Project Portfolio Management revisited

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Professional project people know the theoretical perfect model for project portfolio management. In 2003-2004 a research study 'The ProjectEfficient Company' (PEC Research) was carried out in 30 Danish private companies based on the supposition, that real life portfolio management and leader's perceptions do not quite correspond to the textbook and the control mechanisms offered by certain IT portfolio management systems. Our assumptions were confirmed, but we found a number of inspiring practised management methods. And the research led to some reflections on how the 'project religion' corresponds to top manager's perception of development leadership. They are not especially interested in 'the project way', but interested in 'management of development activity'.

The Portfolio Concept

The term portfolio has its origin in the Italian word 'portafoglio', composed of 'portare', meaning to carry and 'foglio', meaning a sheet. A portfolio is a folder with a collection of papers (Italy app. 1720). Now the term 'portfolio' is used for several purposes and related to company management. There are object portfolios and activity portfolios – see figure 1.

Examples of types of portfolios in companies

Object Portfolios
- Customers
- Products
- Assets

Activity Portfolios
- Customer delivery activities (orders/contracts)
- Product development activities
- Business development activities
- Competence development activities (resources, facilities, employees)

Figure 1. Examples of types of portfolios in companies

The portfolio of customer delivery activities may be the collection of orders, contracts, customer projects - in total, per market segment, per type of customer, per customer etc. There are several ways to delimit a portfolio or several portfolio patterns – suited for analysis or control. Account Managers, Market Managers and Sales Managers usually manage such portfolios. This subject will not be elaborated further, but the following reflections on development activities may inspire to reflections on delivery activity portfolios.

All companies have a 'myriad or crowd' of development activities, initiated from several sources, some arranged in programs and portfolios and some standing alone. They can be arranged in different patterns depending on the purpose – analysis, control, coordination, synergies, effects, ownership etc. In the following we will discuss portfolios from a management and control viewpoint.

Sharpe (2000) defines the basic problem in financial portfolio management as: How can we decide about elements, which are interdependent and uncertain? That also applies to portfolios of development activities. Portfolio management basically is to compose an 'optimal' portfolio based on certain selection criteria and afterwards currently control the portfolio. It is based on the assumption that planning with a 1-2 year horizon is possible - although the context is dynamic and there is internal uncertainty and external uncertainty as well. The research showed that portfolios are controlled and reshaped continuously in an ongoing management process. Based on that perception the term 'Portfolio of Development Activities' may be defined as in figure 2.

Portfolio of Development Activities
A selected, arranged, coordinated or just emerged crowd of development and improvement activities – in principle derived from the company strategy and business goals. The crowd changes dynamically through new activities, changes in ongoing activities, closing ongoing activities, interrupting activities, finalizing activities.
The activities are managed and coordinated considering several criteria – primarily business potential, risks and development capability.
The portfolio Management focus is fulfilment of strategic needs and business potentials.
The portfolio activities can be organized in different ways (programs, projects and tasks) and they may be more or less tied together.

Figure 2. The term 'Portfolio of Development Activities'

Figure 3 illustrates how the crowd of activities is spread over the company organisation. There are company wide cross-organisational major initiatives – often organised as programs and with top management attention. Way down in the organisation there are improvement activities of Kaizen and Quality Circle type – usually small and delimited to departments and sections. In the middle there are projects and major tasks – some delimited to departments and some cutting across departments. The research showed that the top-level activities usually are in good control, seen from a portfolio management point of view – although many companies do not use that term and its mechanisms from the textbook. We found that the activities 'in the middle' definitely are the most difficult to manage! Some companies tried to have some order, whereas other companies had chaos like situation. 'Project Congestion' was the typical description from the managers interviewed.

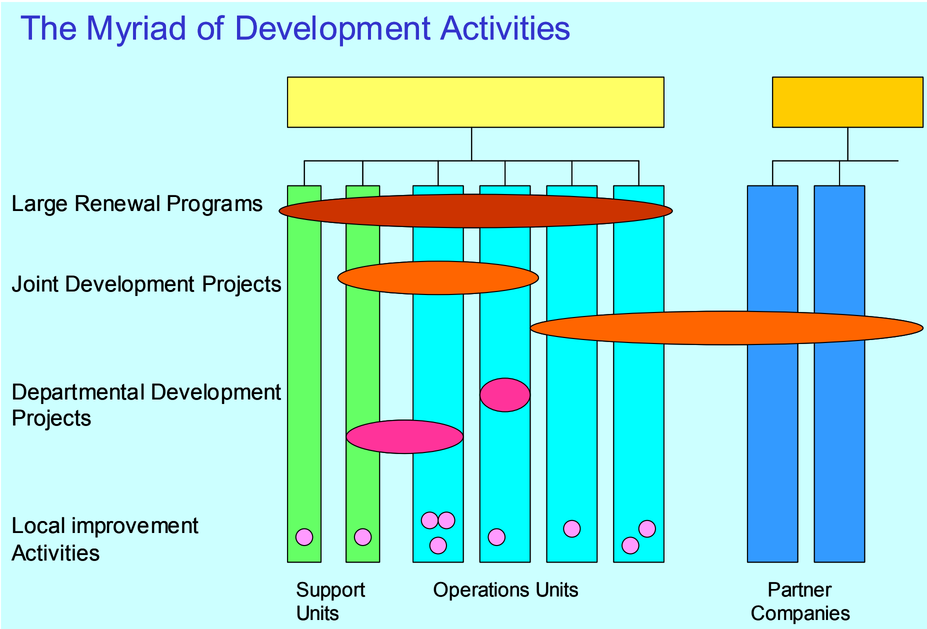

Figure 3. The myriad of development activities

Eight findings about portfolio management

The research can be summarized in eight findings – see figure 4.

Eight findings about portfolio management

1. Development activities should be arranged in portfolios
2. There are several portfolios of development activities – a structure of portfolios
3. Portfolios should be composed and shaped – to maximize synergy effects and quality of activities
4. Portfolios are managed in different ways – called orchestrations
5. The theory based analytical models should go hand in hand with 'gut feeling'
6. Goal directed portfolio is superior to the resource-constrained portfolio
7. Controlling the utilization of key resources is governing efficiency
8. Energy is the foremost important and constraining resource

Figure 4. Eight findings from the PEC Research

1. Development activities should be arranged in portfolios

The types of development activities illustrated in figure 3 is seen as three levels – illustrated in figure 5. This is not to be seen as three portfolios, but the principle may lead to the forming of development programs in the first hand and then forming additional projects to be in line with the strategic directions of the programs and as important supplements in other strategic areas. The individual project (development activity) may be considered either as a 'living alone' activity or coordinated with other activities.

Figure 5. Three levels of development activities

2. There are several portfolios of development activities

Because line managers basically are responsible for initiating development activities, it seems obvious to create a portfolio for each line manager area. The traditional strategy planning process driven from the top often leads to a call for development initiatives from each line manager. In that way the portfolios will be 'silo-portfolios' – except from the previously mentioned major cross-organisational activities.

A number of companies were aware, that it is more appropriate primarily to arrange the portfolios across the organisation, to ensure holism in the development activities. The main structure could be:

A. Business Development – development of products, services, business processes and related support processes, supply chain, distribution chain etc.
B. Competence Development – development of employee competences, facilities and resources, technological skills, new locations etc.
C. Imposed Development – initiatives forced by laws and regulations etc.

Examples are portfolios related to actual strategic areas of improvement, a product development portfolio, a portfolio related to the development of business processes, an IT-systems development portfolio. Some companies successfully use some kind of enterprise architecture as a structural basis.

It is often difficult to advocate for business value of competence development activities. Instead some companies primarily arrange business development portfolios at first and relate all necessary supporting competence development to these activities.

3. Portfolios should be composed and shaped – to maximize synergy effects and quality of activities

A classic opinion is to compose an activity portfolio by choosing among a number of new ideas and propositions (project candidates). The portfolio entrance has a number of evaluation criteria – i.e. business value, benefit and cost, degree of innovation, technological feasibility and organisational feasibility. These criteria lead to a go/no-go decision. There are also criteria for the portfolio as a whole. R.G. Cooper suggests:

- Maximize the business value of the portfolio.
- Balance the portfolio (long versus short term; high risk versus secure results; risk versus opportunities; easy versus difficult; more markets, more technologies, more products; number of activities versus implementation capacity etc.)
- Ensure the strategic fit – including requirements from external authorities.

Observations of the 'silo' effect in companies showed several departments launching individual and uncoordinated projects with (nearly) the same scope. Observations in one successful company arranging cross organisational portfolios and programs inspired us to think that relevant and valuable development initiatives are shaped through serious considerations to challenges, strategy and business development needs. And shaping is an ongoing process with shifting intensity. There are frequent and regular re-evaluations and adjustments and there are yearly business and budget planning and regular strategy revisions. The turbulent business world and deviations from activity plans require frequent revision of the portfolio. Some dynamic companies in the research have 'portfolios' on the Management Meeting agenda every two or four weeks.

Observed principles for the shaping of portfolios include among other things:

- Spend effort on analysing problems, challenges and opportunities and transforming them into well-shaped development initiatives – 'whole' projects – to ensure maximum effect.
- Major complex initiatives should be arranged as programs (instead of big projects). Projects and tasks should also be arranged in programs if possible. This to ensure synergy and manoeuvrability. The portfolio should be balanced as described above. Shaping is on the one hand the composition of the portfolio and the coherence between its activities, to achieve synergy effects and best resource utilization. It is on the other hand suitable shaping of each initiative.

Shaping requires a process and an organisation – e.g. a Business Development Forum and an 'Idea Land'. It requires willingness to create cross-organisational and coordinated initiatives and requires an information system making ideas and activities visible to all managers.

On-going re-shaping of the portfolio is necessary due to several circumstances:

- Changes in the environment require new timing of activities, changes in scope, new initiatives, closing or interruption of activities. Such interventions may be necessary even late in the life cycle of some projects.
- Some activities have internal uncertainties – technological realism, organisational change, size of investment, business value etc. A typical approach is to define a number of 'gates', where those uncertainties should be clarified and hopefully reduced. A gate is a decision point.
- The portfolio should be manoeuvrable. If valuable activities must be closed, new compensating initiatives should be ready for start. There should be a number of preparedness measures.

Some companies demonstrated such dynamic management. But in some other companies did the portfolio governance board switch from portfolio management to rescue operations for suffering projects. Apparently there is a need for clear distinction between portfolio management and management of projects from project owner or steering committee level.

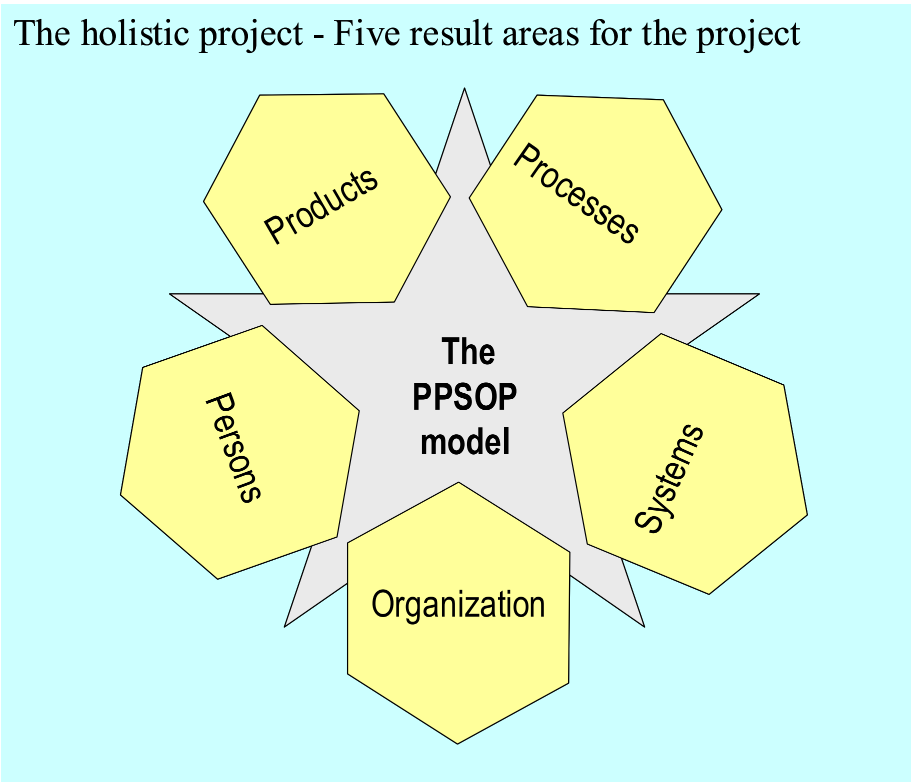

Figure 6. The five elements of the 'whole' project

A common project phases model with a sequence of phases/stages and decision points is recommended in several books, (e.g. Cooper) and we also saw such models in some companies. We asked if they are suitable or too stiff, not considering the nature of risks and uncertainties in each development activity? Would a more situational arranged clarification process, guided by the specific uncertainty phenomena in each activity, be simpler and focused? The managers interviewed had different viewpoints on this issue – and we noticed several situations where the common model was not used.

4. Portfolios are managed in several different ways – called orchestrations
We saw defined and managed portfolios but also several projects not belonging to a portfolio. Our observations lead to recommendation of a formal portfolio owner or manager. But we also saw that portfolios can be managed in several ways – a span from strong 'top control' from a manager or governance board to very decentralised initiation of activities from several promoters (e.g. in campaigns. Read more in the section 'Portfolio Management' later.

5. The theory based analytical models should go hand in hand with 'gut feeling'
None of the companies rely on project selection as a result of selection criteria and benefit-cost analysis only. Manager's knowledge, business intuition and experiences are dominating factors. The dialogue and hard debate about potentials, risks and probabilities is the basis for decisions. Several managers basically rely on their profound business and market knowledge. The evaluation models help structuring the debate and their figures are subject for uncertainty analysis.

6. Goal directed portfolio is superior to the resource-constrained portfolio
Interesting is this statement from several top managers: 'Development activity should be dimensioned due to strategic needs and valuable opportunities – and not to limited resources. The necessary activities should be carried through and the necessary resources should be provided! Adjusting the portfolio to a limited resource capacity may seriously restrict necessary development!'. This means that the Portfolio Management should deliver an estimate of future needs for at least important competences, as a basis for providing them in due time.

Focus on resource allocation may lead to rescuing distressed projects instead of considering the portfolio as a whole. Development activities are in principle prioritised, when they are in the portfolio. But the Portfolio Management can change the timing of activities – transfer to waiting position to avoid too many activities in progress, give some activities spacious time and use them as buffer when resources are limited, or speed-up activities if intensive resource effort is available.

7. Controlling the utilization of key resources governs efficiency
The term 'project congestion' should be taken seriously. Some studies point to two simultaneous projects per person as optimal for efficient work effort. A third project means drastic reduction of efficiency and longer throughput time for the projects. Too little capacity also drains energy and motivation – and does not leave room for valuable spin off activities.

An interesting aspect is the Portfolio Management role in resource allocation (human resources and money). We saw that attempts to centralised control of human resource allocation is nearly impossible, because the Portfolio Management does not own the resources and there are competing portfolios and even activities outside the portfolios. It is difficult to dimension portfolios to a given resource capacity. Attempts to optimize resource utilization via the mechanisms in typical IT portfolio management systems is difficult – unless you choose to optimize on a few key resources only. The classic resource management systems focus is on the development activities and resources. Several companies claimed that the important constraining resource is the implementation and change capacity in the line organisation.

We saw no obvious general applicable resource management methods. The more successful companies focused on key resources or had resource management systems in some service departments with full time project workers. We wonder why companies do not rely more on the employees' capability of estimating and managing own workload.

8. Energy is the foremost important and constraining resource
It is notable that the understanding of 'resources' is 'competences and man-hours'. The Research revealed that the most important development resource is energy – management energy and employee energy. Project congestion is the typical energy killer – but several managers think, that

the organisation should be a bit overloaded with projects. At the same time they are convinced that successful projects are carried by enthusiasm and energy. That led us to identify a number of energy providers and a corresponding number of energy killers. Regrettably energy is not quantifiable for illustration in resource capacity and load diagrams

The content of activity portfolios

The term ‘Project Portfolio’ is often used – but is it so? Does an activity portfolio only contain projects? In reality there are several ways of organising development and improvement activities:

- Project Organisation – to the cross-organisational, complex, development type activities
- Task Force – to medium sized, often departmental activities with an already defined end product
- Case officer who activates other participants ad hoc - for simple well defined activities
- Quality circles, Kaizen-groups – for small local improvement activities

The most adequate and least formal form should be applied to each development activity. Believers in standardized management processes will advocate for one project management model for all activities. Others will see this as unnecessary bureaucracy and formalism – they prefer a more situational arrangement, according to complexity, character, cross-organisational involvement etc. Another point of view is that only projects should be in portfolios – the rest is line manager’s normal responsibility. But we have seen, that this is often confusing. There is no sharp definition of which activities should be organised as projects – it is all decided by managers due to their opinion and interest. The consequence being that many department activities are rather big, resource demanding and competing with the projects. If portfolios are a means of having overview of development activities, all relevant activities should be included – and the number of competing portfolios should be minimized.

Activity portfolios are the responsibility of line managers. A portfolio is an everlasting thing – reaching beyond the life cycle of projects and programs. It has a ‘forecourt’ with ideas being analysed and evaluated and shaped into good initiatives. It has a ‘ramp-up’ part, where products and solutions from finished development activities are monitored as they are brought to business results.

The aim of a portfolio is not a point in the future, but the expected operations and business results in a forthcoming period of time. Typically expressed as strategic goals and yearly budgets, but profitably also as a series of business scenarios.

Three typical ways of organising activities in a development portfolio

Program
A complex collection of activities (normally projects), which together fulfil a strategic goal and thus are coherent. A program is guided by strategy and vision. The content and plan may be changed somewhat underway. There are ‘must do’ activities and ‘nice-to-have’ activities. The program has cross-organisational span and focuses on achieving operations and business results from activity deliverables. Is managed by a Program Manager and Project Managers and eventually a Program Board.

Project
A complex activity with delimited scope, defined purpose and product goal, cross-organisational span and complexity and uncertainties, which require organised, multi discipline and cross-organisational effort. Has a formal project organisation with Project Owner (eventually a Steering Committee) and Project Manager.

Improvement task
A simple task (though it may be a major investment), with well-defined scope and required solution and little uncertainty. Is handled by a Case-officer and a task force.

Figure 7. Three typical ways of organising activities in a development portfolio

Portfolio Management

The term 'Portfolio Management' is normally related to a leader and perhaps a Governance Board. It is also the understanding of conscious choice of activities, optimization and control. In the PEC Research several managers saw this as their preferred scenario – but they also expressed fear of bureaucracy. Some other management methods were identified and it is not easy to point out an ideal method. Several companies demonstrated portfolio management as an ad hoc activity and a situational improvised process with more and shifting leaders.

This picture inspired us to a model with three dimensions for organising the management of portfolios.

- The first dimension is the parameter: central versus de-central. Are the portfolios managed from a central unit (person, office, committee), or managed by several actors (managers) spread out in the organisation?
- The second dimension is the parameter: formal versus informal. Is management an organized and visible process using control mechanisms, or is it accidental interventions with criteria and mechanisms not easily seen through?
- The third dimension is the parameter: regular intervals versus ad hoc. Is portfolio management exerted at regular and fixed moments, or when there are obvious problems calling for decision and action?

Combinations of these dimensions are a spectrum of management methods. We identified a number of practices (applied methods), which we call 'Orchestrations' - referring to the metaphor of music orchestras and different ways of playing. These orchestrations are listed in figure 8. We will not elaborate further on them here – but just state, that portfolio management has many suits of clothes.

Ways of orchestrating portfolio management

- Strategy – sets the course and visible goals
- Business goals – guide priorities and initiatives
- Campaigns – keep decentred initiatives in step
- Programs – set the course and ensure coherence
- Shared pictures of future challenges and actual situation – create understanding of the need for change
- Strategic preparedness – create basis for actions in an unclear strategic situation
- Visible leadership – creates focus
- Visible market and customer requirements – provide common points of reference
- Timing – ensure actuality and synergy
- Renewal and change culture – is a driving force
- Portfolio Manager (Governance Board) – create overview and rapid decision processes

Figure 8. Eleven different ways of orchestrating portfolio management

Management of Development Portfolios is line management – in principle the responsibility of every line manager. Portfolio management is on going, opposed to project and program management, which ends. Portfolio management is focus on business effects, on timing of changes and effects and on portfolio balance. Portfolio management is not project or program management, not project office functions and not project management maturity. These are aspects of 'the project way' of organising the activities in the portfolio. The Portfolio Managers can apply such forms, but need not to be capable of managing projects or programs. They need the understanding and insight necessary to organise activities in a proper way. They should be competent in the dialogue with activity managers about their connections to portfolio aspects and about reaching activity goals. I see that as natural competences for a line manager using project organisation as a means.

But in praxis we have seen, that portfolio management is mixed with project management. Portfolio Managers and Governance Boards intervene directly in managing projects. Instead of rearranging the portfolio when a project is in trouble, they try to rescue the project – and nothing else. That should be the responsibility of the project owner and the project manager. The Portfolio Management responsibility is to express the project's importance for the portfolio value and to assist - considering the portfolio situation as a whole. Project changes may lead to rearrangement of the portfolio.

Putting the spotlight on orchestration forms with a dedicated Portfolio Manager, the portfolio management functions can be expressed as in figure 9. The Portfolio Manager may be assisted by a Business Development Unit and an Administrative Secretariat.

Typical portfolio management functions

<u>Manage the portfolio</u>

Contribute to analysis and arrangement and formulation of strategy and business plan.
Manage the portfolio and activity shaping process:
- Facilitate and coordinate birth of ideas and propositions to realisation of strategy and business goals (transform into an activity portfolio).
- Lead/coordinate cost-benefit analysis of ideas and propositions.
- Lead shaping of the portfolio content.
- Lead formulation (scoping) and organising of portfolio activities.

Control (re-shape) the portfolio – timing activities, start activities, monitoring, close activities, interrupt activities, entrance of new activities.
Cross-organisational coordination with other Portfolio Managers and with project/program owners.
Resource management – facilitation of key resource allocation, estimate resource needs (competences and capacity) for future development activity.

<u>Ensure operations and business effects</u>

Organise line organisation responsibility for implementation of activity deliverables and related change management.
Follow-up on the business results of development activity and compare with the strategic needs.
Feed back of experiences to the strategy plan – initiate update of the strategy.
Contribute to development of change management and implementation competences.

<u>Administration of the portforlio</u>

Administrate the portfolio information system.
Administrate the management report system.

<u>Organise the management processes</u>

Arrange the management process and organise management collaboration.
Arrange the methods and facilities for portfolio management.
Facilitate collection and use of experiences.

Figure 9. Typical portfolio management functions

About Programs

Our observation is, that it is advisable to shape programs within and sometimes across portfolios. A program will knit projects together, considering technical aspects, development sequence, implementation aspects etc. The Program Manager is the overall, coordinating and unifying manager. This role is in some ways similar to project management – but another level. There are also elements of portfolio management – such as gathering of initiatives and structuring the program, timing of activities and strong focus on change management, implementation and achievement of business results. Programs on top level in figure 3 can act as locomotives for additional development activities. Figure 10 shows the typical Program Management functions.

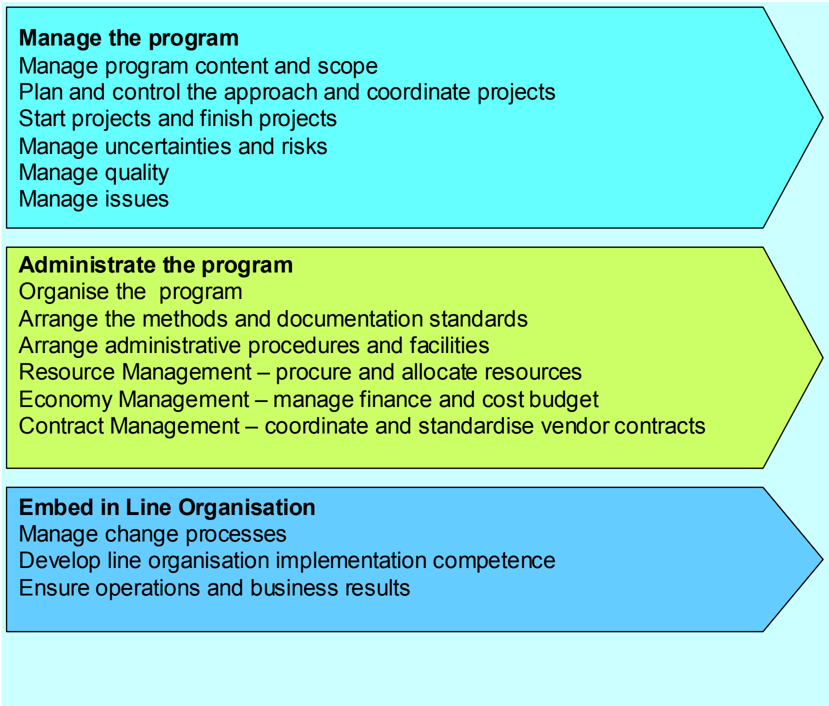

Figure 10. Typical Program Management functions

Ending

As mentioned in the beginning this note is inspired by observations in the Danish research project 'The ProjectEffective Company', leading to reflections on the distance between portfolio management theories and practice – very much determined by leader's style and situational conditions. I do hope it will inspire readers to similar reflections and to experiments improving management of development activities.

References

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Experiences from the research project: The ProjectEfficient Company (PEC-research)
Studies of how 30 Danish private companies manage their development activities. The research was carried out in 2003-2004 by 8 researchers from Aalborg University, Centre for Industrial Production; University of Southern Denmark, Institute for Milieu- and Business Economy and Copenhagen Business School, Institute for Production and Economy. Project Manager was Ass. Professor Hans Mikkelsen, Centre for Industrial Production.

The research project: The ProjectEfficient Company
The background for the research was the impression of a distance and difference between theoretical models for project portfolio management and real life practice in companies. This impression was primarily from meeting hundreds of project managers attending training courses and from some journal articles telling about project overload and disappointing benefit results from the entire portfolio. The idea of the research was to study how companies handle their myriad of all types of development projects and especially to hear (top) manager's opinion of and attitude to portfolio management and management of development. The hypothesis was, that this knowledge could lead to somewhat different models and reasonable practices.
30 Danish private companies participated. They represented manufacturing and services in several business areas. Top managers were interviewed on the basis of an interview guide. In 8 companies was the CEO alone or 2-3 top managers interviewed. In the other companies were a number of middle managers and project managers interviewed as well – from another interview guide.

The research is a qualitative and structured analysis leading to researchers reflections on the information, There is no quantitative statistical data, because the choice of companies was not random and the researchers were more curious to hear top managers talk

The findings and the researcher's reflections are published in the Danish book: Ledelse af projektmylderet (Management of the myriad of projects). The chapters and themes are:
- Development efficiency and effectiveness
- Project Portfolio Management - common models
- orchestration of the development activity
- top manager's opinion on project portfolio management
- decision processes
- energy, driving forces and capability
- information and control systems
- perspectives
- guide to self analysis
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