Portfolios, programmes and projects in context [1]

By Robert Buttrick

The purpose of this paper

The purpose of this paper is to examine portfolio, programme and project management in context and investigate their differences and similarities.

Managing horizontally

A major problem faced by many organizations is being unable to achieve all they want because of a lack of funds and resources, whilst wasting those same resources and funds because of an inability to co-ordinate their current work. At the same time, demands for new work continue to arrive, adding to the pressure on scarce resources and finance.

This problem may be solved by adopting a different management perspective. Rather than managing the organization through its traditional departmental structure and controlling work through cost centres (vertical management), a value or benefit-based perspective needs to be taken. This means directing and managing work across the departments (horizontal management), where each work item is aimed at achieving specific business objectives in support of the organization's strategy. This requires harnessing the true power of matrix management and applying it in a common sense and practical way.

All but the very simplest of organizations operate in two main areas:

- managing day-to-day operations, providing the products or services that are the basis of what the organizations offers;
- changing (and hopefully improving!) the current way 'business as usual' works, such as creating and delivering new and better products or services, leading to more efficient and effective ways of doing business.

Projects are increasingly being used to manage 'change' activities, but business is rarely so simple that a single project can achieve what is needed to direct and manage all the necessary changes. This often requires a large number of projects to be undertaken, each aimed at delivering a required outcome to realize the benefits the organization needs. The most important questions in this respect are:

- why is this project needed?

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- what business objective and outcomes need to be achieved?
- what benefits need to be realized?

These three questions focus on the purpose of undertaking the project, not on what the solution might be. Unless the overall business objectives and aims are understood first, a suitable solution cannot be defined. Too often, people 'jump to solutions' rather than taking time to understand the business issue or opportunity. Having understood the objective, different options should be explored and, only then, a solution devised to meet the need.

Often, a number of initiatives are necessary to achieve an organization's aims. For large organizations, this can mean hundreds, or even thousands, of projects and other types of work being undertaken in a year, together with solving a myriad of business as usual and operational problems. If an organization also uses projects to deliver it day to day operations (such as an engineering contractor or software development house), the number of projects increases further.

The involvement of stakeholders in finding a solution is paramount for a successful solution. If, for example, a new service management approach is being developed, it is a good idea to include the service managers in the requirements, design, testing and validation of a solution. Success relies on them using the new system and they probably know more about service management in their business than the people creating the new tools. This is why 'agile' approaches require the user to be involved throughout development. In most cases, therefore, certain people and resources need to be shared between the change activities and business as usual activities; they cannot be totally separated.

If a business or organisation is to be successful, the business managers need to understand:

- how bundles (or portfolios) projects are used together with other business activities to further their aims; and
- how resources and funds need to be allocated as a result.

If managers do not grasp this, the business will continue to be dogged by the problems highlighted at the start of this paper and be overtaken by competitors who do 'get it'. This paper covers the management structures needed to reap the rewards of being a value focussed business or organization (see Figure 1). These management structures include:

- ✓ business portfolios – everything you do;
- ✓ programmes – bundles of projects and other related work, aimed at a common objective;
- ✓ projects – initiatives aimed at filling a specific business need;
- ✓ other related work – work which is either not run as projects or comprise any other type work required to support the business;
- ✓ work packages – where the 'real work' happens.

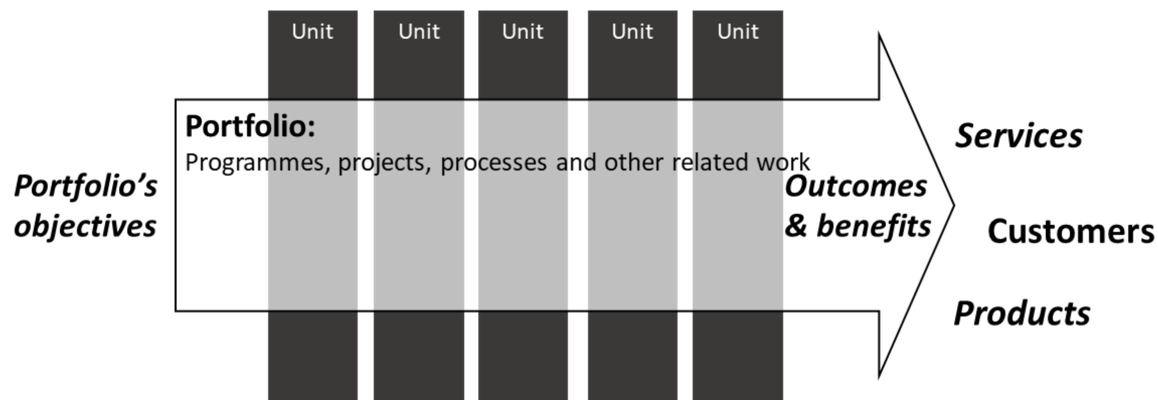


Figure 1 Taking a 'horizontal' value-based perspective

An example of a simple business portfolio

Consider the CEO of a small manufacturing business in a specialist product market. The board has challenged the CEO to increase profit from £10m to £15m in two years.

After six months, the CEO reports back to board on his intention to meet the objective by increasing the company's share of an under-exploited segment of the target market. The alternative would have been to withdraw from that market and save the associated costs (always consider alternatives!) and then look for new markets; this is considered too risky.

In order to achieve the required increase in profit, the CEO has five projects (see Figure 2) with the following aims:

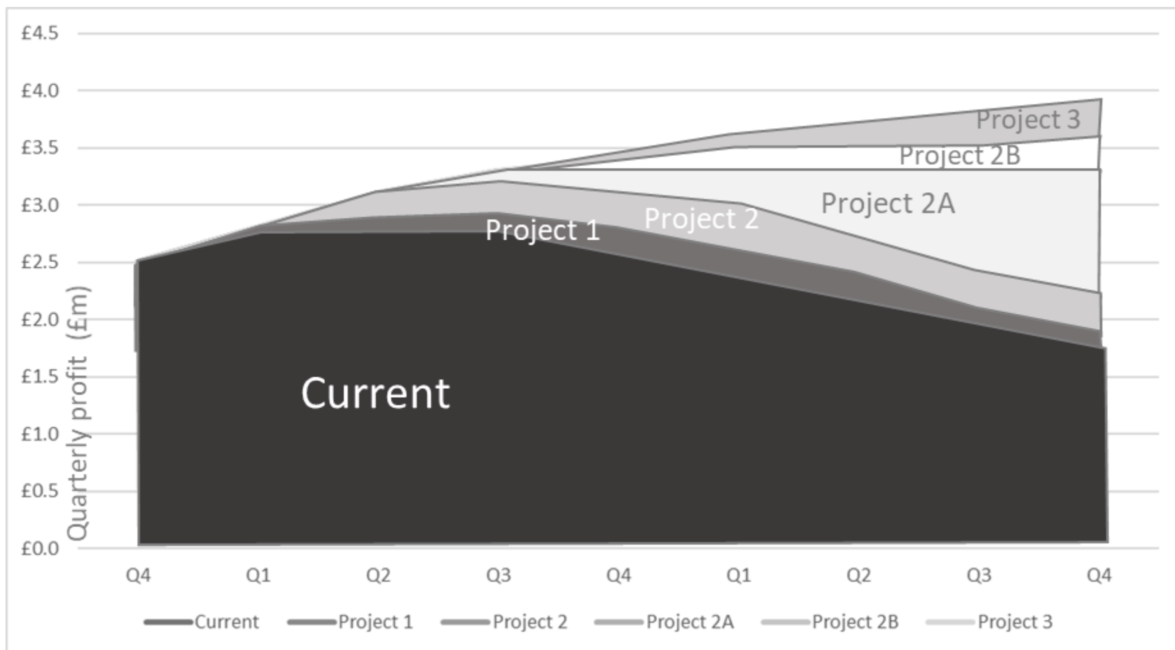
Project 1 – enhance old product: enhancing the current product to include some new features, thereby staying ahead of the competition;

Project 2 – the basic new product: developing a new product to exploit a potentially profitable and unfulfilled need identified in the market. To do this quickly, a basic version of the new product is to be launched as soon as practical, to start engaging the market, using existing manufacturing capability.

Project 2A – the enhanced new product: launching an enhanced product four months later which meets the full needs;

Project 2B – decrease delivery time: decreasing delivery time to protect revenues; speed of delivery is a buying factor for the target market as the current delivery channels are too slow. If the speed of delivery can be increased, it will enhance revenues by winning business from competitors;

Project 3 – reduce manufacturing faults: protecting the company's reputation and avoiding wastage by addressing a quality problem in manufacturing the current product. While the levels of faults have been acceptable to the target market in the past, this is not expected to be the case in the future; customers have higher expectations. If faults stay at present levels, customers will choose competitors' products.



Schedule	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project 0									
Project 1									
Project 2									
Project 2A									
Project 2B									
Project 3									

Quarterly profit £m	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current	£2.5	£2.7	£2.7	£2.7	£2.5	£2.3	£2.1	£1.9	£1.7
Project 1		£0.1	£0.2	£0.2	£0.3	£0.3	£0.3	£0.2	£0.2
Project 2			£0.2	£0.3	£0.3	£0.4	£0.3	£0.3	£0.3
Project 2A				£0.1	£0.2	£0.3	£0.6	£0.9	£1.1
Project 2B					£0.1	£0.2	£0.2	£0.2	£0.3
Project 3						£0.1	£0.2	£0.3	£0.3
Total	**£2.5**	**£2.8**	**£3.1**	**£3.3**	**£3.4**	**£3.6**	**£3.7**	**£3.8**	**£3.9**

Figure 2 Example of a simple portfolio

The CEO points out to the board that the five projects are aligned to the company's overall strategy and each delivers a discrete outcome and realizes a distinct business benefit. The projects are independent, except for Project 2A, which depends on Project 2, as a product cannot

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be enhanced until it is known what the original product is. The CEO has decided to split the new development of the new product into two phases (Projects 2 and 2A) to gain a foothold in the market and earn revenue earlier than would otherwise be the case. Often, organizations make their projects too big or lengthy but by delivering the required outcomes in smaller 'chunks of change', benefits can be realized sooner. An early entrant is more likely to be successful in gaining significant market share. Having four independent streams means that delays in one will not threaten the success of the others, thereby spreading potential risk.

Finally, the CEO emphasises to the board the need to ensure profits from the current products are realized by ensuring 'business as usual' is not disrupted. The CEO's aim is to obtain a total of £15m annual profit. The combined profits from the current products and future projects and initiatives need to be sufficiently high to meet that target.

As a business manager, the CEO is concerned with the total benefit, rather than the individual performance of each project and product. The CEO knows that everything is unlikely go as planned. Some projects will do well, others not so well. Thus, if the current products start to sell better than expected, a delay in one of the new projects might not be significant. A drop in benefits from the current product set might, however, lead to cash flow difficulties, meaning the five projects might not all be affordable. Trade-offs and choices would then need to be made.

How did the projects in this example come about?

How did the CEO and leadership team derive their approach and end up with the five projects described above? The starting point was a problem for the directors: the board requires higher profits. The directors therefore needed to look at the current mix of products and markets to decide the most likely areas for gaining the additional, profitable revenue, as well as considering possible new products and markets. Project 0 was therefore initiated to analyse the situation and recommend possible solutions. One option identified by the analysis was either to take a minimum prescribed market share of a particular segment or withdraw from it completely. It was considered untenable to keep the status quo as it would lead to a decline in profit of about £7m per year. This conversation is firmly within the domain of business strategy and planning and what is needed now is to act on this. The review might have recommended three independent projects:

Project 1: enhance the existing product;
Project 2: develop a new product;
Project 3: reduce faults.

Each project fulfils the definition of a business-led project by realizing discrete benefits as defined in its business case. Each project is intended to further the aims of the organization to increase profit. By being independent of each other, the risks are spread as delays in one are not likely to affect the outcomes from the other projects.

The team working on Project 2, however, found a time constraint on manufacturing the new product. It was not possible to complete this project in the time required and hence a decision was made to create the new product in two phases (i.e. two projects). There are now have four projects:

Project 1: enhance the existing product;
Project 2: develop a new product;
Project 2A: enhance the new product;
Project 3: reduce faults.

Once Project 2 was under way, the team discovered, as part of their market research, that delivery time was a far more important buying factor than realized. If amendments to Project 2 were made to incorporate this, it would have slipped, and the revenue targets missed. Consequently, a separate project was initiated to take this aspect into account (Project 2B, decrease delivery time).

The five projects reported on by the CEO to the board could not have come about directly as the result of the strategic review. The organization simply would not have known enough at that time to reach that conclusion; the information would have emerged as worked progressed. Only three projects were envisioned through the review; the other two came about as a result of what was discovered whilst undertaking those projects. This highlights an important feature of portfolio management; portfolios are not fully predetermined but emerge as a result of what is happening inside the organization and in its wider business context; some might call that 'agility'. Portfolios need to be managed against an ever-moving backdrop and flow of new information; nothing is fixed and wholly predictable and the constituent parts of a portfolio are likely to change. Portfolios are continuous and, unlike programmes, projects and work packages, are not time-bound, although they do include time constrained targets.

Note that each project in the simplified example portfolio is defined such that it delivers a slice of benefit, either independently or, as in the case of Projects 2 and 2A, in series. Also, notice how the business solution has been broken into discrete pieces. This has the effect of making implementation easier, enabling benefits to be realized earlier than if the full scope was undertaken in a single project. Some projects can be initiated as soon as they are ready as they are relatively straight-forward, while with other projects, the teams might still be looking for a viable solution. Some projects are riskier than others and this can be dealt with by taking each project forward a stage at a time [see Buttrick (2019)]. In other words, using the project life cycle: understanding gates and stages, making decisions on what to do next as soon as more reliable information becomes available and, if necessary, making assumptions in the absence of facts. None of the decisions noted in this example can be taken by the project sponsor or manager of the individual projects but require the high-level perspective that portfolio management provides.

Definitions for business portfolios, programmes and projects

The above example is far simpler than the situations likely to be found in practice. Most portfolios comprise many more initiatives (often hundreds or thousands for large organizations). Nevertheless, the example demonstrates some key aspects of portfolios:

- the business context surrounding the portfolio is continuously changing;
- portfolios are continuous; the overall portfolio should last as long as the organization it represents;
- the scope of a portfolio can change; it can comprise a large number of initiatives and different types of work, each proceeding to different timescales;
- new information (problems and opportunities) emerge from the work being undertaken within the portfolio;
- the viability of the portfolio (as a whole) is more important than that of any component part;
- the portfolio should be constructed to reflect the risks the senior management team is willing to take.

In other words, a portfolio is not just another way of describing a big programme.

A **portfolio** comprises current benefit generating business activities, together with a loosely coupled but tightly aligned portfolio of programmes, projects and other related work, aimed at realizing the benefits of part of a business plan or strategy. A portfolio comprises all or part of an organisation's investment required to achieve its objectives and are closely aligned, or even coincident with, an organisation's business plan. For large or diverse organizations, a portfolio can include other portfolios to ensure the span of control is manageable and to allow a degree of independence between portfolios and hence more local decision making. Good scoping of portfolios minimises interdependencies. A portfolio is governed through its business plan. Business plans tend to be drawn up to reflect the organization's fiscal year and might have a time horizon of many years, with regular review points.

A **programme** is a tightly coupled and tightly aligned grouping of projects and other related work managed as a temporary, flexible organisation created to co-ordinate, direct, oversee and deliver outputs, outcomes and benefits related to a set of strategic objectives. Programmes can be undertaken in one or more phases, each of which is structured around distinct step changes in capability and benefit realisation and is itself managed as a programme. Programmes are governed through a business case. A programme's business case covers the period from the start of the programme until it is closed, but should reflect in its financial or economic analysis, any resultant cash flows following the closure of the programme.

A **project**, in a business environment, is a piece of work with a beginning and end, undertaken in stages, within defined cost and time constraints, directed at achieving stated business outcomes and benefits. A project can be standalone within a portfolio, or part of a programme. If a project

is standalone, it should be governed through its business case; if it is part of a programme, it should be governed by the programme's business case, although it might also have its own business case within the constraints of the programme's business case. A project's business case covers the period from the start of the project until it is closed, but it should reflect in its financial or economic analysis the resultant cash flows following the closure of the project.

Projects and programmes are not the only management structures required to run a business in the form of a portfolio. For example, 'business as usual' does not fit into those definitions as it is a continuous stream of work. In addition, 'projects' are not the only vehicles for managing change; there is an ever-growing range of management methods which can be used independently of a project. For example, LEAN/Six sigma methods can be applied to the current manufacturing process to improve performance on the production lines, ensuring a continuous stream of incremental improvements are implemented over time. Agile software development methods can be used to continually upgrade the features on a service platform. Another management structure is therefore needed to represent the 'non-project' work; this is called 'other related work'.

Other related work is work within a portfolio or programme not managed as a project.
Examples include:

- business as usual operations;
- service delivery;
- support services such as the PMO, procurement, finance and HR;
- ongoing improvement initiatives not run as projects, but using a defined approach, such as agile delivered platform-based upgrades and LEAN six sigma.

The introduction of 'other related work' as a management structure is vital for the effective implementation of portfolio and programme management as it gives managers the freedom to use whatever management method is appropriate in their organization; this makes the portfolio management approach future-proof in the event of new management techniques being invented. After all, 'project management' is not the answer to everything!

Portfolios, programmes, projects are merely management constructs. They create deliverables which are useful for management (such as plans and business cases); they do not actually create any outputs useful to end users or customers; the real work is done using the appropriate development or delivery approaches. Portfolios, programmes and projects are simply a way of shaping the management of an organization and, as such, are a vital aspect of governance [see Buttrick, (2019). *The project framework: understanding gates and stages*]. Often people in a project context talk about the 'real work', which is the actual coding of software, pouring concrete, laying track, fitting out an office, serving a customer, making a sale or whatever relates to the selected business objective. The management structure used for 'real work' is called a work package.

A **work package** is a set of information relevant to the creation of one or more deliverables or outputs. It comprises a description of the outputs required and details of any constraints; it is managed through its work plan. As it is simply a 'chunk of work', it can be part of a project, or 'other related work'.

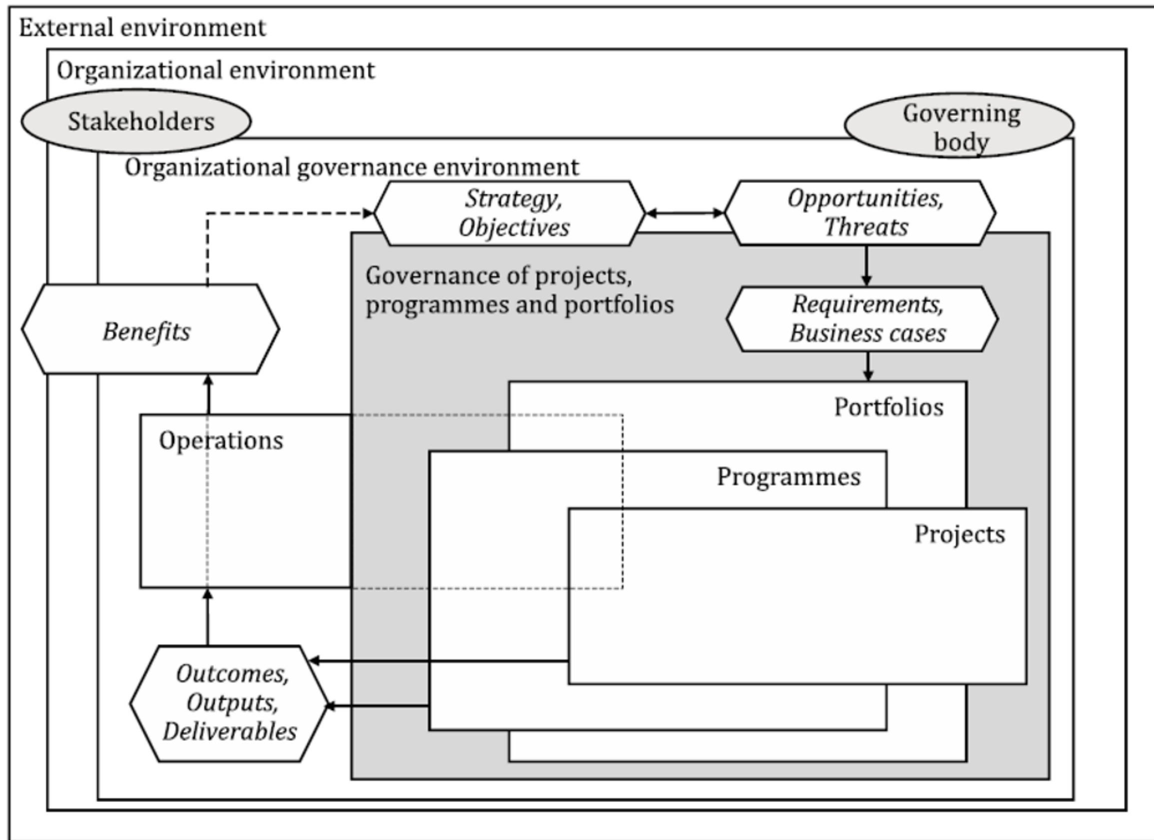
For completeness, portfolio, programme and project management can be viewed as an integrated way of meeting an organization's ambitions, driving better decisions and increasing the likelihood of successful outcomes.

Different definitions are used by different people

The use of the terms 'project', 'programme' and 'portfolio' varies from organization to organization and even within organizations. Colloquially, the words 'programme' and 'project' are often used interchangeably and might not have any foundation in any published standard or methodology. Often, in general conversation, these differences in terminology do not matter as the context of the conversation usually makes the meaning clear. When explaining how they fit together in a process or methodology, the distinctions do become important. The terms used in this paper are consistent with those in the ISO 21500 series standards, some professional bodies of knowledge and published methodologies, such as those by AXELOS. The definitions in this paper are more flexible and the more limited definition used in some organisations can be subsumed within them.

It is common to find people stating that projects create outputs and programmes deliver outcomes and realize benefits; they see this as the key difference between a programme and a project. Projects can exist which just deliver outputs and that is often how contractors see the world, this is however a limited viewpoint and can lead to more complex management structures than needed. The UK government in GovS 002, ISO 21500 series and BS6079 all take the view that projects can (and should) be used to deliver outcomes and realize benefits. The reasoning behind this is that it is outcomes that make the difference, whether for business or social change. As a result, a project should not be considered completed until an outcome has been delivered; that is to say, enough change has happened and enough benefits have started to flow to know the business objectives are likely to be met and the project or programme team stood down. Anecdotes abound of IT systems being developed, made live and then not used because the so called 'business project' was not done properly. If projects are defined based on outcomes and benefits there would be fewer 'white elephant' outputs adding no value whatsoever. The main tenet of this paper is to be business and benefit driven. Outputs are necessary, have to be defined and delivered but do not, on their own, add value.

ISO 21502 includes a diagram illustrating an example of the relationship between portfolios, programmes, projects, operations, outputs, outcomes and benefits in an organizational context (see Figure 3).



NOTE The dashed lines of the operations box indicate that operations can stretch into projects, programmes and portfolios (the dashed lines can be referred to as "other related work").

Figure 3 An example of project management in the context of the governance and management of programmes and portfolios (Source: ISO 21502:2020)

Figure 4 shows the hierarchical relationship between the organization, portfolios, programmes, projects, other work and work packages. Each higher-level component comprises the sum of all connected lower-level components.

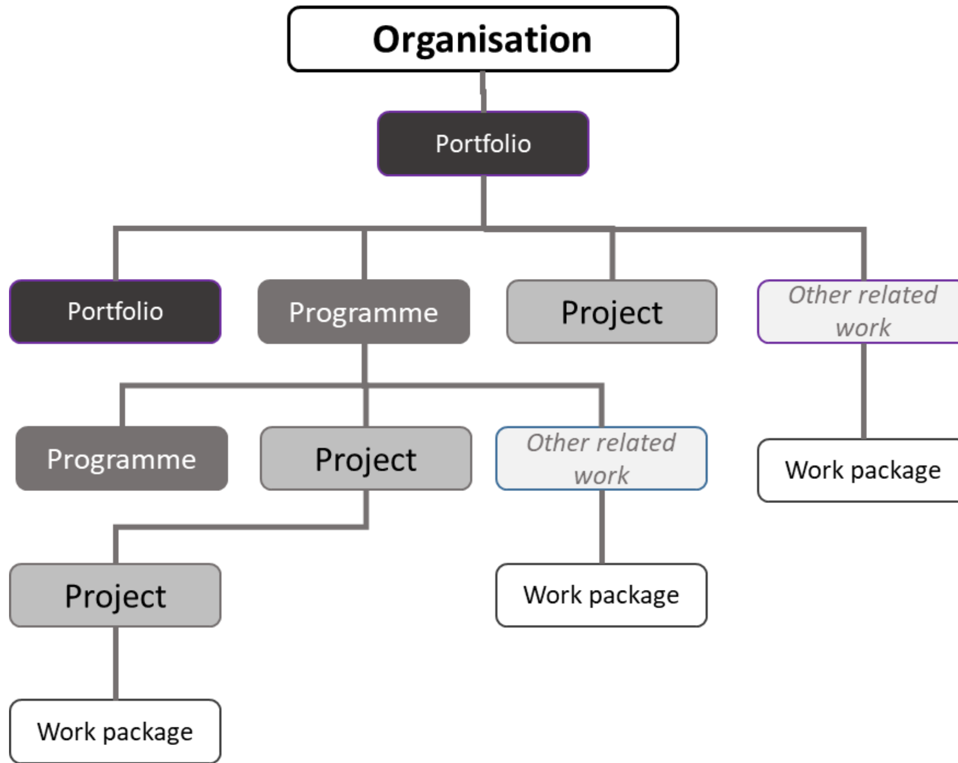


Figure 4 Relationship between portfolios, programmes, projects, other related work and work packages

Figure 5 shows the relationship between the activities (and therefore methods or processes) for managing portfolios, programmes, projects and other related work, and define the flow of information between them. Note, this reflects the hierarchy of the elements, shown in Figure 3. Downward arrows denote providing direction, advice and information on context and risk; upward arrows denote reporting, escalations and requests for advice or direction.

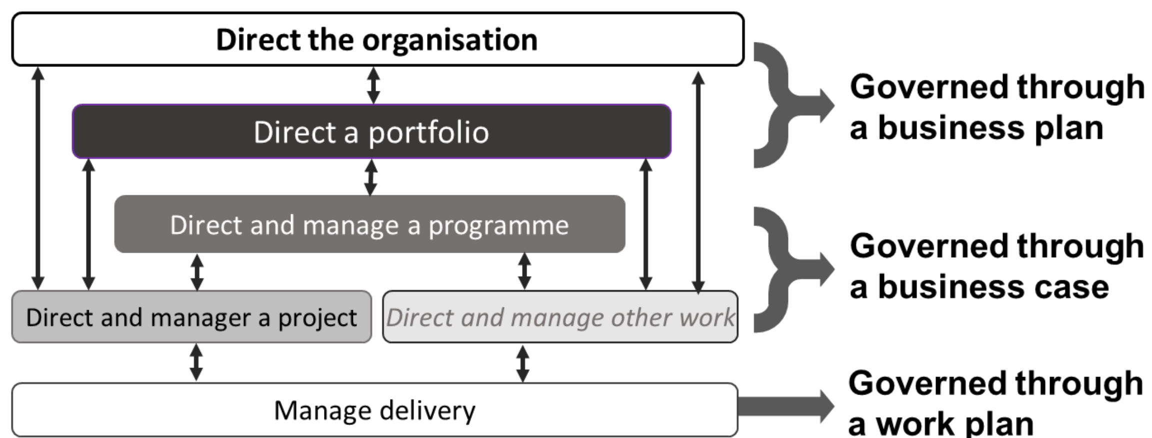


Figure 5 Organization, portfolio, programme, project management and delivery activities

And it can get even more confusing!

The definitions in this paper simply describe the characteristics of each management structure (portfolio, programme, project, other related work, work package). These definitions should not be used as a starting point to say, unequivocally, what management approach should be used. Rather, a management approach should be selected which is the most appropriate in the circumstances; context is very important. Do not think in terms of whether something **is** a portfolio, programme or a project; think in terms of whether it is best **managed** as a portfolio, programme or project.

The boundaries between each structure overlap (see figure 6). A chunk of work might equally be managed as a:

- portfolio or a programme;
- programme or a project;
- project or a work package.

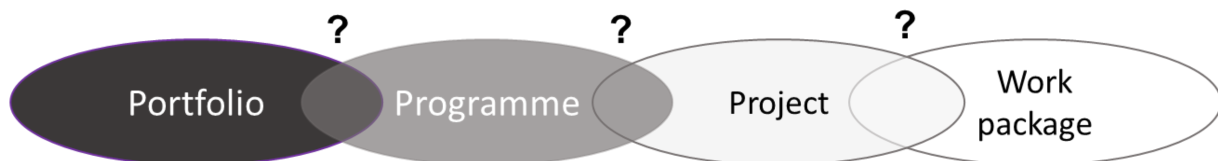


Figure 6 It is not always obvious which management structure to use; there is often a choice

This does not mean that a portfolio and a programme, or a project and a programme are the same or even on a continuum. By calling something a 'programme', the choice has been made to **manage** it as a programme and all that entails. In most cases, it is obvious which is the most appropriate management approach. In some cases, however, there is a choice which will depend on the context of the work within the host organization, as well as the nature of the work itself. Whatever choice is made, the management approach should be appropriate and proportionate to the work being undertaken and outcomes and benefits expected. The Programme and Portfolio Workout includes case studies illustrating these choices.

Conclusion

Portfolios are governed through a business plan.

Programmes and projects are governed through business cases.

Be outcome and benefit focussed, not just budget constrained.

Business as usual and change require that some people need to work on both existing operations and creating new capabilities; take that into account in your management structures

Other related work is an important component of a programme or portfolio.

Think about how best to manage something, not what it is that is being managed.

Ensure your management approach is appropriate and proportionate to the work being undertaken and the purpose for doing it.

References and further reading

Buttrick, R. (2019). The project framework: understanding gates and stages, *PM World Journal*, Vol. VIII, Issue I, January. https://pmworldlibrary.net/wp-content/uploads/2019/01/pmwj78-Jan2019-Buttrick-project-framework-understanding-gates-and-stages.pdf

Buttrick, R. (2020). Governance in a portfolio, programme and project managed context, *PM World Journal*, Vol. IX, Issue XI, November. https://pmworldlibrary.net/wp-content/uploads/2020/11/pmwj99-Nov2020-Buttrick-governance-in-portfolio-programme-project-managed-context.pdf

Buttrick, R. (2020). Defining the boundaries of portfolios, Advances in Project Management series, *PM World Journal*, Vol. IX, Issue XII, December. https://pmworldlibrary.net/wp-content/uploads/2020/12/pmwj100-Dec2020-Buttrick-defining-boundaries-of-portfolios.pdf

HM Government. GovS 002 (2021). Project delivery functional standard

Buttrick, R. (2019). *The Project Workout*, 5th edition. Routledge

Buttrick, R. (2020). *The Programme and Portfolio Workout*, 1st edition. Routledge

BSI (2019). BS 6079:2019. *Project management – Principles and guidance for the management of projects*. London: British Standards Institute.

BSI (2020). BS ISO 21502:2020. *Project, programme and portfolio management — Guidance on project management*. London: British Standards Institute.

ISO (2017). BS ISO 21503:2017. *Project, programme and portfolio management — Guidance on programme management*. London: British Standards Institute.

ISO (2015). BS ISO 21504:2015. *Project, programme and portfolio management — Guidance on portfolio management*. London: British Standards Institute.

ISO (2017). BS ISO 21505:2017. *Project, programme and portfolio management — Guidance on governance*. London: British Standards Institute.

Jenner, S., Kilford, C., (2011). *Management of Portfolios*. London: AXELOS.

Murray-Webster, R., Pullen, P., Schuster, A., and Taylor, S. (2020). *Managing Successful Programmes*. London: AXELOS.

Buttrick, R; Bennet, N; Stanton, P. (2017). *Managing Successful Projects*. London: AXELOS.

About this article

This article is adapted from Chapter 3 of *The Programme and Portfolio Workout* which provides practical advice and techniques to direct and manage a business in a structured, yet agile, way. Aimed at both business and programme managers, it takes the reader through different approaches to portfolio, programme and project management and shows how they can work together. The practical approach is enhanced throughout with a series of 'Workouts': exercises, techniques and checklists to help put the book's advice into practice. The Workouts are supported by an on-line resource of tools on its companion web site.

The book contains a wealth of new material on the governance and management of portfolio and programmes, including how to work with standards and methods, such as GovS 002, ISO 21502, 21503, ISO 21504, BS6079 and MSP and MoP. The companion to this book, *The Project Workout*, deals with directing and managing an individual project. It uses the same concepts and approaches so that you know, when directing your portfolio or programme, that your sponsors and managers are taking the same approach.

About the Author

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Robert Buttrick is an independent advisor on portfolio, programme and project management, specialising in business-driven methods, processes and standards. Recent clients include the UK's Cabinet Office, Network Rail, and AXELOS. He is Visiting Teaching Fellow at the University

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As well as being the author of the books "The Programme and Portfolio Workout" and the "The Project Workout", Robert has worked in one of the world's most turbulent and challenging industrial sectors, telecommunications, where he has been accountable for creating and running project-based frameworks for managing change, involving the direction of portfolios of over 2500 projects, totalling £4bn spend per year. Before this, Robert was with PA Consulting Group, a management and technology consultancy. There, he specialised in business-led project management, advising clients such as TSB Bank, National Rivers Authority, Property Services Agency, Avon Industrial Polymers, National Westminster Bank and RHM.

After graduating from the University of Liverpool with a first-class honours degree, he joined Sir Alexander Gibb & Partners (now Jacobs) who provided consulting, design and management services for infrastructure, working in countries as diverse as Kenya, Mauritius, Yemen, Senegal and Sudan. He has also worked with the World Bank, in Washington DC on investment appraisals for major development projects.

Robert is a Master of Business Administration (Henley Management College), a Member of the Chartered Institute of Marketing, Chartered Engineer and a Member of the Institution of Civil Engineers. In 2010, Robert received a Distinguished Service Certificate from the BSI for services to national and international project management standards, and in 2013 he was made an Honorary Fellow of the Association for Project Management.