary for procurement – purchasing of projects), user procedures, team training guides and manuals, and any other general operations documentation.

For AM to make a significant contribution to an organisation's success, important activities, connections, and procedures must be identified, formed, and managed inside the business. In other words, an AM framework must be investigated, with fundamental AM procedures and enablers established as part of a comprehensive approach to achieving the organisation's strategic goals. Therefore, keep in mind that the right AM approach needs to align with the organisation's strategy and by establishing an effective asset life cycle the right AM framework can be achieved.

However, the field of AM is a relatively new field in project management, and hardly any study has been conducted up to now on the factors that firms consider essential to their strategic performance. As a result, existent AM frameworks tend to be devoid of theoretically sound foundations. Therefore, you will find many AM framework variations and blueprints in the market, including software applications and asset management brokers. And to answer the question you have in mind now: no, there is no unique model.

We, project managers and our teams, tend to make the necessary assessments to adopt the most effective framework, keeping in mind the organisation's structure, processes, and overall strategy.

Assets are there to add value to the business, but it is the AM process that assures that *assets* can generate this value. Therefore, if we have identified key milestones in the way we (i.e.. the organisation and project management team) operate to attain value, we are closer to developing an effective AM framework. Figure 3 highlights some of the key contributing factors that, in project management, enable the process of changing assets into value, as well as a holistic AM process to deliver effective project outcomes.
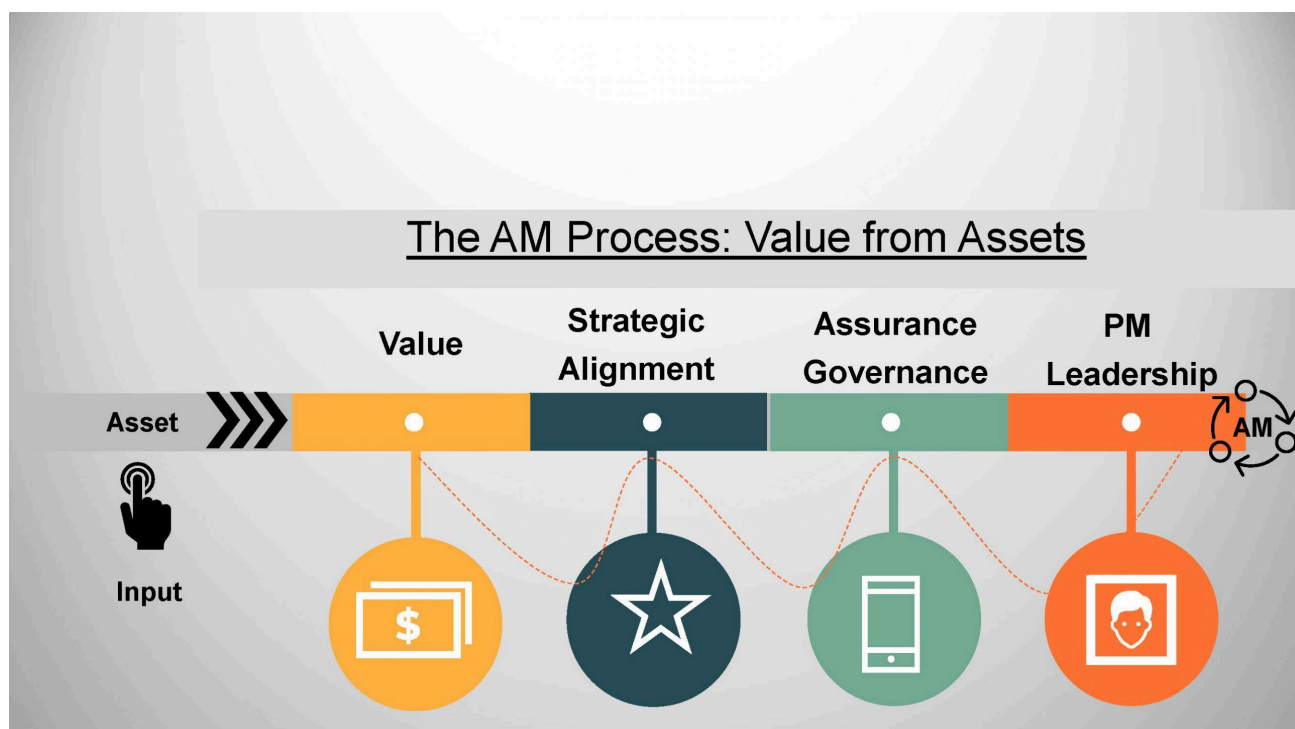
Figure 3: The AM Process by Carmen Reaiche and Sam Papavasiliou is licensed under CC BY (Attribution) 4.0

One of our primary goals as project managers is to produce value from our project deliverables. Yet, to be able to do that, project managers need to understand and support the asset life cycle and not confuse it with the actual life cycle of the projects we are managing; there are significant differences between both. Let's discuss them.

What is the asset life cycle and how does it work?

It is a good business strategy to maximise the cost-effectiveness and efficiency of assets throughout their usable lifespan. This is often referred to as asset life cycle management. The life cycle of an asset includes everything that takes place from the time it is first determined that the item is required to the time it is finally disposed of. Using asset life cycle management, the management team together with the project

manager may maximise the usable life of their assets while minimising the amount of money spent on them over the course of their service lifetimes. Achieving effective asset life cycle management may help us lengthen the life of our assets, lower the cost of maintaining them throughout their lives, and make our assets more dependable and less prone to break down. In the previous module we introduced four stages that form the asset life cycle phases. However, this was done in a generic way. Let's expand on those now.

Asset life cycle management phases

Please note that there are a few variations in the literature on the number of phases within the life cycle. You will see some references to four, while in others five or six. We are providing you with a more contemporary asset life cycle.

Phase 1. Planning

The first stage of the asset life cycle is the planning stage. Note that this is different to the planning phase of the project, which is the second phase as it can only start once the design phase is completed.

In this phase, you need to determine and validate the asset requirements with all the stakeholders internal to the organisation. The evaluation of current assets and their capacity to satisfy the organisations' service delivery objectives is necessary to identify the asset requirements. Identifying and analysing management strategies and communication requirements are equally important tasks in the analysis of the requirement for an asset. This step is significant in the conceptualisation of the asset and in seeking agreement with its requisites. When designing a project, it is critical to consider how the continuing development will benefit the organisation at all stages of the process and the same applies here. The value of the asset should be planned across its entire life cycle.

Figure 4 shows some of the benefits that will accrue to the organisation if an implementation of excellent planning is in place.
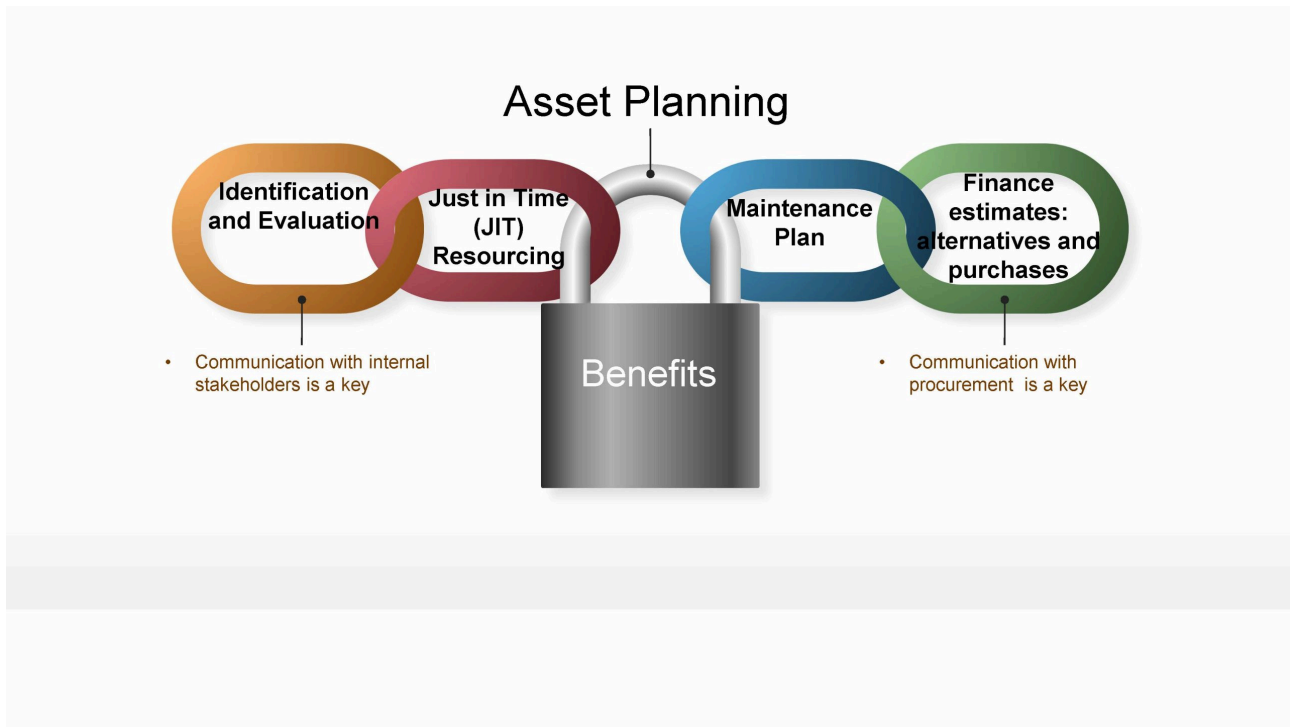
Figure 4: Asset Planning Benefits by Carmen Reaiche and Sam Papavasiliou is licensed under CC BY (Attribution) 4.0

In sum, excellent planning at all phases of the AM cycle allows an organisation to achieve the following results:

1. *Identify assets that are overperforming and ones that are underperforming.*
2. *Check to see if the organisation's current assets are sufficient for its requirements.*
3. *Make certain that assets are well-maintained and that they are responsible.*
4. *Ascertain that assets are readily available when they are required.*
5. *Analyse alternative asset selections in light of your financial planning.*

Phase 2. Procurement

Procurement is the first process or stage in the maintenance of an asset's life cycle, and it is the stage in which the asset is purchased. This section can be outsourced to the project management procurement team if the organisation's structure is project based. The best asset selection will be made based on the possibilities available to meet the needs of the company while staying within the budget constraints. Typically, the purchase is done after careful consideration of the demands that have been recognised from the research data collected, and the projections which are then developed on value gain to further support the actual purchase.

Once an asset has been acquired, it becomes the property of the organisation and can be utilised in any way that is deemed appropriate and profitable. The minimum work requirement within this phase of the asset life cycle is described in the flowchart below (Figure 5).
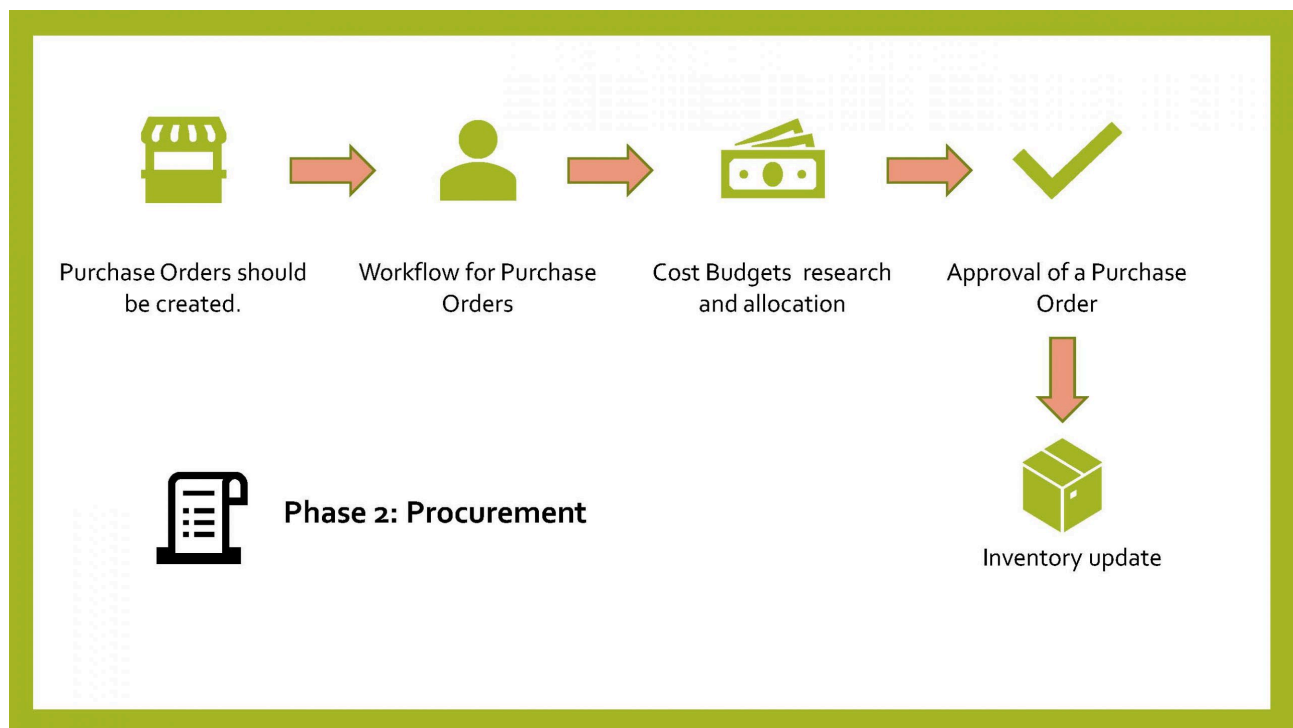
Figure 5. Procurement, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

It is important to note that each organisation is likely to have its own procurement and acquisition processes. Project managers need to aware of the different policies and procurement regulations existent within the project's organisation. However, even if these differ, a ll actions associated with buying an asset are standard, with an ultimate objective: ensuring that the acquisition of the asset is as cost-effective as feasible in the long run. Project managers will be regularly liaising with the procurement department as this department, under any organisation structure, is responsible for identifying the most qualified suppliers and negotiating the most favourable terms. Therefore, during this phase, the project manager is required to have excellent communication skills**.**

When all criteria from both phases, planning and procurement, have been satisfied, a project team should be formed to oversee the acquisition process, ensuring that all tasks are completed in order to satisfy service delivery and other organisational objectives as soon as possible.

Phase 3. Distribution of resources

The distribution phase, also known as the deployment stage, is the phase in which all the action takes place prior to the asset being used for its intended purpose. The asset is gathered, and it is subjected to preliminary inspections before being distributed to the assigned department for use. The inspection is carried out to look for physical faults (if it is a tangible asset) and design and engineering issues, as well as to determine whether the asset has been placed appropriately and safely. If the asset is intangible, the inspection consists of assessing if the asset is meeting the objectives' needs and its initial purpose. More likely, in this case, the related stakeholders will also get involved in finalising the inspection.

In addition, various tests are carried out to establish if there any problems. Tests are carried out by assigning the work breakdown structure (WBS) identification (ID Code) for tracking reasons. Once the tests are finalised and coded, the asset is deployed and moved from the inventory system to an "in-use" status. The in-use status should also reflect dates of the WBS.

Phase 4. Operation

The operation phase, also known as the utilisation stage of asset life cycle management, is the most laborious. In this phase, the asset is set to operate and be in use for the purpose for which it was acquired. During this phase the asset documentation (i.e., internal assessment communication artefacts) need to reflect transparency on the organisation's asset revenue or loss.

During the operation phase, the performance of the asset is constantly monitored for any faults that may occur unexpectedly while it is in use or in its application if it is an intangible asset, and any problems are reported immediately. During the operation stage, the most important thing to remember is to obtain the most utility and production out of the asset.

Purchase of additional licences, compliance audits, and cost-benefit analyses are all examples of activities that fall within this phase. For these activities there are many asset tracking application software programmes on the market. Capterra Digital Management Software for Australia is a good place to start researching the asset tracking trend software in Australia.

Phase 5. Maintenance and repair

It is important that project managers are in the lead in this phase. As innovations in technology move fast, new upgrades and maintenance are needed. When an asset is used continuously, it will also experience wear and tear, which will result in the need for routine maintenance. Maintenance is important because it helps to extend the asset's useful life as it ages. In this phase, ongoing modifications, patch repairs and upgrades are carried out to bring the asset up to date with the times, making it quicker and more efficient. This will only serve to raise the overall standard of the job. After you have completed the necessary maintenance, you should continue to monitor the assets and search for opportunities to enhance or change its operational needs.

Three main tasks are required in the maintenance and repair phase. These are highlighted in Figure 6 below.
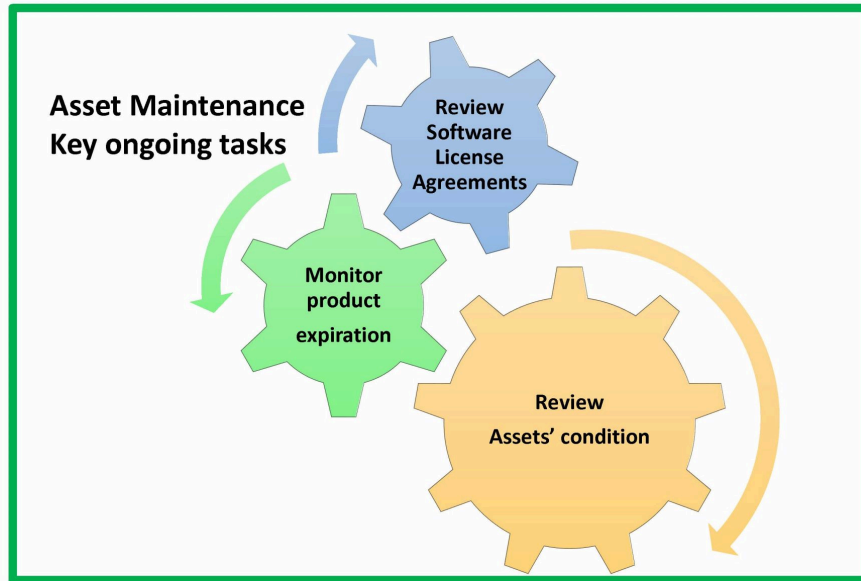
Figure 6: Asset Maintenance Key Tasks by Carmen Reaiche and Sam Papavasiliou is licensed under CC BY (Attribution) 4.0

At this point, you are utilising the asset in the manner proposed. Because it constitutes the most significant portion of the lifespan, you may also find that this stage is also referred to as the useful life. While addressing the key tasks of this phase including, ongoing review of the asset's condition, keeping an eye on licences renewals and product expirations, you should concentrate your efforts on keeping the asset in excellent working order so that it can continue to offer the service you require. As a project manager you may not do this hands-on; however, you will need to consider these ongoing activities while planning and developing the WBS. It is critical to take good care of the organisation's long-lived assets, whether that means cleaning on a continuous basis or executing some other type of routine maintenance on a regular basis. Certainly, these tasks need to be allocated under the responsibility matrix to in-house staff coordinators. IT asset management, for example, will include frequent data backups, virus scanning, and other updating software procedures. The better maintained an item is from the start, the longer it is likely to endure.

Phase 6. Disposal of waste

It is necessary to dispose of an asset when the item's usable productive life has expired. Phase six of the AM life cycle is the disposal process of the asset. Decisions regarding the disposal of an asset are recommended to be based on the services that are provided. Before disposing of an asset, this needs to be thoroughly inspected, treated, and processed to ensure that a) it *is* at the disposal stage, b) it will not cause harm to the environment, and c) it is no longer needed.

To make a correct decision to dispose of an asset and whether or not the value of the asset has been effectuated, sufficient data needs to be collated. Depending on how soon an asset approaches the end of its

useful life, it might be classified as a surplus or, alternatively, as an underperforming asset. Removal should be considered from the standpoint of the decision's implications on performance. If an asset is to be sold soon in order to allow for statutory maintenance to be performed, the maintenance strategy should be properly altered to account for this.

If the asset is to be disposed of, depending on the type of asset data deletion may be required. For example, software or applications that have been issued with a disposal note will be removed from the system. It the asset is a tangible one, it is then deconstructed piece by piece, with all the pieces that may be reused being saved and the parts that are no longer needed being shipped to the right place of disposal.

Project managers and asset managers are required to change the state of the asset in all related documentation from being in use to being expired or disposed of.

Note: Organisations can reclaim a considerable amount of its sunken expenditures in an asset if it implements good lifecycle management practices in the previous stages. Figure 7 shows a summary of the asset life cycle management.

Figure 7: Asset Lifecycle Management by Carmen Reaiche and Sam Papavasiliou is licensed under CC BY (Attribution) 4.0

Aspects of asset life cycle management that are beneficial

There are several advantages to measuring, controlling, and improving the life cycle of assets. Here are a few examples.

Increase the useful life of an asset. In other words, *increase the asset's operational life expectancy.*

Keeping track of an asset's lifespan provides you with vital information about how it is performing and when maintenance or an update is most beneficial. Make use of this information to develop an asset lifetime plan that highlights the most effective maintenance intervals and methods for keeping the asset in peak performance.

As a project manager you have already been trained to mitigate. When you intervene with preventive maintenance at these important intervals, you may significantly increase the asset's operational life.

Reduce the amount of time that your business is inoperative.

Following an asset life cycle management plan decreases the requirement for reactive maintenance, which in turn reduces the amount of time that a facility is down. Preventive maintenance should be performed before the need for reactive maintenance emerges, allowing the project team to maintain control over the asset's downtime. Preventive maintenance also decreases the likelihood of unplanned, excessive downtime as a result of emergency reactive maintenance that occurs unexpectedly. Maintenance can be scheduled outside of normal facility operation hours to ensure that it does not interfere with employee productivity.

Increase the overall efficiency of the asset.

Another advantage of asset life cycle management is the improvement in the overall quality of the equipment or service. Regular maintenance and review preserves the assets in their best possible shape and helps to avoid disruption caused by inadequate upkeep. Factors that contribute to greater asset efficiency include well-maintained equipment, superior operational service, longer asset lifespans, and fewer equipment downtimes.

Focus on cost savings.

An organisation that is efficient is also a low-cost operating business. All of the advantages listed above will result in cost reductions, therefore the following propositions are considered to be valid when adopting and executing efficient asset life cycle management.

Consider the following three propositions:

1. Longer equipment lifespans result in less frequent replacement of equipment, resulting in cost savings.

2. Reduced downtime eventually translates to increased uptime, which translates to increased productivity, resulting in cost savings.

3. Reactive maintenance is more expensive than preventative maintenance. Therefore, preventative maintenance results in cost savings.

Asset life cycle management allows you to schedule maintenance ahead of time, allowing you to save significant amounts of money on maintenance expenditures.

Make your decision-making processes more informed.

Asset life cycle management provides information about your facilities that would otherwise be unavailable. This information may be used to educate your decision-making process and assist you to create better preparations for the future. For example, while making judgements on an asset's replacement or repairs, financial and operating tracking data can assist with making the most cost-effective decision.

At this point, a best asset maintenance method should be followed.

Having discussed what asset life cycle management is and what it can do for organisations, let's move on to the topic of how to put it into practice.

A well-planned asset maintenance approach extends the life of the organisation's assets and improves their performance. As mentioned earlier, it also implies that there will be fewer malfunctions and associated maintenance for the assets.

The act of doing asset maintenance entails ensuring that your assets are in excellent working order. Furthermore, assets in excellent condition ensure that your facility operates at peak performance, resulting in cost-savings.

In order to obtain insight into the performance of the organisation's acquired assets, project managers are expected to employ asset monitoring techniques. These techniques allow them to make improvements and optimise assets' operations, as well as follow asset maintenance best practices to assist organisations to remain in good operating condition while keeping expenditures to a minimum. Here are some asset monitoring best practices to help increase the efficiency of the project manager and team operation.

Asset tracking

Asset tracking best practices for implementation include the following:

1. *Create a unique identification code for each asset*. The creation of a unique code to monitor all assets may appear to be an overly apparent step, but it is undoubtedly the most critical component of a highly effective asset tracking system. Many facilities rely only on serial numbers to keep track of their assets, yet serial numbers can occasionally be reused across many assets and models of the same type of asset. Using serial numbers also offers space for human error, if the number is mis-recorded

or mis-translated across several systems. Changes in technology have also given an alternative to this task. Consider utilising a unique QR code for each asset. QR codes may be printed right onto an asset, making them instantly available and linked to a wider set of descriptive data. This guarantees that technicians always have vital information about each individual asset when needed.

2. *Pay close attention to the details*. As soon as all assets have been identified by a unique identification or QR code, it's time to enter them into your system. This creates a well-informed asset inventory. This is not an agile project management sprint step, but it is a process that must be completed.

3. *Compile and arrange information*

At this point, project managers and teams should have an orderly network of assets that have been labelled, as well as mechanisms for keeping them structured; it is now time to fill in the gaps. Storing all essential data about the assets in a central location will allow technicians to refer to the information quickly and simply, streamlining their tasks and increasing their productivity. More crucially, it produces a complete image of an asset, which can be retrieved at any time to support decision-making. After a period of time, patterns begins to emerge in asset wear and performance, which will allow you to make data-driven decisions.

4. *Make a consistent plan*

The final step in ensuring a successful asset-tracking installation is determining which metrics will be tracked and how they will be tracked. The decision on where to concentrate efforts is influenced by the objectives the organisation wishes to attain. With asset monitoring, the organisation will be in a position to manage downtime, productivity, maintenance history, costs, and a variety of other metrics needed for the successfully meeting the deliverables of the project.

Following that, the team must select how they will keep track of the information. All of the duties listed above can be carried out using project asset and project equipment maintenance software, which provides the tools needed to track nearly everything that falls under the umbrella term of asset-tracking. However, always make sure that the project team is on board, regardless of what needs tracking or how it is intended to be tracked. If project managers want their team to be successful in asset tracking, it's critical that they understand and are familiar with the technological stack that is being used to assist this process. This includes feeling comfortable inputting, retrieving, and utilising data. The greatest and most accurate outcomes will be achieved when everyone is working from the same page, whether it's a Word document or a project management asset software system.

Asset monitoring standard practices are essential for long-term success.

5. *Plan for the future*

It is possible to see into the future thanks to asset monitoring, which is one of the most significant advantages it provides. Defining the asset's lifespan and tracking the progress of each piece of asset throughout its life cycle ensures optimum productivity. Forecasting is the most effective approach applied

to the information on asset lifespan and it is a critical step for preparing ahead. Implementing a preventative maintenance schedule where practicable or providing funding for replacements and repairs when a piece of equipment is nearing the end of its useful life, are examples of how to do this. By looking to the future to forecast the next move of the organisations' assets, we can assure that the organisation will always have the resources needed to keep operations running smoothly.

6. *Establish performance goals and objectives*

While storing information on the performance of the assets is beneficial, it is also necessary to establish goals to put the information into context. Without a reference point, assigning a simple benchmarking number is meaningless. Considering that every organisation is unique, the performance and maintenance objectives set should be tailored to the specific requirements of the organisation. Project managers can hold their team more accountable and employ maintenance management tactics to achieve specific goals if there are clear established productivity expectations way in advance.

7. *Continuous improvement*

The tracking of assets is a never-ending process. Following the implementation of a tracking system, feedback starts being recorded. Once feedback is analysed, the project manager may begin making improvements to increase efficiency. Nevertheless, it is vital to remember that this is not a one-time event: it is a continuous improvement cycle. It will take time and patience to get a completely optimised facility as a result of tracking assets and observing patterns over time. The information gathered on the assets should be reviewed on a regular basis, and always with an eye toward identifying areas where improvements can be made.

Asset monitoring provides valuable information about the operation of every piece of asset in the organisation. It is therefore important that we learn these asset tracking best practices because in the long term it will help us better understand asset productivity.

Test your knowledge

An interactive H5P element has been excluded from this version of the text. You can view it

online here:
https://jcu.pressbooks.pub/pmgovasset/?p=75#h5p-7

Key Takeaways

- Any company's performance depends on the effectiveness of its AM department, particularly because infrastructure assets with a lengthy life cycle and requiring significant capital expenditure will serve as the foundation of business growth. As a business grows in size and complexity, the need for a sound asset management strategy becomes even more critical to its success.
- Putting in place an asset management strategy won't yield results if the process itself is only average at best, as it is often done quickly in response to ongoing changes in the business environment. Before searching for ways to streamline this process, it is vital for organisations to simplify their current asset management procedures first. As the project manager you must be focused on the following areas in order to succeed in the implementation of an effective AM strategy:

PM Focus	Reflective Questions
	What is the function of this asset in your organisation?
1. Recognise the rationale for the presence of an asset.	What was the reason for its acquisition?
	What is the asset's current state of health?
2. Acquire information about the asset's current state.	How successfully does it accomplish its objectives?
	Is it a dependable source?
3. Check to see how efficiently the asset is being utilised.	What kind of value does the asset now provide?
	Is it living up to the expectations that have been set?
	Would there be a shift in customer expectations for service?
4. Determine the needs of the future: forecast!	Is the asset capable of meeting current and future requirements?
	What steps are being taken to ensure that the asset's lifetime is maintained and improved?
5. Evaluate the current preventive maintenance approach.	What is the current effectiveness of the asset maintenance approach?
	Is the forecast for maintenance expenses correct?
	Is it necessary to examine the asset's useful life on a regular basis?
6. Predict the depreciation rate and the dangers connected with it.	Is there a big difference between current expectations and earlier estimates?
	What will be the ramifications of this depreciation?
	When is it anticipated that the asset will be permanently removed from service?
7. Predict the disposition of assets.	If an asset is sold, is there a financial statement entry for the gain or loss resulting from the sale of the item?

References

International Organization for Standardization. (2014). *Asset management — management systems, Guidelines for the application of ISO 55001, ISO 55002:2014(E), 2014*. https://doi.org/10.1007/978-94-007-2724-3

PMBOK guide. (2021). *A guide to the project management body of knowledge* (7th ed.). Project Management Institute.

MODULE 3. ASSET MANAGEMENT STANDARDS AND MODELS

Overview

The objective of this module is to provide a critical review of the existent asset management (AM) frameworks by presenting a current overview of AM standards. For instance, Australia and New Zealand, have formalised the International Infrastructure Management Manual (IIMM) AM standard. Other countries like the United Kingdom have used the PAS 55 AS standard. Taking into consideration that there has been a variety of standards frameworks implemented, the introduction of an international standard for asset management in 2014 (i.e., the ISO 55000 suite) was much needed. The ISO 55000 suite is the first set of global standards representing a consensus for the asset management community.

Learning objectives:

- contextualise key benefits of both IIMM and ISO 55000 suite AS standards
- evaluate the impact of ISO 55000 in the AM life cycle
- critically review AM effective components
- compose a strategic AM model and/or framework.

A brief overview of the Australia and New Zealand standard as well as the ISO 55000 described above is presented in the following section.

The International Infrastructure Management Manual (IIMM)

As a result of the increase in energy prices and interest rates after the global economic crisis, the Australian government implemented a number of broad-based economic reforms in 1986. These reforms triggered the AM concept for the maintenance of public facilities, which since then, has become internationally recognised. The majority of our infrastructure has been developed in accordance with this philosophy. Initially focusing on highways, the national asset management councils were established, and the Asset Management Manual was released in its first version in 1996. The International Infrastructure Management Manual (IIMM) was first published in 2000 solely by Australia, with further updates appearing in 2002, 2006, and 2011, which integrated New Zealand regulations.

The IIMM is a collection of guidelines that explain how to implement the standards for infrastructure asset management. The guidebook was prepared with input from several nations, and from both public

and commercial organisations. Asset managers, asset planners, operators, maintainers, and developers have since been able to use this manual, as the IIMM emphasises universal application to ensure that it may be used by everyone involved in AM and across cultural locations. In the IIMM design, the decision to use a Maturity Index was strategically aimed to assign different levels of difficulty to evaluate and quantify different AM activities. The activities ranged from the most basic to the most advanced, and were assigned to organisations that were just getting started with asset management to organisations that had a lot of experience in this field.

The IIMM is divided into five sections, as seen in Figure 8 below. Section 1 provides an overview of the AM infrastructure. It describes the advantages of AM, the definition of AM, the AM process, and the value of using the manual. Section 2 discusses recognising and defining clear asset requirements, and describes AM policy/strategy, service levels, anticipating future demand, asset condition evaluation, and risk management. Section 3 discusses establishing AM life cycle tactics, expands on decision-making procedures, operational and maintenance as well as capital investment strategies and plans. Section 4 discusses AM facilitators: asset management teams, delivery methodologies, quality management, and continuous improvement. Lastly, Section 5 discusses issues that are peculiar to each country (i.e., Australia and New Zealand, with recent working groups from the United States, South Africa and the UK expanding its adoption) and it provides a summary of the infrastructure and financial regulations in these countries.
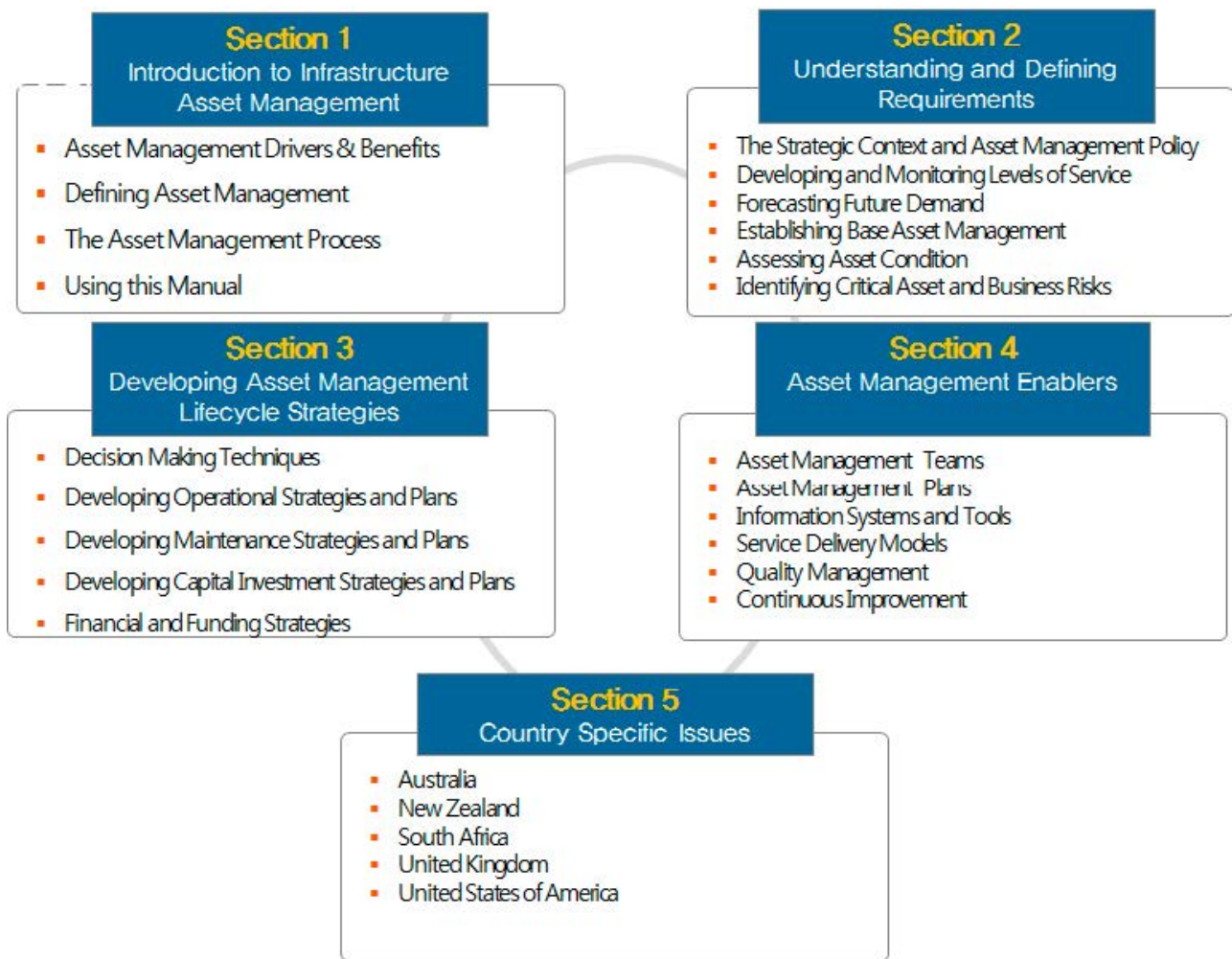
Figure 8. Composition of the IIMM by Lee et al. (2015)

Australia and New Zealand have fully adopted the IIMM. However, as infrastructure has been recognised as the foundation of a country's economy, then it must also fulfil the ISO standards for the country to be globally competitive. Therefore the Institute of Public Works Engineering Australasia (IPWEA) updated the IIMM edition to introduce the latest ISO 55000 Asset Management Standards. This can be found in the 5th IIMM edition. It appears that this edition of the IIMM represents a substantial advancement in the following critical areas, as indicated by IPWEA: Making a business case for AM and identifying critical success elements, directly guiding strategic asset management plans (SAMP) and policies. In this assessment plan, IIMM addresses AM objectives, risk management, leadership and communication, operational strategies and planning, asset management systems, information management, asset management maturity, asset management performance measurement and auditing, infrastructure resilience assessment and management, as well as asset management maturity. Today, IIMM still holds a critical role in achieving best practices in the AM industry.

But what are the ISO 55000 Standards? And what is its role in AM?

The ISO 55000 family of standards

All international management systems, including ISO 55000 asset management systems, are recognised as a framework of essential drivers and procedures in the industry, and as such, they are included in the ISO 55000 portfolio of standards. In addition to being based on real-world AM skills and practices from across the world that have been recognised and endorsed by an expanded panel of international experts, these standards have several other significant advantages. It is worth noting that the ISO 55000 suite of standards was developed by the ISO Committee PC251 with the participation of 31 countries, making it the most broadly approved global asset management system available today. According to the standard, the purpose is:

> to guarantee that existent asset management systems within organisations are capable of satisfying the standards' objectives in order to assure compliance.

Throughout the process of developing ISO 55000, a common and successful method has been built, and this methodology can be applied to a variety of assets and organisational structures across the world.

Currently, the ISO 5500x standard is in use globally, and it encompasses three fundamental specifications: a) ISO 55000 Asset management: Overview, concepts, and terminology, b) ISO 55001 Asset management: Control systems – Specifications, and c) ISO 55002 Asset management: Management systems – Recommendations for ISO 55001 implementation.

The ISO 55000 package of standards is built on a strong foundation. ISO 55000 is relevant to any firm or type of asset – tangible or intangible – as long as the assets are a crucial component in the achievement of the business objectives. Yet, ISO 55001 in particular, is the most essential standard in the ISO group since it specifies the standards that must be met in order to implement an effective AM system. It describes **"what"** should be included in the asset management system as well as **"how"** to obtain this information. QUALITY has also been established as a criterion for AM by the International Organization for Standardization (ISO 55001).

In sum, the ISO 55001 standards focus on the benefits of AM integration for an enterprise, while emphasising the four pillars upon which such integration should be built: generating value for the organisation and its beneficiaries through resource utilisation, promoting the overall sustainability of the organisation in order to achieve organisational goals, and managerial leadership based on employee commitment and political involvement in the organisation. At the same time, it is necessary to emphasise that these foundations cannot be seen as the underlying principles of good resource management, but

rather as the outcome of continuous resource management activities and facilitation. These benefits are reflected in Figure 9 below.
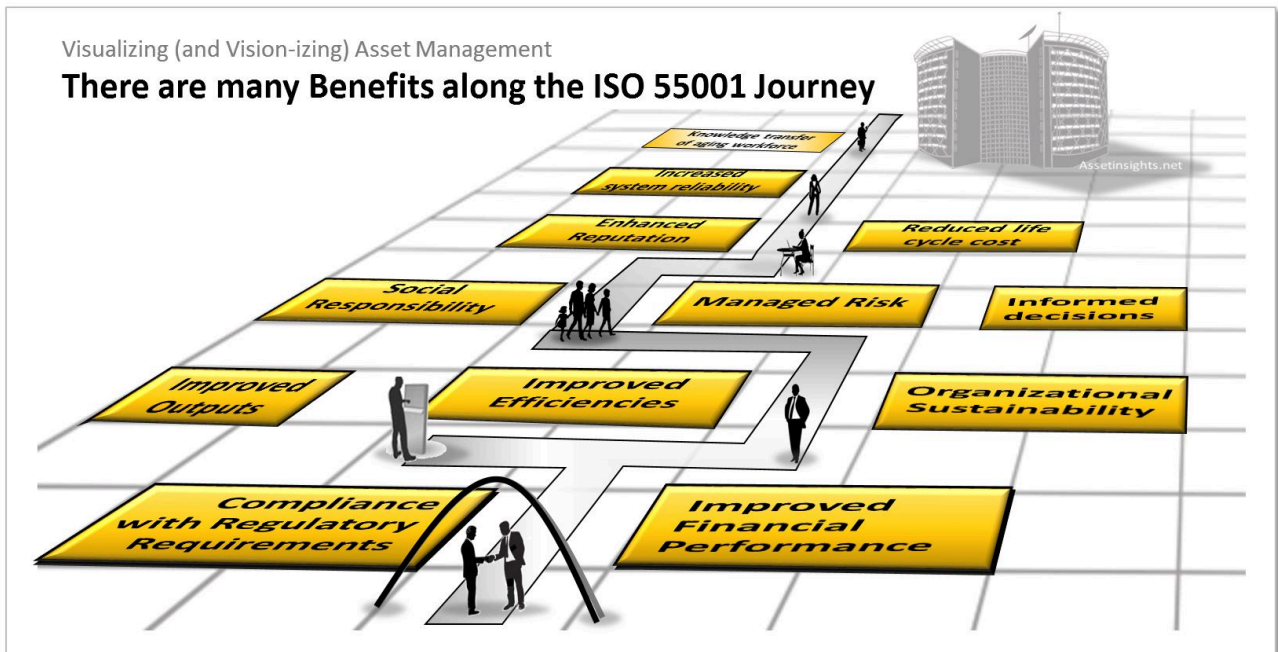
Figure 9. Benefits to implementing an asset management system in accordance with the requirements of ISO 55001, by Asset Insights, licensed under All Rights Reserved ©

Reading: The contemporary landscape of asset management systems

The article titled "The contemporary landscape of asset management systems" by Konstantakos et al. (2019) presents an excellent overview of the AM standards discussed above. Please click the link below.

Asset management components

There are multiple variations of asset models and frameworks as well as AM software in the market. In fact, as mentioned earlier, almost every organisation has developed an AM system in-house or adopted automated AM systems packages to align with their strategies and business mission(s). Consequently, we are unable to provide you with a unique model as a benchmark to adopt. However, let's discuss the five critical components which are common for AM. The Asset Management Center for Water and the Environment of the Georgia Association of Asset Water Professionals in the United States has created a simplified version of these components. Figure 10 highlights these five components, including: asset inventory, level of service, criticality, life cycle costing and long-term funding.

The Five Core Components of Asset Management

- **ASSET INVENTORY**
What assets do you manage, where are they located, what condition are they in, how long are they expected to last, how much are they worth?

LONG-TERM FUNDING
Do you have funding sources to provide the capital you need ongoing management?

LEVEL OF SERVICE
What level of service do you want to provide for your customers? How will your asset enable this process?

LIFE CYCLE COSTING
Is there a strategic plan for operating and maintaining system assets? Is a process, based on risk, in place to determine when to repair, rehabilitate or replace assets?

CRITICALITY
What is the overall business risk based on probability and consequence of asset failure? Is there redundancy to reduce risk?

Figure 10. The Five Core Components of Asset Management, by Southwest Environmental Finance Center, is licensed under All Rights Reserved ©

Inventory of assets

Asset inventories should be a clear reflection of what the organisation own as well as the condition of its assets. To begin compiling the inventory, the role of the project manager is to gather as much information as possible about each unique asset. The type of information that is recorded by the organisation about the assets should include the kind, size, location, condition, remaining useful life, and replacement costs. These resources will aid the project manager in selecting the most pertinent data gathering methods, and the most pertinent data utilisation strategies, allowing project managers to have complete control over the organisation's assets.

The initial inventory cannot be created using a one-size-fits-all method since each organisation's situation and assets are unique. However, project managers are advised to collect the following information as quickly as possible:

- Collect as much intangible knowledge and information about where assets have been placed and the specific location of those items. If tangible information, such as a system map, is available, they can be referenced to at various points throughout data collation.
- Refer to the system's as-built record drawings, as well as to additional engineering drawings, if needed. Interview potential people who are knowledgeable about the AM process to get specific information.

Following the creation of a master inventory database of assets, it is important to determine the location

of such assets. A visual representation of asset locations is a critical component of AM. The map might be simple (hand drawn) or as complicated as technological capabilities allow it to be (Geographic Information System). In terms of benefits, the most significant is that it may be used to track changes in the asset inventory as well as failures of assets in maintenance records.

After the map has been created, the location of the object should be documented in the asset inventory database and linked to the mapping system. Furthermore, location information allows for the establishment of asset groups, and when a single asset in a given location and or department is replaced, the issue of whether or not additional assets in the same location should be replaced at the same time may be answered.

When assets are recorded, it is also critical to determine their current condition. A preliminary condition assessment can be carried out by assembling individuals who have current or historical knowledge of the system and asking them to score the asset's condition on a productivity-operational scale.

Level of service

Service organisations, in particular, often have competing priorities and limited funds. Therefore, the project manager must determine what the organisation's customer needs are and if the organisation is capable of providing and/or matching their asset with the customer service specifications. In project management terms, the scope of the AM is required to align with the stakeholder's specifications to maximise the service level. When customers have a say in what they wish to obtain, they are more willing to pay for it. Defining the right level of service will allow project managers to clearly communicate what it is that the organisation service or products will do for the customer, which is the value of the project and the benefits of investing in the right assets. AM can help project managers define the level of service of the project deliverables.

Critically evaluating risks

It is important to identify key assets allocated to the project and inside the organisation. Another key component is being able to critically recognise which assets are essential for risk management and develop a plan for how to protect them. Think about this:

> Certain assets are necessary for the organisation to work well, whilst others are not essential for good performance and operation.

Assets are defined as critical, based on their relevance to the proper productivity and functioning of an organisation. Having knowledge of the potential and ramification of risks helps to develop criticality in

a given situation. A project manager must first determine what information it has about the possibility of a certain asset failing before proceeding with the project. To aid in this examination, a project manager should consider the following factors: the asset's age, condition assessment, failure history, designed life expectation, current maintenance practices and methods and knowledge regarding the likelihood of that type of asset failing (if applicable). The likelihood of an asset failing increases when the asset is old, has a lengthy history of failure, or has a bad condition rating. The likelihood of a failure may be reduced significantly if an asset is newer, has a limited or no failure history, and is rated in good to exceptional condition. Therefore, the criticality factor associated with an asset can be assigned in a manner aligned with how the condition rating is allocated.

When analysing the consequences of a failure, a project manager should consider all of the conceivable outcomes as well as the related costs. In addition to the cost of repair, the costs of asset loss may include the social cost of asset loss (e.g., a reduction in customer service level, if applicable), and any other associated costs or asset losses. In the event that any of these expenses is severe or if a large number of changes develop as a result of the failure, it can be extremely expensive. The asset's consequence factor can be, therefore, allocated and managed in the life cycle costing.

Life cycle costing

Understanding the life cycle costs of an asset gives the organisation the ability to optimise their investment in the asset. In order to understand the life cycle costing, project managers need to understand purchase costs, maintenance history and repair history. With this information project managers are in a better position to begin to look at how much maintenance an asset should receive to extend its life and when an asset should ideally be replaced. These resources will help inform cost benefit analyses and possible asset maintenance regimes among other things.

The total useful life of an asset is the time from when the asset is fully operating until the asset is no longer able to perform its required function for the project and/or organisation. The useful life remaining for the asset is the time from today's date until the asset is no longer expected to meet its desired purpose. It is also required that project managers learn to establish the replacement cost of an asset as well as the asset's useful life in order to plan for its replacement when needed. When calculating the replacement cost, it is necessary to take into consideration both the expenses of replacing an existing asset with a new one and the costs connected with disposing of the prior asset. When calculating the replacement cost, it is important to include the estimated cost of replacing it in today's currency.

Long-term funding

Identifying the financial requirements for managing the organisation's assets in line with stakeholder service level expectations is critical to achieving success (note that the stakeholder group may include regulators, customers, project team, sponsors, legislative groups, etc.). Also important is the understanding

of existing and future costs associated with asset renewal, maintenance, and replacement, both current and predicted. These expenses serve as the foundation for developing budgets for operations, maintenance, and capital projects, which are then evaluated by decision-makers. In order to satisfy long-term financial responsibilities, it is necessary that the project manager starts financial planning as early as possible.

Overall, we also recommend that the project manager keep some key performance indicators (KPIs). These metrics are agreed with senior management and the project team executing the project. This is important as these measures may be used to track an organisation's progress towards its AM objectives over time. KPIs should thus be aligned with strategic objectives to track and report progress towards those objectives. Data from supporting data management systems may be gathered and used to produce metrics, also known as key performance indicators, that give insight into the success of AM projects, among other things (IAM, 2015).

By now, you must agree that having a well-managed AM framework has several important advantages, one of which is that it results in long-term cost savings but also, in the short term it promotes the organisation's competitive advantage by addressing the service needs and expectations of their customers.

Test your knowledge

An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://jcu.pressbooks.pub/pmgovasset/?p=77#h5p-9

Blueprint steps for AM strategic framework plan

Please note that this is only a guide. Various versions/approaches exist in the field of AM. We encourage you to conduct some research and design or adopt an appropriate plan in accordance with your organisation's structure, strategy and objectives. However, the following steps will provide you with a solid foundation. Please note that each activity listed under these steps requires assignment of a key milestone. Project managers are the most qualified to identify adequate milestones.

Step 1. An authorisation/approval activity is required prior to commencement. Dates and responsible position: line of approval needs to be documented.

Name– Position – Responsibility	Signature	Date

Step 2. Communication: Control Officer – A plan for internal and external communication is required during the AM life cycle.

Name– Position – Responsibility	Communication Strategy	Status- Action – Change	Date

Step 3. AM scope and Statement of Work

Activities	Tasks
Organisation Objectives	Summarise the organisation's core mission and core objectives.
Strategic Direction	Statement of the organisation's objectives and how these are aligned with the overall strategy, operation plans, and KPIs.
Forecasting	Requires a clear identification of both internal and external assets, as well as the presentation of a quick assets inventory aligned with the organisation's objectives and service/product deliverables. Think how these assets are impacting the project deliverables.
Scope Planning	Plan and rank the degree of impacts that the external environment and stakeholders may have on the organisation's assets and outcomes (i.e., services and products).
AM Objectives	Cluster/classify the asset requirement for the organisation, and prioritise these in accordance to the organisation's objectives.

Step 4. In line with the five AM components, an asset portfolio needs to be established.

Activities	Tasks
Asset Inventory	A summary of the organisation's existing assets and evaluation and/or status of their life cycle.
Asset Life Cycle Cost Evaluation	An assessment of how well the assets are performing in supporting the organisation's strategy. Once the life cycle of the asset is clearly evaluated, an indicative picture of their stage, performance and cost value is required
Risk Evaluation	Identify potential risks for each asset and assign a scale to their degree of impact these may have in the organisation's overall objective.

Step 5. A formal and evidence-based asset portfolio plan is design. This is underlined by all the data and information collected in set 1, 2, 3 and 4.

Activities	Tasks
Maintenance	Operational activities as well as maintenance management plans need to be listed in order to manage any previous risks identified.
Buy or Fix?	Established KPIs for asset renewals and acquisitions of new assets in the short, medium and long term.
Financial Plan	Provide summary of financial approvals, variations and/or control methods reacting to risks.
Disposal	Identify key assets that are no longer cost effective to maintain and operate, or do not show a long life cycle, and therefore are considered to be underperforming or unproductive.

Step 6. Continuous improvement. Project managers are required to provide an ongoing evaluation plan to improve the organisation's asset management frameworks and practices. More important is the project manager's responsibility to make sure that the project host organisation has a current AM strategy in place. As we know, AM is dynamic and evolves in line with technological changes, global economic changes, monetary inflation, logistics disruptions, and other factors imposing changes on the organisation's operational environment. Continuous reviews, evaluations and opportunity assessments are a must.

Test your knowledge

An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://jcu.pressbooks.pub/pmgovasset/?p=77#h5p-8

Key Takeaways

- The (IIMM was first published in 2000 solely by Australia. It is still current today, but jointly with New Zealand, South Africa, UK and the United States.
- ISO 55000 is now considered a required standard for AM.
- IPWEA's five components, including asset inventory, level of service, criticality, life cycle costing and long-term funding, are a current foundation for designing strategic AM models and/or frameworks.
- The role of project managers continues to be expanded in the design of strategic AM frameworks. A key role they play is in the data and information collection to start the design and plan of the asset inventory.
- Key milestones are needed as a review process under each of the seven steps suggested for the design of AM systems and processes.

References

International Organization for Standardization. (2014). *Asset management — management systems, Guidelines for the application of ISO 55001, ISO 55002:2014(E), 2014.* https://doi.org/10.1007/978-94-007-2724-3

IAM. (2015). *Asset management: An anatomy.* Version 3, Tech. Rep., The Institute of Asset Management.

IPWEA (2015). *IIMM Supplement 2015: Meeting ISO 55001 Requirements for Asset Management.* The Institute of Public Works Engineering Australasia.

Lee, S., Park, S., & Kim, J. (2015). Suggestion for a framework for a sustainable infrastructure asset management manual in Korea. *Sustainability, 7,* 15003-15028. doi:10.3390/su71115003. Open access.

Transportation Asset Management in Australia, Canada, England, and New Zealand. (2005). Federal Highway Administration.

Whyte, J., Stasis, A., & Lindkvist, C. (2016). Managing change in the delivery of complex

projects: Configuration management, asset information and "big data." *International Journal of Project Management, 34*(2), 339–351.

MODULE 4. ASSET MANAGEMENT: AN AUSTRALIAN DEFENCE PERSPECTIVE

Asset management: An Australian defence perspective

Overview

As discussed before, there are different types of assessment management (AM), normally clustered by the nature of the business and/or asset, such as digital, fixed, IT, enterprise, financial and infrastructure AM. One Industry that integrates almost each of these AM types, is the Australian Defence sector. Capital-intensive industries such as the Australian Department of Defence, face a number of common challenges when it comes to managing their physical assets, such us budget restrictions, internal and external cultural and regulatory variances and maintaining the asset's value over its life cycle while managing operational safety and much more.

There are a number of factors that contribute to increased complexity faced by the Department of Defence, including its national security mandate, the requirement to function within the Commonwealth's legislative and accountability framework, as well as the unique character and interdependence of numerous Defence assets. Defence assets also generally have lifetime lengths measured in decades, which manifest a distinct set of issues in asset administration.

The importance of language and internal culture cannot be overstated. To begin, certain clear ideas and vocabulary within the defence business must be specified, so that we all understand the same meaning when a phrase is used in the same context. For example, "ensure," "assure," and "assurance" are some of the most important phrases (and ideas) that, in different contexts, may mean different things to different people. If working in the Air Domain then the most appropriate definitions should come from "The Defence Aviation Safety Framework", since it is already extensively recognised within the Air Domain and because the concepts are quite similar.

Learning objectives:

- articulate the importance of culture, trust and transparency in AM
- infer the importance of culture, leadership in the AM process and governance approach
- articulate AM vocabulary within the Australian defence business.

When defence uses the phrase "through-life asset management", it indicates a desire to accept some of the concepts of ISO 55000 Asset Management; however, their way of perceiving value is not the same as other businesses will perceive it. Within this context, it is not solely about the asset financial value but about productivity value. Yet, this is not unique to the defence industry and we can say that it is also relative to the nature of the organisation's operation, their project objectives and the business/organisation strategy.

It is critical to concentrate on AM and on the productivity value of assets. There are several essential factors in life cycle activities and asset care that support this given value — for example, availability, reliability, maintainability, dependability, and safety, to name a few.

But then again, it is also about the leadership and the supportive culture that enables effective AM frameworks. In addition, the governance of assets, their condition, life extension, and/or remedies are also significant factors to consider. Overall, people, leadership, culture, skills, and job management are all critical concerns than tend to be overlooked if the right leadership and governance aren't in place. These are some of the issues highlighted in the case study below.

An organisation that follows the criterion of utilising assets to deliver performance and value to achieve their objectives will progressively enjoy the benefits of their efforts, and that is the case for our Defence Team. The following case study sheds light on some of the key aspects faced by our defence businesses. This case study has been a collaborative work, with contribution from *WGCDR Maria Jimenez*.

Case Study

From Asset Management to Governance: Air Domain Defence Governance Strategy

By WGCDR Maria Jimenez in collaboration with Associate Professor Carmen Reaiche

What is an Asset Management Culture?

Let's start with setting the scene defining AM Culture. We have earlier discussed ISO 55001 standards and it has been clear that ISO 55001 does not refer to organisational culture per se (ISO 55001: 2014), however, this is inferred through Leadership Commitment and exercised through defining senior

management's roles and responsibilities. While not explicit, those who are involved in establishing thorough Asset Management processes and systems within organisations recognise the vital role of that an organisation's culture plays in facilitating the success of the processes and systems required to operationalise asset management.

An Asset Management Culture is one based on the fundamentals of asset management (i.e. Value, Alignment, Leadership and Assurance) ensuring that the value from assets effectuates as depicted in Figure 11. Integral to the culture are:

- Strategic Asset Management Policies
- Strategic Asset Management Plans
- Integrating and Aligning Foundation processes and systems
- Organisation for effective and efficient Asset Management: Leadership Culture
- Good Governance Framework

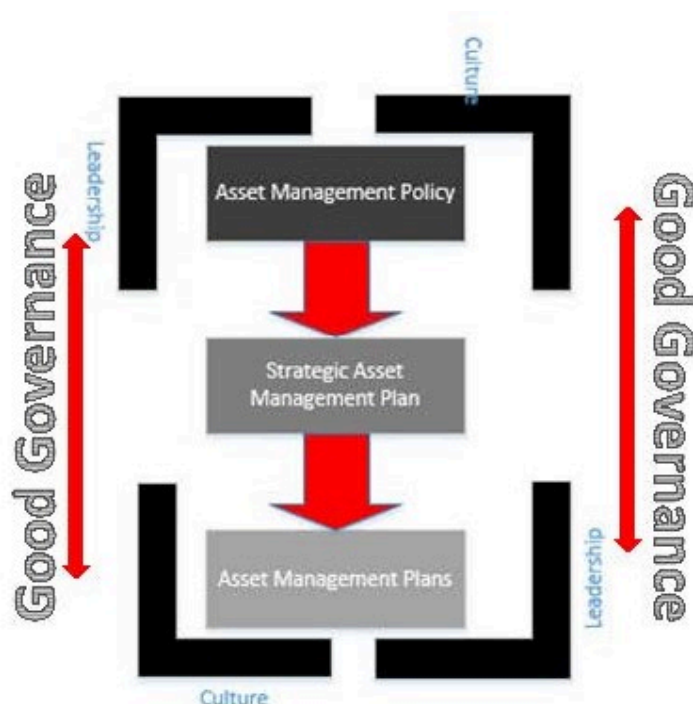Figure 11. Asset management foundational documents, by Maria Jimenez and Carmen Reaiche, licensed under CC BY (Attribution) 4.0

But we should also explore the concept of culture itself.

What is culture?

Across disciplines and over the years, researchers have adopted Hofstede's (1980) definition of culture. Hofstede explains that culture is a cumulative set of characteristics that affect how people from a shared

collective group respond to their surroundings. Within a business or industry, people operating under the same department and/or grouped by functionality (e.g. same field of expertise), share values, behavioural patterns and characteristics that are similar. This culture, also known as "the way we do things around here" strongly influences the organisation and its ability to thrive and deliver value.

There are many ways to visualise the concept of culture, Hofstede developed the "onion model of culture" approach, which has been used in this paper for Table 1. When someone looks at a culture from the outside, they need to work their way through understanding each layer to get to the core. Viewing culture as an 'onion' is where the core represents the value systems and the layers growing out of it represent habits. Adopting this pragmatic approach, we can say that based on an organisation's strategy, objectives and goals one can create shared values that form a set of guiding "leadership" principles, and therefore fit within the values element for delivering capability. Figure 12 represents Hofstede model, in which each layer represents:

- Values – the beliefs and assumptions that provide a set of guiding principles for decision-making
- Rituals – the routine events which bring people together (or apart?)
- Heroes – those employees and managers whose status is elevated because they embody organisational values and therefore serve as leaders for others
- Symbols History – A shared narrative keeping people anchored to the key values of the organisation.
- Practice – the leadership required within an organisation and which works with formal policies or behind the scenes to communicate key information and influence behaviours.
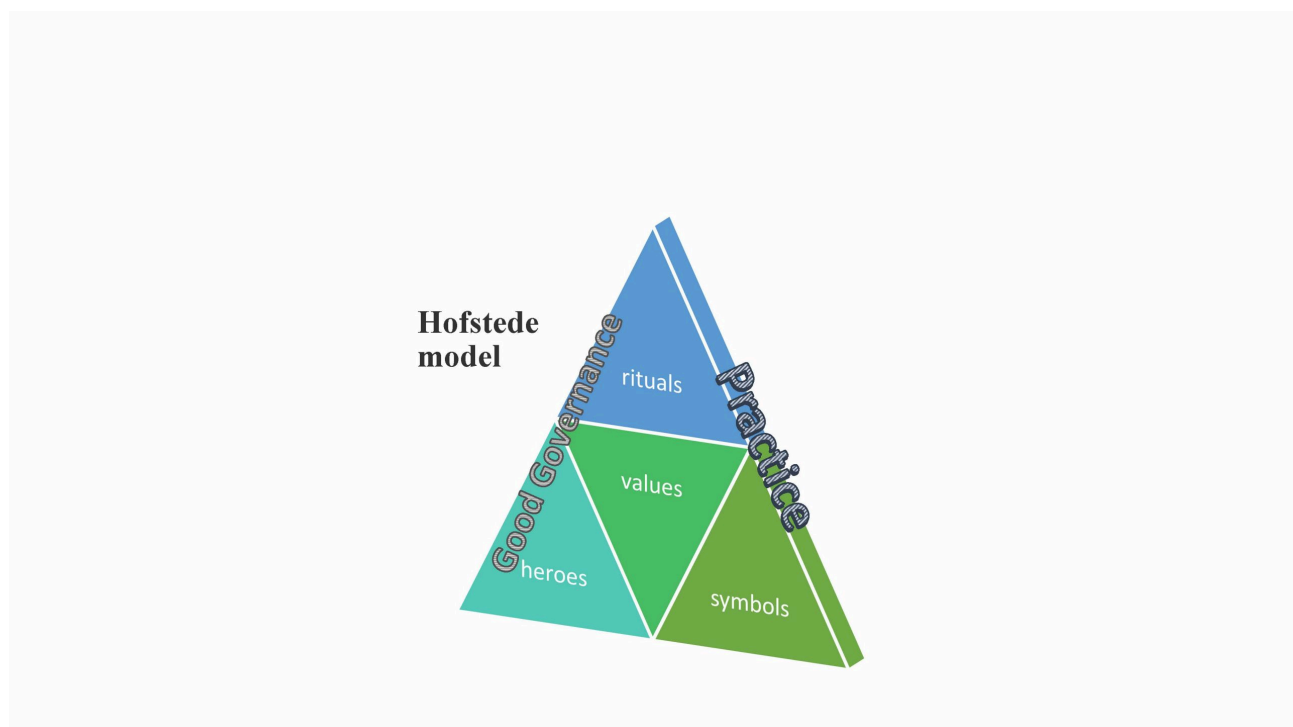

Figure 12. Hofstede model (1980) interpretation by Maria Jimenez and Carmen Reaiche is licensed under CC BY (Attribution) 4.0

This perspective on culture calls for a mutually shared cultural posture between the Australian Defence Force, Defence Industry and other external entities to support the procurement of highly complex systems.

Asset management in defence

Unlike private industry, Defence application of Asset Management practices calls for a divergent approach due to factors such as economics, capability (as opposed to assets) preparedness and interoperability. We explain the context of these factors below.

From an economics perspective, defence operates in a monopsony, where barriers of entry are too high to operate in a typical supply/demand economic environment. Contracts are complex, ambiguous with lengthy commercial arrangements and limited alternative sources of supply

Capability in an Asset Management defence context is the measure of success applied to the effectiveness of the use of the assets. Capability is defined as "*the power to achieve a desired operational effect in a nominated environment within a specified time and to sustain that effect for a designated period*" (ADDP 00.2). Hence, the optimisation of cost, performance and risk should result in an increased level in achieving the effect on operations.

The Capability and Acquisition Support Group (CASG) requires a tailored application of the ISO55000 Asset management to manage defence products. A Product in defence terminology is described as "*a group of related assets to which coordinated acquisition and sustainment activities are applied*" (ADDP 4.1). Consequently, Product Management comprises of all the entities that contribute value to the accomplishment of the Product Management Objectives (Product Management Guide 101)

Contrasting with private industry, where for example, a Haul Truck in the mines will perform one single function and controlled by a single entity; military capability is required to "act together, to provide services to or from, or exchange information with partner systems, units or forces" (Australian Defence Glossary v.1.0). Interoperability sets the environment to achieve unity of effort and increases the value of the assets by achieving a greater combined effect (Interoperability Guidance v1.0). We suggest that interoperability adds another layer of complexity characterising Asset Management in defence unique in comparison to other industries.

Limited availability of sources of supply and the complex nature of these contracts demands a greater degree of investment between defence and the defence industry, both economic and relational, to ensure a cohesive approach in the procurement of military capability. Ideally, the ADF seeks a Governance philosophy from industry partners, underpinned by behaviours such as benevolence, trust, collaboration and integrity. These behaviours provide a fundamental basis of shared values and by default a common culture, withstanding the testing of the commercial relationship. Table 1 illustrates the divergent cultural approaches to Asset Management (Product Management) and consequently why positive enterprise behaviours are essential in a defence context.

As mentioned above, the table below attempts to illustrate the Defence AM culture using Hofstede's lens.

Table 1. Cultural perspectives of asset management/product management

Onion Model	Asset Management – External Industry	Defence Product Management
Value	Asset integrity. The function of Assets Management is to support the delivery of services to the organisation	Capability
Rituals	Stimulate performance growth and minimise errors	Relationship
Heroes	Leaders in industry reflecting behaviours which support commercial operations	Military leadership focussing on best for capability
Symbols	ISO555001	Product Management Framework
Practices	Commercial drivers focussing on cost minimisation	Governance (planning, assurance, reporting and contract administration)

It is not our intention to discuss the general aspects of organisational culture in this case study, as this is a complex discipline on its own and it has been well argued in the literature. However, this case study aims to discuss some key points relating to organisational culture which we consider of relevance to Asset Management, Governance and ISO 55001. We suggest that as part of exercising leadership in an organisation a Steward's purpose in a productive environment is to cultivate assets and grow them successfully for the benefit of employees, customers, investors, suppliers and society. Within this process a Steward's approach will also enable the foundations for a solid governance framework.

Following this logic, before changes are implemented to an existing organisational culture of asset management, the issue of how to conceptualise and measure asset management culture must be addressed as a first step. Our Asset Management culture, then, will be the way that these elements interact to shape the management of – and indeed the way we think about – our assets. These elements therefore provide a valuable basis for informing us as to how we might influence Asset Management culture in defence but do not in themselves answer our question with regards to what "Product Management" looks like. To do this, we introduce a relational framework (Jimenez 2019), depicted in Figure 12 that we believe demonstrates 'what good looks like' in a defence Asset Management culture as opposed to less effective and reactive cultures.

How to establish an asset management (product management) culture in defence

Changing organisational culture is difficult. Managing change takes considerable time and other resources, which aren't necessarily at reach on a day to day basis. There is an entire literature written on this topic, and a detailed examination of this topic is out of the scope of this module. However, based on our experience,

soft skills, particularly "leadership" is the starting point to deliver sustainable change towards achieving an effective Asset Management culture.

Historically, the ADF has been more comfortable using *Management Tools* rather than *Leadership Tools*. However, those that swing the balance to increase their use of Leadership Tools frequently achieve great results – these are the practitioners that encourage soft skills deployment. Indeed, ISO 55001 makes several references to the role of top management and leadership in establishing sound asset management practices. Many of the activities expected of top management in ISO 55001 are managerial in nature (for example, ensuring that an Asset Management Policy, Strategic Asset Management Plan etc are established). However many are true leadership activities and involve behaviours such as integrity, collaboration, organisational integration and contractual alignment. The following model (Figure 13) depicts how relationships within the Defence Asset Management system can be leveraged using a leadership lens rather than a managerial one.
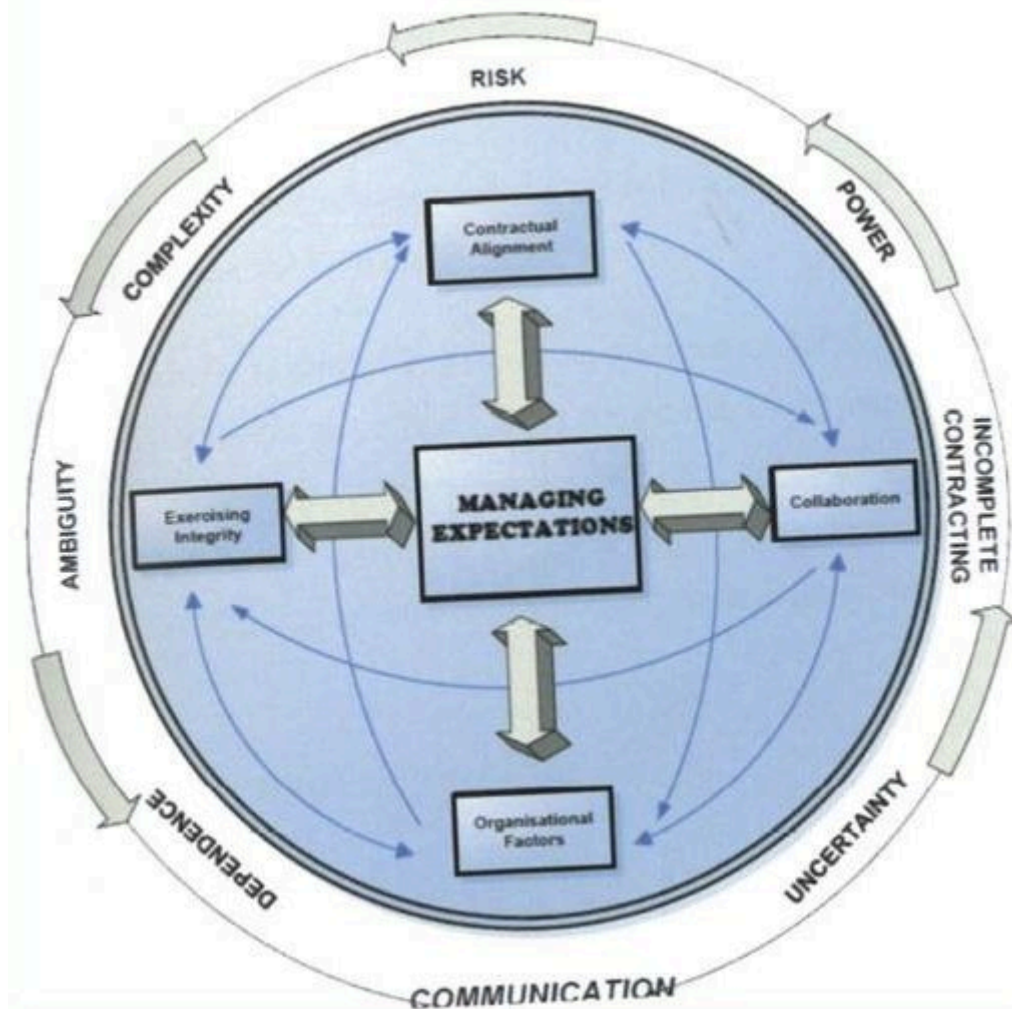

Figure 13. Relational model, by Maria Jimenez, All Rights Reserved © Used with Permission

Taking a leadership perspective (being one of the fundamental concepts of Asset Management) we explain how the dimensions of the model offer a robust foundation to establish and maintain a successful Asset

Management (product management) culture in defence. As per Jimenez (2019), 'collaborative' behaviours are necessary to lead cross-functional teams. These behaviours support the ISO55001 operating principles, which promote a cross-disciplined approach in the operationalisation of the Asset Management system. Similarly, 'exercising integrity' is demonstrated from a Leadership lens through personal actions and interpersonal relationships focussing on 'best for capability'. Leadership in 'contractual alignment' relies on the relational governance and assurance placed on the capability. Alignment (another fundamental of Asset Management) refers to how the asset base contributes to achieving value. That is, we determine contractual outcomes, associated measures and we are able to trace value through aligned objectives. Lastly, 'organisational factors' can be represented as the collective approach in contemporary leadership practices seeking to understand leadership in terms of teams, systems, networks and business units (McCauley & Palus, 2020). Organisational factors can be translated as 'interoperability' of the Asset Management as a system. Without these activities, a true Asset Management culture in defence cannot be established.

The Capability Acquisition and Sustainment Enterprise (CASE) and the product life cycle

In order to provide context to this section, in 2015 the Government implemented the recommendation from the First Principles Review recommending Defence focus on Planning and Governing with Defence Industry focussing more on managing and delivery (Air Domain Sustainment Commercial Strategy, 2022). This strategy emphasised a more collaborative approach to delivering capability, where the enterprise is collectively accountable for the acquisition and sustainment of the capability.

The Capability Acquisition and Sustainment Enterprise (CASE) model emphasises the relationships between the Capability Manager, industry and foreign governments to deliver capability to meet Defence's preparedness and operational requirements (Agius 2021). The CASE model forms the commercial construct from which to deliver capability. Historically, defence's commercial relationship with defence industry has been adversarial, however more recently there has been a shift towards strategic partnering with a focus on collective enterprise behaviours and attitudes, such as transparency and trust (Jimenez 2019, Air Domain Sustainment Commercial Strategy 2022), which best support *best for capability* outcomes.

Best for capability is a commonly used term in defence, which aims to elicit a decision making approach where all enterprise partners are equally accountable to engage and deliver what is required from acquisition, sustainment through to disposal activity. It may require undertaking actions and functions not necessarily bounded by the formal contract hence the need to influence, shape and apply leadership. The delivery of best for capability outcomes requires an integrated relational approach between the defence and industry partners to optimise capability life cycle activities and complement the commercial framework to achieve value for money (Air Domain 2022).

Commercial models call for a tailored approach due to the degree of complexity in the defence acquisition

environment. In developing commercial models, the focus should be on the value proposition, optimised service delivery, total cost of ownership, a shared approach to risk and suitable levels of assurance. In this context, the product life cycle provides the basis for the commercial model. For example, at the commencement of the contract there is an increased level of financial risk, which often plateaus as the project progresses. Risk is again introduced towards the end of the capability's life, as the capability ages and disposal of the assets commence.

Understanding the important relationship between asset management (product management) and governance

Understanding the relationship between Asset Management (product management) and governance is critical as it links the key principle of assurance to the value proposition. The Air Domain business goals articulate the management of governance and risk as one of its primary goals. Air Domain aim to implement governance controls to facilitate planning, assurance and leadership throughout the capabilities we manage (Air Domain Business Plan, 2022).

But let us define Governance. Governance is the combined effect of the organisation, people, processes and information applied practically to achieve that intent. Capability and Acquisition governance is centered on delivering value to customers, and optimising commercial, financial and capability outcomes (ASR Branch SPO Governance Guide). In Module 5 we will look at Governance in more detail.

The process of developing a Value Proposition consists of talking with customers to understand their needs; what tasks they need to achieve, challenges in achieving these tasks, what does good look like, or conversely what the customer wants more of. This information is communicated through agreements such as Materiel Acquisition Agreements (MAAs), Material Sustainment Agreements (MSAs) and Product Delivery Schedules (PDS). Creating the Enterprise Value Proposition facilitates the commercial relationship to develop a common understanding of capability requirements for the delivery of capability.

Let's explore four of the key factors underlining Governance including: planning, assurance, contract administration and reporting (Agius 2021). Planning refers to the defining and establishing requirements and enterprise arrangements. Contract administration covers transactional activities such as implementation of contract change proposals, while the reporting function constitutes evaluation of contractor performance managed through various organisational tools. Commonly out of the four factors constituting the Governance framework, assurance is the most challenging to comprehend, apply and optimise at a tactical level.

First, we must delineate between ensure and assure. Assurance is defined as 'a positive declaration intended to give confidence', alternatively ensure is 'to make sure, certain or safe' (Sea King Board of Inquiry).

Industry Partners are responsible for ensuring the delivery of materiel through assurance activities exercised by the Commonwealth (Agius 2021).

Assurance can be described as establishing 'justified confidence' based on objective evidence in the work done by and on behalf of the customer (Agius 2021). This 'justified confidence' is built on conditions such as risk exposure; interest alignment; accountability and compliance costs. Analysing these conditions will result in an appropriate and commensurate response to the degree of assurance applied to the supplier. For example, where risk is low, interest alignment is high, accountability is clear and compliance costs are low a lower level of assurance is applied. Low level of assurance can be applied through a relational governance framework such as the Jimenez (2019) model. The model supports the notion that assurance at a tactical level should concentrate on decision making for 'best for capability outcomes' and creating value by shaping and influencing the contractual relationship and exercising leadership.

Governance and supplier assurance

Assurance exists to monitor supplier performance, compliance to organisational requirements, identify contracting gaps and managing total cost of ownership of the capability (Air Domain Governance Strategy, 2020).In a defence context, it is critical that assurance activities are aligned to meet capability requirements, support internal organisational processes, improve utilisation of organisational resources and be optimised to meet risk, cost and performance, based on the value proposition. Thus, where a greater degree of assurance is required a more complex contractual structure may be more appropriate.

To what degree supplier assurance is undertaken is based on transparency, the creation of value, management of risks, issues and opportunities and application of relational contracting from an Enterprise or System lens. Transparency is necessary to establish trust, the greater the degree of trust between the parties the less assurance required (Jimenez 2019). Value creation is generated through activities positively related to supplier behaviour and outcomes, including leadership. Managing risks, issues and opportunities direct the assurance model, the management of these through relational contracting enhance the contractual relationship promoting trust which is necessary to the Enterprise. Assurance activities do not operate in isolation, they need to be executed as part of an integrated System (Air Domain Governance Strategy, 2020).

An Enterprise focussed approach is consistent and compliments ISO550001 which describes its aim of deriving value from the optimisation of cost, performance and risk. Optimising these occurs through the integration of capability management systems based on the constituent capabilities such as maintenance, engineering, and logistics.

In conclusion, implementing an ISO 55001-compliant Asset Management system will depend heavily on the commitment from leadership within both the defence and defence industry. Therefore a Stewardship culture enabled through the Jimenez (2019) model is critical in culturally aligning defence and industry, through the acquisition and sustainment of military capability.

Key Takeaways

- There must be consistent alignment between the capability objectives and the organisation's objectives, as well as a recognition of how meeting culture leadership requirements contribute to the delivery of defence capability and the attainment of their strategic objectives.
- Governance is essential for effective AM within the Defence domain.

References

Hofstede, G. (1980). *Culture's consequences: International differences in work-related value*s. Sage.

Jimenez, M.I., & University of South Australia. (2010). *An emerging relationship framework for managing complex military procurement projects.*

PART 2. PROJECT GOVERNANCE

MODULE 5. WHAT PROJECT GOVERNANCE COMPRISES

Overview

Project governance plays a role in the successful outcomes of a project (Joslin & Muller, 2016). However, project governance is complex and there is no one-size-fits-all approach that can be applied. Project managers and project teams need to tailor their project governance to their specific needs, including organisational requirements, project needs and legal reporting obligations.

Project governance provides structure and supports the development of objectives of the project, a means to attain these objectives, and how to monitor and control performance (Turner, 2006). Therefore, good project governance ensures that the project objectives are aligned with organisational strategic and operational objectives. To meet these objectives, Turner (2006) states that there are three primary goals of project governance: (1) choosing the right project, (2) delivery of the selected project efficiently and effectively, and (3) ensuring projects undertaken are sustainable and achievable.

Learning objectives:

- evaluate the role of stakeholders in project governance
- rationalise what constitutes good project governance and discuss its key principles
- exhibit the key eight fundamental pillars of project governance
- asses the role of PMO within project governance.

A significant factor influencing project governance and what is deemed important is based on the governance style of the organisation that owns and leads the project. Research by Muller et al. (2013) identified the influence the governance style of a parent organisation has on the decisions made within the governance requirements of a project. There are two key themes which are important in project governance – transparency and accountability. First, the work that is completed with internal and external stakeholders must be transparent. Transparency is defined as providing a clear and tangible link between work being completed, the manner in which it is being completed and the project outcomes (Walker et al., 2008). Second, the organisation and project team must be accountable, which links back to transparency of decisions made with stakeholders. The two themes are linked because to have a clear accountability process, transparency is needed. Therefore, project governance mechanisms have the capacity to impact both project transparency and accountability within the project and more broadly (Crawford & Helm, 2009; Osei-Tutu et al., 2010). Finally, project governance helps define the relationships between the

stakeholders (both internal and external), specifically documenting who are directly and indirectly involved within the project and the outcomes.

Let's look at what good project governance entails.

Good project governance

Good project governance requires the establishment of projects and organisational processes that meet the needs and minimum standards of the parent organisation. In most cases, project governance follows five steps (outlined in Figure 14). These steps can be completed in a linear process for simple projects, or by a cyclical approach for complex projects. This approach is based on PMBOK's definition of project governance, which states that project governance is an "oversight function that is aligned with the organisation's governance model and encompasses the project life cycle."

These fundamental components fit within the governance life cycle, which requires similar steps to that of the overarching project lifecycle. This is outlined in Figure 14.

Figure 14. Cyclical project governance framework, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

Stage 1: Initiate governance process

This outlines the project governance requirements that support and guide the decision-making process, and what will happen at each stage of the project lifecycle. This includes the establishment of project governance requirements, and identifying individuals or groups to fill specific roles within the governance process (e.g., project sponsor, project owner, governance board/committee, project team members). Within this stage, stakeholder engagement should begin, outlining the plan for governance and obtaining feedback, support and consultation. *Stage 1 can be defined as the establishment of the governance process.*

Stage 2: Plan governance process

This outlines the project governance plan through a process of determining metrics and baseline requirements. Governance plans should include the process for risk and issue management, including mitigation strategies, how and when to update the plan and steps to take when risks occur outside of the plan. Additionally, governance processes should consider quality management, change management, and performance management of the project and development of baselines to support reporting and communication. Stakeholder engagement and communication should be continued throughout this stage, ensuring that updates are made to the process as needed. *Stage 2 is the definition of the inclusions, exclusions, assumptions and constraints of the governance process.*

Stage 3: Execute governance process

This outlines the execution and application of the governance process, through the implementation of the plan in conjunction with the project management plan. The implementation and execution process requires reporting on the progress of the project in relation to the metrics and baselines outlined in stage 2. Stakeholder engagement and communication must be maintained and managed carefully to ensure reporting occurs as needed. This can include the use of meetings, co-design or communication through digital mechanisms (e.g., emails, report sharing). *Stage 3 is the execution of the governance process outlined in the planning and initiation stages.*

Stage 4: Monitoring and controlling

This outlines the monitoring and controlling process, which occurs during the execution stage. It is an extension of the execution, by following the baselines and determining where issues are, why they have occurred and the mitigation processes required to get back on track. *Stage 4 is the monitoring and controlling of the defined governance processes as outlined within the previous phases.*

Stage 5: Closure

This is the closure of the governance process, and is the provision of assurance and validation that the governance process applied was effective and efficient. This requires the project manager, project team and other relevant parties to identify any gaps or improvements that could be made to the process, and in addition provide lessons learned which also outline what worked within the process. *Stage 5 is the closure of the governance processes.*

Project governance processes have been researched and tested extensively over the last two decades; however, eight fundamental pillars of project governance remain seminal (Alie, 2015; APM 2012). Let's highlight these.

1. Project structure: This includes the organisational structure, the project management structure and the business environment in which the project operates. Organisational structure can be formal, including boards and committees used for oversight, project teams, functional management and experts/contractors brought in as required.

2. Roles/people: This pillar is used to ensure that the right people, skills and experience are in the right place at the right time. It is an offset of project structure, where the people leading the boards, committees and governance bodies are critical. Key roles include: project sponsor, project manager, project team members and identification and management of project stakeholders.

3. Documentation and communication: Communication and sharing information on the progress and outcomes of the project. This involves working with the stakeholders to provide progress reports, check-ins on work performance and risk discussions.

4. Governance frameworks and models: Identification of the appropriate governance model that works with organisational needs. Project managers should consider the appropriate level of governance required for the specific project requirements. This should be based on stakeholder needs and expectations.

5. Stakeholder engagement: As part of the governance process and planning, the identification of stakeholders is necessary to ensure the environment is adequately understood. Identification is a complex process, this links to the development of communication and engagement plans to ensure the right information is given to the right people, at the right time.

6. Risk and issue management: Risks and issues occur in all projects. Forecasting these risks and issues can support how best to respond. The project team needs to have a consensus on how they will identify, classify and prioritise risks and issues.

7. Assurance: Ensures appropriate risk and issue management occurs, based on metrics that show how the project delivery is going. Visibility of project performance is vital. Identified metrics used for assurance, monitoring and reporting should link back to the business case, change management, risk analysis, monitoring deviations in project scope, time, cost and schedule, and quality management.

8. Project management control process: A challenging process to execute, as project managers are required to review all tasks and metrics within the project and measurement of performance scope, time, budget and resource baselines. This is an ongoing process, requiring constant performance measurement and responding to issues and making changes as required.

Good project governance will therefore ensure that all of the relationships between stakeholders (both internal and external) are outlined, understood and documented. It will ensure that the engagement and communication plan for stakeholders includes specifics on what information will be provided, when and how. It's the project manager's role to ensure that an appropriate review process is documented, to respond to issues or risks as they arise, ensuring that approvals for changes to the project are obtained and recorded as required.

Table 2 below outlines the fundamental requirements of good governance processes.

Table 2. Fundamental requirements of good governance processes

Documentation	Definition
Business case	States objectives of the project, defining in and out of scope elements and assumptions and constraints.
Compliance mechanism	Baselines for scope, schedule, budget and quality.
Stakeholder engagement	Stakeholder identification, engagement and communication plan and process.
Project deliverable specification	Business level requirements list to measure objectives.
Roles and responsibilities	Appointment of project management, clear assignment of project team member roles and responsibilities.
Project management plan	Current and comprehensive plan of the project, from start to finish.
Schedule	Project schedule and work breakdown structure outlining the tasks, activities and deliverables.
Document repository	Centralised repository for storing all documentation pertaining to the project.
Glossary	Central document outlining the key project terms and definitions.
Conflict resolution process	Process for managing any conflicts that arise during the project.
Risk management process	A process for identifying, analysing and responding to risks or issues that may arise, including a platform for recording those which have arisen.
Quality assurance process	A review of the quality of the deliverables provided.

Murray (2011) proposed a model for good project governance. According to this model, project governance focuses on five key principles, and an essential component is the alignment to organisational requirements (see Figure 15).

Figure 15. Organisational strategic alignment model, adapted from Murray (2011) by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

Within this process there are five fundamental components that are required:

1. ***Alignment to organisational governance requirements and overall objectives:*** Project governance needs to fit within the models and structures of governance that are used for the broader organisation. In addition, the project should contribute in some way to the organisation's overall objectives. By following organisational objectives, the project governance can be more focused on an outcome, rather than the individual activities or tasks.

2. ***The golden thread of delegated authority:*** A chain of accountability and oversight. This can include a group or board with specific accountability, or a hierarchical organisational chart, where each person knows their authority level.

3. ***Reporting:*** Accountable parties report on project progress and performance. This includes periodical reporting, diversion from baselines, or if risks arise.

4. ***Independent assurance:*** Independent check of the project's structures, processes and outcomes to ensure objectives have been met. This can also be referred to as quality assurance.

5. ***Decision gates or stage gates***: These occur at specific stages within the project life cycle. They are the provision of formal control and decision points in order to obtain approval to continue the

project.

Understanding the Project Management Office (PMO)

This module has so far discussed how good governance requires specific and distinct roles and responsibilities, and there are many ways to achieve this. One used commonly in larger organisations is that of a Project Management Office (PMO) or Project Support Office (PSO), which is a permanent structure. It is utilised to support the temporary nature of project teams and the work undertaken in that space. According to the Project Management Institute (PMI) a PMO is a management structure that standardises the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques. The responsibilities of a PMO can range from providing project management support functions to actually being responsible for the direct management of one or more projects (PMI, 2013, p. 10). Let's discuss this in more detail.

A) Types of PMOs

There are a number of ways to classify PMOs, depending on the level of responsibility the PMO has and its function within the parent organisation. Overall, there are three generic classifications: basic, intermediate and advanced.

(1) Basic PMO (also referred to as PSO). They are used to provide administrative support to a project manager, and hold no responsibility over the development of the project management function and skills growth across the organisation. Fundamentally, they are responsible for supporting rather than managing projects. Basic PMOs are used more commonly in organisations that do not utilise projects consistently and are created for specific projects. They are likely to undertake more administrative duties, including record keeping, change management, communication within the project team and meeting management. Many organisations start with basic (albeit temporary) PMOs, in order to determine their usefulness and viability within the organisation.

(2) Intermediate PMO. These have some responsibility for the growth and development of the function of project management within the parent organisation. Their role is fundamentally focused on maintaining and updating the processes, procedures and mechanisms required to support common operational standards for all projects undertaken within the parent organisation. Intermediate PMOs are responsible for the development and use of standard tools for project management, and the facilitation of monitoring, controlling and project status reporting (e.g., schedules, budgetary, risk, change management and overarching governance).

(3) Advanced PMO. These have a broad range of responsibilities in organisational project management, including setting up and developing the overarching project management function. An advanced PMO leads the design, development, implementation, operation, maintenance and communication processes,

procedures and mechanisms enabling the operation of common project management standards. These standards include the definition, selection, introduction, implementation and use of standards, tools, processes, procedures, and facilitate the monitoring, controlling, management and status reporting of the projects (e.g., scheduling, budgetary, risk, integration, status reporting, change management and governance). In order to establish an advanced PMO, the employees need to be specialists in project management (having relevant skills, experience and knowledge). This is especially important as they are required to make decisions on the selection of projects, the creation and distribution of standardised documentation and the continuous development of the project teams to ensure they are following the same processes.

B) Level of PMO control

Another way organisations determine the type of PMO that they require or hold is by understanding the level of interest, influence and control that it should have over their projects. According to PMI, there are three levels of control that PMOs commonly hold: supportive, controlling and directive.

(1) Supportive: Supportive PMOs (or PSOs) are consultative in nature, supplying templates, best practices, training, information access and lessons learned from previous projects. Supportive PMOs serve as a project repository. The degree of control provided by the PMO is low.

(2) Controlling: Controlling PMOs are supportive while also setting compliance requirements for each project. Compliance commonly involves the use of project management frameworks and methods provided by the PMO, which include templates, forms, tools and governance procedures. Within these PMOs the level of control is moderate.

(3) Directive: Directive PMOs control projects through direct management of projects. The degree of control of these PMOs is high (PMI, 2013, p. 11).

C) Services

Services provided by PMOs are dependent on the parent organisation and are largely influenced by organisational size, maturity and project management capabilities, skills and experience. Within smaller organisations (which are often less mature), that undertake fewer projects, their PMO may provide a smaller range of services. Whereas larger organisations that undertake more projects and have a greater need for ongoing project support may have a larger service offerings, in turn providing better support (APM, 2012; PMI, 2013). Some of the primary services provided by PMOs include:

- **Plan and schedule:** Every PMO, regardless of size, type or level of control, will support planning and scheduling. For a basic PMO this can include inputting and updating information provided by the project manager. For an advanced PMO this can mean leading this process, obtaining relevant information, liaising with stakeholders and the project team, drafting schedules and developing the

resource requirements. To achieve this, the PMO will draw from their skills and the experiences obtained from working on previous projects.

- **Administration:** As for planning and scheduling, every PMO supports administration to some degree. Basic PMOs provide the project manager with administrative support; however, the project manager is accountable for completing the work. Advanced PMOs have more influence and accountability for the administrative components of the project and supporting the project manager. This includes collation of information, document preparation, business case and financial viability reports, and stage reviews of project process.
- **Reporting:** A primary service of all PMOs, types and levels of reporting are dependent on the PMO type. Basic PMOs report to the project manager, who is responsible for reporting to project sponsors and organisational management, whereas intermediate or advanced PMOs interact directly with the project manager and corresponding team members to create reports. The role of the PMO in the creation of reports will depend on the roles and responsibilities of the project manager and the PMO team members, governance structure and the capabilities within each space.
- **Professional development:** PMOs are commonly responsible for the development of organisational skills, capabilities and knowledge of project management. This can include training sessions, development of a network of project management support or bringing in externals. Within organisations with a basic PMO, they may be supported by the learning and development or human resource departments.
- **Financial control:** PMOs may play a role in the financial management and control of a project. This can include budget creation, monitoring and controlling, and closure, which may be done with the support of the project team or the accounting department.

D) PMO relationships

Due to the varying nature of the types of PMOs, their roles, responsibilities and capabilities, the relationships they develop and maintain within an organisation and across projects will differ depending on many factors. Fundamentally, PMOs either support or control a project and the project manager. All roles and responsibilities need to be documented, defined and clearly communicated.

The roles need to clearly outline the differences between the PMO's and project manager's responsibilities, especially when it comes to stakeholder management. For example:

- The project manager's role should be focused on specific project objectives and outcomes, whereas the PMO manages the administrative components of a project (e.g., the creation and ongoing development of templates, tasks and documentation).
- The project manager controls project resources in order to meet project objectives, while the PMO manages the use of shared resources more broadly.
- The project manager manages constraints (scope, schedule, cost, quality, etc.) of their project, whereas the PMO manages methods, standards, risks/opportunities, metrics, and interdependencies

among projects at the organisational level (PMI 2013, p. 12).

PMOs and project managers may not always have a smooth relationship, especially with the decision to progress specific projects being outside of the role of the project manager. However, communication between the PMO and the project manager needs to be enduring to ensure all governance requirements are completed and up-to-date, and differences are resolved.

Test your Knowledge

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://jcu.pressbooks.pub/pmgovasset/?p=67#h5p-10

Project governance and the role of stakeholders

Stakeholders play a significant role in all aspects of projects, from start to finish (Muller, 2009). The role of internal and external stakeholders within project governance emphasises the need for establishing clear and structured relationships across the different stakeholder groups (as per their needs, expectations and preferences) (Freeman, 2001). Therefore, within project governance, a framework is recommended that outlines the roles and relationships of stakeholders. This includes the roles, relationships and positions of the stakeholders, inside and outside of the organisation. Unfortunately, stakeholder management is not always an easy process. Derakhshan et al.'s (2019) research shows that a number of common mistakes in managing stakeholders and their role within project governance can be avoided by:

- understanding both internal and external stakeholders, being aware that external stakeholders can play a significant and fundamental role in project outcomes
- clearly defining the roles and responsibilities of stakeholders
- ensuring that governance draws attention to the context of stakeholders, including their required engagement needs and communication requirements
- establishing direct contact with external stakeholders to obtain project support.

In sum, if both the project manager and the PMO exist within the structure of the project host

organisation, both should be involved in designing, implementing and managing the governance aspects of the project. Project governance needs to be functional to a project in the same way corporate governance is to an organisation. Consequently, both the project manager and the PMO should be directly involved with the project governance procedures of the organisation to be able to effectively integrate these to the project environment and efficiently manage internal and external stakeholders.

Key Takeaways

- The governance style of the organisation that owns and leads the project is a crucial element determining project governance and what is regarded important in the project.
- PMOs, according to the PMI, are management structures that standardise project-related governance procedures and promote the sharing of resources, methods, tools, and techniques across project teams and stakeholders.
- It is advised that a framework be used to explain the responsibilities and relationships of project stakeholders as part of the project governance process. Inside and outside the organisation, stakeholders' responsibilities, connections, and positions are all considered in this context as well. The unfortunate reality is that stakeholder management is not always a straightforward procedure.

References

Abu Hassim, A., Kajewski, S., & Trigunarsyah, B. (2011). The importance of project governance framework in project procurement planning. *Procedia Engineering, 14*, 1929-1937.

Alie, S. S. (2015). *Project governance: #1 critical success factor.* Project Management Institute.

Association for Project Management (APM). (2009). *A guide to the governance aspects of project sponsorship.* APM Publishing.

APM. (2012). *APM Body of Knowledge* (6th ed.). APM Publishing.

Bekker, M. C. (2015). Project governance: The definition and leadership dilemma. *Procedia – Social and Behavioral Sciences*, *194*, 33-43.

Bekker. M. C. (2014). Project governance "Schools of Thought". *South African Journal of Economic and Management Science*, *17*, 22-32.

Bekker, M. C., & Steyn, H. (2009). Defining project governance for large capital projects. *South African Journal of Industrial Engineering*, *20*(2), 81-92.

Crawford, L. H., & Helm, J. (2009). Government and governance: The value of project management in the public sector. *Project Management Journal*, *40*(1), 73-87.

Crawford, L., Cooke-Davies, T., Hobbs, B., Labuschagne, L., Remington, K., &Chen, P. (2008). Governance and support in the sponsoring of projects and programs. *Project Management Journal*, *39*, S43–S55.

Derakhshan, R., Turner, R., & Mancini, M. (2019). Project governance and stakeholders: A literature review. *International Journal of Project Management*, *37*(1), 98-116.

Freeman, R. E. (2001). A stakeholder theory of the modern corporation. *Perspective Business Ethics*, *3*.

Garland, R. (2009). *Project governance: A practical guide to effective project decision making.* Kogan Page.

ISO. (2012). *ISO 21500 Guidance on project management.* International Organization for Standardization [Online]. Available at http://www.iso.org/ iso/ home/ standards.htm (Accessed 28 March 2022).

Joslin, R., & Muller, R. (2016). The relationship between project governance and project success. *International Journal of Project Management*, *34*(3), 613-626.

Morris, P. W. G., & Geraldi, J. (2011). Managing the institutional context for projects. *Project Management Journal*, 42(6), 20-32.

Muller, R. (2009). *Project governance.* Gower Publishing Limited.

Muller, R., Andersen, E. S., Kvalnes, O., Shao, J., Sankaran, S., Turner, J. R., Biesenthal, C., Walker, D. W. T., & Gudergan, S. (2013). The interrelationship of governance, trust and ethics in temporary organisations. *Project Management Journal*, *44*(4), 26-34.

Murray, A. (2011). *White Paper: PRINCE2 and Governance.* The Stationary Office.

Osei-Tutu, E., Badu, E., & Owusu-Manu, D. (2010). Exploring corruption practices in public procurement of infrastructural projects in Ghana. *International Journal of Managing Projects in Business*, *3*(2), 236-256.

Project Management Institute. (2013). *A guide to the project management body of knowledge (PMBOK Guide).* Project Management Institute Inc.

Townsend, C. (2014). *Project governance. 17 Success Secrets—17 most asked questions on project governance: What you need to know.* Emereo Publishing.

Turner. J. R. (2006). Towards a theory of project management: The nature of the project governance and project management. *International Journal of Project Management, 24*(2), 93-95.

Walker, D., & Rowlinson, S. (2008). *Procurement systems: A cross-industry project management perspective.* Taylor & Francis Group.

MODULE 6. CORE PROJECT GOVERNANCE PRINCIPLES

Learning objectives:

- conceptually map similarities between corporate governance and project management governance
- advise on key principle of project management governance
- exhibit key performance indicators for effective corporate and project governance
- synthesise the role of the project manager, project team and the PMO or the board within the planning of project management governance.

Overview

In previous modules we have introduced project governance and asset management (AM), aiming to provide you with an understanding of what governance includes and how to achieve good project governance. In this module, we will discuss the core or fundamental project governance principles. At its core, good project governance is based on people, structure, and information (OGC, 2009).

Project governance supports decision-making within a project. It is based on defining clear accountabilities and responsibilities, and is therefore crucial to achieving project outcomes. Consequently, good project governance provides logical, robust, and repeatable decision-making processes, ensuring a structured approach is adopted.

The literature highlights that project governance is fundamentally a set of relationships between key stakeholders, including the project manager, sponsor, owner, and key decision-makers (Turner, 2006). Thus, by setting a clear structure at the project onset and determining S.M.A.R.T objectives, we are in a better position to achieve effective project outcomes and monitor the project's performance.

According to Turner (2006), there are three specific levels of governance within projects:

1. Corporate: This is the central authority or decision-maker, and could include a board of directors or a committee that supports decision-making. This encapsulates the corporate governance requirements that each project must adhere to.
2. Strategic: A broader context is provided as to why certain projects are undertaken and others are not.
3. Project: Governance structures must exist at individual levels, supporting project delivery.

Corporate governance

Irrelevant of the size of an organisation, principles on project governance are set and based on the components of the organisation's corporate governance principles. Corporate governance sets the management requirements for relationships across stakeholders and key decision-makers within and outside the organisation, providing a structure for which an organisation sets objectives, strategies and means to implementing and monitoring them (OECD, 2004).

According to the OECD (2004), good governance for organisations includes eight primary principles:

1. roles and responsibilities
2. accountability
3. disclosure and transparency
4. risk management and control
5. decision-making
6. ethics
7. performance and effectiveness
8. implementation of strategy.

These principles of good governance can be applied to project governance and set a good framework for the implementation of governance across both organisations and projects. However, there needs to be a separation between the project governance and organisational governance structures. The project structure needs to be precise, clear and provide mechanisms to support decision-making. Documentation needs to be completed, and provide clarity of decision-making (Garland, 2009). Therefore, we can establish that the adoption of clear governance principles should support decision-making, reduce time delays and budgetary inefficiencies. It will ensure that project decision-making is simple to follow and that it can be completed in a timely manner (Garland, 2009).

Core project governance
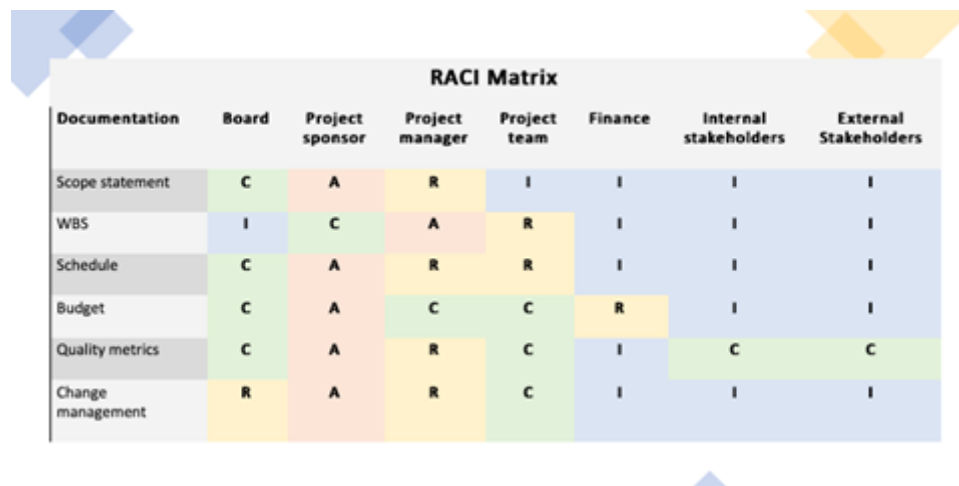
This module outlines eight core project governance principles, which have been adapted from the OECD corporate governance principles. There are various frameworks in the literature; however, we considered these eight principles appropriate, as well as pragmatic, within the field of project management.

Principle 1: Clear definitions of roles and responsibilities

The establishment of clear project roles and responsibilities is a vital step to the success of a project. The assignment of roles should include definitions of accountabilities, responsibilities, and performance criteria. When assigning these roles, anyone who is involved in the project should be documented and their

interest and influence in the project needs to be considered. Therefore, stakeholder management is crucial to the development of these roles and responsibilities documents.

(1) Establish who has overall responsibility for the governance of the project management. This could be the project manager, project team, PMO or the board (it can also be a combination of these). Documentation of these roles and responsibilities can be shown through a RACI (Responsible, Accountable, Consulted, and Informed) matrix (example in Figure 16) or through a roles and responsibilities matrix (example in Figure 17).
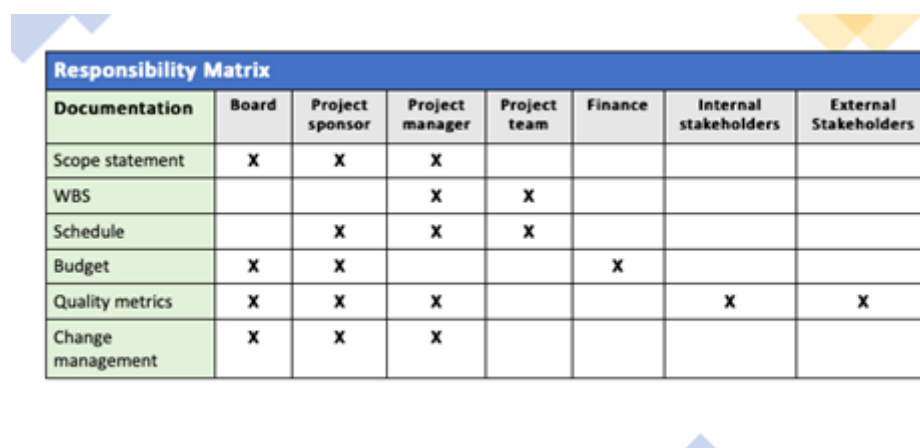
RACI Matrix

Documentation	Board	Project sponsor	Project manager	Project team	Finance	Internal stakeholders	External Stakeholders
Scope statement	C	A	R	I	I	I	I
WBS	I	C	A	R	I	I	I
Schedule	C	A	R	R	I	I	I
Budget	C	A	C	C	R	I	I
Quality metrics	C	A	R	C	I	C	C
Change management	R	A	R	C	I	I	I

Figure 16. Example RACI matrix, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

Responsibility Matrix

Documentation	Board	Project sponsor	Project manager	Project team	Finance	Internal stakeholders	External Stakeholders
Scope statement	X	X	X				
WBS			X	X			
Schedule		X	X	X			
Budget	X	X			X		
Quality metrics	X	X	X			X	X
Change management	X	X	X				

Figure 17. Example responsibility matrix, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

(2) Identification of the roles, responsibilities, and performance criteria for the project team members. Key roles to be defined:

- **The project sponsor** is the person who is responsible for overseeing and ensuring project success. This includes the appointment of a project manager and their team, outlining the success criteria and ensuring successful project delivery (Tasmanian Government, 2008). They have three principal

groups they are accountable for and to: the board, project manager, and project stakeholders.

- **The board, steering committee, or governance committee** is the primary body within the defined organisational and project governance structure (Tasmanian Government, 2008). They are responsible for responding to issues and risks which arise or could affect the project outcomes. A key role of this group is to ensure the outcomes of the project are met.

- **The project manager** is broad and flexible. They are responsible for overseeing the end-to-end management of a project. This includes resolving issues, determining tasks, sub-tasks, and activities, completing documentation, and monitoring and controlling the project (PMI, 2022b). There is no one-size-fits-all project manager definition. They report to and work with the PMO, governance committee, sponsor, project team and broader stakeholders.

- **Project stakeholders** are those individuals, groups or organisations who are either actively involved with the project, or who have interests in the outcome of the project (either positive or negative), or both (PMI, 2022a; APM, 2009). These stakeholders need to be engaged and communicated with as per a stakeholder management plan, each stakeholder will have different expectations of their roles and responsibilities within a project. Discussions with stakeholders should be held early in the project to establish their requirements, and updates are to be made throughout when roles change.

- **The project team** are those individuals who are working interdependently (or as a collective) to meet a common goal and who share specific responsibilities for outcomes of the project they are working towards (Sundstrom et al., 1990).

(3) Establishing relationships between all internal and external stakeholders who are involved in the project. This includes describing the flow of information and communication between these stakeholders. Development of a project stakeholder management plan can support this.

Principle 1 provides a clear outline of the roles and responsibilities of key members of the project team, decision-makers and relevant stakeholders, which feeds directly into Principle 2.

Principle 2: Single point of accountability for project success

A single point of accountability is vital to the success of any project. Through a single point, there is a clear understanding of who can approve each change and the process for leadership, and there is one person or group who is responsible for driving problem solutions. It is not enough to formally recognise just anyone as the accountable party. They must have the authority to make decisions within the organisation and they must be held accountable. To achieve this accountability, there should be agreed-upon criteria as well as agreement on formal governance arrangements. This includes clear allocation of authority for representing project owners, stakeholders, and other interested parties. Principle 2 links back to Principle 1 in ensuring that roles and responsibilities are clearly articulated.

The accountable officer or group should understand the terms of their roles and responsibilities, support stakeholder engagement, establish key performance indicators, and oversee project performance. Accountability parameters should be detailed in the Project Governance Plan to remain in place for the

entire project (distinct to a Project Management Plan which is more detailed and only comes into existence during the development of the project).

Projects have many stakeholders and an effective project governance framework must address their needs. The next principle deals with the way this should occur.

Principle 3: Provision of transparency

Transparency in project governance processes provides visibility to how the project is progressing, including the quality of work being completed, any issues or risks and changes made (Hassim et al., 2011). Through visibility, stakeholders and sponsors have greater confidence in, and understanding of, the project management process (Danturthi, 2016). Transparency provides a mechanism for project team members to access relevant information in an easy and efficient manner (Danturthi, 2016). Information that may be of interest to the project team includes:

- Budget – allowing the team members to be aware of the amount they can spend and their work budget, ensuring they are completing what is expected of them.
- Schedule – ensuring they are on track with what was outlined within the timeline.
- Communication – clear manner for engaging stakeholders, through information that is both accurate and timely.
- Issues/risks that arise and how they were managed – shared problem-solving can be achieved by providing stakeholders and other project teams with information of issues that have arisen.

Transparency in project governance provides managers and sponsors with a heightened sense of responsibility to achieve outcomes (Danturthi, 2016). Principle 3 means that decisions and changes made are done in alignment with project roles and responsibilities, ensuring that they are documented and easily accessible to project team members and relevant stakeholders. This principle also requires that enough information is provided, that the information is also accurate, easy to understand and timely.

Principle 4: Risk management and control

Risk management and control within projects is the process of identifying, analysing and responding to risks that can arise during the project life cycle (Chapman & Ward, 1996). This forms a key part of governance, by ensuring that there is an appropriate review of risks which are encountered within the project (Raz & Michael, 2001). The process is not only reactive, it should be proactive, through the identification and planning of potential risks throughout the project lifecycle. Following the ISO 31000 risk management standard (ISO, 2018).

Risks are defined as anything which could impact a project's schedule, performance, budget, or scope (Raz & Michael, 2001). There are different ways to manage risks within projects, including extensive and detailed planning for complex projects which outline mitigation strategies and treatment options.

Conversely, risk management for simple projects can be a prioritised list of risks that are evaluated as high, medium, or low priority and influence.

The development of a risk management plan requires a clear project scope statement, to support the identification of risks (Raz & Michael, 2001). Each risk identified should be logged within a risk matrix, which helps in the prioritisation of the different risks, including if they will have a positive or negative impact on the outcomes. This is accompanied by the actions planned to mitigate the identified risks. The risk management plan should establish the review process, frequency of review and who is accountable.

Principle 5: Clear decision-making and change management process

Clear decision-making and change management processes are vital to ensuring the management of the project is effective and efficient. The decision-making process should outline the clear roles and responsibilities of the team, including who has the authority to make decisions and how they need to be documented and communicated (Garland, 2008). There needs to be consistency in the decision-making process applied to the requirements, policies and procedures provided by the organisation.

The change management process should flow from the decision-making process, whereby, the roles and responsibilities are clearly defined, along with the levels of authority of different decision makers. Within the change management process, the level of authority may be based on different criteria (Muller, 2009; Renz, 2007). For example, financial value, schedule impact, detail of scope change, response to risks or environmental changes are factors that influence authority levels. These criteria need to be set and documented at the beginning of the project. This will reduce complexity, confusion, and conflict by setting appropriate authorisation processes. Within the process, it should clearly dictate that approvals are required for each change.

Principle 6: Ethics

Each project should be based on ethical considerations and rules of law within the countries in which the projects are performed, operated or applied. Ethics within projects ensure that each accountable officer is doing work or making decisions in line with their legal competence and obligations, along with organisational governance requirements (OECD, 2004; UN, 2008).

Projects should be following the rule of law, ensuring that fair and legal frameworks are enforced impartially for all aspects of the project (including management, team performance management and resource use and allocation) (UN, 2008).

Best practices of project governance will provide equitable and inclusive outcomes and management planning processes (UN, 2008). It is important that every team member and most stakeholders feel that

their views and expectations are considered and that they are not excluded. This requires all groups, including those most vulnerable, to be offered opportunities to share their views.

Principle 7: Project and project team performance and effectiveness

Project and project team baselines must be set to measure performance and effectiveness of the project team against, for example, scope, budget or schedule. By defining the criteria and frequency of measurement at the beginning of the project, reporting performance of the project status to stakeholders and sponsors will be managed as part of the process. The escalation and management of risks and issues as they arise will be shared in reporting processes.

Project team performance reporting should be shared if the team is working as efficiently and effectively as possible. These updates should share the time taken to achieve goals, and the cost to achieve these goals and outcomes and if they are in line with the plan. If not, why are they not in line? This requires the team to critically analyse their performance and share updates on what work they are prioritising and why.

Organisations who foster a culture of continuous improvement and sharing project successes and failures are more successful organisations and have greater levels of project success. This includes fostering trust and collaborative problem-solving processes with stakeholders (APM, 2004).

The reporting process should occur at all stages of the project, identifying how the project team and managers plan to realise the benefits of the project. Additionally, these updates should be timely, realistic, accurate and based on data (e.g., progress, achievements, forecasting and risks). This should utilise a mechanism to develop an independent review of how the project is going, what the aims are and how they are going to get there. Principle 7 should occur throughout the project and be a key component of Principle 8.

Principle 8: Implementation of governance processes

Implementation of project governance should be built into the project management plan, with specific authorisation points. These decisions should be documented and communicated to relevant stakeholders and project team members. Key components of implementation of governance and principles of project governance include:

- Creation of an agreed upon project business case, which outlines the project objectives, roles and responsibilities of team members and stakeholders, and the various resources and inputs required to obtain the project objectives.
- Authorisation points within the project plan need to provide clearly defined decision-makers, who have control over specific components of the project (e.g., change management).
- Project managers and leaders need to identify similar projects that are underway, which can support

the use of resources and reduce conflict and inefficiencies.

- Formal agreements should be in place, defining processes for asset management.

Within the implementation principle, there is also a need to evaluate, review and implement improvements to support better governance processes in future projects. This can be achieved through learning and adopting new governance procedures. As governance is a process constantly being changed, reviewed, and improved, it is important to learn from mistakes or lessons learned and implement new or improved knowledge and skills (APM, 2007). Additionally, an education process should be implemented as part of the project team development stage (APM, 2007). This will ensure that all team members have the relevant skills and knowledge to implement project governance.

Reading: "Who has the D?: How clear decision roles enhance organizational performance"

Let's read what Paul Rogers and Marcia W. Blenko have to say about the roles of decision-makers. Think about the requirements of governance while reading this article published by Harvard Business Review.

Governance of project management principles

It is critical to highlight that according to the Association of Project Management (APM), there are 11 governance of project management principles (see Table 3), which support overarching corporate and project governance. This incorporates the above listed principles as well as methodologies, tools and activities which are used to support the ongoing and day-to-day management of the projects within an organisation (APM, 2004).

Table 3. Governance of project management principles (APM, 2004, p. 6)

No.	Governance of Project Management Principles
1	Board has overall responsibility for project management governance.
2	Roles, responsibilities, and performance criteria for project management governance are clearly defined.
3	Disciplined governance arrangements, supported by appropriate methods and controls, are applied throughout the project life cycle.
4	A clear and supportive relationship is established between the overall business strategy and project.
5	All projects have an approved plan with authorisation points. Decisions made at authorisation points are recorded and communicated.
6	Members of delegated authorisation bodies have representation, competence, authority, and resources enabling appropriate decision-making.
7	The project business case is supported by relevant and realistic information and provides a reliable basis for making authorisation decisions.
8	The board and delegated agents decide when independent scrutiny of projects and project management systems is required and implement such scrutiny accordingly.
9	There are clearly defined criteria for reporting project status and for the escalation of risks and issues to the levels required by the organisations.
10	The organisation fosters a culture of improvement and frank internal disclosure of project information.
11	Project stakeholders are engaged at a level that is commensurate with their importance to the organisation and in a manner that fosters trust.

According to APM (2004), by following these principles to support governance of project management, along with the corporate and overarching governance principles, organisations can avoid common project failures. You are probably familiar with some of these, which include:

- unclear link to strategic priorities
- poorly defined roles and responsibilities
- ineffective stakeholder engagement
- lack of project and risk management skills
- poor budgeting
- project breakdown unclear and ill-defined.

As a project manager and efficient project leader, adopting these principles will provide you and your team with guidance for best practices of project management governance. We recommend that these principles are used in conjunction with and as a support mechanism alongside the organisation's selected project approaches and methodologies.

Test Your Knowledge

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://jcu.pressbooks.pub/pmgovasset/?p=69#h5p-11

Key Takeaways

- Project governance is the management framework within which project decisions are made.
- According to *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, project governance is an "oversight function that is aligned with the organisation's governance model and encompasses the project life cycle."
- Project governance is often referred to as the three key pillars — structure, people, and information.

References

APM. (2004). *Directing change: A guide to governance of project management.* Association for Project Management.

APM. (2007). *Co-Directing Change: A guide to the governance of multi owned projects.* Association for Project Management.

APM. (2009). *Sponsoring change: A guide to the governance aspects of project sponsorship.* Association for Project Management.

Chapman. C., & Ward, S. (1996). *Project risk management: Processes, techniques and insights.* John Wiley.

Danturthi, R. S. (2008). *Transparency in project management.* Project Management Institute. https://www.projectmanagement.com/contentPages/ article.cfm?ID=358236&thisPageURL=/articles/358236/Transparency-in-Project-Management#_=_

Garland, R. (2009). *Project governance: A practical guide to effective project decision making.* Kogan Page.

Hassim, A., Kajewski, D., & Trigunarsyah, B. (2011). The importance of project governance framework in project procurement planning. *The Twelfth East Asia-Pacific Conference on Structural Engineering and Construction, 14,* 1929-1937.

ISO. (2018). *ISO 31000: Risk management guideline*s. https://www.iso.org/standard/ 65694.html

Müller, R. (2009). *Project governanc*e. Gower Publishing.

OGC. (2009). *Managing successful projects with PRINCE2.* TSO

OECD. (2004). *OECD Principles of corporate governance.* OECD.

PMI. (2022a). *Stakeholder analysis pivotal practice projects.* Project Management Insititute. https://www.pmi.org/learning/library/stakeholder-analysis-pivotal-practice-projects-8905

PMI. (2022b). *Who are project managers?* Project Management Insititute. https://www.pmi.org/about/learn-about-pmi/who-are-project-managers

Raz. T., & Michael. E. (2001). Use and benefits of tools for project risk management. *International Journal of Project Management, 19,* 9-17.

Renz, P. S. (2007). *Project governance: Implementing corporate governance and business ethics in nonprofit organizations.* Physica-Verl.

Sundstrom, E., De Meuse, K. P., & Futrell, D. (1990). Work teams: Applications and effectiveness. *American Psychologist, 45*(2), 120–133.

Tasmanian Government. (2008). Project management fact sheet: Steering committee "nuts

and bolts". Tasmanian Government. https://www.dpac.tas.gov.au/__data/assets/pdf_file/0004/509305/Steering_Committee_Nuts_and_Bolts_Fact_Sheet.pdf

United Nations. (2008). *What is good governance?* UNESCAP. http://www.unescap.org/pdd/prs/projectactivities/ongoing/gg/governance.asp.

MODULE 7. GOVERNANCE MODELS AND FRAMEWORKS

Learning objectives:

- exhibit fundamental decision-making processes within project governance
- differentiate the roles and responsibilities required within the key decision-making processes
- integrate key factors for good project governance framework.

Overview

Project governance models and frameworks provide options for the way an organisation can apply project governance. Models and frameworks cover the roles and responsibilities required for decision-making processes and the internal processes, policies and procedures used to manage projects. They are used to outline the approach for the management, control, monitoring and reporting of project performance and work outcomes. A governance model or framework is the overarching set of tools, processes, guidelines, procedures, policies, templates, and systems that are used to support and oversee the management of a project. These models can be created based on the needs of a project, or provided by the PMO.

There are several different models and frameworks for project governance within the literature; however, the fundamental aim of a model or framework is to clearly articulate how decisions are made, who holds accountability and when, and where the decisions will be documented.

The most referred to models and frameworks for project governance are Muller's (2009) Project Management Governance Framework, and Oakes' (2008) Integrated Project Governance Model. These will be discussed later in the module.

Considerations

There are several considerations required for the implementation of particular project governance models. These include the characteristics of the project, project roles and responsibilities, processes, and documentation available and requirements of the organisation from a corporate governance perspective.

Project characteristics include:

- size (e.g., scope, budget, schedule, performance)

- level of risk
- interdependencies,
- stakeholders (e.g., number, type)
- skills and resources required (e.g., digital versus construction)
- type of project management methodology applied (e.g., agile, waterfall).

Project roles and responsibilities include:

- organisational chart
- roles and responsibilities set within project charter and stakeholder management guide
- decision-making authority (e.g., board, committee)
- project team.

Processes include:

- project approval (to start the project)
- change control process
- stage gates, or authorisation points which set approvals to proceed through specific milestones
- formal sign-off for finalisation of deliverables.

Documentation includes:

- business case
- project charter
- project plan
- project closure document.

Oakes' integrated project governance model

Oakes' (2008) integrated project governance model can be used to define the information flows and the roles and responsibilities within the project, linking the project governance process to the project management method applied. Table 4 shows the governance matrix which provides a simple model for the representation of the roles and responsibilities and how to identify information needs for different stakeholders. This matrix should be used to complement the project management plan, specifically the communication plan, providing another perspective of who is involved in the decision-making and information processes.

Table 4. Oakes' integrated project governance model (2008, p. 187)

	Set Direction	Implement	Assure
Steering	Objectives and priorities	Strategy	Assurance
Managing	Policies and standards	Planning and execution	Peer review
Executing	Administration and status	Delivery	Technical verification

The matrix outlined in Table 4 highlights the different decision types (in the columns):

- Set direction: The "what" decisions include defining objectives, priorities, policies, and standards.
- Implement: The "how" decisions outline how the project will be implemented.
- Assure: This is the validation that ensures that the decisions on the project are being implemented and managed adequately.

Decision levels scope (in the rows):

- Steering: Level where the organisation establishes objectives and priorities, with a focus on strategic direction, business needs and availability of resources.
- Managing: Level of available and allocated resources and how activities will be planned and controlled (e.g., risk management).
- Executing: Level where project activities and tasks are performed, to develop the expected deliverables and outcomes.

Oakes' governance model is commonly split into subsets, Table 5 shows the project management governance, and Table 6 shows the project governance components. The project management governance outlines the roles, including the steering row, set direction column and a component of the peer review which are specific to project management. The project governance roles represent the roles specific to project governance, including planning and execution, delivery, technical verification, and a component of the peer review. The role of peer review is part of project management governance during the execution of project management audits, while fitting within project governance when the project review is occurring.

Table 5. Project management governance

	Set Direction	Implement	Assure
Steering	Objectives and priorities	Strategy	Assurance
Managing	Policies and standards		Peer review
Executing	Administration and status		

Table 6. Project governance

	Set Direction	Implement	Assure
Steering			
Managing		Planning and execution	Peer review
Executing		Delivery	Technical verification

The cells within Oakes' matrix provide an overview of the components and activities required to identify key roles and responsibilities, decision-makers, required information, actions to be taken and anticipated outputs.

Table 7 outlines the components of requirements at the steering level. This starts with the need for the development of a clear business case which is approved by the sponsors and owners (also known as the steering level of project management governance). A good business case will define the outcomes and intended benefits of the project in a clear and easy to read manner, linking to organisational objectives, strategic priorities, and resource availability. Support is required from senior or top management, who appoint project owners and sponsors. Project owners and sponsors support the development of the project requirements, including the benefits and outcomes (Turner, 2008).

Table 7. Detailed governance matrix steering level breakdown

Governance matrix Cell	Who	Input	Actions	Outputs
Objectives and Priority	Senior management	Organisation's value statement, vision and objectives	Development of strategies and business objectives	Organisational strategies and priorities, business needs, and project business case
	Strategic leaders	Strategic business requirements and links to project priorities	Transparent information to support decision-making, and allocate resources as required.	Prioritised projects, resource requirements and organisational and project forecasts	
Business as usual management	Resources requirements	Align resources with project needs	Resources and team with necessary skills, knowledge and experience	
Strategy	Project sponsor	Project business case	Projects terms of reference/glossary. Review and approval processes for: – Business case – Project plan – Proposed changes – Status reports – Project outputs	Project terms of references/glossary and allocation of project manager
Assurance	Assignment of internal team or external service	Audit requests	Project governance audits	Audit reports

Project outcomes need to be evaluated by previously identified project success criteria. This success criteria should be based on both the project's business case and plan, along with the organisational needs and strategic direction. These success criteria should be based on the project's terms of reference for the project, and link to the team's roles and responsibilities. They must also be measurable, and endorsed by the project sponsor and oversight committee, and clearly measure the project outcomes and benefits. Team performance (including the project manager's performance), should also be considered as a measure of success.

Therefore, governance and project audits need to ensure that "what is done" as part of the project is aligned with the organisational strategies and needs, while being compliant with governance expectations, and the resulting audit report needs to provide directions for improvement. Table 7 provides the overview of

the steering level, defining "what is the need" and "how will it be achieved", to achieve desired business outcomes.

Table 8 outlines the detailed cells at the management level of Oakes' model. Within the management level, there are the core components of the project management tools and processes as well as the scope, schedule, budget, resources, communication, quality, and risk management.

Table 8. Detailed governance matrix management level breakdown

Governance matrix Cell	Who	Input	Actions	Outputs
Policies and Standards	Strategic managers, project support office	Project management methodologies, governance processes and organisational policies Project terms of reference/glossary, and business case.	Project management methodologies, policies, systems development, and technical support	Project management methodology and systems, team development plans
Planning and Executing	Project Manager	Approved: – Project plan – Change requests – Status reports	Prepare plans, control project execution, and leads project team	Project plan, status reports, issues and risk registers and corresponding report, and change requests
Peer Review	Assignment of internal team or external service	Audit requests	Project audits	Audit reports

Table 9 outlines the execution level breakdown, which outlines the distinct roles and responsibilities, inputs, required actions and the outputs required to obtain the desired project results or outcomes.

Table 9. Detailed governance matrix execution level breakdown

Governance Matrix Cell	Who	Input	Actions	Outputs
Admin and Status	Strategic application	Approved project plans and status reports	Consolidate project status reports, update project documentation, and administrative support for project managers	Admin support, and updated project information
Delivery	Project teams (Internal or external)	Team assignments	Project execution	Project results, and progress reports
Technical verification	Team of technical experts and user testing	Project quality plan, and audit requests	Independent quality control	Technical audits, and quality control reports

Tables 7 and 8 identify the various levels of project support that are required at each level. First, at the steering level, the required support includes the prioritisation of different projects, allocation of resources and how the project links to and supports organisational strategy. Second, the management level requires the provision of project management templates, processes and policies, organisational preferred methodologies, designs, and plans, along with the training required for project team members. Finally, the execution level requires administrative support. This includes the control mechanisms needed for reporting project status, along with the required tools to support the execution.

Each of the detailed breakdowns shows the required inputs and corresponding outputs that will support the varying stages of the project. These are based on the need for continuous improvement, ensuring that information flows to the appropriate stakeholders and project team members. Oakes' (2008) model seeks to improve organisational project management governance maturity and support meeting desired project outcomes.

Muller's project management governance framework

Similar to Oakes, Muller (2009) proposed a framework for the governance of project management. As outlined in previous modules, the type of governance applied should be based on organisational governance processes, policies, and culture. The overarching components of Muller's (2009) project management governance framework are:

1. roles and responsibilities
2. decision-making process and levels
3. methodologies

4. competences
5. communication process
6. controlling process.

Each of these components needs to be clearly defined at both the organisational and project levels, to support consistent management processes and obtaining the required outcomes. Details of each of these components have been provided in previous modules. Governance frameworks should be continuously monitored, controlled, and improved to ensure it provides value to the project throughout its life cycle.
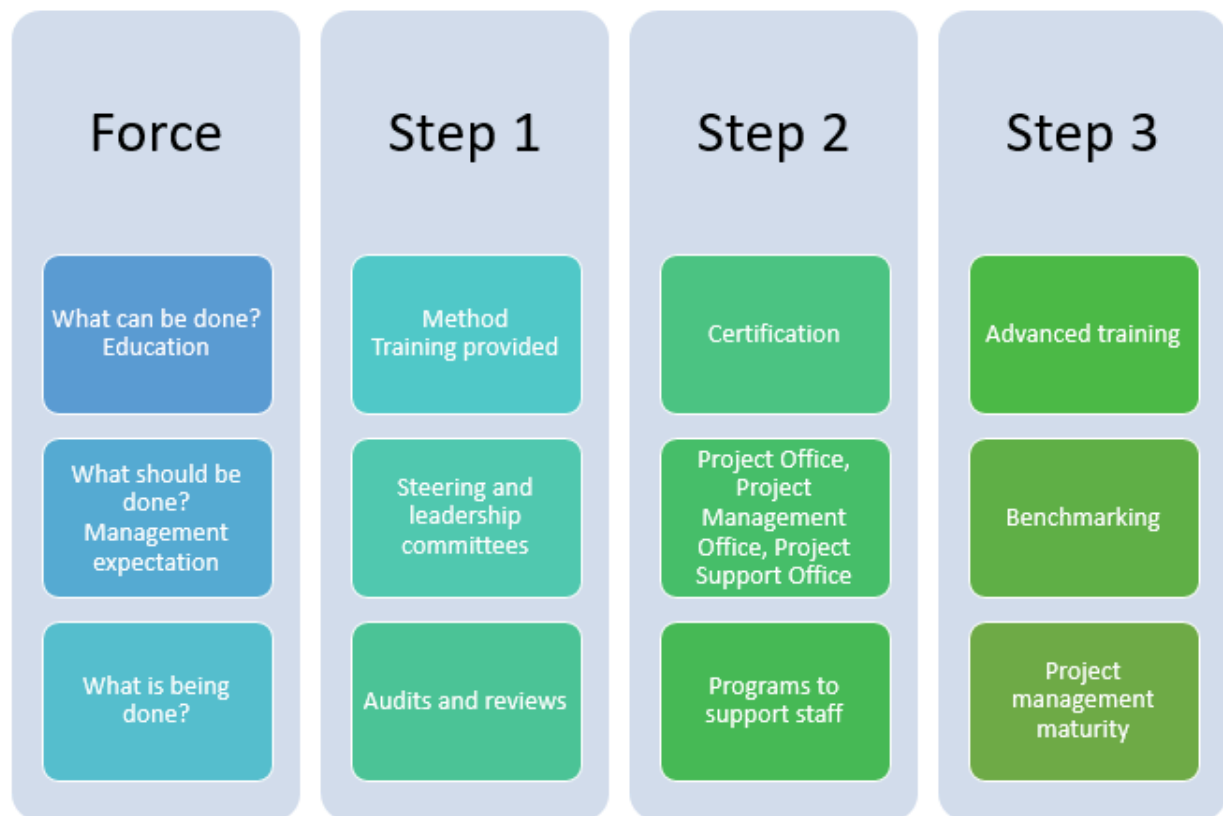

Figure 18. Governance approach for project management, adapted from Muller (2009) by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

Figure 18 outlines Muller's (2009) governance framework for project management. This framework outlines three steps linked to the organisation's project management maturity. According to Muller and Stawicki (2007) the framework is based on three "Forces" which determine and impact the quality of project management. These forces are described below.

Force 1: "What can be done?"

This outlines what can be done by the project manager based on their level of skills, experience, education, and technical knowledge. In addition, there needs to be support from the organisation to develop their project teams and managers to improve competencies in technical, project and soft skills.

Within Force 1 the organisation is responsible for the development of its own project management framework, methodology, tools, and procedures, along with training practices for team members, sponsors, support staff and managers. The primary objective of this should be the development of a glossary or terms of reference which provides common language and procedure.

Force 2: "What should be done?"

This outlines how project management should be applied by the project manager and corresponding team, including adapting, and using tools, templates, methods, and procedures. Force 2 describes what is needed by the project owner and sponsors of the project managers to complete. To achieve this, the oversight committee and sponsors need to have a clear understanding of project management. Therefore, the oversight committees need to guide the project manager and team on business needs, schedule requirements and budget limitations. This is commonly supported by the project management office or support office.

Force 3: "What is done?"

This outlines how project management should be performed, based on the methods, policies, templates, and procedures. This step links back to elements completed in Force 1 and Force 2, and involves the reviews of the project activities (e.g., through audits, reviews, or performance monitoring). These reviews should include ongoing development of capabilities and competencies of team members to support the maturity of project management within the organisation.

From "forces" to project governance framework

Once an organisation has established steps through Forces 1 to 3, they are capable of developing a defined governance framework to support project management. This includes setting clearly defined roles and responsibilities, based on decision-making capabilities and approval processes. These should link back to organisational governance requirements, determining how the project should be monitoring and controlling performance, based on a set of clear performance indicators and success criteria. As outlined in Figure 18, these forces link back to three key steps within each Force. These create the overarching governance framework and support project management maturity and development in organisations.

Test your knowledge

An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://jcu.pressbooks.pub/pmgovasset/?p=71#h5p-12

Integrating Muller's and Oakes' governance model/ framework

The models and frameworks outlined above can be combined or linked to support governance in project management for organisations:

- Force 1 (Muller, 2009) describes "what can be done", and includes the development of project management education, which is like the policies and standards cell outlined within Oakes' (2008) model.
- Force 2 (Muller, 2009) describes "what should be done", and includes the development of oversight committees, the potential use of Project Support Offices and benchmarking. This is described within Oakes' (2008) model through the steering level and set direction column.
- Force 3 (Muller, 2009) describes "what is done", which outlines an organisation's steps for improving and developing project management competencies and maturities through audits, reports, reviews, and continuous improvement opportunities. This is outlined in Oakes' (2008) model through the assurance column.

Overall, project management governance frameworks and models are largely the combination of the different methods, tools, techniques, procedures, templates, and policies developed by and for an organisation. These in turn support the ongoing project management development within an organisation.

Key Takeaways

- The governance framework will provide "instructions" on how to effectively manage a project, providing a vehicle for information gathering and reporting to all stakeholders.
- A project management governance framework, to be continuously improved and maintain its required benefits, needs to receive and analyse project management metrics across the project life cycle.

References

Oakes, G. (2008). *Project reviews, assurance and governance*. Grower Publishing Limited.

Muller, R. (2009). *Project governance*. Grower Publishing Limited.

Muller, R., & Stawicki, J. (2007). A framework for building successful project based organisations. *Project Perspectives*, *29*(1), 68-71.

Turner, J. R. (2008). *The handbook of project-based management: Leading strategic change in organizations*. McGraw Hill.

MODULE 8. PUBLIC GOVERNANCE IN PRACTICE: A DEVELOPING ECONOMY CASE STUDY

Public governance in practice

Overview

In this module, we hope to make you aware of the fact that corporate governance and project governance are not the end-all and be-all of the discipline of governance. Public governance is equally important and a relatively emergent field. The key differentiating factor in public governance is that the wellbeing of all relevant stakeholders (users, interest groups, and society as a whole) must be equally considered while designing public investment projects. Therefore the center point to start planning this framework is our stakeholders.

Learning objectives:

- advise on public governance context
- infer the complexity associated with public governance
- critically review Key Performance Indicators within public governance.

But let's revise the definition of public governance.
The OECD report, "Government at a glance" (2021) summarises governance as the formal and informal arrangements that determine how public decisions are made and how public actions are carried out, from the perspective of maintaining a country's constitutional values in the face of changing problems, actors and environments.

By now, you are familiar with what constitutes good and effective governance. As we have seen, the governance of projects has emerged as a significant approach in the current project management literature. The PMI has recognised this as a formal approach and more and more organisations are on the road to adopting governance as a formal method to achieve their goals and objectives.

Private as well as public organisations embark on projects with the greatest of intentions to see them through to completion. However, in the public sector and for emerging countries, many projects tend to

fail due to governance and management challenges within their system. For the economic development of emerging countries, effective governance is required for public-private development initiatives to succeed. Traditionally, project results have been assessed in terms of finishing them within the tradition of the iron triangle: scope, time and money. However, this no longer seems to be the case. In the seventh edition of PMBOK (2021), project evaluations are increasingly being extended to governance, to also include their capacity to fulfill strategic goals over long periods of time.

Reading: Success and failure rates of eGovernment in developing/transitional countries

Have a look at some of the project failure statistics presented in the following article, "Success and failure rates of eGovernment in developing/transitional countries" by Richard Heeks. The article suggests that there is enough evidence to suggest that more than one-third of e-government programmes in developing and transitional nations are unsuccessful completely, that another half are unsuccessful partially, and that around one-seventh are successful. Please click the link below.

With regard to public projects executed in long-term development environments, unfortunately there is a long-term record of project failure. Complexity, corruption, strong closed networks and the various

political uncertainties are quite prevalent in emergent countries and often projects are derived, designed and planned from their own specific social and environmental conditions, ultimately turning into unmanageable projects. One of the characteristics of having good governance in place is the ability to guide these types of projects through a variety of uncertainties and unanticipated outcomes. Fortunately, public governance is at the top of the agenda for implementation and practice in many emergent countries (PMBOK, 2021).

Reading: Governance frameworks for public project development and estimation

The paper published by PMI on "Governance frameworks for public project development and estimation" by Klakegg et al. (2008) highlights some unique characteristics of governance in the public/government sector. Please click the link below and review these characteristics.

CLICK HERE

Adapting project management approaches for public sector initiatives is important. It is critical for project managers to understand the project environment, particularly as this is often unique to the public sector and their key stakeholders (i.e., decision-makers). It is therefore crucial that project managers aim for a governance framework suitable to this environment, one that enables transparency and accountability since the public sector has a significant and widespread impact on the lives of locals in emerging countries, as well as on the operations of the private sector aiding the development of these nations. Because of this, we feel it is critical that you get familiar with the nature of these types of projects as well as the governance structures that will be necessary for success.

References

OECD. (2021). Government at a glance 2021. OECD Publishing. https://doi.org/10.1787/1c258f55-en

PMBOK guide. (2021). *A guide to the project management body of knowledge* (7th ed.). Project Management Institute.

The following case study sheds light on some of the key aspects faced in developing economies. This case is a contribution from John Connell who is currently working in collaboration with other researchers on the project titled "Smallholder farmer decision-making and technology adoption in southern Laos: opportunities and constraints" at the College of Business, Law & Governance, JCU.

Case Study

GOVERNANCE CASE: USING GOVERNANCE TO ACHIEVE IMPROVED SERVICE-DELIVERY IN DEVELOPING ECONOMIES (Lao Peoples Democratic Republic).

By John Connell

Case outline

'Governance' can often appear to focus on the application of systems that constrain undesirable

behaviours. While this is certainly one of its functions, ultimately good governance should result in a range of outcomes that benefit the population. In low income and developing economies, the establishment of 'good governance' includes the improvement of delivery of various services (e.g., health, education etc.) aimed at enhancing livelihoods and establishing more robust local economies. Conversely then, setting pragmatic outcome targets (e.g., increased agricultural production), can provide an entry-point for establishing good governance mechanisms which can then be applied more generally and have broader implications.

This case study provides a brief overview of Lao PDR, its political and economic structures and processes. It then introduces three external initiatives provided by foreign aid projects designed to enable good governance. They each supported practical activities, (e.g., construction of local infrastructure, increased agriculture output, etc.) which invoked application of good governance to achieve the desired pragmatic outcomes, thereby simultaneously demonstrating the benefits of good governance and strengthening the institutional mechanisms, enhancing sustainability and replication.

These initiatives were implemented in three contexts: a United Nations Development (UNDP) Program; bi-lateral agriculture development project; and an NGO-led development project, which took place at three levels of government – national, ministerial and provincial, respectively. The author was involved in the first of these in a limited way, and was directly involved in the design and implementation of the second two. These both remain works in progress, but have had tangible results both in terms of pragmatic outcome and acceptance of improved governance norms.

In this discussion, good governance will be based on the elements as defined by the UNDP (United Nations Economic and Social Commission for Asia, n.d.) and the Pacific; 1) Participation, 2) Rule of Law, 3) Transparency, 4) Responsiveness, 5) Consensus Oriented, 6) Equity and Inclusiveness, 7) Effectiveness and Efficiency, 8) Accountability (refer to figure 20).

Figure 19. Elements of good governance as defined by UNDP, by John Connell, CC BY (Attribution) 4.0

Lao PDR context for governance

Lao PDR is the only landlocked country of South-East Asia, bordered in the north by Myanmar and China, in the east and west by Vietnam and Thailand, and in the south by Cambodia (see figure 21). It has a low population density (pop 7.5 million). With almost three-quarters of the country blanketed in mountains and wooded hills the topography has limited the development of extensive agriculture to the few river valleys where cultivation of paddy rice developed. The Mekong River forms most of the border with Thailand and rivers have historically provided transport routes and food sources (fish), and in recent times increasingly a source of hydro power. Between the mountain chain along the eastern side of the country and the Mekong River, there are three high plateaus: Xiangkhouang, Khammouan, and the Bolovens. The Bolovens Plateau in the south near Cambodia has highly fertile volcanic soils where the production of horticulture crops including coffee and rubber have developed. While hydroelectricity and mining are playing an increasing role in the national economy, about 70% of the population remain directly engaged in, or dependent on agriculture (Asian Development Bank, 2018).

The development of good governance in Lao PDR has taken place within a dynamic context. Laos as it was then known, had side role in the Vietnam war hosting parts of the Hochiminh trail, which resulted in it being subjected to extensive bombing. After years of fighting, in 1973 the Lao People's Revolutionary Party (LPRP) succeeded in forming joint provisional government with the Royal Lao Government. Following several rebellions, in 1975 the LPRP took control of the country. The country at this point had a population of just over 3 M and was still essentially a rural economy of subsistence farmers with a few urban centres and a limited bureaucracy. The dominant factors that guided life were a Buddhist culture, and family or social connections, in which loyalty, respect and reciprocity dictated behaviour. In effect, any introduction of governance norms would be replacing these close-knit kinship and social ties; an historical state of affairs within which formal governance structures would have been perceived to have limited utility.
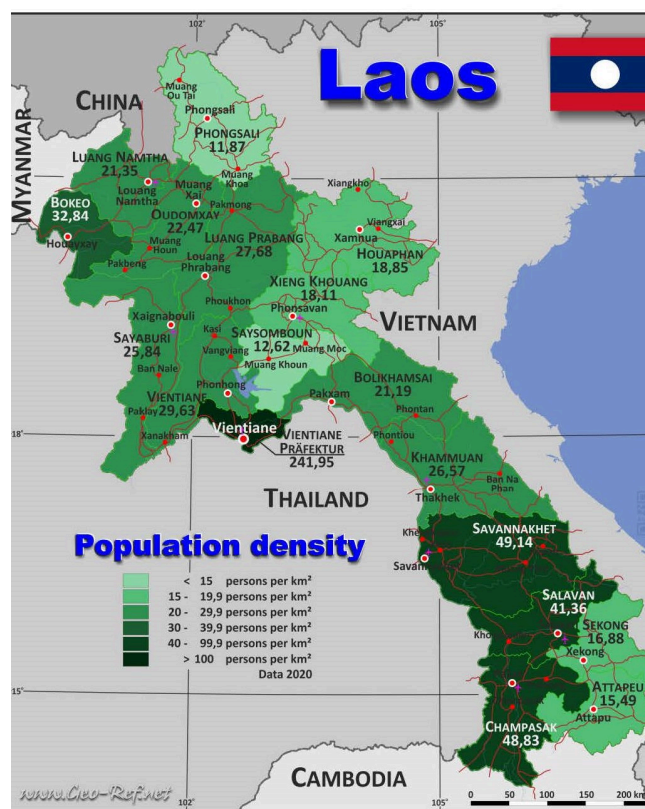

Figure 20. Laos map by Geo-ref.net

On taking power the LPRP, generally known as the Party, introduced several common socialist mechanisms that included collective farming and central planning. Collectives were introduced (1978) and then abandoned (1983) judged as being unsuitable in the still very rural context of Lao PDR. A far bigger experiment was undertaken in 1989 with the institution of the New Economic Mechanism (NEM) that opened the economy to private sector activity. Internally there have been major shifts in power, beginning with a process of de-centralization to the provinces in the '80s, re-centralization in 1991, and finally the sharing of power beginning in 2000, with what is called de-concentration.

External influences, which to a large degree were determined by sources of economic support to Lao PDR, have shifted from its socialist partners (Russia and Vietnam), to foreign donor development aid or largely Western official development and aid (ODA) to growing investment by Chinese entities in more recent years. The country itself was essentially isolated from Western engagement until construction of the first cross-Mekong Bridge (1994). Through all these periods of development, the Party retained control of government as a single party state. The Central Committee with its Politburo are the highest policy decision making authorities and these set all policy directions. Membership of the Party can be gained only by invitation. The National Assembly, the Party's executive and law-making body, is formed by a generally election but only from candidates selected by the Party. Altogether this provides limited opportunity for

any open review of government policy. At the same time, the major shifts in policy and power as described above, show that significant change and development is highly constrained.

Positive changes in governance have taken place across the board with respect to the rule of law, equitable service delivery, and general participation with civil societies that have led to tangible improvements economic and social life. This has occurred as new and younger persons with higher educational backgrounds are brought into the Party, and with the recognition by the Party itself that good governance is necessary to foster economic development and for Laos to engage more broadly internationally (Slater & Keoka, 2012).

Good governance, as defined by the Government of Laos (GoL), has four pillars: 1) people's representation and participation; 2) public service improvement; 3) rule of law, and, 4) public financial management (Slater & Keoka, 2012). These overlap with those defined by UNDP but noticeably exclude transparency and accountability. Despite these improvements, Lao PDR is still regarded as having poor international rankings for transparency, ease of doing business and corruption (Bertelsmann Stiftung, 2022).

#1 SPECIFIC INTERVENTION – DECENTRALISED PLANNING FOR PUBLIC WORKS

As a requirement of the Lao government, all ODA projects in Lao PDR work through and with the appropriate government agency: agriculture, health, education etc. These projects have all attempted in various ways to improve effectiveness and efficiency of the agencies they partnered with. Beginning in 2012 the UNDP through its Governance and Public Administration Reform (GPAR) (United National Development Programme, n.d.). *National governance and public administration reform programme secretariat support project* program brought a focus on governance specifically. This was composed of serval components of which the District Development Fund (DDF) (O'Driscoll, Oudomsine & Bounyakheth, 2021) will be examined in more detail here.

The DDF provided funds for 'block grants' of, on average, about $27,000 to fund projects identified and then managed by District agencies. In working towards project objectives, Districts conducted participatory planning exercises with village communities and then generated a shortlist of projects which were then submitted these for approval. These typically funded construction of small infrastructure projects such as classrooms, water supplies, paths and small bridges, etc. These were overwhelmingly successful in delivering the stated infrastructure within budget.

The DDF initiative in its identification of projects from the bottom-up essentially put into action governance elements of 'participation' and 'responsiveness'. As a result, the DDF has demonstrated that local administrations could be effective in the management and delivery of small investments (as distinct from large externally or centrally managed projects). The practical nature of the public works activities required Districts to comply with a degree of 'transparency' in use of funds, and to accept 'accountability' for their performance in the delivery of the projects.

The extensive rollout of DDF across 66 of the 148 District of Lao PDR was ambitious with a few glitches along the way, but demonstrated the above attributes governance in a substantial manner, not as a special case or as a pilot. In a broader sense the DDF provided to counter balance to the negative lessons of de-centralization in the '80s. These lessons were taken to heart and in the later years of the program. The Lao government co-funded DDF to expand its application, and more generally adjusted its planning approaches to provide a greater role for Districts to determine development objectives (O'Driscoll, Oudomsine & Bounyakheth, 2021).[8] The DDF has thus led to profound and sustainable changes.

Figure 21. The District Development Fund (DDF) instituted by UNDP enabled planning at local level to identify projects, including at village and later District level. Most projects were concrete infrastructure such as schools (as in the example depicted here). This image by John Connell is licensed under CC BY (Attribution) 4.0

#2 SPECIFIC INTERVENTION: ENHANCING SERVICE DELIVERY – AGRICULTURE EXTENSION

The key agency responsible for agriculture is the Ministry of Agriculture and Forestry (MAF). The implementing arm of MAF at the District level are the District Agriculture and Forestry Offices (DAFO) with the Provincial Agriculture and Forestry Offices (PAFO) providing a coordinating role across its Districts. The effectiveness of the DAFO was regarded as poor both technically and in terms of its working approaches.

As ODA began to play a significant role in the still rural Lao PDR, many of the projects included components for agriculture development. These focussed on the introduction of improved production practices for smallholder farmers (improved production practices commonly include use of inputs such as new rice varieties and fertilizer; vaccination of livestock against disease; new cash crops such as maize,

coffee, etc.) and the training DAFO technical staff in the use of more effective extension approaches. These projects have been successful in terms of demonstrating improved models of production and in real production increases by smallholder farmers. Despite their success once project funding ended these activities were not continued or expanded to new areas.

Primarily, like more government services the DAFO received minimal budgets that did not cover even basic operating costs to mobilise field staff. Apart from the general scarcity of public funds, there was an unwillingness to fund the DAFO due to the beliefs that: (a) staff were not effective; and (b) there was no guarantee the DAFO would use the funds to carry out intended work.

In addition, all the ODA projects operated in parallel to the existing government structures through their own Project Management Units (PMUs). These retained control of all project planning and funds, and reported back to the donors. As a result, while field staff gained experience, no management skills were conveyed to the administration sections of the DAFO and there was little lasting capacity building.

The Department of Agriculture Extension and Cooperatives (DAEC) is the agency within MAF that has oversight for the operation of agriculture extension. To address negative perception of the DAFO and justify fund allocation, a team from College of Business Law and Governance (CBLG) with DAEC designed the project *Enhancing District Delivery and Management of Agriculture Extension in Lao PDR (2013-2016)* (Connell, Case, & Jones, 2017). This aimed to demonstrate that it was possible to improve DAFO performance, build management skills capacities in a sustainable way and, thereby, justify creation of a mechanism for funding activities *internally* within the GoL system (as opposed to reliance on *external* ODA).

The key elements of the design were: (a) the DAFO to select an existing agricultural activity with potential for commercial levels of production, and to frame their plans for its development across the whole District. By focusing on gross output, rather than on improved yields and techniques, the project hoped to align with District economic goals and thereby engage the District Governor; (b) provide DAFO limited operating funds ($5000/yr) for a guaranteed period of 3yrs; (c) devolve all management decisions to the DAFO.

Figure 22. Extension staff work directly with farmers, typically advising on improved practices. The District Agriculture and Forestry Office (DAFO) itself has tended to miss out on the development of management skills. This image by John Connell is licensed under CC BY (Attribution) 4.0

The Project developed an Extension Management System (EMS) to provide pragmatic management tools for the DAFO which included: planning, fund management, delivery approaches, and reporting. The project was managed by staff at DAEC supported by the international research team, with reporting meetings held at the provincial level each six months. In these meetings, DAFO from each district within the province reported their progress, and the project team could 'advise' on next steps. Critically these meetings provided the context to engage the key District authorities outside of the agriculture sector, i.e., the District Governor's Office and the District Planning and District Finance Offices. It was these entities who, in the long run, would decide on fund allocation for the DAFO. Thus, by involving them at an early stage, it would ensure they were informed and understood the work and be invested in it to some degree.

The project operated in 5 districts of two provinces that covered a range of economic and agro-economically environments, and worked with products that ranged from rice (a regions staple) to livestock (poultry) and horticulture (vegetables and coffee). Capacities of DAFO staff in these districts varied greatly. Staff from two of the DAFO had experience working in earlier related projects, whereas staff in the three other DAFO had quite limited capacity. Within the four seasons (2013-2016) during which the project operated, each of DAFO achieved significant increases in production and the smallholder farmers involved were able to shift from small-scale toward commercial production of commodities in their respective Districts. These results were exceptional compared to many contemporary agricultural projects. The production outcomes were all the more unusual insofar as the project team was not constantly on the ground in the districts and did not provide any special training to the DAFO staff. The project opportunity

to influence performance had been limited to the framework provided by the EMS and the six-monthly reporting meetings.

The operation of the DAFO using EMS led to dramatically improved 'effectiveness'. The EMS itself provided pragmatic tools for management, empowered staff and enabled them to operate with autonomy. Within this new regime, the DAFO staff had to report not only on their activities as was common in the past, but also their progress towards targets identified and specified in 3-year plans. In this way, over the course of the project they began to adopt a results-orientated rather than activity-orientated approach to delivery. This was reinforced by the fact that they were reporting to authorities (Governor, Planning and Finance) who were less interested in the details of agriculture production than the gross outputs being achieved.

Other aspects of governance had played a role as well. The role of product selection by the DAFO (participation) gave them a sense of ownership of the work. The reporting of results gained against the targets in their plans (transparency) to district authorities brought them recognition, but also a degree of 'accountability'.

Interviews with District administrative staff toward the end of the project confirmed that the DAFO were beginning to be seen as being able to perform effectively, to generate results and thus, worthy of being funded. However, these ideas had not been fully consolidated by the time the project ended and did not align with the 5-Year GoL planning cycle. Thus, the following dynamic remains somewhat speculative:

Allocation of regular and significant funding to DAFO, would engender internal demand for improved governance, that don't apply in the same way as when ODA funds are being applied. The domestic funding of DAFO would bring with them expectations of results, (effectiveness, and accountability) and scrutiny of the use of those funds. Systems for monitoring of both production results and fund use come to be required (transparency).

While the EMS has been through several reviews within MAF, it has not been taken up for general application amongst the many other projects in the sector. Application of EMS would require a more broadly based application, as was the case for the DDF. It is still being applied within several NGO projects, and under consideration to be used by several broader bi-lateral aid projects as a means to confer sustainability to extension in a systemic way.

#3 SPECIFIC INTERVENTION: RATIONALISING LOCAL TRADE OF AGRICULTURAL PRODUCTS

Agriculture products remain to a large extent grown by smallholder farmers with farm sizes around 1 – 2 hectares. This brings with it inherent variability in terms of quality of the products produced, whether this be rice, chili or coffee. It is also involving the product moving through the hands of various middlemen before it reaches major traders who then ship it inter-province or cross-border (Vietnam, Thailand, China).

Figure 23. Smallholder farmers often have small volumes which have missed grades when consolidated by a larger trader. The traders themselves face problems with paperwork, fees, checkpoints that not only add to costs, but can result in loss of products as well. This image by John Connell is licensed under CC BY (Attribution) 4.0

Traders face various speed bumps as they ship any of the products to the end markets. The first of these occurs in assembling necessary paper work with the various offices at the Provincial level, each having their own requirements and fees. These typically will include the Departments of Agriculture; Commerce and Trade, and Transport. Time to navigate these procedures can run to days, which then affects product quality, weight-loss and other forms of degradation. En route to its destination, vehicles pass checkpoints for paperwork inspection. Inspection fees (informal) must be paid irrespective of the paperwork was in order or not.

The effects of these procedures are felt in different ways. The additional costs for traders directly result in depressing prices that farmers receive. When traders resort to circumventing the procedures to save themselves costs, the shipments become 'informal'. This results in Lao products missing recognition and branding once they arrive across the border in Vietnam, Thailand, China. Loss of legitimate fees collected, of course means a loss of scarce revenue for the state. In extreme cases traders have suffered complete loss of shipments and, in others, traders have given up on a particular trade as too costly or risky, thereby denying farmers a market outlet. Thus, impacts can be felt both by the farmers and in legitimate trade being undermined.

These issues are well recognised. Various Prime Ministerial (PM) orders and decrees have been issued to facilitate trade. The order No 02/PM (01/02/2018), subsequently reinforced by No 12/PM (16/10/2019)

and No. 03/PM (21/01/2020) (Lao People's Democratic Republic, 2018), require that: trade documents should be processed using a one-stop-shop approach; that fees for export license be reduced by 50%; border checks be streamlined; and finally internal checkpoints be abolished. Across the country these have been implemented quite variably particularly in the areas that have remained outside the main corridors of development; as a legacy of earlier decentralisation; a desire to continue old fee collections; or because of inefficiencies in implementation. All these failings resonate with aspects of poor governance.

These failings and inefficiencies were very much to the fore when it came to designing a project (2019) in the northern province of Bokeo, where Plan International an International NGO was supporting a small Lao NGO, MHP (*Maeying Huamjai Phattana*" or, women mobilising for development) to develop the Rural Enterprise for Agriculture Livelihoods (REAL) project.

The core of the design for the REAL project included two activities to directly support farmers' income: (a) improved production practices; and (b) engagement in the value-chain. However even with success in these, incomes could easily be undermined by poor trading practices. Thus, a third element was added, to achieve better "trading practices". This is an ambitious activity for a small NGO to attempt as it has very limited influence to change the roles of the various Departments noted above. It could also be seen by certain powerful stakeholders to be 'meddlesome' insofar as it might confront vested interests.

To be effective in bringing about some degree of change in trade practices and to avoid confrontation, the strategy for this component involved: (a) engaging a senior entity from the central level of government who would bring clear oversight of all relevant laws and regulations – such a person would also command some respect from the Provincial authorities; (b) conducting 'annual reviews' of the trade procedures and noting any departures from national regulations and costs that this incurred for provincial trade. Holding the reviews annually meant that the various local agencies would know that if nothing was achieved it would turn up again the following year. And here, the involvement central entities would add additional 'transparency' to the issues that might otherwise be avoided or contested if discussed within Provincial confines only.

As the entity based at the central government level, REAL formed a partnership with a team at the National Agriculture Research Institute (NAFRI) which also had support from the Prime Minister's Office to assess and facilitate trade streamlining nationally. They saw that the REAL project would provide an additional site and support to enable change.

The province had already formed a Provincial Trade Facilitation Committee aimed at rationalising trade procedures to follow new national directives. This was composed of the various Departments and chaired by a Deputy Provincial Governor who would thus exercise authority over the Department and make binding decisions. This has already acted to apply the PM directives already, mainly in terms of introducing one-stop-shops for trade documents and reducing the cost and time taken for processing these. These changes are directly under its control at the Provincial level.

The first of the annual trade reviews was conducted in February 2022 with the workshop following in

March The March workshop took place as an activity of the Provincial Trade Facilitation Committee, chaired by the Deputy Provincial Governor. The finding of the review were that procedures and costs at the Provincial level were indeed streamlined and costs reduced. These costs can amount to 1-1.5% of the value of a shipment. However, within the districts the PM directives for streamlining trade was not consistently applied, with some district official stating they were not aware of the new procedures. As a result, up to four internal check points still operated, collecting fees or charges irrespective of whether documentation was in order or not. These informal fees can add up to another percentage point or more on the cost of trade, as well as causing delays. As a result is was directed in the workshop that (a) all districts conduct a review of their procedures and (b) identify how new trade regulation can be put into practice. In this way the initiative for change will be driven by the relevant Provincial Departments themselves.

The benefits of achieving good governance for the trade of agriculture products have profound implications. In effect in would see the 'rule of law' being applied. The way that REAL has worked to progress towards this is by achieving a degree of 'transparency' through enlisting external partners (NAFRI), conducting public review of findings and building consensus through workshop reporting and discussion.

Reflections

Good governance has evolved in the developed economies over many years and, arguably, has been forced upon those economies in response to gross failures in the past. As suggested early in this paper, when the social and economic networks are regionally confined and limited, matters of process and regulation are not so important. Once the society/economy reaches a point where the volume of interactions increases, and where these interactions begin to take place outside of familiar networks, then the need for governance becomes more necessary. It would seem that Lao PDR is now well on the way to understanding the need for and embracing the ideals of good governance.

The importance of good governance is now recognised by the government of Lao PDR, so that it can achieve a more efficient and productive economy and society. While the generic 'good' of governance is recognised, these can be resisted due to entrenched practices or disruption of personal benefits. Recognising the 'good' is not enough.

In this way it has been useful for external agencies to play a role with relevant Lao entities who contribute both strategies, and funds. The DDF is perhaps the most successful of the initiatives discussed in this case study. The support of external funds for concrete and needed local infrastructure provided a common goal. The DDF procedures brought 'transparency', and the outcomes demonstrated 'efficiency' enabled a more de-centralised decision making and implementation process to be demonstrated. Because the activity was conducted on such an extensive basis, this brought a degree of normalcy with it and has resulted in the government continuing to provide its own funding and enabling planning and implementation from lower levels of government. This has brought with it elements of good governance necessary to made this function.

While the other two initiatives cannot claim the same degree of impact primarily, they still provided demonstration of the efficacy of good governance. The EMS procedures enabled the DAFO to operate at far higher level of effectiveness (effectiveness). Their report on results and fund expenditures put them on the pathway towards justifying continued funding. This would have created a further internal demand that the DAFO produce results (accountability) and use funds for the stated purpose (transparency). This may yet be recognised if the EMS continues to be applied more extensively in the manner that DDF was.

Finally, the initiative to achieve streamlined trade employed a strategy of 'transparency' so that well known challenges could be recognised and addressed more openly. By engaging entities from outside of the province this helped to build a consensus that would overcome inertia and compel change.

All three of these initiatives have independently used a similar strategy of posting concrete or pragmatic and agreed outcomes which then require various elements of good governance to be applied to ensure their success. This can demonstrate the value of the good governance elements but, in addition, the initiatives need to be applied widely enough to be accepted. The EMS and Trade initiatives outlined above were still at a proof-of-concept stage at the time of writing and broader application will be needed to establish practices and gain recognition.

Case Study References

Asian Development Bank. (2018). Lao People's Democratic Republic: Agriculture, natural resources and rural development sector assessment, strategy and road map. https://www.adb.org/documents/lao-pdr-agriculture-assessment-strategy-road-map

Bertelsmann Stiftung. (2022). Country report: Laos. https://bti-project.org/en/reports/country-report/LAO

Connell, J., Case, P., & Jones, M. (2017). *Enhancing district delivery and management of agriculture extension in Lao PDR*. Australian Center for International Agriculture Research (ACIAR). https://www.aciar.gov.au/project/asem-2011-075

Lao People's Democratic Republic. (2018). *Prime Minister's Office: order on improvement and coordination mechanism for running business in Lao PDR*. http://db.investlaos.gov.la/wp-content/uploads/2020/05/pm02_order-db_v-eng.pdf

Slater, R., & Keoka, K. (2012). *Trends in the governance sector of the Lao PDR.* Swiss Agency for Development and Cooperation. https://www.eda.admin.ch/deza/en/home/ publikationen_undservice/publikationen/alle-deza-publikationen.html/content/ publikationen/en/deza/diverse-publikationen/study-lao-pdr

United National Development Programme. (n.d.). *National governance and public administration reform programme secretariat support project* https://www.la.undp.org/content/lao_pdr/en/home/projects/national-governance- and-public-administration-reform-programme-s.html

United Nations Economic and Social Commission for Asia and the Pacific. (n.d.) *What is good governance?* https://www.unescap.org/sites/default/files/good- governance.pdfO'Driscoll, G., Oudomsine, T., & Bounyakheth, B. (2021). *The district development fund of Laos.* United Nations Capital Development fund. https://www.uncdf.org/article/7171/the-district-development-fund-of-laos

MODULE 9. AGILE PROJECT GOVERNANCE

Learning objectives:

- review agile method and its application
- adapt PM agile activities into governance processes
- evaluate the Agile Manifesto.

Overview

Agile project management is the delivery of requirements through an iterative and incremental manner. It is based on the division of tasks into short phases and pieces of work, frequent assessment, reassessment and changing of plans as needed. Being agile is a mindset, which is based on reducing difficulty of project management and planning, developing the project, implementing it, and testing the project.

The Agile Manifesto (2001) is based on four primary values:

- Individuals and interactions over processes and tools.
- Working software over comprehensive documentation.
- Customer collaboration over contract negotiation.
- Responding to change over following a plan.

These values highlight the importance of the factors to the left in contrast to those on the right, which are typical of waterfall project management. According to these values, organisations need to ensure that they are working collaboratively with stakeholders to ensure that there is alignment between the outcomes proposed and achieved (Alahyari et al., 2016). In addition, there is a significant need to build trust, commitment, identity, visibility, and leadership (Chikhale & Mansouri, 2015).

From these values flow agile governance, which follows the same principles of being iterative and flexible. Agile governance utilises rapid decision-making, using governance processes that are of minimum effort and do not require arduous front-end work to complete. Governance points are identifiable within the process, including authority, standard practices, metrics, and artefacts, which are outlined at the beginning of the planning phase. Therefore, for agile governance to occur there needs to be (Disciplined Agile Consortium, 2014):

- collaboration over conformance

- enablement over inspection
- continuous monitoring over quality gates
- transparency over management reporting.

Therefore, collaboration is vital within and outside the organisation, commitment obtained from stakeholders needs to promote transformation, adaptation and flexibility, and an alignment with organisational strategies and business plans are required.

Brunet and Aubry (2016) showed that agile project governance is a value system where a project operates, and where the project's roles, responsibilities and processes required to meet objectives and procedures require adherence. Brunet and Aubry (2016) showed the importance of stakeholders' involvement to manage the process, and to ensure uncertainties and challenges are managed. Due to the changing nature of agile management, many challenges can arise, including lack of coordination, backlog mismatches, team misalignment, unpredictable delivery, and information not being visible (Vlietland & van Vliet, 2015).

The primary issues that need to be responded to include a lack of governance tools to control the project work, and managing processes rather than people (Lappi & Aaltonen, 2016). It is documented that traditional or waterfall governance methods do not align with agile project needs.

Research highlights several guiding principles (de Luna et al, 2014):

- Agile project management needs to align with organisational goals.
- Organisational leaders need to understand the value that agility can offer their organisation prior to implementation.
- Governance and performance measures need to be clear and monitored continuously.
- Expectations need to be clearly defined, especially based on the organisation's timeframes, resources, and skills.
- Risk management processes should be clearly defined at the onset.
- Monitoring and controlling performance metrics need to be clear and transparent throughout the organisation, project team, stakeholders, and the clients.
- Regulatory requirements must be met.
- Reviews should be undertaken to ensure that the agile project methodology and projects completed meet the needs of the organisation.

Agile project governance follows the agile principles of project management. There are a few challenges associated with the governance of projects using the agile process and many of the governance principles outlined in previous modules should be applied to support the outcomes of agile projects.

Agile project management principles and agile governance

Agile project management has twelve principles used to clarify the four values outlined previously and within the Agile Manifesto (Beck et al., 2001).

1. Satisfy clients through early and continuous delivery (of value).

Principle 1 highlights the early and continuous delivery of outcomes and requires the management of people within the project team, clients, and outside the team:

- Change management processes based on sharing information across the team, clients and key stakeholders must solve problems or respond to blockers as they arise. Documentation should identify the blockers that arise in a similar risk or issues management process that would be applied in project governance techniques used for waterfall project management.
- Share outcomes in iterations, and through these iterations encourage feedback from clients to ensure each iteration improves on the last.

To keep clients happy, the project team should be engaging with them through each incremental improvement, along with the planning at each phase.

2. Welcome changing requirements, even late in development.

Principle 2 focuses on the documentation requirements and the change management processes that are utilised in agile projects. This requires:

- Streamlining documentation, with a focus on the design and development of key tasks or activities which link to specifics within the product or service being developed. Workshops are used to define and refine requirements, and these discussions should be documented.
- Building quickly, through shorter discovery and definition periods. Planning stages involve collaboration through workshops prior to each increment and completing the project plan progressively.
- Utilising prototyping, including testing at each stage from minimum viable product all the way to most desirable outcome.
- Delivering progressively to the end user. Through this progressive provision there needs to be ongoing reviews, planning phases and updates within each increment. This planning phase should focus on any potential blockers and how they can be best improved.

Agile projects can be complex projects, which are handled by dividing tasks into smaller parts until they are

easily completed. During this process, share updates and improvements with clients and team members to ensure they are happy with the progress and can support addressing any blockers.

3. Deliver frequently.

Principle 3 is about spending less time on upfront planning and more time working on the outcomes of your project. Figure 24 shows the agile planning process, which is cyclical.

Figure 24. Agile planning process, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

As previously stated, agile project planning is iterative and added to progressively, based on the next sprint or increment. The project plan should incorporate:

- client values, their goals, and requirements
  - define major project deliverables
  - break down into tasks
- frequent deliveries
- probable due dates based on date ranges instead of fixed dates
- work and responsibilities assigned to the project team, not to specific individuals
- quality built into the process
- two sets of plans:
  - (1) timelines and date ranges for the different initiatives and increments
  - (2) list of tasks and activities, outlining sequences and dependencies that have no start and end

date but have time frames associated with how long completion will take, and resources and material required

- utilising historical project information to support planning (e.g., data driven)
- training for the team in agile management principles:
    - ease the team into it, including clients and stakeholders
    - collaborate in the requirements discussion, analysis and design, implementation, and feedback.

The agile philosophy favors a smaller time frame and frequent deliverables. This iterative process requires team members to continuously improve their performance.

4. Break project silos.

Principle 4 is the use of cross-functional teams, who can communicate well with stakeholders and team members who do not have the specific skill sets. This includes changing the names of project roles and responsibilities to clarify the positions, while creating synchronisation between the developers, designers, and the implementers. It also requires the development of strategies for internal collaboration, to ensure that the project team has a process in place to determine how to communicate, co-design and best work together.

Stakeholders are encouraged to remain involved in each increment, ensuring ongoing feedback and buy-in for the product.

5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

Principle 5 requires the project manager to motivate the team, by providing a supportive and collaborative environment that encourages project team members to speak up, provide feedback and suggestions and perform at their best. Team performance should still be monitored and tracked; however, the team should have the confidence to manage their own performance.

6. Face-to-face communication is the most efficient and effective method.

Principle 6 is the engagement process utilised for communication within the project and outside it. This includes how to communicate effectively and while there are numerous methods, within agile the preferred method is face-to-face (or when not co-located, video conferencing). This is not to say that written communication is not important (e.g., emails, memos), which are used to confirm the details within the face-to-face discussions. Like traditional project management governance, a communication and

engagement plan should be developed at the onset of the project to document who the stakeholders are, how they will be communicated with, when and why and who will review the process.

7. Working deliverables are the primary measures of progress.

Principle 7 is the use of success and performance measures, which are primarily based on the development of a working product, service, or software. There are other measures of success and performance which are important, including team performance, timelines, and resource management. These need to be measured and reported on frequently.

8. Maintain sustainable working pace.

Principle 8 involves setting a pace and timeline that is achievable. It requires discussing and understanding the different requirements and deliverables, broken down by tasks and activities, and linking them to the available resources and materials to achieve the next outcome. As agile requires constant development, the pace established at the beginning should not be overwhelming or unachievable. To develop this pace, expert judgment and data from historical projects should be applied to understand the achievable pace, and any potential risks or blockers which could arise and the impact they could have on the outcomes.

Develop and share with stakeholders and clients the project roadmap, which outlines the trajectory to get to the end state. This should be indicative of the steps required to get to the minimum viable product and the desired end state.

9. Continuous improvement and excellence enhance agility

Principle 9 involves having ongoing client conversations to learn from testing and feedback.

Focusing on the deliverables, continuous improvement should consider the design, technical aspects, project methods and value to clients. Therefore, continuous improvement should be based on understanding how delivery can add value to the client, organisation, team, and stakeholders more broadly. It is useful to utilise different feedback and testing mechanisms to understand different improvements.

This requires solid change management processes and requires documentation of the different changes implemented and how they impacted deliverables.

10. Simplicity is essential

Principle 10 outlines the need for simplicity. It is recommended that each agile project has a light plan to satisfy stakeholders. The plan is to be added to over time, to include incremental deliverables and the

development of a product roadmap. The tasks in each increment should be the primary work completed by the project team members.

Therefore, using agile methodology the project manager should utilise a time, materials and resources scope when outlining what is needed to obtain the outcome, which can support the development of contracts.

11. Self-organising teams create the most value.

Principle 11 states that self-organising teams are those who do not wait for someone to assign work to them. Instead, these teams are aware of their responsibilities, roles and requirements and manage the work they must complete to ensure the deliverables are on time or in line with the plan. Decision-making powers in these teams are shared across different members in the team and the primary outcome is creating value for the clients.

12. Reflect regularly and adjust your way of work to become more effective.

Principle 12 is based on iteration, encouraging learning from previous work and continuous improvement. This can be based on the lean process for continuous improvement (Womack et al. 1990), outlined in Figure 25.
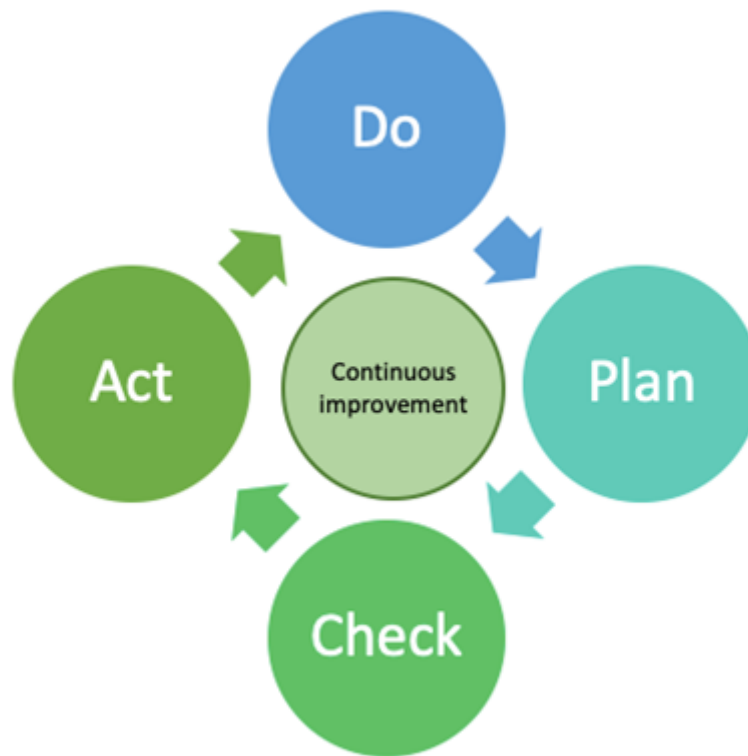
Figure 25. Lean continuous improvement model, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

Utilising the continuous improvement model from lean project management, asks the team's project manager to hold workshops with the project team to reflect on their performance and discuss the lessons they learned, to improve their technical skills, project management skills and their communication more broadly. The lean model asks teams to plan their work, complete their work, check how they went compared to the plan, and document improvements and start planning again.

Let's revise some of the key concepts:

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https://jcu.pressbooks.pub/pmgovasset/?p=120#h5p-14

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://jcu.pressbooks.pub/pmgovasset/?p=120#h5p-15

Agile project governance: Benefits and challenges

There are several benefits to using agile project management and governance principles (Masood & Farooq, 2017). These include:

- rapid delivery of outcomes
- reduced resource waste
- flexibility and adaptability
- increased success through incremental delivery
- progressive identification of issues and defects and appropriate solutions
- optimisation of development processes
- streamlined project control
- focus on client needs
- collaboration and feedback.

In contrast, there are several challenges associated with the use of agile project management and governance principles (Masood & Farooq, 2017), including:

- not well suited to every project and organisation
- not suited to projects with unclear goals
- inexperienced project managers or team members
- teams who do not work well under pressure
- end user experience can be lost on the requirement building

- not easily followed in large organisations.

Agile governance best practices

Through the adoption of agile principles, there are several best practices which can be used to support the governance process.

1. Ensure agile project management processes fit organisational needs. This includes processes, practices, documentation, and strategic direction.
2. Ensure continuous reporting to organisation, clients, and stakeholders on progress, iterations and value created.
3. Clients and project teams should communicate any changes in the environment or business conditions that could impact the outcomes.
4. Provide training and education to the project team, clients, and stakeholders on agile project management to ensure they understand the processes.
5. Performance metrics need to be set from the onset. They may include incremental deliverables, resource use and team performance.
6. Have a clear and easy to follow change management process in place for each agile project.

Reading: Agile and project governance: Can they coexist?

Integrating governance into the agile project approach is not a new concept. Mike Cohn's article about agile and governance discusses both concepts and in particular addresses a key question: Can governance work into agile projects? Please click the link below to read his article and reflect on the stage-gate process he highlights in the article.

Key Takeaways

- Good governance, particularly when using agile, is more about the decision-making process, not what the decision is about.
- The Agile Manifesto (2001) is based on four primary values: 1) individuals and interactions over processes and tools, 2) working software over comprehensive documentation, 3) customer collaboration over contract negotiation, and 4) responding to change over following a plan.

References

de Luna, A. J., Kruchten, P., Pedrosa, M., de Almeida Neto, H., & de Moura, H. (2014). State of the art of agile governance: A systematic review. *International Journal of Computer Science & Information Technology*, *6*(5).

Alahyari, H., Svensson, R. B., & Gorschek, T. (2016). A study of value in agile software development organisations. *The Journal of Systems and Software*, *125*, 271-288.

Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Grenning, J., Highsmith, J., Hunt, A., Jeffries, R., Kern, J., Marick, B., Martin, R. C., Mellor, S., Schwaber, K., Sutherland, J., & Thomas, D. (2001). *Manifesto for agile software development*. http://agilemanifesto.org/principles.html

Brunet, M., & Aubry, M. (2016). The three dimensions of a governance framework for major public projects. *International Journal of Project Management*, *34*(8), 1596-1607.

Chikhale, M., & Mansouri, M. (2015). An agile and collaborative framework for effective governance to enhance management in large-scale enterprise business systems: The case of Apple Inc. *Global Journal of Flexible Systems Management*, *16*.

Disciplined Agile Consortium. (2014). A solid foundation for business agility with Disciplined Agile. https://www.pmi.org/disciplined-agile

Lappi, T., & Aaltonen, K. (2016). Project governance in public sector agile software projects. *International Journal of Managing Projects in Business*, *10*, 263-294.

Masood, Z. A., & Farooq, S. (2017). The benefits and key challenges of agile project management under recent research opportunities. *International Research Journal of Management Sciences*, *5*(1), 20-28.

Vlietland, J., & van Vliet, H. (2015). Towards a governance framework for chains of scrum team. *Information and Software Technology*, *57*(1).

Womack, J., Jones, D., & Roos, D. (1990). The machine that changed the world: The story of lean production. HarperCollins.

PART 3. INTEGRATING ASSET MANAGEMENT & PROJECT GOVERNANCE

MODULE 10. LINKING ASSET MANAGEMENT, GOVERNANCE AND PROJECTS

A holistic approach

Our specific goal in this eBook was to review the asset management (AM) and governance fields and showcase their strategic alignment with project management. Both areas, in our opinion, are inextricably connected. At the moment, there is only a small amount of literature that explicitly discusses the implementation of governance elements in AM programmes. However, by examining best practices, as well as presenting the numerous successful frameworks supporting both disciplines, we intended to reveal the important role that each plays in the other's success or failure.

Learning objectives:

- formulate strategic AM and governance frameworks
- advocate for good governance
- advocate for AM realisation.

When discussing governance in Module 5, we focused on corporate governance (i.e., governance of organisations providing guidance of how the business operates, directs and controls) and the governance of portfolio and/or project management as we positioned these theories under the umbrella of "business". It is under business processes that key governance functions such as decision-making, integration and control resides. In relation to AM, it is also under business and good governance processes that the realisation of asset value occurs. Remember that assets are not only tangible, but can also include knowledge, HR, skills, and documentation, amongst other intangible assets. Therefore, it becomes critical for an organisation to have the right mechanisms to foster a culture in which their strategy and values are well managed and in turn align with the interests of their key stakeholders. We can simplify this by stating that if the organisation attains this culture, then it can result in good governance and asset value realisation.

As depicted in Figure 26, an organisation's strategy must be supported and enabled by their key stakeholders as well as a leadership that helps cultivate an organisation's culture of integrity, leading to positive performance and sustainable asset life cycle management. Their asset and governance mechanisms must be aligned with the organisation's objectives while empowering better decision-making and long-term strategic planning. Having the right competencies, capabilities, roles and responsibilities, transparent and

clear reporting processes in place, and effective PM methods and/or PMO will form the basis of a robust framework enabling value creation for the company.

Risk mitigation is also important. Companies with a high concentration of assets can benefit from risk-based AM since it allows them to better understand the risks they face in relation to their company value in an efficient manner. By incorporating a value-based approach into the risk management process, the overall wealth of the organisation and its stakeholders is maximised.
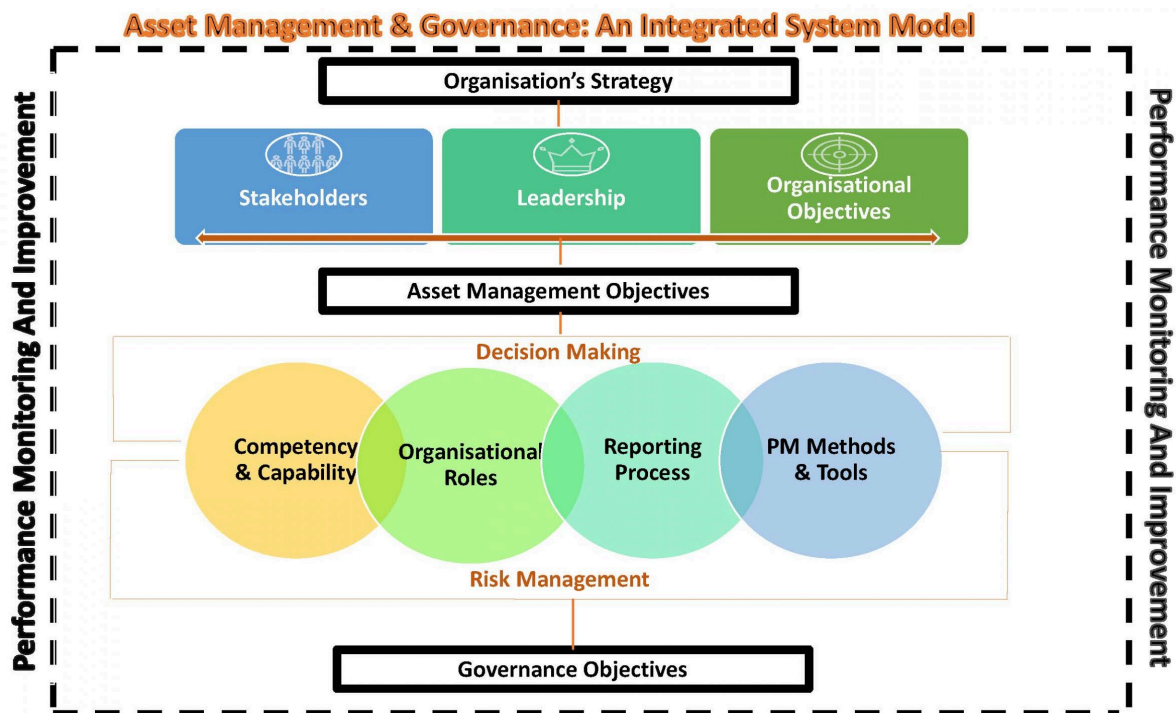

Figure 26. Asset management and governance: An integrated system model, by Carmen Reaiche and Sam Papavasiliou, licensed under CC BY (Attribution) 4.0

It is possible that competence and capability development will be the major emphasis of a well-resourced AM strategy, as this would entail developing the essential objectives and frameworks. A PMO with dedicated AM and governance project managers, for example, may assume responsibility for the implementation and the maintenance of best practices at the departmental level, in a similar manner to that outlined above. In addition, as showed in Figure 26, ongoing performance, monitoring and improvement activities are key activities within the PMO. It is also through the use of professional networks and communities that businesses are able to better organise the life cycle of their assets while also promoting cooperation, information sharing, transparency, and the expansion of their workforce. Realising an organisation's goals guarantees that openness and accountability are maintained across the organisation, resulting in effective/good governance because of these efforts.

Organisation design

As project managers, we are frequently presented with the challenge of determining whether the organisational structure of the project host is the most effective way of achieving their strategic objectives or not. To have successful governance, it is necessary to have AM and governance structures that are simple, straightforward, and explicit. If an existing operational model has been carefully planned and implemented, this can provide a clear and consistent blueprint for how these various frameworks should be structured and managed in order to achieve the organisation's strategic objectives.

There is no consistent approach to designing the structure of an organisation; however, to help bring clarity, we have listed some characteristics that are common to good and productive AM and governance frameworks:

- AM strategy implementation is aligned with the organisation's strategic vision, purpose, and values.
- Key positions are filled with skilled staff, ensuring that important functions are adequately resourced and always covered. Zero job vacancies.
- Recognition and capitalisation of present labour competencies and capabilities, as well as the exploration of avenues for the development of new skills, are critical. This can be accomplished via the use of gap analysis and succession planning techniques.
- Incorporation of the company's current human resources policies and processes into key planning documentation.
- During the decision-making process, key stakeholders need to be involved. For example, the views of management, customers, and workers should all be taken into consideration.
- The roles and duties of each individual, as well as the communication channels and decision-making power, will all be clearly defined. Two keywords for this process: transparency and clarity.
- Figure 27 presents a framework able to assist in the facilitation of interdepartmental contacts as well as the integration of AM and governance objectives throughout the company.
- Ascertain that the performance of the AM and governance framework can be monitored, measured and be in a position to undertake continuous improvements.
- Evidence of communities of practice coordination and collaboration across life cycle is also required for effective AM and governance.

Keep in mind that for any organisation, the right structure will be one making it possible to adapt and evolve with the times in order to meet future AM and governance requirements.

In conclusion, we have established the value proposition associated with the integration of both AM and governance. Remember, that no matter the shape or format of the selected frameworks or models used, AM and governance models have to be effectively implemented to supplement the existing structures that promote continuous improvements. These models can't be linear processes, they need to be more cyclical. After all is said and done, the final result that project managers aim to achieve is a successful AM and governance framework that reaches its goals, introduces new ways of working into the workplace, and

creates the foundation for future growth. A successful AM and governance framework requires effective communication, stakeholder management, and leadership.

Key Takeaways

- This emerging field has its foundations in strategy, people, processes, and systems. AM development and the new culture required to enable such processes in organisations are typically guided by a governance framework.
- The implementation of appropriately designed governance principles, policies and practices has a material impact on the total organisational performance as governance is a key driver of cost AM.
- Realising the projected return on investment from AM means recognising that achieving success requires attention to effective AM design and execution.
- We think that consistency in organisational structure, roles and duties, governance, and performance management systems is critical to the development of an aligned and engaged workforce.

GLOSSARY AND ACRONYMS

Glossary

Asset – This is an object, or entity that has potential or actual value to a company and is realised by a balancing of costs, risk, opportunities and performance. Value can be material or intangible, financial or non-financial, and includes consideration of risks and obligations. It might be favourable or negative at various periods of the asset life. Physical assets mainly relate to equipment, inventories and buildings owned by the organisation. Physical assets are the antithesis of intangible assets, which are non-physical assets such as contracts, brands, digital assets, usage rights, licences, intellectual property, reputation or agreements (AS ISO55000:2014).

Asset Hierarchy (AH) – For the purpose of successful asset management, AH is the structure inside an asset register that provides the dependency or interaction between functional locations and equipment.

Asset Integrity – Equipment, health, safety, and the environment are all protected through the use of Asset Integrity as a standard of operation. Every stage of the equipment life cycle is covered by this rule of thumb.

Asset Life – This is the length of time that exists between the establishment of an asset and its eventual decommissioning (AS ISO55000:2014).

Asset Management – Asset Management is a coordinated action carried out by an organisation in order to extract value from its assets. Furthermore, the application of aspects of the asset management system, including the strategy, the planning, the plans and their implementation, can be referred to as "activity" (AS ISO55000:2014).

Asset Management Plan (AMP) – is the documented information that outlines the actions, resources, and timelines that are necessary for an individual asset, or for a grouping of assets, in order to meet the organisation's asset management objectives for that asset or grouping of assets. Assets can be organised into groups based on their kind, asset class, asset system, or asset portfolio, among other criteria. An asset management plan is generated from the strategic asset management plan and may be included in, or be a subsidiary plan of, the strategic asset management plan. An asset management plan is developed from the strategic asset management plan (AS ISO55000:2014).

Asset Management Strategy – In the context of an organisation, an Asset Management Strategy is a strategic plan for the management of an organisation's assets that will be utilised to fulfil the organisation's or corporation's objectives. Physical asset management should be approached with a long-term perspective. Contains a series of strategic statements that explain the present and future service levels that the

organisation intends to provide, and the existing and future asset management skills that the organisation will require in order to provide these results in a sustainable manner.

Asset Management System – is considered to be a subset of asset management. When it comes to asset management, an asset management system serves the purpose of developing an Asset Management Policy and establishing asset management objectives (AS ISO55000:2014).

Asset Type – is a classification of assets that share features that allow them to be classified as a group or as a class of assets. The following are some examples: tangible and intangible property, information assets, intangible property, critical property, enabling property, linear property, information and communications technology property, infrastructural property, movable property (AS ISO55000:2014).

Business Value – A concept that is unique to the organisation. Through the effective application of AM frameworks and good governance, an organisation will be in better position to meet objectives and obtain greater business value from their assets.

Communication Management Plan – A component of the project or project portfolio management plan that describes roles and responsibilities of when information will be planned.

Governance Alignment Domain – A governance domain of processes to develop and establish an integrated governance framework.

Governance Function – The group of processes and functional activities existent to support governance projects.

Life Cycle – The phases involved in the management of an asset are referred to as the asset's life cycle. The title and number of stages, as well as the activities that take place inside each stage, are generally variable across different industries and are set by the organisation (AS ISO55000:2014).

Organisational Objective – These are broad objectives that serve to provide the framework and direction for the actions of an organisation. Organisational objectives are developed via the actions of strategic level planning that take place inside the organisation. (https://jcu.pressbooks.pub/strategicprojectmanagement/)

Policy – This is the intentions and direction of an organisation as formally expressed by senior management (AS ISO55000:2014).

Project Governance – The frameworks, systems and functions guiding project management activities in order to achieve organisations' strategy and value performance.

Public Governance – Governance refers to the formal and informal arrangements that determine how public decisions are made and how public actions are carried out, from the perspective of maintaining a country's constitutional values in the face of changing problems, actors and environments (OECD, 2005).

Risk – An event that is unexpected and can have a positive or negative effect on one or more objectives of a project. When describing risk, it is common to refer to potential "events" and "consequences", or a mixture of these terms (PMI, AS ISO55000:2014).

Stakeholder – A person or organisation that can affect, be affected by, or perceive themselves to be affected by a decision or activity (https://jcu.pressbooks.pub/strategicprojectmanagement/).

System – A collection of various programs that are effective as a whole and not achievable by programs alone.

Acronyms

Acronym	Extension
AM	Asset Management
AMP	Asset Management Plan
AMS	Asset Management System
ISO	International Organization of Standardization
KPI	Key Performance Indicator
PG	Project Governance
PMO	Project Management Office
PM	Project Manager