Eyes Wide Shut: Expanding the view of portfolio management

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Abstract

This conceptual paper examines our existing world-view portfolio is defined the management of that portfolios from that of project and new product development portfolios to other portfolios that exist in an organisation, such as the asset portfolio, resource portfolio and ideas portfolio. Portfolios do not exist in isolation in an organisational context, but instead overlap and interact. This paper argues that there is a need to move another step higher, and examine the relationships between portfolios of projects and related activities across an organisation in order to optimise outcomes across the organisation. We propose the need for 'enterprise portfolio management' and suggest that this approach has the potential to improve organisational efficiency, and in the longer term could be a source of competitive advantage.

Keywords
Portfolio management; project portfolio; resource portfolio; asset portfolio; ideas portfolio

1. Introduction

Project portfolio management (PPM) is an emerging aspect of business management that promotes and facilitates a holistic perspective to optimise benefits across the project portfolio. The goals of PPM are to align projects with strategy, maintain a balance of project types, and ensure that the project portfolio fits with resource capability so that the organization can sustain the maximum value from project investments (Cooper, Edgett, & Kleinschmidt, 2001; Kendall & Rollins, 2003). Some of the initial PPM concepts have their theoretical underpinnings in business finance (Markowitz, 1952; McFarlan, 1981; Kendall & Rollins, 2003) and the evolution of PPM appraoches have been heavily influenced by field of product development (Cooper, Edgett, & Kleinschmidt, 1999; Killen C. P., 2008; Killen, Hunt, & Kleinschmidt, 2008).

The rise of PPM follows decades of improvements in project management skills and capabilities and may be considered the biggest leap in project management since the development of PERT or CPM (Levine, 2005). As the field of project management has matured, attention has shifted to multi-project management systems as a way to improve project success rates. It is no longer enough to 'do things right' with effective project management capabilities; it is also important to 'do the right things' using a portfolio-level perspective (Cooper, Edgett, & Kleinschmidt, 2001).

This conceptual paper suggests that we extend our world view from a rather myopic perspective whereby once a portfolio is defined the management of that portfolio occurs in an isolated matter. We argue that there is a need to move another step higher, and examine the relationships between portfolios of projects and related activities across an organisation in order to optimise outcomes. We use the term 'enterprise portfolio management' for this higher level capability and propose that organisations will benefit by understanding and managing the relationships between project portfolios and other organisational portfolios such as the asset portfolio, the resource portfolio and the ideas portfolio (see for example: Buttrick, 2000; Cooper R. G., 2005; Krebs, 2009; Larsson, 2007; Center for Business Practices, 2005). This paper asserts that these portfolios do not exist in isolation in an organisational context, but instead overlap and interact. By examining each portfolio, and in particular the linkages and interfaces between each portfolio, we suggest organisational-wide communication and coordination improvements can be made. As such, this 'enterprise portfolio management' has the potential to improve organisational efficiency, and in the longer term could be a source of competitive advantage.

2. Organsational Context

The Project Management Institute (PMI) (2008) suggests that in any organisation, work can be identified as either project-based or operations-based. These two domains are presented as quite separate, with management methods and techniques for each domain having a different focus and approach. Turner and Muller (2003) suggest that 'operations' within an organisation are designed for the management of routine in stable environments. The focus here is efficiency and incremental change as small continuous improvements are applied. Projects on the other hand are vehicles that support more radical change and operate at their optimum in dynamic environments (Turner and Muller, 2003).

Research on organisations has shown that the extension of project concepts into the operational functions of organisations is lacking, and mechanisms for sharing and resolving conflicts are seldom in place (Turner and Muller, 2003). Shenhar and Dvir (2004) suggest that this is due to project management being a relatively new organisational concept and as such top managers treat projects as separate entities that sit outside the regular functional structure. However, when 'projects' and 'operations' are viewed as separate entities, the potential for resource contention and conflict is created, forcing both 'operations' and 'projects' areas within the organisation to compete for priority amongst the pool or shared resources (Engwall & Jerbrandt, 2002). The project-level resource priority conflicts are also highlighted at the project portfolio level.

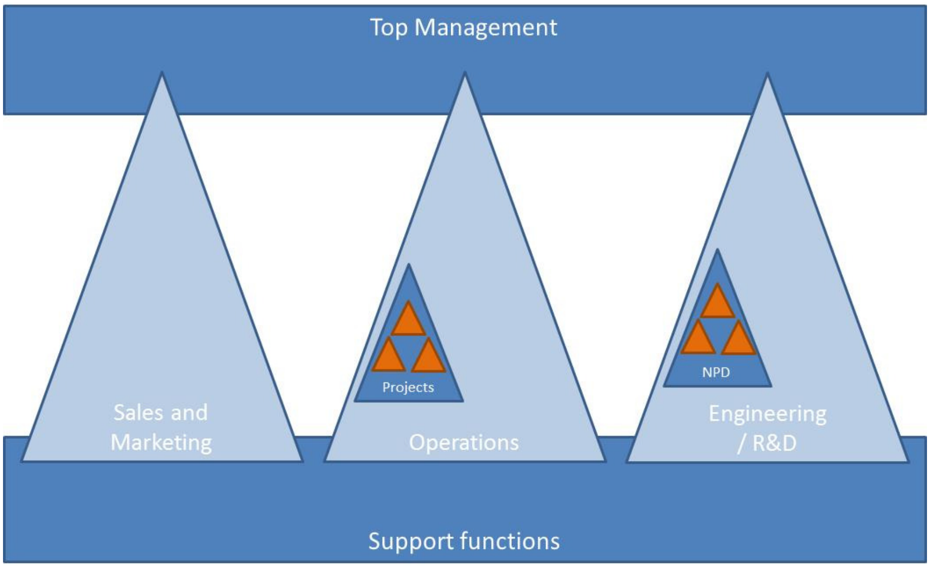

Figure 1: Existing World View of Portfolios

In the simplest sense, a 'portfolio' is really nothing more than a collection or a grouping of objects. In the art world, an artist's portfolio may contain a set of drawings, sketches, paintings or photographs. In the business and management world, a portfolio is a defined as sets of entities or opportunities to be managed. Most often the portfolio management approaches are applied to project portfolios – these can contain a mix of project types, or can be a set of a particular type of project such as IT projects or new product development (NPD) projects, with each discrete portfolio usually operating within a functional element of an organisation. For example, the projects portfolio might sit in an operations division, and a NPD portfolio might exist in an engineering or research and development division, as highlighted in Figure 1.

While portfolio management concepts are most commonly applied to the management of project portfolios in organisations, there are many other opportunities to apply portfolio management approaches to other sets of entities. Portfolio management concepts and approaches are being developed, applied and tailored to a wide range of project-focused areas including the information technology, and product development sectors (Killen, 2008; Buttrick, 2000; Center for Business Practices, 2005; Dye & Pennypacker, 2000; Kendall & Rollins, 2003; Office of Government Commerce, 2009; Morris & Jamieson, 2004; Milosevic & Srivannaboon, 2006). In a limited fashion portfolio management concepts are also being applied to other some areas such as financial investments and corporate strategy (for example, the BCG matrix (Mikkola, 2001), however many other areas have yet to apply portfolio management concepts. This may be partly due to the fact that PPM literature is fragmented and most remains somewhat isolated from mainstream business, management or strategy literature. This situation inhibits the transfer of knowledge across the application areas and many practices developed for the project portfolio context have not been effectively transferred and adjusted for application in other portfolio contexts. By rethinking the definition of an organisational 'portfolio', new opportunities may be identified.

Potentially, the portfolio concept and portfolio management tools and techniques could be extended to and adopted by a much broader selection of organisational functions: the organisation's pool of resources, assets or ideas are but some of these collections.

3. The Project Portfolio

The project portfolio has been defined as '…a collection of projects and/or programs … and other work, that are grouped together to facilitate effective management of that work to meet strategic business needs' (PMI, 2008 p4). Project Portfolio Management (PPM) involves identifying, prioritising, authorising, managing and controlling the component projects and programs and the associated risks, resources and priorities (PMI, 2008). The focus of PPM is ensure efficient use of a common and shared pool of scarce resources (International Project Management Association, 2008) and to ensure that the organisation's strategic objectives are achieved (Office of Government Commerce, 2009).

Traditionally PPM discourse has focussed on the project portfolio as the primary unit of study. Whilst there have been significant developments in organisational studies at the project level, developments in organisational theory and associated studies still appear to be somewhat limited in their coverage and scope at the portfolio level. Project portfolios have found a home at the functional level in organisations, particularly in IT (McFarlan, 1981; Weill & Broadbent, 1998) where the portfolio consists of IT specific projects; and NPD (Cooper, Edgett, & Kleinschmidt, 1999), where the portfolio consists of new product development projects. Although the PMI (2008) definition of the project portfolio refers to 'other work', there has been little or no discussion that identifies what form the 'other work' takes, and portfolio management concepts are not evident in the management of 'operations'. Likewise there is only limited adoption of portfolio management concepts at the strategic business unit or corporate strategy levels in an organisation.

Each organisation will have a unique set of possible portfolios of entities that could benefit from portfolio management approaches. In addition to the commonly defined project portfolios described above, an organisation could, for example, manage resources, assets or ideas from a portfolio perspective. Other types of organisational portfolios are also possible, however for this discussion, the resource, asset and ideas portfolio concepts will be discussed individually followed by a discussion of the linkages between the portfolios.

We will start by examining the resource portfolio.

4. The Resource Portfolio

An organisation's resources include all assets, capabilities, organisational processes, firm attributes, information and knowledge controlled by an organisation to conceive and implement strategies that improve its efficiency and effectiveness (Barney, 1991). Extending this concept, Krebs (2009) suggests the notion of a resource portfolio, drawing the link between cross-organisational resource management and portfolio management approaches, with resource portfolio management being focussed on managing the common pool of 'talent' in the organisation ensuring there is an available pool of resources to work on both current and future projects across the organisation.

Whilst the idea of resource management and forecasting is not a new concept in project management (for example, see Cleland & Ireland (2007) or Shenhar & Dvir (2004) or project portfolio management more broadly (Mikkola, 2001), the idea of a resource portfolio (as distinct from Barney's (1991) resource-based view of the firm) remains somewhat poorly examined, with much of the discourse examining only human resources.

Traditionally, as part of a regular ongoing business process, both operational managers (for business as usual activity) and project managers (for project activity) forecast and define their financial and human resource requirements for projects, programs and other work (PMI, 2008), taking into account the specific features, aspects of capabilities of such resources. Taking a resource portfolio view, short, mid-term and long-term resource forecasts can be used to determine the desired future level of resources, across the organisation. These forecasts take into account not only periods of normal operations but also for peak periods of demand, based on project and operational work that has been prioritised and strategically-linked. When combined, an organisational-wide resource demand profile can be developed. These resource demands are fulfilled through the allocation of resources from the portfolio resource pool to both projects and other operational activities based on these logical forecasts (Kendall & Rollins, 2003; Engwall & Jerbrandt, 2002).

Once the resource supply and demand forecast has been developed, decisions can be made as to whether portfolio workload is to be limited to the available resource supply, or whether additional resources are required to cover the deficit. Plans can then be made to develop or acquire the required types and level of human resources can be put in place, balancing supply and demand (Turner & Cochrane, 1994). Potentially, project portfolio selection techniques and models can be used for resource prioritisation and selection. This approach would enable the alignment of resources to the organisation's strategies and prioritises so they are allocated to the business-critical projects and activities, rather than to a large number of small, low profile projects or low priority operational activities (Engwall & Jerbrandt, 2002). By using an enterprise portfolio management approach, resource prioritisation and planning can be done effectively across the entire resource pool, including but not limited to the project portfolio resource pool.

Let us now examine the Asset Portfolio.

5. The Asset Portfolio

Traditionally, assets have been viewed as systems, buildings, equipment or other physical assets, practices and processes (American Association of Cost Engineers, 2006). Extending the traditional view, an asset portfolio would also be comprised of knowledge-based components, such as the pool of an organisations intellectual property. The asset portfolio is not an isolated entity, but interfaces with other portfolios in the organisation. Krebs (2009) suggests a linear single relation exists from the project portfolio to the asset portfolio; however, we propose that the interaction is two-way (see Figure 2). Not only do projects produce physical assets (as deliverables or capabilities delivered by the project), but assets in their own right also generate a series of projects, by way of maintenance and enhancement activities required to ensure the asset continues to function and perform as designed. The assets may also serve to support or enhance the project portfolio outcomes.

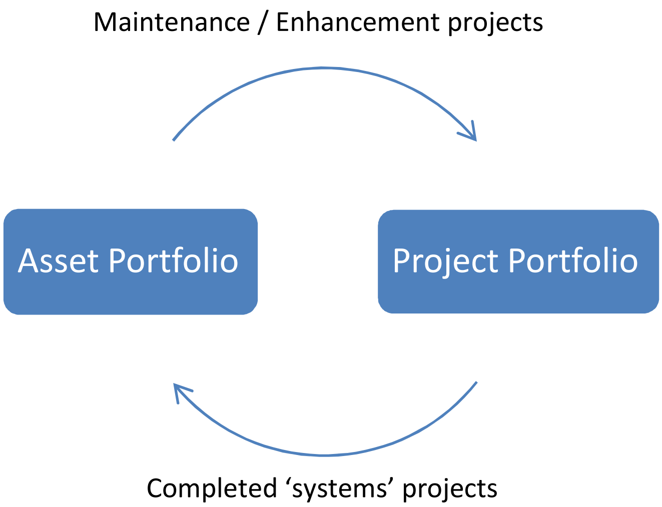

Figure 2 - Two-way interaction between project and asset portfolios

These asset maintenance and enhancement activities draw upon the organisational resource pool. Assets, such as a building plant or system, malfunction from time to time and require unplanned, emergency maintenance to be performed. While many of the expected activities and the required resources will be planned through an Asset Maintenance Plan, these unplanned activities have the potential to drain the resource portfolio and may draw resources away from other priority activities, jeopardising the ability of the organisation to achieve their strategic objectives (Engwall & Jerbrandt, 2002).

The ideas portfolio will now be examined.

6. The Ideas Portfolio

The existence of an Idea Portfolio draws on the concept of ideation and the 'fuzzy-front end' (Larsson, 2007) that is examined extensively in new product development literature (see Cooper, 2005). The idea portfolio is a systematic approach to transforming ideas into businesses opportunities by enriching the right ideas to maturation from the multitude of initial concepts. This approach helps organisations stimulate idea generation and choose which products to fund, given limited investment availability and limited resources (Cooper et at, 1999).

Much of the NPD literature suggests that ideas form the 'fuzzy-front end' of the new product development lifecycle, however, ideas and the ideation occurs in a wide range of project environments. For example, new ideas are regularly generated for process, service delivery or operational improvements. Rather than using an ideas portfolio that feeds only into the new product development portfolio and then into the project portfolio (Figure 2), there may be organisational benefits of a more holistic definition of an ideas portfolio that includes product, service and process ideas. Alternatively an organisation may manage several ideas portfolios (one for each area), however delineating types of ideas is becoming increasingly difficult due to the blurring of the boundary between products, services and processes (Crandall & Crandall, 2008; Howells & Tehther, 2004). Therefore we suggest that there may be benefits in implementing a holistic ideas portfolio that collects all types of ideas and interacts with other organisational portfolios so that each idea has the opportunity to be considered, prioritised, selected and actioned within the relevant domain.

Figure 3: Portfolio Interfaces (after Larsson 2007)

7. Portfolio Interactions

Through their Project Portfolio Management Maturity Benchmarking survey, the Center for Business Practices (2005) discovered that more than one third of respondents also practiced product portfolio management, asset portfolio management and application portfolio management, with the prevalence increasing as the organisation's project portfolio management maturity increases.

Definitions and findings of this nature suggest that there is an opportunity to manage the inter-relatedness between the varying types of portfolios that exist in the organisation. The prevalence of environments where project portfolios co-exist with other types of portfolios supports a move to manage portfolios in a more holistic sense and not limit our thinking to just the project portfolio or the new product development portfolio.

Not only must we examine the life span from project inception to project closure, but we must also examine a project's interaction with other types of portfolios due to the linkages and interdependencies of the project, asset, resource, idea and other portfolios that occur across the organisation. By taking this broader perspective of portfolios and their management we can extend our world-view with higher-level vision. The shift in emphasis to an 'enterprise portfolio management' approach can improve the linkages and transfer of knowledge between portfolios.

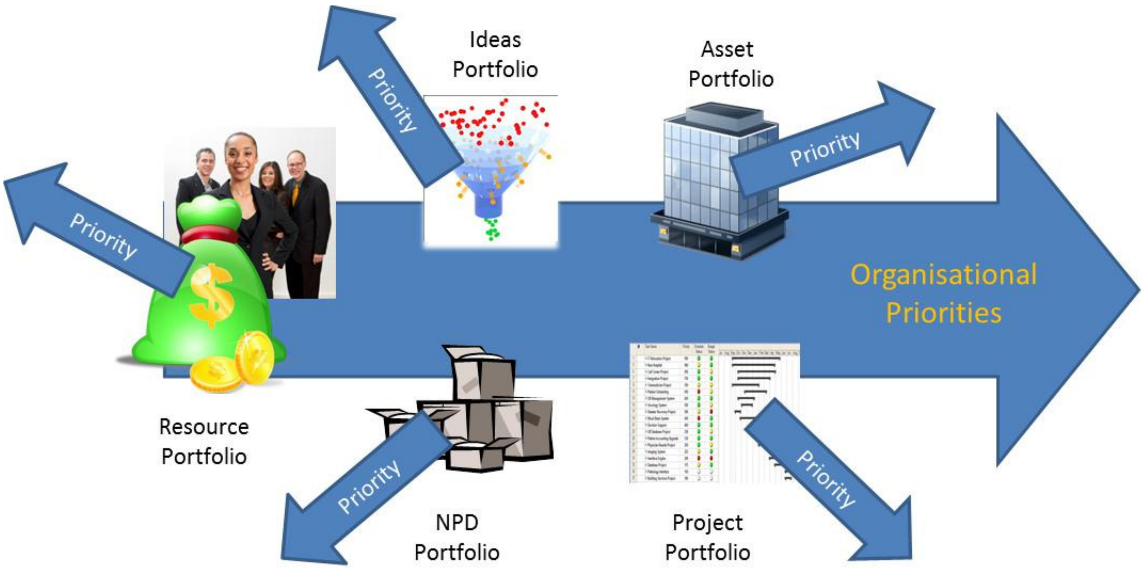

Figure 4: Conflicting Portfolio Priorities

Unless all portfolios are managed in an integrated manner, cross-portfolio impacts can occur, resulting in mis-alignment between overarching organisational priorities and individual portfolio priorities (Figure 4). An integrated approach is required to ensure a consistent and common set of priorities across all organisational resources, assets and projects. Such an approach is suggested to recognise the cross-organisational impacts of unplanned projects and activities and to facilitate the ability to adapt to evolving or changing priorities that may shift in relation to environmental, political or other influences.

8. Enterprise Portfolio Management

The proposed holistic portfolio approach (Figure 5), links multiple organisational portfolios and focuses on ensuring that each portfolio maintains alignment with overarching organisational priorities. The approach operates at a pan-organisational level and within the context of the external environment, reflecting the dynamic nature of decision-making in response to environmental shifts.

The proposed approach illustrates how organisational priorities flow through to a range of organisational portfolios, such as the idea portfolio, NPD portfolio, project portfolio, resource portfolio and asset portfolio. These organisational priorities and the portfolios are not singular, linear or static, but are linked and dynamic in nature.

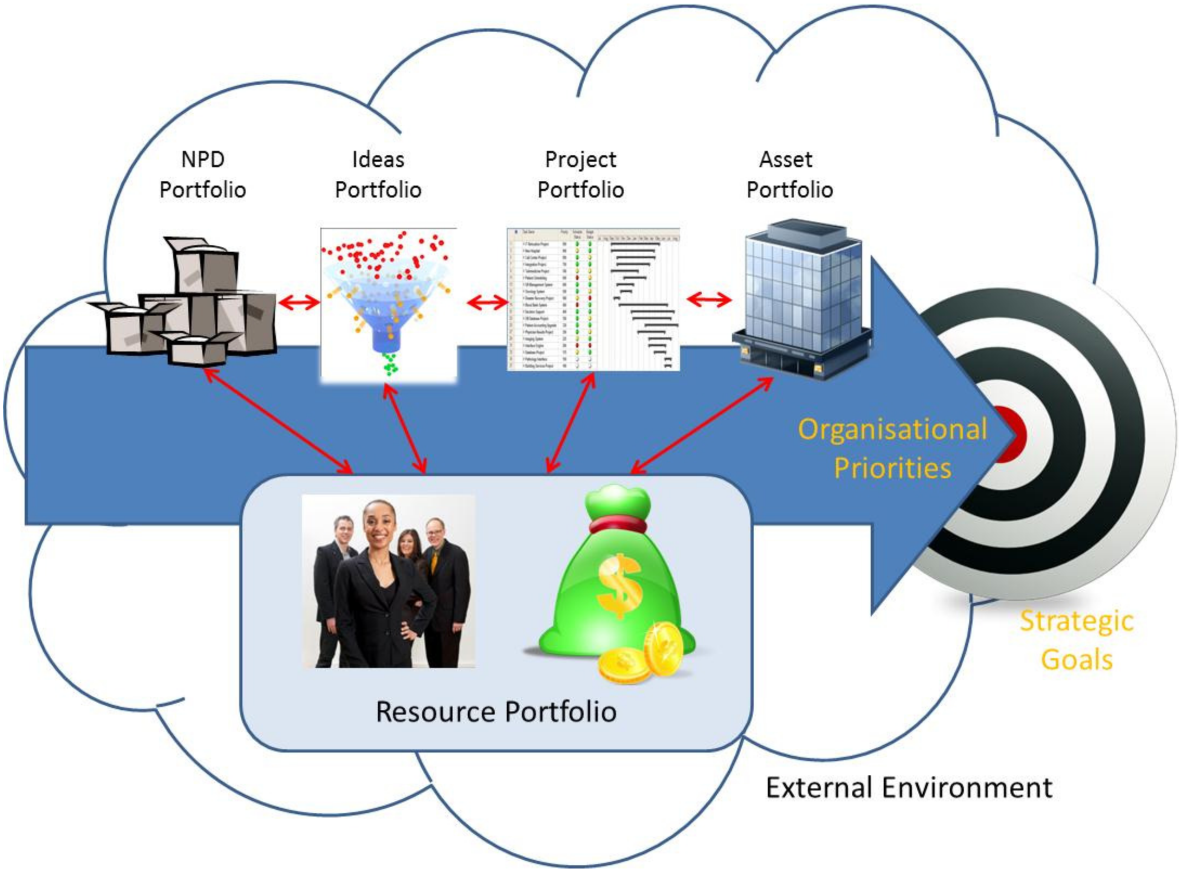

Figure 5: Enterprise Portfolio Management

Interactions between portfolios are central to organisational processes. For example, in the idea portfolio raw ideas are conceived and pass through an idea screen (Cooper, 2005). Viable ideas are prioritised and flagged for development at which point they flow from the idea portfolio to the relevant portfolio such as the NPD portfolio (after Larsson (2007) and Cooper (2005)) or the IT project portfolio. Through the new product development or IT project processes, additional ideas may be conceived and may pass back into the Idea Portfolio for screening. The idea portfolio, the NPD portfolio and the IT project portfolio all consume organisational resources (from the resource portfolio). These portfolios also interact with the asset portfolio (after Krebs (2009) and Larsson (2007)). Projects (in the project portfolio) develop and create assets (in the asset portfolio), which over time are maintained and enhanced, not only to ensure these assets continue to operate and perform as designed, but to also generate ongoing benefit to the organisation. The projects that develop, create, maintain and enhance individual assets consume resources (from the resource portfolio) and as such interact with the resource portfolio. The management of these linkages and interactions creates a high-level challenge. The traditional wisdom has suggested that projects be prioritised, however, project priorities may not align with resource priorities. If the resource portfolio lens is used to examine the situation, a different set of priorities and organisational strategies may become apparent. If the relative priorities amongst the various portfolios are not consistent with each other, or with the overarching organisational priorities, contention may occur.

Currently the project portfolio management discourse is relatively insular and focuses on a small subset of the larger organisation in which it operates. This limits the degree of top management vision and support. Unless a corporate level approach is taken to ensure all portfolio priorities are consistent, the organisation may not achieve its desired or stated objectives. By taking a pan-organisational ‘enterprise portfolio management’ approach, portfolio management concepts can be extended into the mainstream management domain and tailored to each environment to aid in the implementation of business unit-level strategy.

9. Conclusion

The introduction of the portfolio concept in the finance, new product development and information technology sectors brought with it a shift in thinking, a perspective which has been further extended in this paper to the asset, resource and ideas portfolios. From the early development of portfolio concepts in the new product development discipline, portfolio management has evolved to include a range of tools and techniques particularly in relation to project selection, prioritisation and balancing. Existing project portfolio tools and techniques help organisations to identify, select and manage an optimum set of projects in order to achieve the organisation’s strategic outcomes, yet, such concepts are not regularly applied to the management of an asset portfolio or resource portfolio.

We assert that portfolios of investments, projects, resources or assets should not be managed in an isolated manner. It is only when organisational priorities are linked across all portfolios that contention can be removed and optimal outcomes can be achieved. The inter-relatedness between each portfolio is critical and must be taken into account during portfolio re-balancing across and within each portfolio.

This conceptual paper aims to stimulate discussion on the application of PPM concepts to a wider range of organisational areas and on the management of cross-portfolio linkages. Our aim is to identify and promote developments that facilitate integration across multiple portfolios and to evolve the model over time to provide a practical framework that may assist managers to improve organisational performance and bridge the gaps between ‘projects’ and ‘operations’.

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