

Defining Program Types

Typologies are based on the inherent characteristics of the project or program (not the industry they are based in). Significant work has been done defining the different types of project and the appropriate skills and capabilities needed to manage each type of project¹. PMI have also published *Project Categorization Systems* available from the PMI Marketplace². The emergence of Program Management has created a similar need for the categorisation of programs.

A program typically comprises both project and operational activities (such as change management, transition to operations and program management itself) which are not a part of an individual project. However, the 'grouping' of projects into programs may occur in a number of different ways; Managing Successful Programmes, (MSP®) suggests three options:

1. **Vision-Driven Programs** - the vision comes first and benefits identified and then one chooses a dossier of projects which deliver the capabilities or business products necessary in realizing the benefits for which the program was launched.
2. **Emerging Programs** - Existing (on-going) projects are put together since they have a common business objective (i.e. seek the same or correlated benefits) or other synergies that make sense to manage them centrally.
3. **Compliance Programs** - External (legal or environmental requirements) or internal (Sarbane-Oxly, Business Continuity, etc.) initiatives that seek to preserve the value of an organization. Again, the projects are identified that comply with the objectives of the program.

Essentially, projects produce outputs (deliverables) while programs realise benefits (value). Once a program has been recognised, the GAPPS typology focuses on the differing types of program objective and structure.

The GAPPS Typology

Mosaic's published paper, *Understanding Programs and Projects - Oh, there's a difference!*³ outlines the key differences in managing projects and programs, but only briefly mentions the different types of program. This white Paper will define the different types of programs based on the GAPPS⁴ Program Types. Three basic types of program are defined and the typology also recognises that very large projects have many characteristics of a program (for more on differentiating projects and programs see WP1002⁵).

Strategic Programs

Strategic Programs are linked to a specific business goal or strategic initiative such as the development and release of a new aircraft or the creation of a completely new high tech product (e.g., software, electronics, medical devices, pharmaceuticals). This type of program is closely related to the concepts of a program contained in PMI's *The Standard for Program Management*⁶.

¹ See *Projects aren't projects – Typology*: <https://mosaicprojects.wordpress.com/2009/04/09/projects-arent-projects2> and our White Paper on project categorisation: https://www.mosaicprojects.com.au/WhitePapers/WP1072_Project_Size.pdf

² ISBN: 9781930699380. See: <http://www.pmi.org>

³ Download from: https://mosaicprojects.com.au/PDF_Papers/P078_Programs_Projects_Full_Paper.pdf

⁴ Global Alliance for Project Performance Standards (GAPPS). This work has been ongoing since 2006, and this White Paper is based on the GAPPS 2011 publication. Download from: <http://www.globalpmstandards.org>.

⁵ *Differentiating Programs from Projects*; see: https://www.mosaicprojects.com.au/WhitePapers/WP1002_Programs.pdf

⁶ PMI publication, see: <http://www.pmi.org> Available in Australia from: <https://mosaicprojects.com.au/shop-the-practice-standard-for-program-management.php>



The program is a 'learning organisation' focused on achieving its strategic objective and early outcomes influence decisions about later projects. The Program Manager's authority to originate or terminate projects is significant, project origination and termination is generally internal to the program based on perceived progress toward those objectives.

A sub-set of this classification are the 'business change' programs that include the co-ordinated management of both projects change management activities⁷ and occasional operational activities to achieve beneficial outcome for the organisation.

In this classification, projects within the program can cover a very divergent range of disciplines running both sequentially and in parallel, and change management is usually required. Program termination is based on achieving the business outcomes, either by achieving the strategic objective or implementing the desired change in strategy.

Operational Programs

Operational Programs are typically focused on supporting the current business. They include infrastructure maintenance (roads, rail and utilities), improvement to operational assets and repetitive businesses such as producing a season of TV shows.

The key constraints are delivering the maximum value from an annual budget allocation and minimising disruptions to ongoing operations. Project origination and termination are generally external to the program, but the Program Manager will be a key stakeholder and advisor in these decisions.

The primary challenge for the Program Manager is the efficient use of a pool of resources to maximise value by coordinating a diverse range of requests and requirements whilst minimising downtime and operational inefficiencies.

Multi-Project Programs

This group are closely related to the definition of a program contained in *The Standard for Program Management*⁸. Benefits are expected from the coordinated support of a business objective such as upgrading to 'Version 2.0' or later of a high tech product (e.g., software, electronics, medical devices, pharmaceuticals). The individual project origination and termination is generally external to the program (part of the Portfolio Management Approval⁹).

Projects are closely aligned and with several running in parallel, the key role of the Program Manager is coordination of the individual projects and balancing shared resources. The program will generally terminate once the benefits have been achieved.

Megaprojects

The definition of a megaproject, is a project with a value measured in \$billions. The management processes needed to manage a project of this size effectively moves this classification of 'project' into the same category as a 'program' as demonstrated by the GAPPS definitions outlined below. While the primary deliverable may be defined as a single entity, for example constructing a major dam, the work is broken out

⁷ For more on **change management** see: https://www.mosaicprojects.com.au/WhitePapers/WP1078_Change_Management.pdf

⁸ PMI publication, ISBN: 978-1-935589-68-6. See: <http://www.pmi.org> Available in Australia from: <https://mosaicprojects.com.au/shop-the-practice-standard-for-program-management.php>

⁹ For more on **Portfolio Management** see: https://www.mosaicprojects.com.au/WhitePapers/WP1017_Portfolios.pdf



into a number of prime contracts of \$millions each¹⁰ such as the dam wall, the hydro generation equipment and the power lines connecting to the national grid.

GAPPS Summary

As with projects, defining a usable typology will assist organisations select and train Program Managers based on the ‘type’ of program¹¹. GAPPS have now released a *Framework for Performance Based Competency Standards for Program Managers*¹².

Program Characteristic	Type of Program			
	Strategic Program	Operational Program	Multi-project Program	Mega-project
General Purpose	Deliver assets and benefits that are directly linked to attaining the sponsoring organization’s desired future state	Deliver assets and benefits that are critical to the sponsoring organization’s day-to-day operations	Achieve synergies from projects with common traits such as shared resources, similar clients, or product technology	Deliver a specific asset to the sponsoring organization
Key Differentiating Feature	Link to a specific business goal or strategic initiative	Relative interdependence of constituent projects	Relative independence of constituent projects	Significantly larger than the sponsoring organization’s typical projects
Reason for Grouping Projects	Early results influence decisions about later projects	Minimize negative impact on ongoing operations	Benefits expected from synergy	So much larger than the organization’s typical projects

Figure 1: Extract from the GAPPS Program Typology

The Interdependency of Projects within a Program

The GAPPS framework looks at programs from the perspective of the programs purpose. An alternative categorisation proposed by Dr Alan Stretton looks at the interdependencies between the constituent projects that make up the program. His assumption is that the skills needed to manage each program type are likely to vary depending on the number and type of interrelationship.

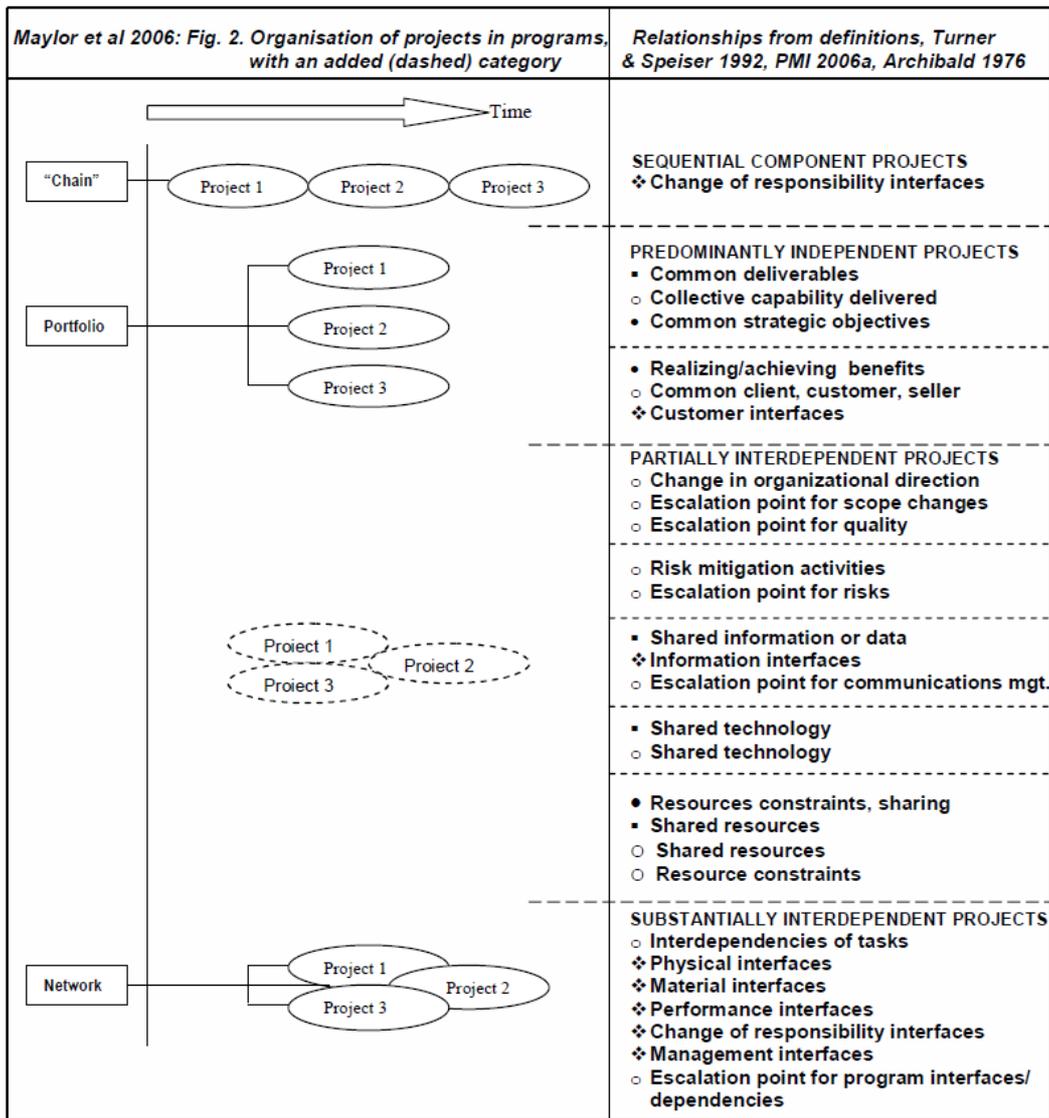
¹⁰ For more on **differentiating normal, complex and megaprojects** see: <https://mosaicprojects.wordpress.com/2017/06/09/differentiating-normal-complex-and-megaprojects/>

¹¹ There seems to be divergent views in the wider community around mega projects. Some of the literature focuses on ‘complex project management’ other on ‘managing mega-projects and the GAPPS view.

¹² For information on the GAPPS standard contact: secretariat@globalpmstandards.org or visit www.globalpmstandards.org



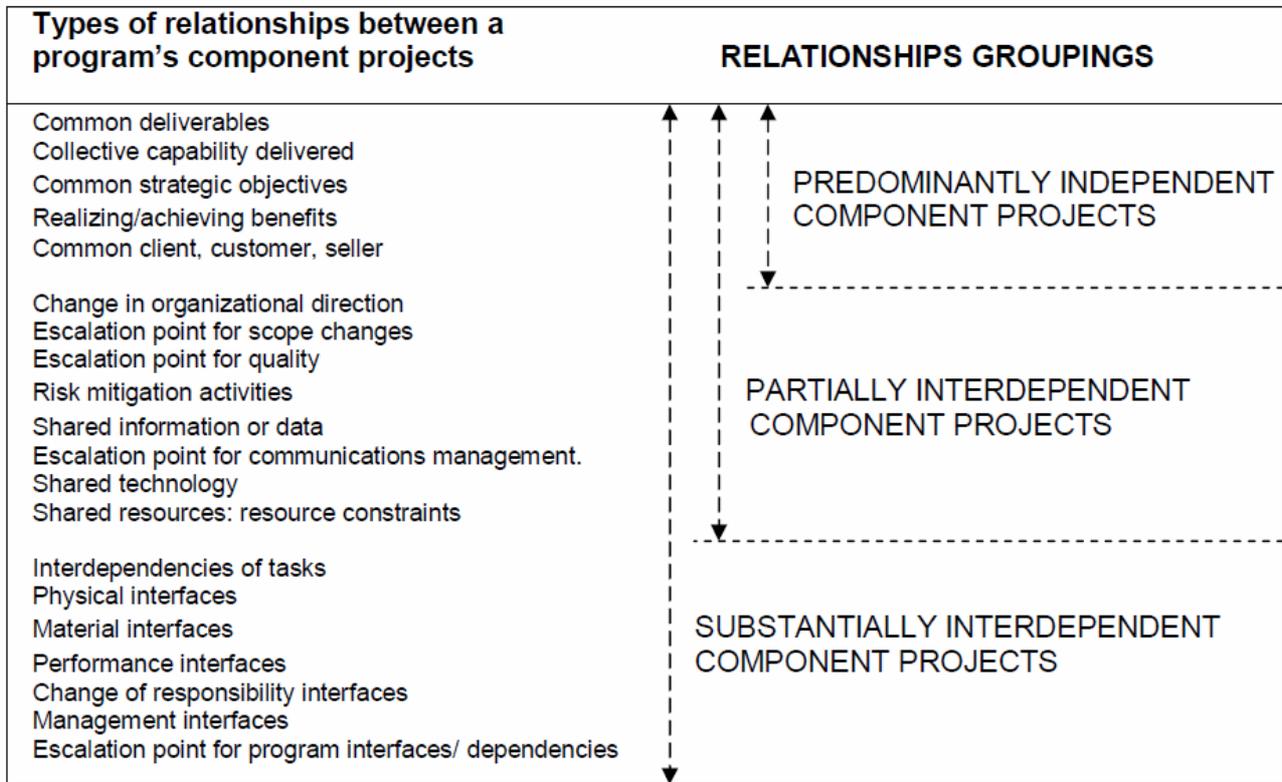
The types of interdependency identified by Stretton from the available literature are set out below.



Stretton discounts the ‘simple chain’ as having little relevance and focuses on three types of program:

- **Predominantly Independent Projects:** Each project contributes to the objectives of the Program, but there is little or no interdependence between the work of each project.
- **Partially Interdependent Projects:** Describes programs where the component projects share certain types of items such resources, information, or technology; or where there are flow-on effects to other projects within the program with changes to risk mitigation activities, or the like in an earlier project.
- **Substantially Interdependent Projects:** Describes programs where the component projects interdependencies are much more strongly overlapping and different projects may share tasks, or other forms of physical or performance interfaces.

The different types of relationships between the projects within a program have been summarised by Stretton as follows:



As the degree of interdependency increases so does the number of different types of relationships within the program. This structure allows the program management activities needed to effectively manage each of the relationships and interdependencies to be identified¹³.

The four dimensions of a program.

In addition to the above, there are four basic dimensions to every program¹⁴:

- Its inherent size usually measured in terms of value¹⁵;
- The degree of technical difficulty in achieving the desired outcome (complication) caused by the characteristics of the program's work and products being created, or the time-frame the deliverables are required within;
- The degree of uncertainty involved in the program; and
- The complexity of the relationships ('small p' politics) both within the program team and in the surrounding environment¹⁶.

¹³ For more on program management see: WP1076 **Program Management**
https://www.mosaicprojects.com.au/WhitePapers/WP1076_Program_Management.pdf

¹⁴ These four dimensions are discussed in detail in **Project Size and Categorisation**
https://www.mosaicprojects.com.au/WhitePapers/WP1072_Project_Size.pdf

¹⁵ Size becomes the defining factor in '**mega projects**', which is a specialist area of study, see
<https://www.sbs.ox.ac.uk/faculty-research/megaproject-management>

¹⁶ Complexity becomes the defining factor in '**complex project management**' which is a specialist area of study, see:
<http://iccpm.com/>



Whilst all of these factors impact on the degree of difficulty associated with successfully managing the delivery of the program, the Program Manager can only significantly influence, as opposed to manage, the last two elements. Reducing the degree of uncertainty and enhancing the relationships with and between project stakeholders (including the project team)¹⁷.

One should also note there is a significant difference between a program and a project and the associated skill set required by their respective managers. These issues are discussed in *Understanding Programs and Projects - There is a difference!*¹⁸

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For more information on scheduling and planning, visit Mosaic's planning and scheduling home page at:
<https://mosaicprojects.com.au/PMKI-SCH.php>

¹⁷ For more on **Stakeholder Management** see: <https://mosaicprojects.com.au/PMKI-TPI-075.php>

¹⁸ See: *Understanding Programs and Projects* -
https://mosaicprojects.com.au/PDF_Papers/P078_Programs_Projects_Full_Paper.pdf and
WP 1002 *Differentiating Programs from Projects*: https://www.mosaicprojects.com.au/WhitePapers/WP1002_Programs.pdf