The Strategic Role of Project Portfolio Management:
Evidence from the Netherlands

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Abstract   Project portfolio management (PPM) is evolving swiftly and becoming the main tool of managing complex project environment. Many organisations are adopting this system in an effort to achieve a better strategic alignment, reduce organisational project complexity, increase the project success rate and improve utilisation of organisation's resources. The paper aims to examine motivations for implementation of PPM and its alignment with business strategies. This empirical evidence is to be confronted with literature. We examine PPM practices in five (multinational) companies based in the Netherlands, representing a diverse sectoral and organisational mix. The study is rich in practical implications for organisations. The paper adds novel insights that can improve the success of project portfolio management in practice.
Key words   Project; Portfolio; Strategy; Alignment

1 Introduction

An increasing number of companies started using the tools and approaches of project management as a way of managing their business operations. Over the decennia, project management has evolved and shaped as a both practitioner-oriented and academic area. In parallel to these developments, Project Portfolio Management (PPM) has emerged as a central tool of governing multi-project environment in modern organisations.

As a basis, PPM was understood as a tool of selecting the right projects and aligning them to the company's strategy. While the project management methods address the issue of 'doing the projects right', the project portfolio management was supposed to deal with the issue of 'doing the right projects', i.e. selecting and prioritising among several projects. However, the issue is more complex. Modern PPM is a multi-dimensional concept, not limited only to initial selection of projects.

PPM is often introduced as 'one size fits all' solution. In practice, PPM should be fine tailored to and synchronised with the company's goals, business strategy and culture. If the issue of PPM is oversimplified, it will unavoidably lead to tensions in the company. PPM is meant to bring the projects into tight integration with other business operations, and specifically – with the strategies, resources, and executive oversight of the organisation (Levine, 2005).

Despite the recognised importance of this topic and numerous academic and practice-oriented publications on PPM, the research is lacking a critical mass of empirical evidence. This study aims to find out, which new ways of thinking there are in practice that are tailored to deal with complexity. We piece together accounts of PPM in practice and contrast them with the main tenets of the relevant literature. This choice determines the methodology of this study – literature review and pursuing qualitative approach to data collection. In the case-studies we seek to analyse the PPM from the perspective of portfolio managers.

Following the above description, the objective of this paper is to critically examine implementation and applications of PPM in a selected number of organisations.

2 Literature Review
2.1 Project portfolio

A portfolio is a group or set of projects with varying characteristics (Meredith and Mandel, 2010), or 'a group of projects that are carried out under the sponsorship and/or management of a particular organisation' (Archer and Ghasemzadeh, 1999, 208). Programmes and portfolios should not be confused. (Turner 2009) outlines the main difference – the programme has common outputs; the portfolio has common inputs. The resources (inputs) may be made of finances, human capital, workforce, data or technology. Smaller organisations might have only one project portfolio, while larger organisations may have separate portfolios for strategic and operational projects as the selection criteria and evaluation

differ substantially (PMI, 2003). In this manner, these smaller portfolios may have some features in common with programmes.

In its landmark manual 'The Standard for Portfolio Management', The Project Management Institute (PMI, 2006, p. 4) provides an all-encompassing definition of a portfolio: 'A portfolio is a collection of projects (temporary endeavours undertaken to create a unique product, service, or result) and/or programmes (a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually) and other work that are grouped together to facilitate the effective management of that work to meet strategic business objectives'. A crucial point of the above definition is that a portfolio is not a 'pile' of projects, rather it is an effectively managed collection; and it is managed with an ultimate goal of achieving strategic business objectives.

PMI (2006) outlines four main characteristics of a project portfolio. Firstly, all components of a portfolio represent investments made or planned by the company. Secondly, these components should be aligned with the company's strategic goals and objectives. Thirdly, all components typically have some distinguishable characteristics allowing the company to cluster them for more effective management; usually this is done in programmes. And fourthly, all components of a portfolio are quantifiable, i.e. can be measured, ranked and prioritised. This is critical because an important mission of portfolio management is about making decisions about allocation of resources or choosing between different alternatives. These decisions should be based on objective (measureable) data.

The question of resource availability is the main issue in Turner's (2009) three main managerial issues underpinning a project portfolio. Firstly, projects should be prioritised within the pool of available resources. Only a limited number of resources are available, and hence a limited number of projects can be done. Secondly, once projects have been selected, resources should be shared between them. Resources demands for different projects may peak together, and unexpected events may causes resource clashes. Thirdly, if projects are sharing data and technology, they may become linked, particularly if one project produces inputs for another.

In its most general form, Project Portfolio Management is a term used to describe methods for analysing and collectively managing a group of current or proposed projects based on numerous key characteristics. In this respect, the fundamental objective of the PPM is to determine the optimal mix and the sequence of proposed projects to achieve the organisation's strategic goals, taking into account resource constraints of project management. Hence, PPM is a dynamic decision-making process enabling to meet the business strategy (Cooper et al, 1999). Likewise, Levine (2005) describes project portfolio management as a set of business practices that brings the world of projects into tight integration with other business operations. PMI (2003) regards portfolio management refers to the selection and support of projects or programmes investments. These investments in projects and programmes are guided by the organisation's strategic plan and available resources.

In a comprehensive practice-oriented guide to the world of PPM, Rajegopal et al (2007) describe the following benefits of PPM, inter alia, better co-ordination between different departments in an organisation, tighter alignment with organisational objectives, maximised portfolio value with optimal balance, increased transparency and streamlined decision-making, better resource utilisation. In the absence of PPM, an organisation risks to find itself in a situation when individual projects are judged on an individual basis without global vision.

2.2 Project portfolio management and business strategy

The alignment of strategic priorities (strategic fit) has become a central theme in the strategic management literature, and as the previous section shows, alignment of project portfolio with the organisation's business strategy is the most crucial task of PPM. The literature on alignment of the business strategy and PM is still scant; and most studies connect the project management to the business strategy through project selection, and perceive this link as part of the alignment process (Cooper et al, 1998; Englund and Graham, 1999). Despite this straightforward view, this link is often elusive. Cooper et al (1998) stated that there is often no link between strategy and project selection. Despite clear business and strategies, the spending on projects does not often reflect the stated strategy and priorities. Similarly, Deloitte Consulting found that only 23 percent of nearly 150 global executives considered their project portfolios completely aligned with the core business strategy (McIntyre, 2006).

These examples vividly show that the issue of alignment is more complex as it may seem at first sight.

It is only recently that the alignment of project management and business strategy has become an object of thorough scholarly examination (Artto and Dietrich, 2004; Jamieson and Morris, 2004; Anderson and Merna, 2003). For instance, Srivannaboon and Milosevic (2004) designed a theoretical

framework using mediating processes that a company develops as mechanisms to ensure proper alignment.

The literature suggested that strategic priorities at the functional level be aligned with the support business-unit-level strategies (Joshi et al, 2003). These business units are R&D, production, human resources, information technology, etc. Surprisingly, project management is rarely seen as a functional strategy, and yet the projects are basic building blocs of organisational strategy in many companies (Cleland, 1999; Srivannaboon and Milosevic, 2006).

Srivannaboon and Milosevic (2006) understand the alignment between the business strategy and project management as the degree to which priorities of the organisation's project management are compatible with priorities of its business strategy. However, as the authors observe, to date, the extant body of literature does not explicitly talk about the relationship between business strategy and project management in a cohesive and comprehensive way.

Scholars have conducted a number of empirical studies taking the strategic fit under the magnifying lens. Scholten et al (2010) analyse difference in strategic alignment between the project manager and other executives working on the project. Existence or perception of the gap between project managers and senior executives is quantitatively confirmed; and it is shown that this gap (strategic misalignment) negatively influences the rate of project success.

The need for further research on the strategic alignment between strategy and project management stems from the current business realities when projects are often chosen as vehicles of implementation of the business strategy (Morris and Jamieson, 2004). Misalignment between the business strategy and project strategy may lead to the organisation's inability to grasp new market opportunities and sustain competitive pressures.

2.3 Project portfolio management: implementation and organisation

When introduced, PPM entails substantial changes in the way an organisation is run. Firstly, PPM is unthinkable without commitment and devotion of all members of the organisation, and specifically, its senior executives. In fact, PMI's (2006) The Standard for Portfolio Management devotes a section to the link between PPM and organisation. Specifically, it describes roles of all actors involved in PPM – executive managers, sponsors, portfolio managers, programme managers, project managers, etc. These descriptions, however, are very generic and do not provide insights in how such system can function in practice.

Yelin (2001) argues that the role of executives in the PPM processes is one of the determinants of PPM success. And firstly, it is crucial to start with a clear organisational structure of PPM. Within this structure all roles, accountabilities, sources of information and other elements are clearly defined.

Makleff (2005) enlists several best practices related to the implementation of PPM. The author specifically recommends starting at the top with senior management buy-in. Awareness among top managers should be created that PPM is a structured way to do more with fewer resources. Support should be obtained and consensus should be built. Further, Makleff (2005) argues that the implementation of PPM practices comes with change in the organisation. Because each organisation is different in terms of its maturity level and the ability to manage change, a planned phased approach should be used to implement PPM.

3 Data and Methodology

3.1 Research design

We conducted a holistic, multiple case study with data from five companies based in The Netherlands. A company is either multinational or domestic, and it has a certain system of PPM (immature, developed or advanced) in place and is engaged in execution of (internal and external) projects. Hence, our unit of analysis is the company per se. We randomly selected several companies that show interest in advancement of their PPMs. Selection of companies for case studies is meant to ensure sectoral diversity and representativeness.

Data was collected from March 2010 to May 2010 through five semi-structured interviews. Project participants were portfolio managers, either formally appointed or being actually in charge of PPM (not necessarily formally called 'portfolio manager'). Each semi-structured interview lasted 1.5 hour on average.

On average, all respondents participated in up to 50 projects in various capacities; and many of them hold professional project management certification. They had been active in their professions for 5 years, and had been employed at their companies for 10 years. They were both males and females,

however for the reasons of confidentiality the present report refers to all of them as 'he'. The same holds for all stakeholders mentioned in the empirical analysis.

3.2 Cases description

Five cases studies are included in this paper. Below is their brief description.

Company A is a financial institution offering banking, insurance and asset management services.

Company B is a landline and mobile telecommunications provider, including both 2G and 3G mobile operations.

Company C is a part of a large multinational electronics producer, one of the largest electronics companies in the world; it is responsible for the research and generation of new technologies.

Company D is a locomotive and rolling stock maintenance and repair company offering services to the Dutch national railways company.

Company E is privately-owned firm that sells equipment and software for climate and process control.

The companies differ in terms of their PPM (Table 1). To start with, they all belong to different industrial sectors – electronics, financial services, infrastructure, telecom, climate control solutions. Considering the amount of projects in their portfolios, the figure ranges from 50 to 380 per annum. As for the number of project managers, this range is even wider – from 10 to 440. This difference is explained by the fact that in several companies (B, D, E) the same manager is responsible for several projects. In Company C the number of potential project managers exceeds the amount of actual on-going projects; and in Company A the number of project managers strictly corresponds to the number of on-going projects. Projects typically last from 9 months up to 3 years; and their typical budget is from € 300 000 up to 8 million. Similarly, project teams vary – from 2 fte to 150 people.

In order to assess the role of project portfolio in the overall company's business, respondents were asked to provide its share, or its total value (for the reasons of confidentiality). In absolute numbers, portfolio size ranged from € 10 to 220 million; and in relative numbers – from around 50% up to 100%. In the latter case – Company C – all business activity is done in the project environment. In this company, PPM was introduced the 1990s, while in some other companies, PPM is only 2-3 years old.

Table 1   Cases Overview

	Case A	Case B	Case C	Case D	Case E
Industrial sector	Banking	Telecom	High-tech electronics	Infrastructure	Climate control solutions
Number of project per year	180	250	380	50	60
Number of project managers	180	130	340	35	10
Typical project duration	9 months	9 months (2 months to 2 years)	3 years	1.5 years (6 months to 3 years)	1 year
Typical project budget, €	300 000 up to 15 mln	5 mln	450 000	8 mln	600 000
Typical size of a project team	5-150	20 fte	2 fte	3-4 fte (up to 40 people)	5-10
Typical type of projects	Banking	IT	Research	Maintenance	Research
Total value of project portfolio / portfolio share in total business	n.a.	€ 220 mln CAPEX	100%	Around 50%	€ 10 mln
PPM established in	Basis existed for 12 years; but formally set up in 2009	Several years ago	The 1990s	3 years ago	2 years ago

4 Empirics

4.1 What is project portfolio management

Overall, all respondents shared the broad understanding of a project portfolio as a collection of all projects sharing common resources, and PPM as a means to manage this collection. However, specific understanding of PPM mission varied considerably.

Company A: PPM as a tool 'to manage the change'. The word 'change' points to a set of initiatives the company needs in order to adapt itself to the changing environment. PPM was introduced to arrange projects related to organisational restructuring (merger of two organisations). The primary motive was to be able to manage the complex interactions between projects.

Company B: PPM as a tool to ensure the overview of all on-going IT projects and lay down the foundations of sound project management. The main primary motive was to ensure that 'we are doing projects right'.

Company C: PPM as a tool to manage 'multi-stakeholder environment'. Many parties are involved in projects with diverse (conflicting) interests and PPM enables to reconcile these interests. PPM allows to 'to align, compromise and balance'.

Company D: PPM as a tool to systematise existing projects and improve selection mechanism. Hence, the primary motive is to ensure 'we are doing the right projects'.

Company E: PPM's mission is to implement the corporate strategy, by project prioritisation / selection, optimum planning of budget and resources and managing / monitoring.

The specific definitions of PPM were determined by initial conditions of PPM implementation and problems to which the PPM was seen as a solution. As a first observation, it strikes that the way that companies look to their portfolio management are all different. Most striking is the difference between the fact that PPM is applied for assuring that right projects are done versus the fact that the projects are done in the right way.

4.2 Organisational complexity and growth of projects

The main problem leading to PPM, as stated by most respondents, was the growing amount and complexity of projects. Systems that existed before formal PPM were not effective, lacked strategic priorities, not aligned with business strategies, and even chaotic. Companies faced 'piles of projects'. For example, Company D lacked any systemic selection mechanism to assess project proposals. It seemed that functional division managers initiated projects as soon as they felt 'an itch on their back' and 'initiatives grew as mushrooms after a rain shower', as stated by the interviewee.

This lack of overview and prioritisation led to frustration and irritation on various levels (from project leaders up to senior officers). Moreover, many projects had overlapping goals and deliverables (as in Company D), the scope of projects was not well developed and it led to huge delays (as in Company E).

Because all these projects relied on the same resources, the situation led to inefficient use of resources and, as in Company E, to almost weekly 'emergency meetings' in which priorities had to be defined for the coming days.

Company A had some elements of PPM on local levels (within particular divisions), for around 12 years before introduction of formal PPM. These elements were embraced in programme management, which was known as 'multi-project management'. In only one organisation – Company C – PPM existed for quite a long time; it was introduced more than a decade ago. As a matter of fact, the company was dealing with multi-project management issues far before that time, but only recently it adopted the name PPM. Even in this case, the company leadership felt a need to improve PPM processes. This new programme aims to advance its IT system.

4.3 Doing projects right

Strictly speaking, enhancement of project management practices per se is not the real aim of PPM, as the 'Literature Review' section has demonstrated. Nevertheless, almost all companies highlighted the role of improved transparency and better overview of all on-going projects, or getting a grip on the status of projects. This intention to improve transparency called for greater uniformity in the way projects are organised. Achieving greater uniformity is meant to improve the project management governance, i.e. 'doing the projects right'.

Several companies underscored this project management governance as main issue in deploying PPM. For example, as the portfolio manager of Company B stated, "We struggled with projects that were not uniform, and we wanted an overview, and therefore we wanted uniformity". Likewise, the primary intention to introduce PPM in Company E was to bring uniformity in different projects, to create a generic technological platform. Otherwise, due to the variety in products and corresponding technologies, if R&D projects are executed in complete separation from each other, synergies are not explored and it leads overall to very poor results.

Company B introduced formalised project management processes first, organised in three groups. The respondent stressed that having these 14 processes in place, effectively applied to all projects is a precondition for PPM. These 14 processes are clustered in three groups. Group 1 includes financial

management, status reporting, financial review, policy & standards. Group 2 includes resource management, planning, risk tracking, issue tracking, procurement management, communication, knowledge management. Group 3 is made of document management, requirements & change tracking, general support & advice.

Company D struggled with delayed projects, exceeding the original schedules. The first step by the newly appointed portfolio manager was to make projects smaller, specify their scope precisely, and to define more specifically their deliverables and planning. It would lead to a higher rate of project success.

The problem of delayed projects was strongly pronounced in Company E too. It was a general feeling, and it even could not be verified as the central inventory of all projects did not exist at that moment. The new portfolio manager started with creating such inventory. All projects were summarised in a matrix, and their schedules were analysed. It was confirmed that indeed most projects were behind the schedule. Many projects were exceeding their schedule even by the factor of 3 or 4. Obviously, these delays led to significant pressure on resources (financial ones in particular). Similar to the situation in Company D, project scopes were not always clearly defined. Even if scope was precisely defined, risk of scope change midway was still present. The new portfolio manager has ensured project management discipline. Project scopes have become clear and precise; and scope change is now strongly discouraged. The share of projects executed according to the respective initial schedule has increased considerably.

These developments were conceived as a positive outcome of PPM introduction. The portfolio manager stressed that it should not be seen as a long-lasting success. Managing projects involves management of the interplay of several interdependent variables. Focus on one variable (e.g. time) may deliver a 'quick fix', but it might come at the expense of other variables in the long run. PPM is meant to improve transparency and provide a holistic view on all important variables of project management.

4.4 The two-sided nature of PPM: doing projects right vs. doing the right projects

As the cases show, most improvements were made in the direction of 'doing the projects right'. Nonetheless, it is essential that PPM addresses the issue of 'doing the right projects' too. It can be stated that the essence of PPM is two-sided (Figure 1):

alignment with the business strategy – doing the right projects (the vertical axis);
increasing project management success – doing projects right (the horizontal axis).

To start with, organisations may find themselves in different starting positions. In many cases a certain degree of strategic alignment was already identified at the starting point (high for Companies A and B, lower for Companies D and E). Yet, all these organisations struggled with problems of 'doing projects right'. Therefore, the initial steps in PPM implementations were along the horizontal line of increasing project management success. Naturally, the magnitude of these steps differed due to a variety of reasons within each individual organisation. In Company B, the first effort did not deliver the results it aimed at, and hence 'a second launch' of PPM was initiated later.

Initiative at improving project management basics was deemed as successful in Company E. It inspired its leadership for a second step – tighter alignment between projects and strategy; and the company has been rather successful here too. Likewise, in Company D, that has already achieved results in its movement along the horizontal axis, would like to enhance its strategic alignment and move along the vertical axis. However, at this stage its success has been moderate.

Company C is a special case. The company has experience dealing with PPM for more than a decade, and PPM covers all its business activities. It is perfectly aligned with its business strategy and project management processes are very mature. Recently, an initiative was formulated to further improve its project management basics by adopting a sophisticated IT system.

These developments are visualised in Figure 1, where starting positions are indicated in white, and the achieved results – in grey, transition states are marked in light grey.

Organisations may focus their efforts initially on either one of these axes. As the cases show, all companies started their transition towards PPM from improvement of project management foundations ('doing projects right'). The next step, however, should be advancement along the other axis. Example of Company E is illustrative in this respect.

4.5 Doing the right projects strategy alignment and commitment of senior executives

In terms of 'doing the right projects', PPMs of all companies have certain links to respective business strategies. Yet, the 'strength' of this link varies greatly.

In Company A, PPM is related to the Strategy Book, but in a broad sense, PPM is not meant to translate strategy into projects. Its objective is to manage interactions between all change initiatives within the company.
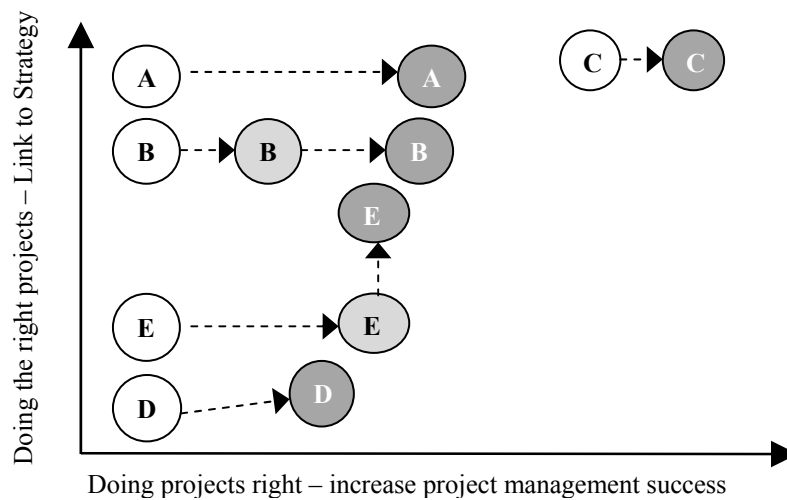
Figure 1   Two Sided Nature of Project Portfolio Management

In Company E, the alignment between PPM and strategy was strongly emphasised by the portfolio manager in the course of the interview. For example, if, according to the business strategy, the company plans to establish its presence on a new foreign market, all the necessary information is collected and transferred to the project management office (PMO). In its turn, PMO initiates a project aimed at achieving this specific objective. PMO itself is positioned within the Strategy & Business Development department. Senior executives are involved in the strategy process and decide on the business roadmaps for the business segments. Since April 2010 they also act as decision-makers for project execution and receive monthly progress reports.

Company C, the research division of a large electronics manufacturing company, closely aligns all its research projects with the business lines of its mother company. In other words, it is meant that results of research projects would be applied in products of the company's main business lines. PPM is a well-established standard that all senior executives in the mother company are aware of. Senior executives responsible for the main business areas are intimately involved in PPM at Company C. The Board allows projects aimed at exploration of new business opportunities or technological areas too (not necessarily directly related to the strategy).

In other companies, the intention to relate PPM to strategy was pronounced, but was not always fully realised (e.g. company D). As it could be seen, the critical factors for this alignment were the beliefs and commitment of senior executives. Portfolio managers in companies with the weakest alignment between PPM and strategy faced scepticism and even resistance of senior executives. This tension was strongly pronounced in Company D, where one of the senior executives openly stated 'I do not believe in projects'. Likewise, in Company B some senior executives, and specifically the strategy director, do not yet share belief in PPM as a tool to implement strategy. This is probably due to the fact that presently PPM in this company embraces only IT projects. Secondly, some top managers do not share belief in project management as an efficient business tool. They do not see the added value of such a tool or department in the key-decision making process.

Overall, senior executives have been involved in the implementation of PPM to various extents. In most analysed cases, the implementation of PPM was spearheaded by a portfolio manager. In one case by the head of a project management office (who subsequently became responsible for PPM).

4.6 Share of projects in all business operations

Commitment and dedication of senior executives is often interrelated with the share of projects to the total business (in other words, the balance between projects and activities performed on a functional basis). The case studies provide a basis for identification of three distinctive models (Figure).

Model 1: Partial Overlap. PPM covers business operations only partially. Most activities are done functionally; and specific tasks are executed as projects. For example, in Company D machinery maintenance is a routine operation and it is done functionally. However, overhaul of the entire maintenance system or maintenance of a unique and complex vehicle with addition of innovative features can be done organised in projects.

Model 2: Sectoral Overlap. PPM covers only a specific business sector/area (e.g. IT). All activities in this sector are done in projects. Activities in all other areas are performed on a functional basis: either they cannot be done in projects (e.g. sales), or they there is no political will to adopt project management for them. In Company B, all IT is done in projects; most other operations are performed functionally. In Company E, all research is done in projects, and other activities are executed on a functional basis.

Model 3: Complete Overlap. PPM fully covers all business operations; it can be described as 'projectification of an organisation'. This is clearly the case of Company C, where absolutely all activities are done in projects; and functional work virtually does not exist. In this company we found PPM as a natural way of working, whereas the other companies characterised by Model 1 or 2 had more difficulties in bridging the gap between daily routines and processes versus projects.

These are not static pictures. Over time companies may move from one model to another. Companies starting from Model 1 or 2 tend to move towards Model 3. For example, portfolio manager in Company E explicitly stated the intention to extend PPM from the current research projects to a larger share of all business operations. Likewise, the intention in Company A was to extend PPM from the current IT and change management projects to a larger segment of business operations.
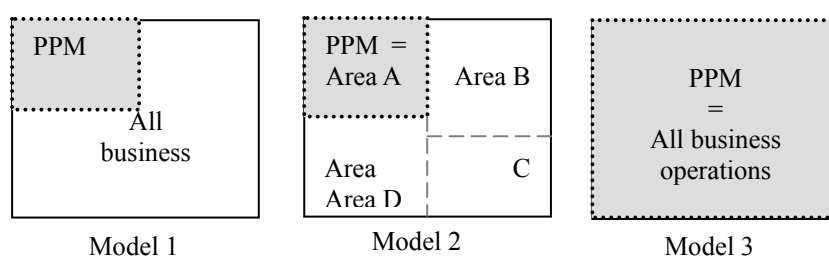

Figure 2   Three Models of Interrelations Between PPM and All Business Operations

4.7 Trigger to implement PPM

The above analysis demonstrated main reasons and motivation to introduce formal PPM. As the case studies show, in the absence of PPM, organisations face problems organising and managing their projects. Frustration and irritation accumulate as a snowball, and quite often, a decision to introduce PPM is related to an event triggering it.

Most clearly it was seen in Company A. Decision to merge with another financial institution required a rigorous transformation of the company, leading to a large amount of change initiatives. To achieve this, an integration programme was designed and launched. It became an umbrella for all projects aimed at the harmonisation of two organisations' operations. This programme became a prototype of PPM. Later on, the manager of this integration programme became the manager of all the change projects within Company A, or effectively a portfolio manager. From that point in time PPM was applied to all projects. Similarly, corporate reorganisation, although on a smaller scale, was a trigger in Company E.

In Company C, the decision to further improve its project governance and to introduce PPM (back in the 1990s) was connected to the organisational changes in its mother company and increasing competition in and commercialisation of applied research. Back in the 1980s, all research was organised in in functional department. At that time, researchers enjoyed more scientific freedom, and could explore new things, what their managers considered as interesting and/or promising. The parent company itself had a very broad range of businesses. Therefore, outcomes of these research initiatives could be easily applied in new products. The business situation changed drastically in the 1990s. The market became more competitive and the mother company decided to focus on three business areas. Company C became positioned closer to the business lines of the parent company, which started to pay directly for research activities. In this period, it was decided to use project management as the main tool to manage research activities. Along with that, portfolio management was introduced. After 2000, the mother company started to focus on three business areas, which they called programmes; and it had direct implications for Company C that had to focus their research activities too. The number of programmes was reduced from 8 to 3. In Companies B and D, the decision to introduce PPM was related to arrival of new senior executives who advocated PPM.

The cases show that mostly there need to be an event triggering implementation of PPM, either major (corporate reorganisation) or minor (arrival of a new enthusiastic executive sharing commitment

to project management).

4.8 Facilitation of transition to PPM

An organisation can rely on its own competences and capabilities for transition towards PPM. Alternatively, it might consider support of a specialised consultancy company facilitating this transition.

Out of five cases, only Company B relied on such consulting support. Firstly, a sophisticated IT system was introduced in the 2007. The IT system as such was working properly, but the company encountered several problems. It appeared that the information that project managers should deliver to the system was difficult to understand for them, and specific forms and the system in general were not user-friendly. Looking back, the (IT) organisation was not really ready for PPM. Management attention and discipline in enforcing a uniform process and tools was missing. In this way, introduction of this system can be characterised as a loss, but a valuable lesson learned in the approach of implementing such systems.

In 2010 a transition towards another IT system (Project management and Portfolio management) started; a new effort has been undertaken by starting top-down. Transition to new processes was facilitated by a renowned consultancy firm.

It might be concluded that a company should have a clear vision and definition of a desired PPM before addressing to a consultancy company. The first attempt was unsuccessful because the requirements and expectations did not match the need of the project managers. The second attempt is expected to be more successful.

5 Analysis

As for the starting point, the problem, the main motivation to introduce PPM is generic for most companies: (a) to reduce complexity, (b) to improve project management basics and increase the project success rate, (c) to obtain a better overview of all on-going projects, (d) to ensure tighter alignment with the strategy. These findings are broadly consistent with the body of literature outlined in Section 2.

A general observation is that only some organisations manage to introduce the right PPM system. It is often seen that organisations do not set clear goals and measurable targets for introduction of PPM. Without such clear objectives, successful deployment of PPM might be a futile undertaking. Further, organisations might have wrong vision and expectation of PPM. They might consider PPM only as a tool of monitoring the status of on-going projects, not as a strategic approach to managing multi-project environments.

On the basis of our observations regarding the need to implement PPM, a conceptual PPM Saturation Model is developed. The model represents the relationship between two variables – 'projectification' of an organisation measured by the amount of projects in an organisation (or the share of project-based activities to the share of functional activities) and organisational project complexity. This relationship is visualised in Figure 3, with the variables positioned, respectively, on a vertical axis and a horizontal axis.

The curve is concave at its base, meaning that increase in the number of projects at a starting point increases organisational project complexity only slightly. On the other extreme it is convex, entailing that every extra project bring much more organisational project complexity.

Three sectors can be identified on the plot. The left extreme (low number of projects, low organisational complexity) depicts a situation when there no need to implement and use PPM. A project portfolio is very small, as organisation might have only a couple of on-going projects, not necessarily serving its business strategy. Such situation is typically present in small- and medium-sized enterprises. These projects may be managed on an ad-hoc, decentralised basis. Efforts of and investments in establishment of PPM are unlikely to pay off. Even more so, implementation of PPM might even increase organisational project complexity.

The right extreme (high number of projects, high organisational complexity) represents an organisation, where PPM is already established and well-positioned in the corporate decision-making mechanisms. PPM is perceived as a natural process, 'like breathing', in an organisation. There might be some initiative aimed at improvement of certain elements of PPM, but the basis remains stable. Decision on introducing PPM is not a strategic issue; it is in place simply due to the fact that projects are running. The situation in the middle of the plot is at the focus of our analysis. It is typical for many organisations – possessing a medium share of projects and being at the medium level of organisational project complexity.
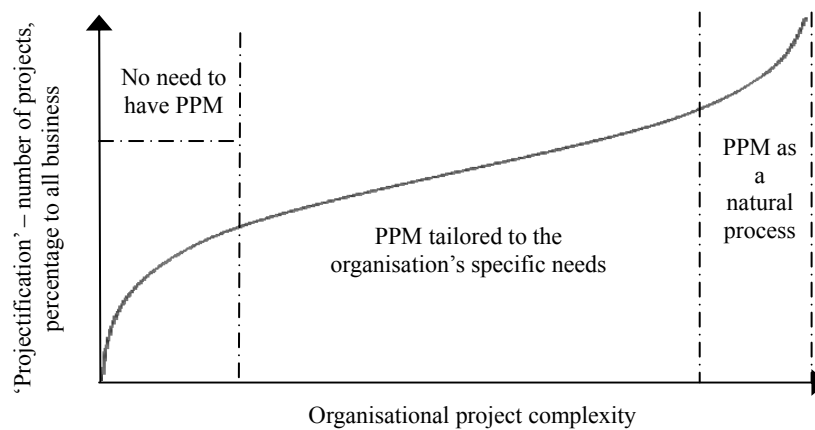
Figure 2   PPM Saturation Model

Among our case studies, only Company C is clearly at the right extreme – PPM was established a decade ago and all business activity is done in project-based environment. Other four companies are based in the middle area.

The challenge is to recognise the need for transition to PPM in a right moment. The point is different for each specific organisation. If PPM is introduced far before this point, investments are unlikely to pay off, PPM might create excessive bureaucracy and cause strong resistance. In contrast, if PPM is introduced a long way after the point A an organisation would continuing facing project management-related problems for some time – functioning without PPM when it is highly necessary. Common problems serving as an indication for an urgent need to implement PPM are explosive growth of projects, lack of overview, 'emergency meetings' on the status of projects, growing frustration and irritation among project managers, and so on. It was clearly observed in all companies (except Company C), yet to different extents. In all the companies PPM was introduced rather reactively, in response to growing problems, not pro-actively, in anticipation of problems.

It should be noted that this model is an analytical tool, rather than a model built upon rigorous statistical techniques. The model serves at a first attempt to determine the optimal period for introduction of PPM.

The question of when, under which circumstances and how PPM should be introduced is largely under-researched in the extant body of literature. PPM is usually treated as given or presented from a normative perspective – as 'how PPM should look like'.

6 Conclusions

The research highlighted vast differences in view on and application of PPM in practice. These differences most vividly manifested themselves in terms of alignment between organisations' strategies and their project portfolios, and strategic support of senior executives. Organisational positioning of portfolio managers and project management offices differed substantially across the companies. Yet, despite the differences, the main reasons for implementing PPM was common – to deal with organisational project complexity by achieving better uniformity. Likewise, all cases had certain system of decision criteria and regular reviews, focus on doing the right projects and certain methodology and supporting IT system in place. Further, administration and bureaucracy induced by the new PPM were cited as a common challenge.

As it turns out, most companies are rather satisfied with their PPM, although most of them see some potential for improvement. 'When is PPM successful and when is not?' is quite a speculative question and deserves a thorough investigation. However, as the portfolio managers of Company D and E stated, PPM is successful when 'you can kill a project' (explicitly meant, using precise and objective criteria and processes). Strange as it may seem, the answer unveils the essence of PPM – to ensure that an organisation is doing the right projects right, and the wrong projects wrongly executed can be effectively eliminated from a project portfolio.

The nature of the methodology employed in this study, namely case-studies, has its own natural limitations. Generalisation of results is made to theory-building and not to all organisations. The results can only be generalised to organisations being in a similar context or situation as the organisations used

in the case-studies.

The empirical evidence collected in the case studies is broadly consistent with the literature and supports its main tenets. Still, the extant body of literature on PPM insufficiently addresses several issues, for examples the initial introduction of PPM and interplay between 'projectification' and organisational project complexity, the need for uniformity and imposition of reporting and reviewing procedures on project managers. This study contributes to the extant body of literature by directly addressing them.

The study is rich in its managerial implications. Firstly, PPM should be introduced pro-actively, in anticipation of growing organisational project complexity, not when it is already late. In doing so, strategic commitment of senior executives should be secured. An organisation should know exactly what it wants to achieve before embarking on a transition towards PPM. If a vision of an expected PPM is not present, actually developed PPM is unlike to deliver solutions to the problems of organisation project complexity. In introducing PPM, organisations should keep in mind that PPM entails a change in the way projects are managed and organised, and IT systems plays only a supportive role, but does not equate to PPM.

The present research project represents a first step in a more thorough and representative research, including a quantitative survey among portfolio managers. Future research should take into account a multi-stakeholder perspective, and involve several corporate layers (e.g. senior executives, portfolio manager, project managers). Since many challenges faced by PPM are interrelated with motivations and behaviours of either top executives or project management, it is advisable to take their understanding into consideration. An interesting direction of further research would be empirical examination of the conceptual PPM Saturation Model introduced in the previous section of this report.

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