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Bridging the gap

Developing a portfolio management system for the strategic alignment of process improvement projects at TNT Express Benelux

Master thesis of Gerbert Hengelaar

-Public version-

Master: Industrial Engineering & Management
Track: Production & Logistic Management

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Non-confidential version
Some elements are omitted from the public version due to confidentiality.

Management summary

Context and problem analysis
This research project was executed within the Operations & Services stream of the business unit Express Benelux of the global mail and express company TNT. In the past year the business unit developed a strategic roadmap for the next three years (until 2010). The different streams were asked to indicate strategic initiatives to contribute to the roadmap. In this way the Operations & Services stream developed seven strategic programs. This created the need to align the process improvement projects with the strategic programs. This resulted in the objective for this research project: *to align current and future projects with strategic programs.*
Based on the objective a more extensive problem analysis was executed. On the basis of interviews and some analysis three problem areas were defined:

- First, it is difficult to relate individual projects to the *strategy*;
- Next, there is a lack of *internal planning and control*, which often causes projects not to be completed according to planning;
- Finally, not all projects are *deployed*, because there is not always mutual commitment with the regional management about projects in their regions.

To deliver the right improvement on time and deployed, these three problems should be solved integrally.

Research design
Recent scientific literature about project-based organizations describes the same problem pattern we mentioned above. These problems is caused by a missing link between the strategy and projects and most authors propose a tactical portfolio management approach to define this link. The different problem areas should be taken into account when defining criteria to select and manage projects. To link the projects to the strategy (strategic) *benefits* and *risks* were taken into account. To gain commitment from the regions *operational impact* was taken into account. Finally, for internal control purposes it is important that *resources* are taken into account. These considerations resulted in the following research question:

> *How can the project portfolio be optimized based on the strategy, considering risks, benefits, organizational impact and resources?*

Execution and conclusions
A broad approach, with five sub-questions was developed to investigate the different aspects of portfolio management. During the whole research project a participative approach was used to get maximal commitment of the involved employees. The portfolio management model which we developed is summarized in figure 1. In this approach three processes are the tactical link between strategy and projects: idea creation, project selection and portfolio review.

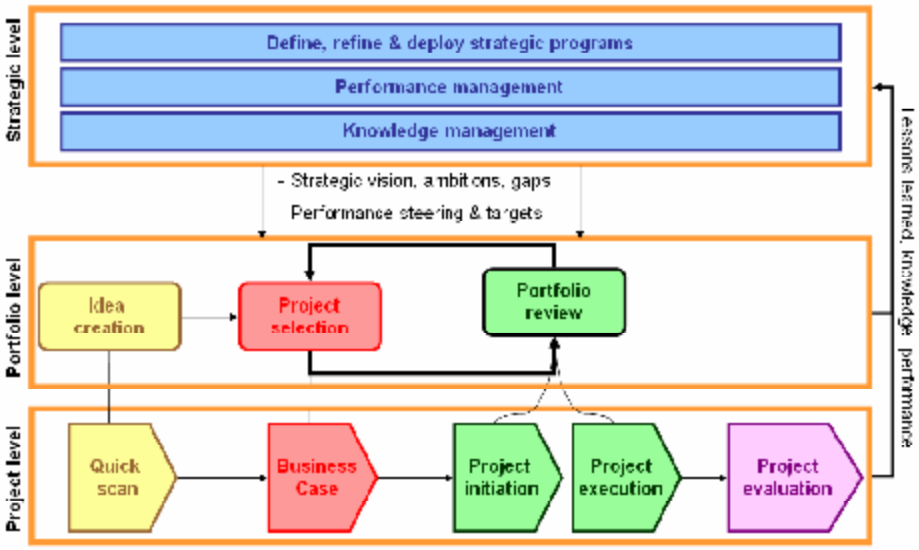

Figure 1: summary of the portfolio management model developed during this research project

Most elements of the approaches were tested in practice during the research project and practical experiences were incorporated in the solution. Finally the following conclusions can be drawn considering the research project:

- There are three essential processes at portfolio management level which need to be sustained to align the project portfolio with the strategic programs: idea creation, project selection and portfolio review;
- These portfolio management processes need to be linked closely to project management activities and strategic processes;
- A broad criteria model is required to capture both strategic alignment as well as regional commitment to deployment and to assure internal control;
- Strategy awareness is essential to ensure the functioning of the system and can be created by discussing strategy in an interactive way;
- Other elements of the organization, e.g. the role division and ICT-structure, need to be in line with the portfolio management model;
- A participative approach in developing the system is essential to gain commitment of the relevant employees.

Recommendations for further research and action

Many elements of the portfolio management system were already initiated in practice during the research project. Based on the status at the end of this research project there were a number of recommendations for further action and research for both TNT and the scientific community.

TNT

Because the results of a strategic system become only apparent after a considerable period of time, it is essential to evaluate the portfolio management system on the basis of its real impact on the business later on and to manage important risks that could have a negative influence on the outcomes. Therefore we have the following recommendations for TNT for the next time period:

1. Evaluate the real impact on business results at the end of 2008;
2. Preserve continuous awareness of the following risks:
    a. The system becomes a bureaucracy due to extensive data requirements and inflexible adoption;
    b. The system stimulates risk-averse behavior;
    c. The system stimulates focus on quantitative benefits;
    d. The system becomes inflexible because project selection and portfolio review are executed in a sequential fashion.
3. Since idea creation and portfolio review have only been initiated, these processes require attention from management in the next period of time;
4. Attention is required for the fit of the portfolio management system with the comparable system which the global operations organization is developing.

Scientific community

When studying recent literature about portfolio management we discovered that there are not many longitudinal studies which follow the business impact of the implementation of portfolio management systems and most cases are described only very briefly. Therefore we propose the following recommendations to the scientific community:

1. Execute more longitudinal case studies to test the effectiveness of portfolio management systems;
2. Describe more detailed cases in literature.

Preface

A clear sky surrounds the headquarters of TNT Express Benelux and a bright sun is shining upon the countryside, when I write this introduction. It is more or less symbolical for the situation of Express Benelux which I encountered, when I started this research project six months ago. The outlooks were bright, but a large part of the picture still needed to be filled in. An extensive strategy with ambitious goals had been formulated, but the business unit was still struggling with the question how to implement the strategy and how to monitor the progress. This research project was started to bridge a twofold gap. To close the gap on the strategic ambitions for 2010, an approach was formulated to bridge the gap between the strategy and the concrete projects.

For me this was the graduation project of my master Industrial Engineering and Management at the University of Twente. In the period from September 2007 until February 2008 I did a considerable amount of practical research, which eventually resulted in this thesis that lies in front of you. This assignment was executed within the Process & Policies department of the Operations & Services stream of Express Benelux. During the research project an integral method was developed to manage the portfolio of improvement projects according to this new strategy, based on insights from recent literature. Up to a large extent the approach was customized to the situation of Express Benelux and validated by initiating it in practice. In the following seven chapters the whole process from the problem definition until the conclusions and discussion are discussed. The first chapter starts with the introduction of the problem and details the research approach and structure in the rest of the report. Please refer to section 1.8 for more details about the structure of the report.

For now I would like to thank my two supervisors from the University of Twente, Peter Schuur and Roel Schuring. They contributed considerably by providing feedback on my approach and critically reviewing the content of my thesis. Secondly I owe many thanks to Paul Jansen, my external supervisor. He provided excellent feedback on my plans, coached me in my professional functioning and provided the room to implement large parts of the plan already during my research project.

Now, six months after the start of this project, the outlooks are still bright and many of the projects are still in their early phases. However, I hope and expect that the comprehensive portfolio management system which was developed during this research project will guide the efforts in such a way that the gap on the strategic ambitions is bridged in 2010.

Houten, February 2008,

Gerbert Hengelaar

Contents

Chapter 1 – Research approach

In the first chapter we start with a short discussion of the general context of the project and the relevant recent developments in section 1.1. Next we execute an analysis of the specific problems and we derive certain problem areas, which can be found in section 1.2. Based on an analysis of the causes and interrelations, we discuss the range of alternative solutions in section 1.3. In the next two sections, 1.4 and 1.5, we discuss insights from literature. Finally we translate the mentioned problem areas and insights from literature into a research design in section 1.6. In section 1.7 we discuss the added value and the potential risks of the solution. In the last section we present the structure of the report.

1.1 Context

TNT Group is a globally operating mail and express corporation. This research assignment is executed within the department Process & Policies of TNT Express Benelux. The position within the organization is visualized in figure 1.1. The Process & Policies department is responsible for the major improvement projects related to the operational process. The mix of projects consists of different categories: optimization of the operational processes, introducing measurement and control tools, infrastructure and capacity planning, asset management (e.g. vehicle replacement) and HRM projects considering the operational staff. A more detailed description of the organization, its products and its competitors can be found in appendix A.I.

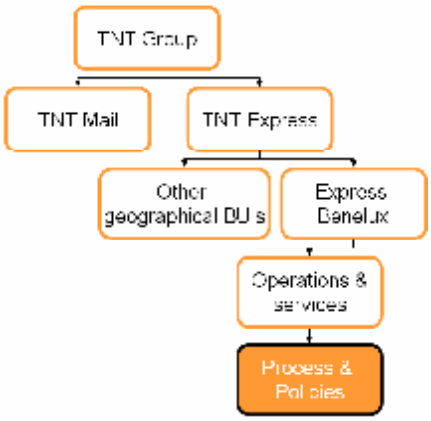

Figure 1.1: Organogram

Recent developments within TNT Express Benelux

TNT Express has its strongest position within Europe. TNT Benelux is one of the best performing business units within TNT Express globally both considering profit margins as well as service quality (TNT internal document 5). Besides this the business unit also has the largest volume of shipments within the Express division. This position was developed because there was a strong focus on operational excellence and cost control. In recent years the BU embraced the vision that it should change its operational focus to a broad strategic focus on improvement. There were a number of reasons for this change of vision. First the business unit wanted to shift its focus even more to exceeding customer expectations by excellent quality and leverage this by further engaging the already motivated employees as competitive weapon. Secondly the strong operational focus in practice meant that there was not invested much in long term and structural improvement. The operational management felt that there was not much improvement potential left without structural investments. Thirdly the current network was at the limits of its capacity. Resulting projects to extend capacity could be used to concurrently design an optimal system. Finally the alarming developments considering global warming also caused important challenges to TNT. To respond to these challenges a more long term

vision was needed. As a basis for this process four strategic goals were formulated from a broad stakeholder perspective:

1. To realize sustainable profit and revenue growth;
2. To exceed customer expectations;
3. To be recognized by the world we live in for our social and environmental initiatives;
4. To have the most engaged employees contributing to our success.

To enable this broader focus the business unit embarked on a process to formulate a strategic roadmap until 2010. An extensive discussion of the strategy formulation process can be found in chapter 3. To formulate this roadmap all streams were stimulated to come up with a list of strategic initiatives and relate them to the strategy. These initiatives were to be related to the strategic objectives and the value drivers they influence were to be indicated. Next to that an estimate was to be made of the strategic relevance as well as the resource required for the initiatives. Finally also the risks related to the initiative were to be indicated. The list of strategic initiatives of Operations and Services can be found in Appendix A.III. Recently also a special *Strategy and Projects* director was appointed, which reports directly to the general manager of the business unit. This can be considered an extra signal that deliberate strategy alignment will be a priority for the next coming time.
Although there is a broad consensus that the broader view of strategy is the correct road to pursue, coming up with a list of the initiatives for the coming three years proved to be quite a challenge for most of the streams.

Recent developments within the Process and Policies department
Recently a new manager was appointed to the department. To create insight in the situation and share this with the department the manager completed a SWOT-analysis of the situation within the department (see appendix A.II). The strong points of the department are the enthusiasm to improve the operational process of the department and the close cooperation with the depots. On the other hand the analysis showed that there were major improvement points considering the internal organization. An important point is that project management was more or less done on an ad hoc basis.
Process & Policies played a crucial role in the strategy roadmap process because it is responsible for most of the improvement projects considering the operational process and therefore also for the strategic initiatives. It was quite difficult to indicate a list of initiatives, because the department was not used to relate project directly to the strategy. To make a quick start a strategy workshop was executed in cooperation with consultants from Cap Gemini. On that day the projects which are currently in progress were reviewed. One of the important outcomes of this day was that there were too many projects and during the discussion it was decided to kill a number of projects. Next to that it was decided to introduce seven strategic programs. These programs are meant to create alignment with the strategy by providing a translation of the way in which the four core objectives of the organization will be pursued. For each program a set of objectives were formulated and all the projects were categorized in one of the seven programs. (for an overview of programs and projects see Appendix A.V). The programs are:

{...omitted...}

To implement this structure it was decided to upgrade two of the process engineers functions to strategic engineers (also named program managers), which means that they are specifically responsible for the execution and alignment within a program. Practically this would mean that they engage with the project leaders of the individual projects within the program to ensure the alignment of the projects with the strategic goals. A more detailed description of the function can be found in appendix A.VI. Next to that the department decided to introduce a new project structure, which specifies phases and deliverables for individual projects. Because phases and deliverables are specified, this should enable the intake and review of projects. Finally the department also decided to change its hours reporting database, because with the current version it was very difficult to produce meaningful reports.

Summary of recent developments

- Shift of strategy from cost reduction focus to long term strategic value with innovative process improvements;
- Roadmap to play a crucial role in the coming period and therefore individual streams should be able to indicate their planned initiatives and indicate their strategic impact, which proved to be quite challenging;
- Strategic programs and strategic engineers introduced within Process & policies to align with strategy;
- Project structure introduced with specifies phases, deliverables and review moments;
- Working on improving the hours tracking and reporting.

1.2 Problem analysis

The difficulty to indicate the contribution to the strategy and the future initiatives was the initial point of discussion for this research project. Based on this starting point we formulated the following project objective:

To align current and future projects of the Process & Policies department with the strategy

During the first month we interviewed a considerable number of people to consider the problem within its context. A complete list of the interviewed staff can be found in Appendix B.III. This evolved into a much broader list of problems, which are related to the ability of the organization to execute the strategy. During the interviews we derived the causes of these problems in an interactive way. In different stages we discussed the problem knot with the involved staff. Finally we did an analysis of the time registration database to confirm some of these problems. A more extensive discussion of this analysis can be found in Appendix B.IV. We now discuss the most important problems resulting from this problem analysis:

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1. Pressure from DHO and Operations

Projects of Process & Policies originate from different sources. Some projects of process and policies are initiated based on global programs rolled out by the divisional head office (DHO) of TNT Express. Next to that there are also urgent issues and questions of the depot operations managers which lead to projects. Staff indicates that they often feel pressurized by "high priority" projects from either DHO or the depots and that this often has a negative influence on the other projects. Because there is a lack of insight of the direct consequences for the current projects of accepting another project, it is difficult to provide good arguments to delay or reject projects.

2. Projects overrun schedule

A number of projects have run late due to resource conflicts between projects or an inaccurate estimate of the required resources for the project. An initial analysis indicated that 50% of the current projects is likely to exceed its deadline. A detailed analysis of the time registration of the past three years showed that projects on average exceed the planned time with 30%. Depending on the planning this can cause serious delays in completing the project. An important cause is the way of planning. Usually if an engineer notices that there is time available a new project is started, without an upfront analysis of potential conflicts with other projects. Another cause is that, although a time registration tool was used, the standard of the report was changed on a number of occasions and was not very helpful in providing feedback on the feasibility of the planning's in practice. Having good insight in the actual performance in meeting deadlines in the long run is likely to provide a learning effect and more realism in the decision rules for accepting a project. Combined with the previous problem that there is often pressure from different sides to start new projects a considerable number of projects exceed the schedule seriously.

3. No projects get killed

During the past years a number of projects died silently. Usually they were first put on hold and later on deleted from the project list. This also became apparent from the discussion during the strategy workshop with Cap Gemini, where a considerable number of projects were killed on the spot. Also it became apparent that a number of projects had significant overlap with other projects or are entered double within the project list under different names, which indicates again that there was no structural review of the project portfolio. A list resulting from the project review during the workshop with Cap Gemini is included in Appendix A.IV. Because there is no structural reviewing there is no guarantee that projects which have diverted from their original purpose are killed. An important cause is that there is no formal moment to review the total portfolio of projects. Next to that the staff indicated that they find it difficult to compare projects and thus to find criteria when to kill projects.

4. No focus in the projects

Triggered by the information needed for the roadmap it became apparent that it was difficult to indicate the contribution to the strategy of the individual projects. Projects

often have certain specific deliverables formulated as target (e.g. implement a specific tool) and are not related to a strategic operational parameter (like cost and quality) which relates directly to customer value. Staff indicates that they find it difficult to make this translation. Next to that they indicate that the corporate strategy was often ambiguous and formulated in such high level terms that it was difficult to translate to the projects. A cause is also that the strategy formulation process of the past few years was often limited to employees on management level, which makes that ownership of the strategy is an issue.

5. Short term projects

As was mentioned before the organization is making a transition to a broader strategic focus. Process and policies has extensive experience with conducting process analyses and cost reductions but much less with more radical innovations and optimizations. This can also be seen from the analysis of the past years projects, which shows that, next to some projects initiated by the global organization, no real optimization and innovation projects, were initiated by the business unit before 2007. A cause is that selecting long term projects it is even more difficult to compare projects because results are often ambiguous. Next to that there is no structured method of scanning the environment. Although staff often visits related exhibitions and projects, there is no list to store ideas and to select potential project from. Although of course ideas are considered if there is room to start a new projects there is no guarantee that all ideas are considered and it is difficult to compare them.

6. Low deployment of projects

Different regions (or depots) within the business unit Benelux have a considerable independence. This means that the depots operations manager finally decides whether he will introduce the improvements proposed by the department. An analysis of the projects completed recently or near completion made apparent that a considerable number of projects for which a pilot was completed successfully resulting in a positive business case were not deployed or deployed partly or with considerable delay. Next to the freedom of the depots which could be seen as cause, there is no upfront anticipation or discussion about the implementation of many improvement studies done by the department.

In figure 1.2 below the problems and causes are segmented in three different areas: the strategy alignment, the deployment and the internal planning and control. Although this segmentation is possible there are also considerable interrelations between the problem areas. For example: the strategic roadmap considers real improvements to the operational performance, so whether the projects are deployed is essential. Or another example: projects which have serious risks of not being deployed should be killed in early stage.

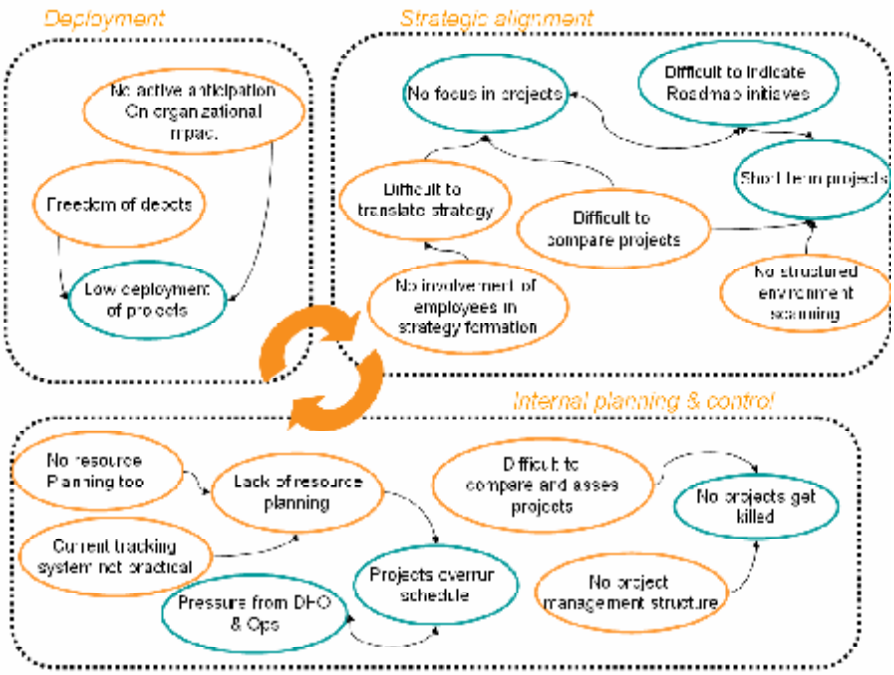

Figure 1.2: problems and causes

1.3 Different alternatives

The three problem areas mentioned (strategy alignment, internal planning and control and deployment) are organizational questions. Organizational designs can be categorized across the scale top-down / centralized versus ad hoc / independent. For example strategic alignment can be arranged in a top down fashion in which head office specifies specifically what each function should do and is involved in all important decisions. On the other end of the spectrum each unit could be totally independent in aligning its initiatives with the other organizational units and the stakeholder. In between there is a range of options in which the central management specifies certain frameworks and enables local units to adapt their initiatives to the framework.

Currently many problems originate from the ad hoc planning and organizational independency. Next to that, the organizational culture within TNT is that different units have a considerable responsibility of their own, so proposing a solution on the other end of the spectrum or proposing to change that culture would prove practically infeasible. Therefore a solution should enable people to align their projects and planning's with the strategy and other projects in the portfolio. Next to that the solution should stricture and enable mutual adoption of priorities within the department and with other units within the organization. This is visualized in figure 1.3.

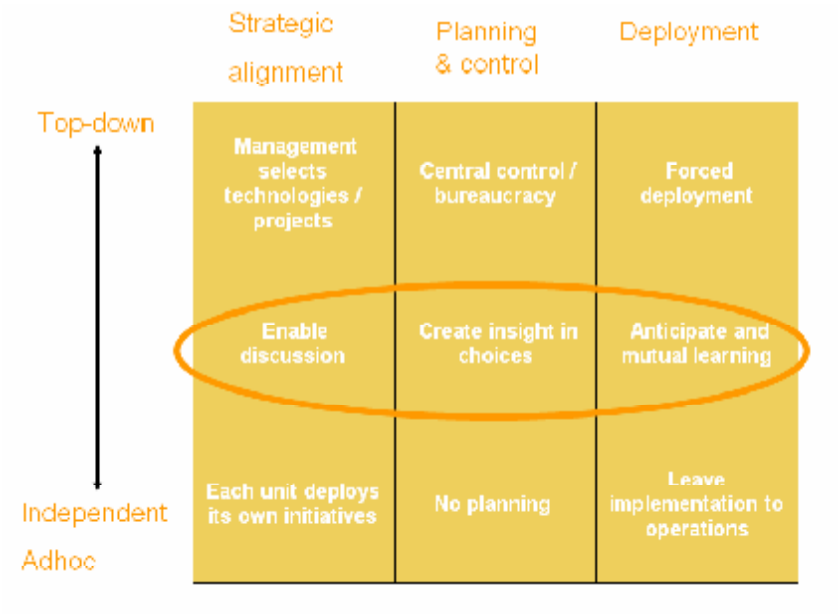

Figure 1.3: alternative approaches to the problem areas

1.4 Portfolio management

Literature describes comparable problems within numerous practical cases and also identifies the same relation between internal control problems and strategic alignment (e.g. Cooper, 2000). Next to that, prescriptive literature about comparable project-based organizations proposes that the most suitable solution is to consider portfolio management on the tactical level to counter these problems (e.g. Mikkola, 2000). In this context, portfolio management can be defined as the integral comparison of current and future projects to select the best projects according to certain strategic goals. Finally empirical literature shows that portfolio management is an important success factor to distinguish best-performing firms from the average organizations (e.g. Terwiesch et al., 1998). For a more extensive discussion of the literature please refer to chapter 2.

Next to that all the mentioned problems could be related to tactical portfolio management (Cooper, 1993; Cooper et al., 2000; Loch and Tapper, 2002; Repenning, 2001; Ulrich & Eppinger, 1995). Selecting the right projects should ensure that there is strategic focus and that long term changes are pursued concurrently with continuous process improvement. Of course real strategic alignment means that the planning's are executable. Therefore selecting the right number of projects considering the resource capacity within the department and the rest of the organization should ensure that projects do not overrun schedule and are actually implemented. Continuously evaluating the current projects against their proposed planning and outcomes and with potential new projects should ensure that low value projects are killed and makes it possible to explain and justify choices to the external stakeholders. These relations are summarized in table 1.1 below. As already mentioned a more extensive discussion of these relations can be found in chapter 2; especially in section 2.1 in the paragraph about problems which NPD

organizations struggle with, we discuss the relations between problems in project-based organizations and portfolio management.

	Relation portfolio management
Projects run over schedule	The number of projects should be adapted to available capacity.
No focus in projects	Projects should be selected according to strategy. A measurement and selection method should be available.
No projects get killed	Because there is no comparison and selection method it is difficult to determine whether a project should be killed.
Low deployment	By taking organizational capacity to implement into account pressure on the organization can be balanced.
Short term projects	Because there is no link with strategy focus on the short term exists.
Pressure from DHO & Ops	Deliberate choices provide arguments in discussion with external parties.

Table 1.1: relation between the organizational problems and the proposed solution

To summarize the previous discussion it was decided to approach these problems by developing a portfolio management system because:

1. The problem pattern can be directly related to **literature** and there is considerable **consensus** that portfolio management is required for an effective and strategically aligned project-based organization;
2. The problem areas are interrelated and it is possible to **integrally** approach these problems on the level of portfolio management. As was shown there is a **direct relation** between portfolio management and the mentioned **problems**;
3. Portfolio management is **complementary** to the current initiatives. It could help the management and program managers to select projects for the **programs** and could provide information about the projects for the strategic **roadmap**;
4. Portfolio management fits the **organizational culture** of TNT, because it **enables mutual discussion** within the department and with other units about why different projects are selected.

1.5 Which elements to consider in the analysis

In the previous section we argued that portfolio management should be introduced. The next question is which elements should be considered when comparing projects. First the benefits should be included, which are defined in this context as the impact of a project on the abstract operational parameters (like cost, quality, flexibility, etc.) (Wheelwright, 1984). Which parameters will be included as part of the benefits, will be defined further on during the project based on literature study and analysis. Next to that, literature notes that risks are important to take into account when considering projects with considerable

uncertainties and dependencies (Halman et al., 2001). This is appropriate because the strategic roadmap of the company considers risks associated to strategic initiatives.
To determine whether certain choices are feasible the organizational impact and internal resources should be taken into account. The organizational impact criterion would be used to balance the organizational change resulting from the projects conducted and therefore improve the chance of deployment and facilitate the discussion with the operational managers. Next to that, the internal resources should be considered to prevent overloading. Literature indicates that tactical project planning stabilizes the organization and often improves the output (Repenning, 2001).

1.6 Research proposal

Based on the previous discussion can we summarize that portfolio management can play a crucial role in linking projects to strategy. Second, that when the portfolio of current and future projects is reviewed integrally, benefits, risks, organizational impacts and resources are important to take into consideration.
Originally the research approach was to do one evaluation cycle of the portfolio. Later on the focus shifted to developing and implementing an approach which would assure continuous optimization of the portfolio based on strategy, rather than an one-time optimization. This results in the following research question:

> *How can the project portfolio be optimized based on the strategy considering risks, benefits, organizational impact and resources?*

As we summarized in section 1.4 the definition of portfolio management is that a set of project is evaluated integrally. This includes both current and future projects and thus includes both selecting and reviewing projects. To select projects, criteria are necessary. Next to that ideas are needed to select potential projects from. Finally the whole system was proposed to align with the strategy and thus we argue that strategy awareness and ownership is an essential foundation for this system to function properly. Therefore the research projects need to address idea creation, project assessment criteria, the selection and review process and strategy awareness and ownership. This is summarized in figure 1.4. Additionally it can be seen from the problem analysis in section 1.3 that these components correspond closely with problems identified in the organization. Therefore the following set of sub-questions was formulated:

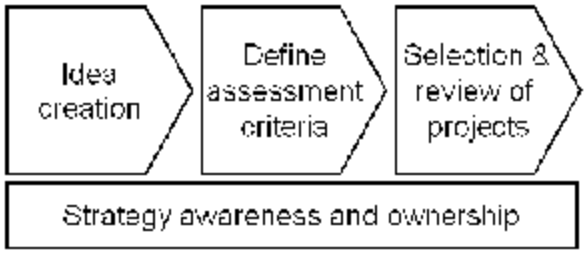

Figure 1.4: different steps in the research approach

1. *How can the current strategy be translated to the context of the Operations & Services stream such that ownership is created?*

An extensive effort was already spent by the management to formulate a strategic roadmap for the business unit and also to translate this into strategic programs within the Operations and Services department. We analyze the strategy formation process to assess whether the strategy was formulated and communicated in such a way that it can be applied by the relevant employees when defining, selecting and reviewing projects. Based on this analysis a workshop was proposed and executed to create the required strategy ownership.

2. *How can the best ideas be identified to select potential projects from?*

Portfolio analysis compares current projects as well as potential projects. As can be seen from the problem analysis there is a lack of structure considering the identification of fruitful ideas for new projects. We proposed a blueprint of a process to structure idea creation based on literature as well as a discussion with the involved staff. Next to proposing the blueprint, the process of idea creation was initiated in practice through conducting an ideas workshop, which was combined with the strategy workshop mentioned discussing the previous sub-question. Based on the brainstorm an initial selection of ideas was done in a group session. For each of these ideas a quick scan is performed to verify the feasibility and impact of the ideas.

3. *How can projects be measured in terms of benefits, risks, organizational impact and resources?*

Based on relevant literature and discussion with involved staff we develop a set of criteria to measure the benefits, risks, organizational impact and resources required for each project. For benefits this is mainly literature about operational and logistics strategy, because articles discuss how the strategy could be related to the strategic parameters of the operational process. Risks are based on risk management. Especially literature about process development projects is expected to discuss comparable risks. Literature about change management is helpful for the consideration of organizational impact, but also a discussion with operational managers is important to consider their perspective. Finally an internal resource loading estimate could probably be developed with help of the literature about multi-project planning. We discuss the resulting model with both internal and external supervisors and the relevant staff. Next we evaluate a set of selected projects together with the project leaders according to the formulated criteria model to test the model.

4. *How can an integral overview of the benefits, risks, organizational impact and resources of the current and potential projects be used to select and review projects?*

The final step in optimizing the project portfolio is to use the data gathered by assessing potential ideas and current project based on the proposed set of criteria, to select and

review projects. First we developed a blueprint for a yearly cycle, which defines at which moments projects and ideas will be evaluated. This was again done based on the insights from literature and a discussion with relevant staff. Second we executed an important part of the cycle to develop and validate a project plan for 2008.

5. How can the proposed approach be implemented in a sustainable way?

The approach above is meant to model an approach to continuously optimize the project portfolio. We first consider how the different elements of the approach fit together in a system. To integrate this into the organization a supporting role division, meeting structure, set of management reports and ICT structure is required. Based on the analysis of how the system fits together we developed a proposal considering these items, which was validated in an interactive discussion.

An extensive planning of the project can be found in Appendix B.II.

1.7 Added value and risks of proposed solution

Just as the projects we review, this research project also has its risks and benefits. It is important to consider them carefully to derive a balanced approach. First we consider the added value and afterwards the risks.

What will be the added value of the project?

- Measuring the impact of an individual project should make it **easier** to **select** the right projects and should be the basis to **kill** projects if strategic priorities shift or if it becomes apparent that benefits or risks are less positive then estimated;
- Selecting a good mix of concept studies, improvement projects and radical changes which ensures **short term profitability** as well as **long term growth** and **innovation.** The insights could be used to engage in the discussion about the company-wide strategy **roadmap**;
- Explicitly considering organizational impact and involving the operational managers should ensure that process improvement are **deployed;**
- Explicitly managing the portfolio should make it easier to **engage in discussion** with external parties about the priorities and make it easier to assess the impact of **changes in priorities;**
- The three proposed **workshops** model a structure to explicitly consider the gathered information and are a blue print for a future **yearly cycle.**

Eventually selecting the right projects, killing unsuccessful projects, balance the number and types of projects and align it with the strategic plans, will ensure that the organization optimally uses its limited resources to do those projects which ensures the operational process to be aligned with the opportunities of the future.

Related risks
The proposed solution also has related risks, which we try to manage actively. The most important risks which we identified are:

- Measuring the benefits could stimulate a **focus** on the benefits which are **quantifiable;**
- Proactive risk assessment could enable **risk averse behavior;**
- The resulting method could divert considerable time to **administrative tasks**;
- Shifting attention to strategic projects could lead to a situation in which not sufficient time is left to **support** depots in **daily operations** and **incremental improvements;**
- A rigid project management system could **limit** the room for project leaders to use their **creative power** and **capabilities.**

A full list of the identified risks and the related actions can be found in Appendix B.I. The actual added value and the impact of the mentioned risks will be discussed in the conclusions and discussion in the final chapter.

1.8 Structure of the report

The five sub-questions play an important role in the structure of this report. We decided to devote a chapter to each question. In discussing these questions, we first describe the theoretical blueprint resulting from the consideration of relevant literature and discussions with relevant staff. In the second part of each chapter we discuss the experiences gained in initiating the proposed blueprint or solution in practice.
Before discussing the individual sub-questions, in the next chapter we discuss the relevant literature, which is used as basis to define the whole portfolio management model in the following chapters. In the third chapter we start with discussing the processes of developing and implementing strategy and the formation and selection of ideas. That strategy is clear and new ideas are available to select projects from are two essential preconditions for a portfolio management system to function. To facilitate both processes we executed a strategy and brainstorm workshop which we discuss in the third chapter.
Next the assessment criteria need to be defined, which we describe in the fourth chapter. Finally, the resulting information is used to select projects and review the current portfolio. This is described in chapter 5.
Based on the insights from the previous chapters we discuss the organizational arrangements (e.g. role division, meetings, ICT-structure, management reporting) that are required to integrate portfolio management in the organization, which is described in chapter 7. The final chapter includes our conclusions and a critical discussion of their robustness and relevance.
The structure of the report is summarized in figure 1.5.

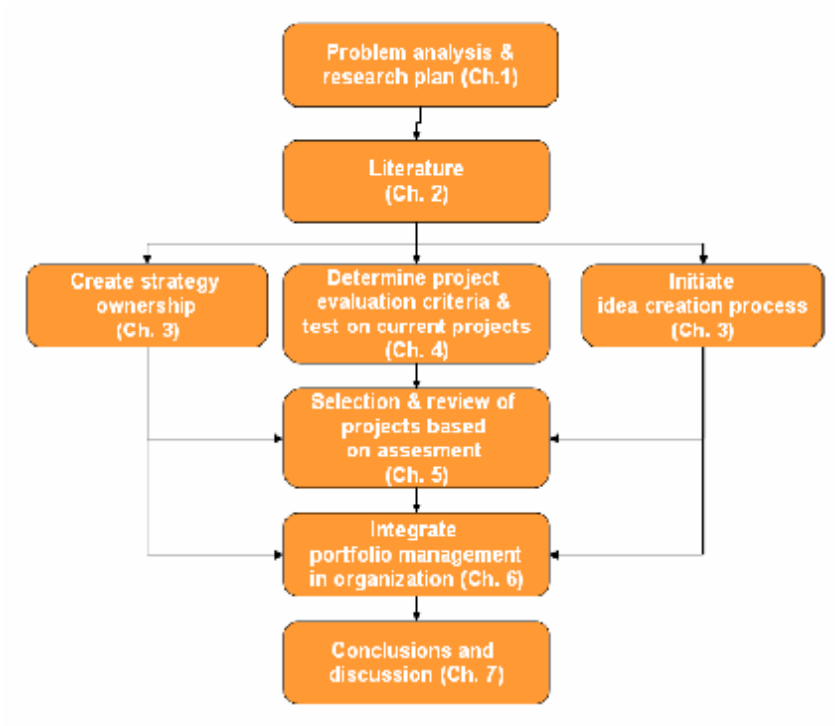

Figure 1.5: the structure of the report

Chapter 2 - Literature review

This chapter describes the literature used in identifying the problem, selecting the solution and developing the different elements in the portfolio analysis. First the New Product Development literature is used to support problem analysis and the general direction of the solution in section 2.1. The next four sections describe how literature about respectively operational strategy, risk management, change management and resource planning is used to describe the four essential elements in the portfolio model.

2.1 New product development

Although the Process & Policies department is mainly occupied with process development and improvement rather than product development, the organizational characteristics are comparable to new product development in many ways. From the characteristics that are described in literature (e.g. Cooper et al., 2006), it should first be noted that both are project based organizations. Next to that the department is also confronted with a mix of incremental, short term improvement and more radical long term projects, which should be balanced. Thirdly, many projects are subject to a considerable level of uncertainty because the projects concern unproven concepts which should at least partly be developed or adapted to the context. Finally there are many interdependencies between projects, because they share resources or have precedence relations. The work of the Process & Policies department also has these characteristics and therefore we argue that the literature can be used within this context.

The last few decades a large body of literature has been developed about new product development. Due to the complexity it is a difficult process to manage, but the effectiveness of the management of the development process has a large impact on the success of business (Terwiesch et al., 1998; Hertenstein et al., 2005). New products and processes basically shape the future of the organization, thus product & process development determines how other functions will work in the near future. The literature on this topic can be segmented in at least three different types of articles. First, descriptive articles describe the problems which organization struggle with and their causes. Secondly, empirical studies of the factors that determine the success of the organizations. Thirdly, prescriptive articles describe how a new product organization should be structured.

Problems which NPD-organizations struggle with

Cooper et al. (2000) describe a generic pattern which can be seen in many New Product Development (NPD) organizations. They notice that in practice, many organizations do not have a structured way of selecting, conducting and reviewing projects. This has a number of effects. Many projects exist with low business value, because there is no deliberate selection. Often there is also a poor prioritization of projects. This can lead to a situation in which there are too many projects for the organization to handle. Of course this has its impact on the quality of the projects. In the end this results in a situation in which projects often run behind schedule and have high failure rates and finally in a low impact of the organization as a whole. This cycle is illustrated in figure 2.1.

Loch and Tapper (2002) describe a longitudinal case study with an applied research group of a diamond producer. They worked a considerable period with the company to make a strategy-driven performance measurement system for their projects. Before they started designing a solution they conducted in depth interviews with the involved staff. The staff described that projects are often started on an ad hoc basis for many different reasons. Next to that the staff complains that strategy is often ambiguous and very difficult to relate to their projects. Finally they note that management often doesn't acknowledge the benefits of their research because projects are long term, complex and have ambiguous goals and deliverables. As was described in the first chapter, many of these issues can also be noticed within Process & Policies.

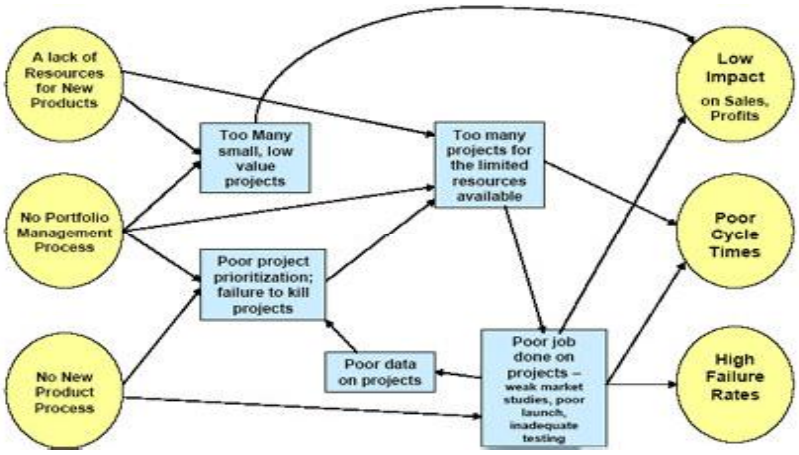

Figure 2.1: the effect of ad hoc organization (Cooper et al., 2000)

With help of a simulation model Repenning (2001) visualizes another problem from practice. If the pressure on the organizations rises the organization will often focus on the projects which are in the final stages of developments, because the delivery deadline of these projects is near. The study shows that this eventually will result in less time available for the conceptual part of the project. If one considers that the conceptual phase is essential for the success of the projects, because most of the important choices, with large effect on the costs and benefits, are determined in this phase, this is likely to produce problems (Ulrich & Eppinger, 1995; Cooper, 1993). The study shows that the organization will eventually end up in a vicious circle if the pressure rises too much, because there is no time left for good concept studies which produces many problems later on in the projects. This shows that it is essential to provide sufficient time for concept phases of the project and deliberately balance the number of projects with available resources.

Important points

- Lack of structure in the NPD-organization leads to a situation with a high project failure rate and an exploding cycle time. An important effect is that the conceptual part often gets less attention if the pressure rises, which causes problems later on. Without structure the organization comes into a negative performance spiral;

- Engineers often perceive strategy as ambiguous and not applicable to their projects and have the perception that the other parts of the organization do not value their work because the results are more long term and ambiguous.

Empirical studies into NPD organizations

Cooper et al. (2004) performed a number of empirical studies under a large number of industrial firms, which showed what distinguished best performers from average and worst performing firms. This shows a rather consistent picture of the essential success factors for these kinds of organizations. They could be broadly categorized in three areas: process, strategy and resources. First it is important that the company structures its project to make sure that enough time is spend at the conceptual phases, project are reviewed regularly and unsuccessful product are killed. Many different forms have been suggested in literature (Ulrich & Eppinger, 1995; Cooper, 1993; Wheelwright & Clark, 1995), but they are comparable in the sense that they often segment projects in phases which have specific deliverables and a review moment at the end of the phase. Probably the most well known variant is the Stage-gate process of Cooper (1996). Finally an important remark is that the process should not become a bureaucracy, but should be applied with some flexibility.

Next to the process the second success factor is the strategic alignment. This means a company should have a business strategy, translate it to the NPD specific setting and align tactical portfolio decisions with this strategy. The third success factor is resources. It is important to have enough qualified engineers, good project leaders and to compose cross-functional teams with relevant, involved staff. The success factors are summarized in table 2.1.

Process	Strategic alignment	Resources
o Conceptual phase o Regular review o Unsuccessful projects are killed o Flexible process	o Clear strategy, translated to context o Arrange tactical decisions o Long term focus	o Sufficient and high quality resources o Cross functional cooperation

Table 2.1: most influential success factors for NPD organizations

Other parts of the empirical studies focus specifically on the tools for strategy alignment in project selection which firms use. As can be seen in figure 2.2 the study shows that it is important to have a roadmap or strategic arenas defined which function as a guideline in selecting new projects. Notice that the strategic programs within Process & Policies can be seen as a form of strategic arenas. Next to that figure 2.3 shows that financial methods are not the best tool in project selection. The authors argue that financial methods produce a focus on short term results, compared to more abstract, conceptual strategic methods.

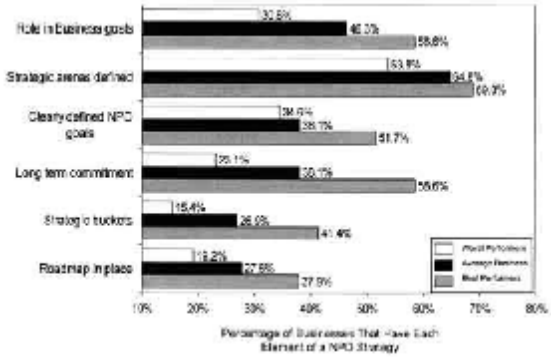

Figure 2.2: portfolio management methods (Cooper, 2002)

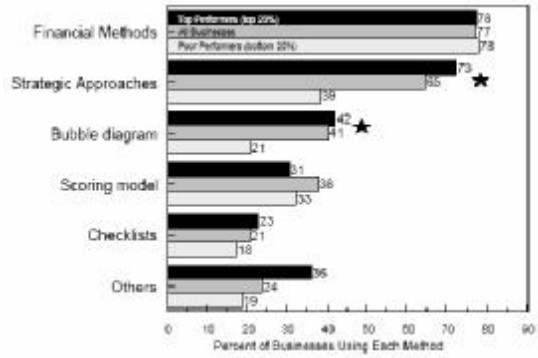

Figure 2.3: project selection methods (Cooper, 2006)

Finally we should notice the case study (Loch & Tapper, 2002) with the diamond producer mentioned in the last section. The authors implemented a strategy driven performance measurement system. Afterwards they notice that the number of projects completed has tripled, while the quality benchmark showed a better quality. Even more, the engineers also experienced they had better grip on strategy and their colleagues in other functions respected their results more because they were much more visible.

Important points

- A large scale empirical study shows that a structured process, a clear link with strategy and sufficient and equipped resources are the essential factors in determining the success of NPD organizations;
- A longitudinal case study shows that the implementation of a strategy driven performance measurement system improves the perceived alignment within the organization as well as the actual results.

Prescriptive articles about portfolio management

Portfolio management can be defined as achieving the desired combination in an assortment of projects that enables a company to achieve its growth and profit objectives associated with its corporate strategy without exposing the company to undue risks (Mikkola, 2000). A number of important things should be emphasized. First that portfolio management considers the selection of a set of *projects*. Secondly that its often associated with a *broad perspective* on strategy in emphasizing both growth and profit. In fact Mikkola stresses that subjectivity is a necessary condition for portfolio analysis, because of the complexity and ambiguity in comparing such projects. This is consistent with the empirical findings that financial tool are not the best tools to use in this context. Thirdly an important component in the analysis are also the *risks*, because the inherent uncertainty of much projects. Mikkola concludes that portfolio management enables *consensus* within the company and helps the company to relate its projects to strategy and *customer benefits*.

Cooper et al. (2006) combine a lot of literature on this topic in a prescriptive document about the implementation of portfolio management. First they note that portfolio

management should be linked to both strategy and the project process (e.g. stage gate process). In this sense the portfolio management is the *tactical interface* between strategy and the actual execution in projects. Next they describe three types of assessment methods. Next to NPV there are some more sophisticated *financial* methods which take probabilities into account. The second type of method is the *balanced scoring methods* in which a broader spectrum of both qualitative and quantitative criteria is taken into account. These criteria are e.g. strategic fit, leverage, prob. of commercial success and prob. of technical success. The third tool, which is often used, is the *matrix*, which could be either two, three or four dimensional. Common configurations are feasibility vs. market attractiveness, competitive position vs. market attractiveness and technical vs. market newness. Finally Cooper et al. (2006) notice that it is very important for the performance of the organization that projects are matched with the available resources.

Important points

- Portfolio management is the tactical interface between strategy and actual project execution and helps to enable consensus forming and customer focus in the organization;
- Portfolio analysis considers short term profits as well as long term growth initiatives to balance both;
- Considering the complex and uncertain nature of projects one should consider risks as well as benefits.;
- Methods used in practice are financial methods, balanced scorecards and matrices.

2.2 Translating strategy to operations: the need for alignment

Since the objective of this research project is to align projects with the strategy it is important to consider what literature says about this process. Next to that the strategic perspective will be explicitly integrated in the benefit aspect of the portfolio model. The projects of Process & Policies are improvement and design projects considering the operational process. Therefore the literature which we will consider is literature about operations strategy as well as specific literature about supply chain and logistics strategy. Literature notes that the content of strategy as well as the process of strategy formulation and implementation should be considered (Dangayach & Deshmukh, 2001). This will be treated separately below.

Since the influential article of Wheelwright (1984) it is broadly acknowledged in literature that there is often a missing link between the business strategy and manufacturing practice. Wheelwright proposed a system to link competitive priorities to manufacturing strategy. Empirical evidence suggest that manufacturing strategy is mediating variable between competitive strategy and performance and strategic linkages distinguish good performing firms from the bad performing firms (Ward & Duray, 1999). This underlines the importance of the objective of this research project.

Process of strategy alignment: top-down & bottom-up

Traditionally strategy formulation and implementation was perceived as a top-down, rational planning process. Recently there has been much critique on this concept. There are some important remarks to make. Strategy formation is often heavily influenced by

the social dynamics in the organization (Johnson et al., 2006) . This means that it is difficult to implement a concept successfully top-down, but also that good ideas often emerge from the organization. Based on these notions there is currently a consensus that strategy formulation and implementation is a multi-mode process. Nielsen-Englist (2003) distinguishes between five modes of strategy formation. The first is command in which an authoritative or inspiring leader dictates the course of the organization. The second is symbolic in which the vision and mission of the organization are used as common guideline. The third mode is the rational mode. Rational strategy formation means that a logical planning process is used. The fourth and fifth mode are transitive and generative. Generative means that action plans evolve from the organization. Finally the transitive mode means that there is some process of mutual adoption.
In practice all five forms can be seen in some mix. If an organization only uses the top-down planning system it is likely that the organization will pursue many other paths in practice. Nielsen-Englist (2003) note that focus of the senior management on the top-down system often leads to emerging ideas, which could be total opposites of the current strategy, but do not get killed. Another study shows that there are often concepts implemented, like TQM, which do not directly relate to the strategy (Carpinetti et al., 2000). To summarize the discussion: it is important that a strategy formulation and implementation system enables top-down and bottom-up interaction to be sure that the organization actually aligns with the strategy. This means that a clear strategic framework should be in place, but also that innovative ideas from all levels of the organization should be stimulated within this framework. The next section considers the question what should be the content of this strategic link between the business strategy and the manufacturing practice.

The content of operational strategy: how to define the missing link

Wheelwright (1984) proposed a pivoting role of competitive priorities in his well-known article. Based on the work of Porter on competitive strategy he proposes that a company should look into which unique value it could offer to the customer. This should always be compared to the proposition of the competitors. Based on this analysis a firm should set priorities to compete in certain markets based on specific values. This should be translated to strategic manufacturing priorities, which describe the value added by the manufacturing processes from a customer perspective. Wheelwright originally proposed cost, quality, dependability and flexibility as the list of strategic priorities. The strategic priorities should be translated to operational choices like facility location and design, planning and control system and capacity planning. The value of the strategic priorities is that it is possible to relate them to customer value (and thus competitive strategy) as well as to operational decision. Since it is often difficult to make a direct translation to customer value of e.g. a facility location decision, Wheelwright argued that the priorities could be the missing link. A considerable number of comparable systems have been proposed which link customer preference with some intermediating step to manufacturing decisions and parameters (e.g. Berry et al., 1999). As was mentioned already empirical evidence supports the influence of defining this link (Ward & Duray, 1999).
A lot of articles in literature have been devoted to the definition of these parameters. Additional priorities have been mentioned; the most important are innovativeness and time (Stock et al., 1999). It has been argued that is related to on time delivery as well as

delivery speed (lead times). There also has been considerable discussion about the concept flexibility in literature, because a number of different flexibilities could be distinguished (Beach et al., 2000). The most generic distinction is between volume flexibility and product flexibility. The former relates to the range of different products and the customization options which are supported by manufacturing. This discussion increased in importance because the competitive battle in many sectors evolved from competing on cost and quality to customization and innovation.
Although there is much less literature about logistics or supply chain strategy a comparable construction, with strategic priorities, is proposed in this context (Stock et al., 1999; Chen & Paulray, 2004). The same trend of increasing importance of agility and flexibility can also be seen in logistics (Abrahamsson et al., 2003). Although the priorities are the same the operational decisions to which the priorities relate are different. The most important decision considers the coverage, scope and integration of the network as well as the time and planning dimension of the service (Stock et al., 1999).
A final note to be made is that the priorities were traditionally perceived as tradeoffs. Recent literature argues that this is not always the case (Brown & Blackmon, 2005). Especially recent technological advances, like computer integrated manufacturing (CIM), allow large degrees of customization with the same level of automation (and thus price) (Shahbazpour & Seidel, 2007). Also it has been shown that there is not always a tradeoff between quality and price, because quality systems can prevent expensive defects and breakdowns.
Summarizing the former, it could be said strategic priorities can be a link between customer value and operational decisions, as is summarized in figure 2.4.

Figure 2.4: the strategic criteria as missing link

The most important priorities mentioned are cost, quality, delivery speed, delivery reliability, dependability, volume flexibility and product flexibility. We use these later on to define the benefits, in the fourth chapter. Literature argues that they are also useful in the logistics context although one should consider that the content of the related decisions differs. Finally the priorities are not always a full tradeoff.

Benefits of human resource projects

Although this traditionally wouldn't be a task of the operations department, Process and Policies is also partly responsible for the Human Resource Management (HRM) projects within Express Benelux. This can be matched with the trend within literature to more and more acknowledge the importance of HRM as a competitive weapon, certainly also in a service-based industry like logistics (Pfeffer, 2005; Smith-Doerflein et al. 2006; Beatty et al., 2003). An advantage of HRM as strategic weapon is that is not easy to imitate, because success is often linked to tacit aspects like culture (Pfeffer, 2005).
Since HRM is not included as an aspect in the traditional operations strategy models some additional criteria need to be defined from this HRM literature. Based on literature we argue that HRM has at least three direct impacts on the strategic stakeholders. First

there is a clear link with employee motivation, HRM instruments can be used to obtain a motivated workforce (Garg & Radtogi, 2006). Secondly motivated employees are an important driver of customer experience (certainly in service industries like logistics) (Peggei & Rosenthal, 2001). Thirdly HRM has a goal on its own ensure continuity of the workforce, by recruiting, training and retaining employees (Smith-Doerflein, 2006; Walker & MacDonald, 2001). These three aspects will be used to measure the strategic benefits of HRM- and related projects. This is summarized in figure 2.5.

Figure 2.5: Benefits of HRM (related) projects

Important points

- There is often a missing link between business strategy and operational practice. By defining the link significant performance improvement can be achieved;
- Strategic priorities like cost, quality, delivery speed, delivery reliability, dependability, volume flexibility and product flexibility can play a pivoting role in defining this link;
- Next to the strategic priorities three additional benefits are included to measure the impact of HRM and related projects: Customer experience, employee motivation and workforce continuity;
- Strategy formation is always a complex, dynamical process. A strategy system should enable both top down as well as bottom up initiatives.

2.3 Risk management

Projects within the department Process & Policies have a considerable inherent uncertainty. This is caused by many factors. For example, many projects concern an unproven technique or at least the results are unpredictable in advance. Next to that there is much interaction between different parties, which causes a lot of interdependencies. This pattern is also noted within literature. Although these risks cause significant percentages of failures, risk avoidance is not an option. This causes a need for management to predict, anticipate and control the risks (Cooper et al., 2004). A whole body of literature is written about how to handle the process of risks management (Ren & Yeo, 2004, Halman et al., 2001; Ward, 1999). In the following first the different elements of the risk management process will be described. Next the specific risk categories as they are proposed in literature are discussed. These will be used to derive a specific list of risk categories for the portfolio model in the fourth chapter.

Ren & Yeo (2004) discuss a risk management maturity model, in which the essential characteristics of a mature risk management organization are listed. They discuss three mayor components. These are organization, process and knowledge. These three components stress that a defined process is important to ensure structural integration of risk considerations, but also there should be awareness and a corresponding culture and

finally that there should be continuous improvement of the process. Only defining a process or a list of risks is likely to be not sufficient for a risk management system to be effective.
Halman et al. (2001) did an extensive study, comprising of a literature review, interviews and case studies, into the different categories of risks which are related to product innovation projects. The categories they mention are:

- *Design*: uncertainty that a reliable and technically sound product will be realized;
- *Technological uncertainty*: whether we master the technology;
- *Manufacturing technology*: uncertainty that the required product quality and required volume estimates will be realized;
- *Commercial viability:* how certain are the commercial estimates in the business case;
- *Consumer acceptance risk;*
- *Trade customer risk*: applies if there is an intermediary in the chain;
- *Competitive positioning*: actions of competitors;
- *Market uncertainty*: market dynamics, price sensitivity, etc.;
- *Public acceptance*: opinion of the government, influential NGO's and opinion leaders;
- *Organizational risk*: active support and sponsoring of the product;
- *Project team risk:* effectiveness of the teams;
- *Project positioning*: versus the business strategy;
- *Supply & distribution*: reliability of partners;
- *Co-development*: partner's abilities.

Important points

- An effective risk management organization should have a defined and integrated process, as well as a corresponding culture and awareness and finally a continuous improvement component;
- Research indicates a number of categories which will be used later on to define a specific lists for the situation of TNT.

2.4 Organizational impact and Change management

The projects of Process & Policies have a considerable impact on the organization. Often they comprise significant changes to processes, policies or the way of working. This often leads to serious resistance, both on operational and on management level. The impact of this dynamic amplified by the independency of the individual organizational units within TNT. Also since employee motivation is one of the strategic goals of TNT it is certainly important to anticipate on deployment of the projects, which will be included as the organizational impact aspect. There is a significant amount of literature considering change management. These articles discuss which factors cause resistance as well as tactics to deal with the resistance. Since the portfolio decision are taken before projects are implemented the factors which cause resistance are the most interesting to help predict the impact.
Daft (2000) mentions four factors which influence the degree of resistance. These are self-interest, lack of understanding and trust, uncertainty and different assessment of

goals. Self-interest can cause a significant resistance if people think that the change will take something of value away. A lack of understanding, trust in the persons who are responsible for the change or a different assessment of the goals also has a negative impact on the resistance. Finally uncertainty in itself also increases the degree of resistance.
Trust, understanding, uncertainty and so on are mostly affected by transparency and good communication during the project. What should be anticipated is whether people will perceive the change as a potential negative change to their job. Literature proposes a set of factors in which a job design influence the degree of motivation of employees. These are skill identity and significance, task variety, autonomy and feedback (Garg & Rastogi, 2006). Task identity means the degree to which the job has a visible identity within the organization and task significance indicate whether it is perceived as important. It should be noted that these factors play a role on individual, team and organizational level.

Important points

- A lot of resistance can be avoided by clear communication and discussions with user. However self-interest could be avoided by taking the effect on the jobs of the affected employees into account;
- Skill variety, task identity, task significance, autonomy and feedback influence the employee satisfaction. A change which negatively influences one of these factors is likely to cause resistance and therefore these factors can be used to anticipate resistance.

2.5 Resource planning

The last aspect in the portfolio-model is the resources requirements of projects. This is a case of resource planning which is most comparable to multi-project planning in literature. Multi-project planning considers a set of multi-projects which have activities and interdependence and share a set of resources (Leus et al., 2003). Certainly if the activities vary in duration and the number of interdependencies is high (either resources or precedence relations in activities), multi-project planning can significantly influence the effectiveness of the organization. Literature notes that capacity is often ignored in practice which leads to a sequence of moments of over- and under-loading the organization (Zijm, 2000; Leus et al., 2003). As was noted before this in practice often leads to shortening or skipping the conceptual phase, which can cause problems later on (Repenning, 2001).
Literature proposes a set of algorithms for operational scheduling and recently also for tactical capacity planning. Scheduling algorithms are less important in this context because project leaders schedule their own time. Literature notes that tactical planning can be done on a more aggregate level and that it is important to include some form of precedence relations in the model (Hans, 2001).

Important points

- Tactical capacity planning has a significant influence on the effectiveness of multi-project organizations;
- A tactical planning tool should look to a aggregate level, but in a way incorporate precedence relations between projects.

2.6 Summary

Many problems and patterns within Process & Policies, as they were described in the first chapter, are also described within literature. Portfolio management is presented as a solution to align the organization with strategy by deliberately selecting projects. This chapter described which content is proposed for the four aspects of the portfolio model defined in the first chapter (benefits, risks, organizational impact and resources). Benefits can be identified by looking to strategic parameters of the operational process, which can be linked to customer value. Next, risks can be identified by using generic risk categories which were derived from practice with empirical studies. Thirdly, variables from job design literature can be used to assess the organizational impact of changes proposed within projects. Finally, resources are an important variable to assure that the limited capacity is taken into account. These insights will be the basis for the development of the criteria of the portfolio model in the fourth chapter.

Chapter 3 – Strategy ownership and idea creation

To optimize the project portfolio based on the strategy, first the strategy needs to be clear for the relevant employees and secondly good ideas need to be available from which potential projects can be selected. The first two sub-questions of the research design were formulated to address these two issues. To answer these questions we first considered the theoretical solution. Secondly, we verified the proposed solution by applying it to the real world.

Section 3.1 will first discuss the different levels of strategy within TNT Express and analyze whether the strategy is finished and clear to all relevant employees. In the second section of this chapter we propose a blueprint for an idea creation process. Based on the analyses in the two previous sections we developed a workshop to consider both strategy and ideas creation with the team to initiate the process in practice. Afterwards, we selected the most promising ideas for which a quick scan will be executed by the process engineers. In section 3.3 we describe the workshop and its follow-up. Finally in the last section, 3.4, we evaluate the efforts based on the research questions and derive some conclusions.

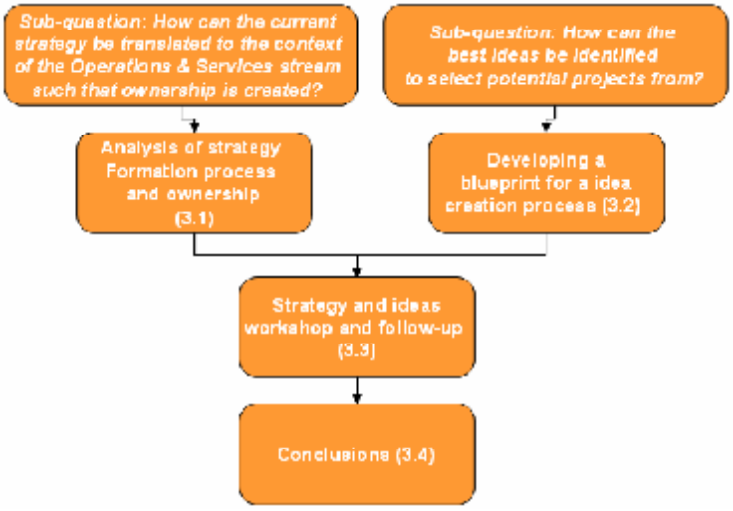

Figure 3.1: the research approach in this chapter

3.1 Analysis of the strategy formation process

There has been a rigorous attempt to formulate a coherent strategy within the business unit Benelux. This does not guarantee that there is also ownership of the strategy with the relevant employees. This section analyses the strategy development process which has taken place in the past few years and the ownership of the strategy considering the employees of the Process & Policies department.

Different layers of strategy

Within TNT Express multiple levels of strategy exist. The highest level of strategy is the *corporate strategy* and this level consists mainly of the relations and synergies

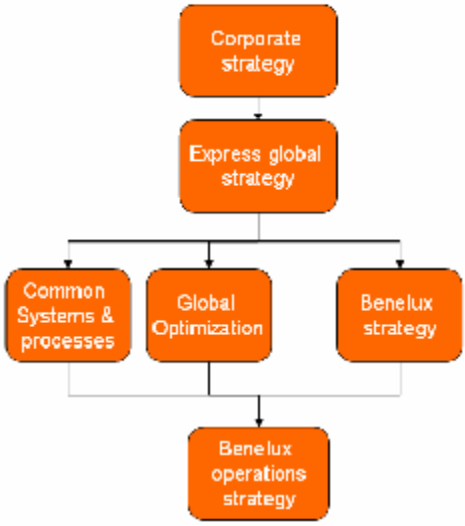

Figure 3.2: different levels of strategy within TNT Express

between the divisions and this relates to shareholders value and corporate social responsibility. Secondly there is a *global Express strategy* which describes the global network development and how business units will cooperate. This global strategy is translated into a number of functional plans on global levels, of which the global operations initiatives are an example. The two most important global operational initiatives which relate to the business units are *common systems and processes* and *global optimization.* Next to that the global strategy of Express is translated in the *business unit strategies* (e.g. Benelux is a business unit). Finally the business unit strategy as well as the global operations initiatives are input to the *operations strategy of Benelux.* This is the level of strategy which relates directly to the projects of Process & Policies. Below all levels will be discussed. The different levels are depicted in figure 3.2.

Express global strategy
The Express division pursues the following goals according to its most recent strategic plan according to the annual plan of 2007:

1 Be the number 1 in Europe
Be the number 1 in Europe in national and intra-European express flows by being the most accessible and reliable operator in Europe, building on an integrated domestic-international offer.

2 Become the number 1 in China
Connect China to the world by becoming the number 1 distribution network through engaged people and their dedication to customers and service excellence to deliver profitable growth.

3 Become the number 1 in key emerging and regional markets
Grasp the fast developing opportunities outside of Europe and take leadership (or viable niche) positions within the key markets in Asia, India, Middle East, Africa, Americas and Australia. At the same time we will ensure that we provide the highest quality of service and customer care to support our global network whilst striving to be a profitable business in all these markets.

4 Be the number 1 in Special Services
Become recognized as the world's leading provider of Express Special Services by providing high quality global and national specialist services (time critical, freight and value added services) that differentiate us in the market.

5 Achieve and improve performance excellence in all key processes
Continue to focus on our key five customer facing and four support processes so as to achieve performance excellence across the whole spectrum of our day to day functional operations. By continuously improving our process performance through internal and external benchmarking, we will achieve and maintain best in class results.

6 Achieve and maintain a sustainable Return on Sales of 10% from 2007
We have presented renewed ambitions to the market and our shareholders to grow to a € 10 billion turnover division by 2010 at a sustainable return on sales of at least 10%. This means that we have to balance investment (including acquisitions) in our businesses, whilst delivering profitable growth in line with our 5 year financial forecast.

Next to the developments in emerging markets and China, the strategy presented above can be summarized as distinguishing the Express product by reliability and customization (special services). This strategic direction should enable the 10 billion turnover with 10% return on sales, which are known as the "triple ten".

Global operations initiatives
Important efforts to reach the "triple ten" are the global operations initiatives in which business units work cooperatively to improve the pick-up & delivery and warehouse processes of the different business units as well as to sustain a common standard. The two most important are common systems and processes and global optimization.
Common systems and processes is a worldwide project to design and implement a common standard in the operational processes as well as the supporting software systems. There were a lot of differences between system (e.g. the planning and cost control systems). For example, globally 4 different collection & delivery planning systems, 5 data entry systems, 8 label formats and 6 tracking systems are used. In 2005 a global initiative was started to achieve a common standard. The first systems are currently close to the roll-out phase and the project is expected to end in the fourth quarter of 2009.
Secondly there is a global optimization initiative which has to objective to share tools and knowledge to optimize operational processes. Early 2007 a number of knowledge groups were formed which consider a specific area of knowledge. They meet on a regular base with members from neighboring business units to exchange information about current initiatives. A partner in this project is the operations research consultancy firm Ortec. They also provided a toolkit which is used for the improvement projects. This toolkit consists of the infrastructure optimization tool BOSS and route optimization tool Shortrec as well as custom designed data analysis tool. The toolkit is depicted in the figure 3.3.
In both initiatives process engineers of Express Benelux participate and these initiatives often result in projects for Process & Policies (e.g. the implementation of a common system or an optimization project).

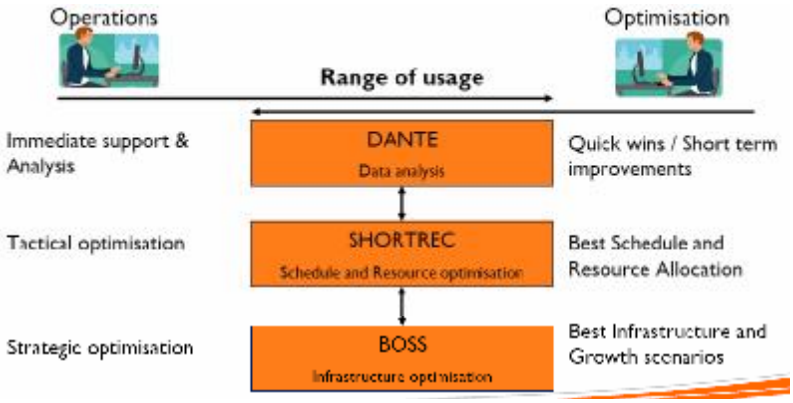

Figure 3.3: Global optimization toolkit (TNT internal document 1, 2007)

TNT Express Benelux strategy
{...omitted...}

Benelux operations strategy
{...omitted...}

What influences ownership
To align an organization with the strategy the relevant elements of the organization need to be aligned. Daft (2000) mentions human resources, information and control systems, structural design and finally leadership as factors which need to be aligned with the strategy. Human resources, information and control and structural design are considered in this research project. For example, the portfolio management process is an element of organizational structure. The question considered in this chapter is a question of leadership: whether the management has created ownership for the strategy. Johnsen et al. (2006) mention five styles of leadership: education and communication, collaboration, intervention, direction and coercion. We argue that considering the degree of education and responsibility of the employees within Process & Policies and the culture of empowerment within TNT, the last three options are not effective because they will not create real commitment. Therefore the implementation of the strategy needs to be a mix of communication and collaboration. In the following paragraphs we consider both the involvement and communication to evaluate the ownership.

Involvement of employees in the strategy formation process
An important way to create ownership for a strategy is to involve employees in the formation of the strategy. The employees of Process & Policies were not directly involved in the formation of the corporate and global strategy. Only the manager Process & Policies was directly involved in formulating the strategic roadmap for the business unit Benelux. The strategic programs of Operations & services were formulated during a strategy workshop with Cap Gemini. In this workshop only the manager Process &

Policies and the manager Process Engineering participated, but not a process engineer of program manager.

Communication of the strategy
Next to participation, communication is also an important to create ownership for the strategy. The global strategy was communicated through the yearly plan of Express, which was publicized through the intranet. For the strategic roadmap of business unit Benelux a more extensive communication effort is planned. However until the end of this research project only a roadmap show for management was executed. The strategic programs of Operations & Services received more attention and were presented in some meetings. However many employees concluded that they lacked real understanding of the implications of these strategic programs, probably because the information transfer was not interactive but one-way communication.

Evaluation of the ownership of the strategy within Process & Policies
Based on the discussion above we conclude that there has been a long and rigorous strategy formation process, which produced a detailed strategy for all levels of the organization. However, next to that we conclude that there was not much involvement of the employees of Process & Policies and there was also not much direct communication. Therefore we concluded that it was important to discuss the strategy with the employees in an interactive way, such that they can apply it to their daily practice. This resulted in the proposal to conduct a strategy workshop. Eventually this was combined with an idea creation brainstorm. We describe the workshop in section 3.3, however first we describe the blueprint of the idea generation process in the next section.

3.2 Blueprint of the idea creation process

An important component of an effective portfolio management system is that there are enough good ideas to select potential projects from. The process of idea creation was not formalized at the start of this research project, as we described in the problem analysis in section 1.3. Both idea generation and pre-selection of ideas was done on a more or less ad hoc basis. Therefore the second sub-question of this research project considers how this process can be structured such that the best ideas are identified. In this section we first discuss the insights from literature. These were the starting point for an interactive discussion with the management to define a simple but effective idea creation process. This resulted in a blueprint for the process which we discuss at the end of this section.

It is recognized in literature that there is an idea creation process required to feed the new product development process. This topic has been discussed by multiple authors and they have many different names: "fuzzy front end process", "pre-development activities", "pre phase 0" or "pre-project activities" (Cooper, 1988, Verworn & Herstatt, 1999, Kim & Wilemon, 2002, Deppe et al., 2002, Murphy & Kumar, 1997). Most authors use a definition which states that the process includes all activities until new product development can be started. Typically they mention a number of steps or activities which include idea generation, pre-selection of promising ideas and sometimes conceptual or business case development. It is widely acknowledged that the process should be flexible

because the activities are unpredictable and diverse. To support the process idea generation activities can be initiated, sufficient resource availability should be ensured, a supportive idea documentation and sharing system should be available and selection criteria and method should be defined (Murphy & Kumar, 1997, Kim & Wilemon, 2002). Techniques for idea generation mentioned in literature are direct contact with customers, environmental scanning, team based creativity techniques (e.g. brainstorms) and learning from operational problems.

Success-factors of front- end development

- Resource availability
- Supportive ICT structure
- Idea generation activities
- Selection method and criteria defined

Table 3.1: Success factors of front-end development (Murphy & Kumar, 1997,

The insights from literature served as a basis for a participative approach to define a blueprint for an idea creation process. Based on several discussions with program managers, the manager PE and manager P&P we defined the following process. The first important activity of the process is the *actual idea generation*. In this context this especially could be *daily experiences, technical developments* (e.g. noted from exhibitions or journals), but also organized *idea creation meetings* (e.g. brainstorms). Although there are other sources of ideas, historical experience from the staff indicated that these three are the most important to focus on. As was noted from literature it is important to have an ICT structure to support the idea generation process. It was decided that all ideas will be stored in an *idea list* on a central location with a short description of the idea. This could be a less or more extensive database. It was decided that it would be a rather simple list, to make it useful and sustainable in practice, but would provide some structure versus not documenting ideas.

In the *pre-selection* program managers will have an important role. They will have the freedom to choose the idea which fits the best with the gaps they have considering the ambitions of their programs. It was chosen to give this responsibility to the program managers (rather than to the whole group or the manager PE or P&P) because they have the responsibility for the results on the tactical level (for more detail refer to section 6.1). Based on a quick analysis of potential benefits, risks, impact and resources program managers will select the most promising ideas for the programs. These will be developed during a short concept study into a more detailed *business case* which consists of a more detailed view of the benefits, risks, impact and resources. These will be used as input for the selection of the projects which will be implemented. The *selection process* is discussed in more detail in chapter 6. The blueprint for the idea creation process is summarized in figure 3.7 below. In the next section we discuss how this process was initiated by conducting a brainstorm workshop and the follow-up of this workshop.

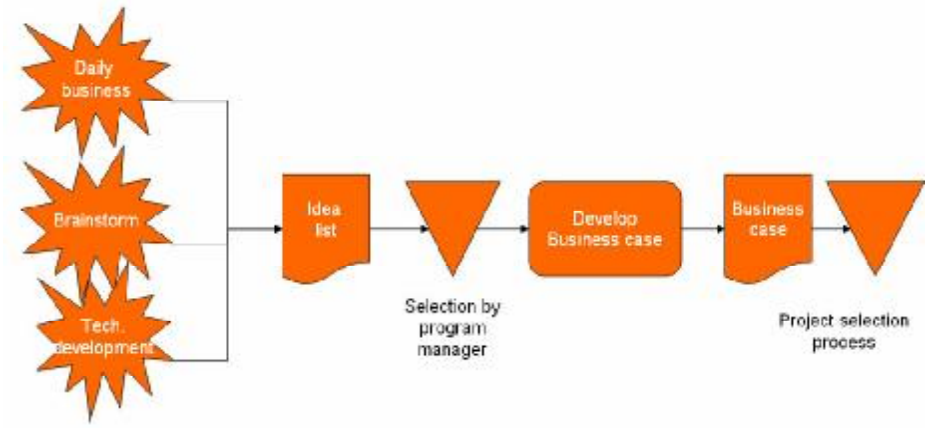

Figure 3.7: blueprint of the idea creation process

3.3 Strategy and brainstorm workshop and follow-up

Based on the two previous sections, we draw two conclusions:

- There has been an extensive effort to formulate a coherent strategy. To put this strategy into action ownerships need to be created in the lower levels of the organization. Also there is a need for cross-functional synchronization;
- To ensure best ideas are available for selection the idea creation process need to be initiated and conducted in a structural manner.

Because both items are very suitable to discuss in an interactive way we decided together with the manager Process & Policies to conduct a strategy and brainstorm workshop. Below we describe the goals, content, evaluation and follow-up of the workshop.

Goals of the workshop

First proposal was to conduct two separate workshops. The first workshop we planned to have a cross-functional discussion with the marketing department about strategy and cross-functional synergies. And the second workshop would be a brainstorm workshop to create new ideas. Eventually the cross-functional aspect proved to be difficult to arrange, because although the marketing department was positive about the idea, resource commitment on short term was not given. Therefore we decided together with the manager P&P to leave the cross-functional aspect out of scope, because it was also not directly related to the implementation of portfolio management. Because a clear awareness of strategy could improve the relevancy of the brainstorm result, we decided to combine these two aspects in one workshop.

To implement these two conclusions a workshop was developed and executed. This workshop was developed together with the program managers, manager PE and manager P&P. Because of their new and central role in the new structure we decided to give the program managers an important role in execution of the workshop. Together we defined the following four goals for the workshop:

- To create ownership for the strategy and to translate it to the daily context;

- To make all employees conscious of the link between projects and the ambitions of the programs;
- Develop new ideas together;
- To evaluate whether a strategy and brainstorm workshop is a valuable addition to a regular yearly cycle.

Participants were the program managers, all project leaders and other employees of PE, the manager PE and the manager P&P.

Content of the workshop
Below the individual parts of the workshop will be discussed:

1. Introduction

The objective and plan of this research project were shortly considered. Afterwards the goals and program of the workshop were presented.

2. What is strategy?

This item started with a short discussion about the question what could be considered as being strategy. Next the manager PE presented the "house of strategy" (refer to par. 3.1) in an interactive way, with a short quiz which considered the following questions:

1. What is the fundament of the house and why?
2. Where would the part "customer experience" belong and why?
3. What are the building blocks of the house?
4. On which product is Express Benelux planning to grow?
5. Why are employees, shareholders, customers and world surrounding the house?
6. Which of our projects fits clearly with the building block "effective cost management"?

Figure 3.7: reverse engineering the strategic programs during the workshop

3. Building the strategic programs

The link between the business unit strategy and the projects is the program structure (refer to the paragraph on Benelux operations strategy in section 3.1). Although this has been presented multiple times we decided that it would be good to discuss it in an interactive manner. Two groups were formed, which were challenged to reconstruct the program chart. First they received the seven programs and were asked to consider the links between these programs and the four stakeholders of TNT Express. Secondly they received cards with all the current and planned projects and were asked to attach them to a notice board which contained all the programs. This enabled many interesting discussion about the content of the programs and the link between projects and programs. Afterwards the results of the two groups were compared.

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4. Presenting ambitions and gaps

Next both program managers presented their programs. They visualized the vision of each program and considered the gap which still remains considering the data about the current and planned projects. It was stressed that there was still a significant gap remaining considering the 2010 ambition and that therefore the creation of new ideas for the programs is essential.

Figure 3.8: brainstorm during the workshop

5. Brainstorm

An introduction was given into brainstorming techniques. This presentation stressed the important rules of the game: postpone critique to a later stage, react on each other, make flexible associations, mention each idea you get and the more quantity the better (Hicks, 1991; Byttebier, 2002) Next to that, different modes of creative association were presented. After this preparation a brainstorm was conducted with the whole group. The process leader wrote down all ideas on a flip over and watched whether all programs were considered. This eventually produced a list of 133 ideas.

Afterwards it was stressed that idea creation should be an ongoing process. The idea list was introduced and it was communicated that the program managers would present their conclusions on the next team meeting.

6. Evaluation

Afterwards the meeting was evaluated in a plenary setting. Two important questions which were considered are:

1. Is it clear what the strategy of TNT Express Benelux is and how this affects the daily business of project leaders?
2. Is it valuable to use brainstorming techniques to create ideas together?

The next section will discuss the evaluation of the workshop and how the follow-up proceeded.

Evaluation of the workshop

The results of the short, plenary evaluation were positive. To verify these results an anonymous survey conducted. The results are discussed in detail in Appendix B.VI. Although the number of respondents is relatively low (because of the number of participants is low), after a critical evaluation we draw the following conclusions:

- The strategy of Express Benelux & the strategic programs are clear to all employees;
- The workshop contributed to the clarification and the ownership of the strategy;
- The brainstorm was valuable and is seen as a good setting for creating ideas.

Follow-up of the workshop: idea selection and quick scan
After the workshop, according to the blueprint described in the previous section, a list of ideas was stored in a central location. The two program managers together made a first assessment whether ideas were feasible and new. Ideas which were considered unfeasible or which were attempted before were excluded from the list. Next the ideas were segmented across the different programs, such that there was a fit between the vision of a program and the idea. As we described when discussing the blueprint the ideas should be selected according to the gaps on the ambitions. Based on the data gathered during the evaluation of the current projects it was decided that the largest gap remained on the service quality ambition (for an overview of the benefits versus the ambitions refer to section 5.2). Therefore it was decided to select a small number of ideas which were likely to influence the service quality ambition significantly. Next we decided together with the program managers to conduct a group session to select the ideas which should be developed. This is likely to have a positive influence on the commitment of the engineers to develop the ideas. In the group session each engineer had ten points which they could divide across the ideas which they thought would have the highest impact on service quality. This resulted in six ideas which had a significant number of points. These were divided across the engineers, which would execute a quick scan. The results of the quick scans would be used as input for the project planning for next year (2009). The output of the quick scans was not yet available at the end of this research project. However we conclude that a clear blueprint for the process was defined, significant commitment was created through a participative approach and that a promising start was made.

3.4 Conclusions

In this chapter we considered the first two sub-questions of this research project. First we discussed how the strategy could be translated in such a way that there is ownership and awareness of the strategy across the employees of Process & Policies. An analysis of the strategy formation process at different levels of the organization revealed that an extensive effort had been put into formulating a coherent strategy. The analysis also revealed that there had not been much involvement of the employees of Process & Policies, neither had there much communication to them considering the new strategy. Therefore we executed a workshop to discuss the strategy in an interactive manner. Afterwards the consensus from a (anonymous) survey across the employees was that the strategy was clear and applicable to their daily practice.
The second question considered in this chapter was how the idea creation process could be structured in order to ensure that the best ideas were available for selection. First literature considering "front-end development" processes was discussed. These insights were used in a participative discussion with relevant staff to develop a blueprint for an idea creation process. This consists of an idea generation, a pre-selection and a quick scan phase. The output of this process is used as input for the project selection process. The process was initiated within Process & Policies by conducting a brainstorm workshop. The ideas were documented in an idea list. The best ideas were selected in a group session, with as main criterion which idea would contribute the most to service quality improvement. For the six most promising ideas a quick scan will be executed by the process engineers. We conclude that through a participative approach the process was

initiated in such a way that there is commitment from the staff of Process & Policies to continue this process.
Strategy awareness is the foundation of a strategy focused portfolio management system. An effective idea creation process is essential to feed the project selection. The next chapter will discuss the criteria used to evaluate individual projects, which can be used to select and review projects.

Chapter 4 – Defining and testing the criteria model

In the first chapter we argued that a portfolio model could be the essential link between the strategic programs and the projects. Chapter 2 discussed relevant insights from literature, also considering the four aspects (benefits, risks, resources and organizational impact) for which we will formulate criteria in this chapter. In chapter 3 we discussed how ownership for the strategy was created and how the idea creation process was initiated. To obtain an optimal portfolio the best potential projects need to be selected from these ideas. To make an effective selection as well as to review current projects a set of criteria need to be defined. In the first chapter we already argued that benefits, risks, organizational impact and resources should be included. In this chapter we develop these aspects into a set of criteria. These criteria were tested by applying them to the most important projects for 2008.

Section 4.1 discusses the process of the development of the criteria. Section 4.2, 4.3, 4.4 and 4.5 respectively discuss the individual aspects. Next, in section 4.6, we discuss the application of the criteria model to the current projects. In section 4.7 we discuss the application to the current projects and the problems we encountered while applying the criteria. This content is summarized in figure 4.1.

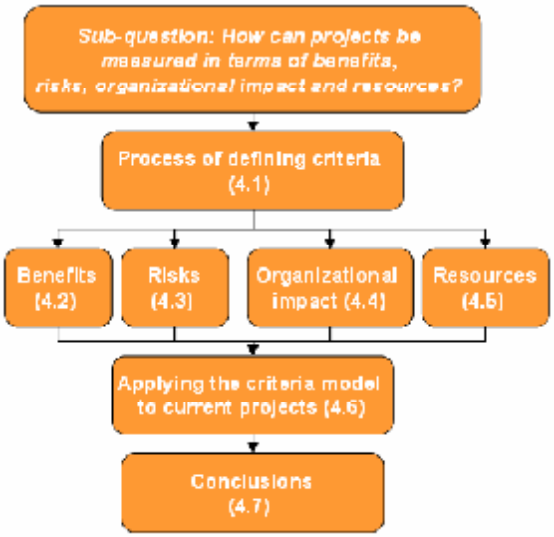

Figure 4.1: research approach of this chapter

4.1 Process of developing the criteria

The criteria will be included in the business case that needs to be developed before starting a project. Therefore it is important that the project leaders are able to work with the criteria and perceive them as valuable in assessing a project. As proposed in literature, we decided that a participative approach was essential to create ownership of this model. During the early stages of the development process bilateral discussions were held with the involved people. At an intermediate stage we organized a group discussion to verify the initial model. After this discussion the project managers applied the criteria to a selected set of the current projects. Their experiences during these assessments were used to improve the model further in an iterative fashion.

4.2 Benefits

The benefits aspect estimates the potential contribution of a project to the strategy. Chapter 2 showed that there is a lot of literature about the link between business and

operational strategy. Most articles use some sort of strategic operational priorities to define a link between these two. Although there are many different articles and thus lists of priorities, there is also a considerable similarity between those lists. The most important elements are: cost, quality, delivery speed, delivery reliability, innovation, volume flexibility, and product flexibility. This list was the starting point for an extensive discussion about a suitable list for the situation of TNT.
First the ambitions of the strategic programs were considered, because some ambitions are on a comparable level of thinking as the priorities from literature. A number of the ambitions like cost and service quality could easily be matched with priorities from literature. Others were of a different level. An ambition like zero defects is more difficult to relate to the business strategy, because it influences both cost and quality. Next to that the ambitions did not yet cover the full breadth which was proposed by literature and therefore some extensions were needed.
Besides the strategic operational priorities, we noted in chapter 2 that human resources and customer experience should be included in the model.

Initial list
Because the list from literature is more or less defined from a manufacturing perspective some changes were needed to make them applicable to the express logistics context. *Cost* can be considered in a comparable way. Quality needs some special consideration. Because there is no physical product which can be compared to a specification a different perspective is needed. Within this context quality can be defined as delivery on time, without damaging the shipment or losing it on the way. The correct on time delivery is included in what is called *service quality*. Next to that quality in logistics has an important service component. Although the customer service department is out of scope, the behavior of the driver is also an important factor in customer service, which is included in the final criterion *employees*.
In literature *delivery time* and *reliability* are separate criteria in manufacturing context but in this context they are included in quality. Volume flexibility is certainly important because the market is growing currently, so the *capacity* levels also change over time. Therefore capacity is included in the list of criteria. *Product flexibility* has a number of dimensions. First there are the cut off times which is the latest moment on a day that a customer from a certain area can have his shipment picked up and still have it delivered next day. This will be included under the name service level export. These times depend heavily on how the operational process is organized. Next to that not every service is provided in every area so *coverage* (for a specific service and area) is another differentiation criterion. Third, on the other side of the express cycle the customer can choose to have his shipment *delivered* on a certain *time* (e.g. 9:00 or 12:00). Finally there are a number of *special products* like the delivery of products which fall outside the standard dimensions or for which a value added service (like installation) is included. Although *innovation* is included in some articles as a separate criterion we argue that Process & Policies in itself is more or less the innovator of the operational process and therefore that it should not be a separate criterion in the model.
Next to the operational parameters human resources and customer experience indicators also need to be included because they are affected by the projects of process and policies.

In the second chapter we discussed the HR will be split in (employee) motivation and continuity. Customer experience will be one separate criterion.
We included two specific criteria based on the strategy of TNT. First there is a corporate wide attention for reducing *CO2*. This is not covered in one of the other criteria but is directly influenced by the projects, so it was decided to include it as a separate criterion. Next to that employees are not merely an enabler of customer value for TNT, but having the most motivated *employees* is a separate perspective in strategy. It was already argued that employees are an important driver of customer service, but certainly because motivated employees is a separate ambition it is justified to include employees as a separate aspect. The initial list is summarized in figure 4.2 on the left hand side.

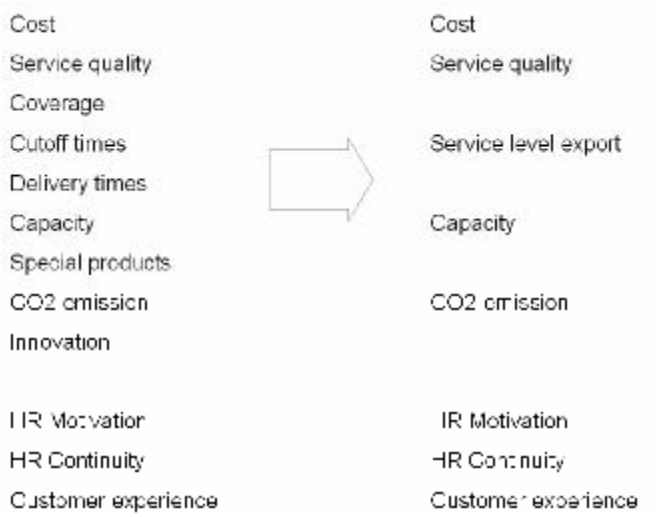

Figure 4.2: list of criteria to be included in the benefit aspect

After the initial list was established three criteria were removed because of specific arguments. First we removed the criterion delivery times. This was done because shortly before TNT Express harmonized its delivery times globally. Since products are often delivered in other countries it is important to have a consistent offering. Therefore it is not likely that delivery times change or extensions will be initiated within the business unit Benelux in the near future.
Next to that special products are covered by a dedicated department. Therefore projects to influence special product related processes and capabilities are likely to fall outside the responsibility of this department. Because there is no intention to change this in the near future (actually clear separation is a goal), it was decided to exclude the criterion from the list.
Finally coverage is excluded because practically every area in the Benelux is already covered by most services, so this will not be an important consideration for the coming period.

How to measure the criteria

Next question is how these criteria will be measured. For each criterion we formulated one or two indicators and below also the measurement will be discussed.

Cost

Most projects concern productivity increases, which have a direct influence on the cost. In project valuation often cash flow related methods like NPV are used (Drury, 1999), which have the advantage that they can be related directly to the profit and finally the return for the shareholder. In the operational context however the price per connote (shipment) is more important because that is the direct steering parameter for operational control. Also cost per con(note) is more directly related to the customer price if margins are considered fixed. Therefore we decided to calculate to cost impact of projects in cost per connote. This can be done by relating the projects to specific cost drivers. E.g. an automatic sorter in a depot is probably related to the productivity of the sorting part in the warehouse process. If one knows the impact of sorting on the warehouse cost and the impact of the warehouse process on the cost per con, the final cost per connote can be calculated. To derive these relations the *operational control department* can play an important role in providing cost data and validating calculations.

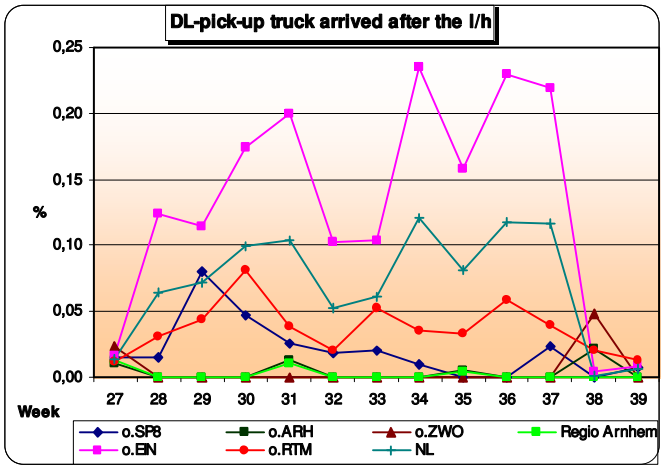

Figure 4.3: example of a failure code analysis

Service quality

Service quality (or sometimes named performance) is already an important indicator for TNT Express. A service quality of 95% means that 95% of the shipments are delivered on time in the correct state. It is important to note that for service quality a business unit also depends on other business units which deliver the packages in other parts of the world (and the Benelux delivers shipments from other parts of the world) as well as in the global network which plays an intermediate role. Within the headquarters there is a separate department which is responsible for quality improvement and reporting. They can provide report where the frequency of specific failure codes (things which can go wrong) is summarized. These can be used to relate specific projects to. E.g. an important category in the failures is missing connections in the network. This can be influenced for example by changing the cut off times to increase the operational time window.

Service level export

From a customer perspective the cut off times are very important, because it determines at what time they can finish their work and still have a shipment delivered next day. This cut off time varies across different postcode areas. For example the cut off time for Arnhem could be 19:00, where the cut off time for a specific area in Groningen could be

15:00. Since customers usually want to have their shipments picked up as late as possible and delivered as early as possible these can be very important competitive criteria. For example, currently there is a project with the target of implementing a late pickup service (with a premium price of course) for specific areas.
To summarize the service level the weighted average of the cutoff times per postcode area will be used, with the average number of consignments per postcode area as weighing factor. A measurement model for this criterion is developed by Process & Policies in cooperation with Ortec.

Capacity
The transport market is a rather dynamic and cyclic market and Express as a premium product is even more dynamic. Current projections show a considerable growth for the next years and some depots are already overloaded. Therefore capacity will be an important item to keep service quality on a high level and facilitate growth in the next coming years. Recently a capacity model was developed and approved for TNT Express Benelux. This model considers the capacity per depot and separates import and export capacity. The export capacity is driven by the net number of available m2 and the capacity of the weighing and measurement equipment (known as RPP equipment). The import capacity is driven also by the net number of available m2 and the number of loading doors in the depot. The capacity is calculated for both freight (pallets) and van (parcels) streams, because they use partly a dedicated process in the warehouse. To summarize these two streams the average of the van and freight stream utilization is taken.

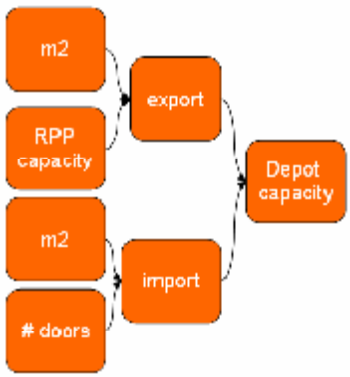

Figure 4.4: drivers in the capacity model

It is important to note that vehicle capacity and number of employees are less important because often subcontractors and temporary personnel are used in peak periods. The capacity model will be used to calculate the influence of individual projects on the total available capacity for van and freight.

CO2
Emission reduction is a topic which only recently gained much attention. TNT pursues a company wide (Express as well as mail) emission reduction strategy. This is still in its early stages and therefore a consistent measurement and prediction model is still in development (by the corporate headquarters). The final model will comprise a lot of different factors and will probably consider individual routes and drivers. Factors which will probably be included are:

- Type of vehicle / engine;
- Type of fuel;
- The length of individual routes;
- The composition of routes (for example routes with a lot of highway kilometers have a relatively lower emission);

- Relative consumption of a driver.

The final model will be used to evaluate all reduction initiatives and to assess the emissions afterwards. However since it is not available yet an intermediate step assessment has to be made. The projects of Process & Policies influence these factors in two ways. First some projects (like route optimization and replacing hub-spoke networks with direct connection) reduce the number of kilometers driven. Secondly some projects influence the fuel usage (e.g. the introduction of electric vehicles or onboard GPS computers). Since the final model is not ready yet and also much data is not available yet (for example data about relative consumptions of drivers), we chose to calculate these two components until the final model is available.

HR Motivation

For TNT employees are a valid, separate stakeholder which also resulted in a separate strategic goal (to have the most motivated employees). Next to that motivated employees are also a driver for customer experience and therefore an important competitive weapon. Therefore employee motivation receives considerable attention within TNT Express. To monitor motivation each year a broad motivation survey is conducted across whole TNT Express. This survey includes 70 questions in 15 categories. These categories are: leadership, customer focus, image and social responsibility, competitive position, learning and development, work relations, empowerment, direct supervision, working conditions, performance assessment, diversity & inclusion, work life balance, engagement and satisfaction. To assess the potential benefit on the employee motivation a project could be related to category in the motivation survey. Based on the current scores and probably also on discussions with the HR department the potential benefit could be predicted.

HR continuity

Next to the motivation of employees an important task within HRM is ensuring continuity. This includes making sure that there is a capable person available for every function within the organization and that a successor is ready to replace crucial employees. The HR department tracks the recruitment and training process closely and developed a scorecard to monitor these critical processes. Projects which affect the continuity could be related to individual indicators in the HR scorecard.

Customer experience

Next to cost, service quality, time, capacity and emission reduction the customer's perception of the value offered by TNT also depends heavily on the human side of customer service. Especially the HRM projects influence the customer service considerably by creating customer awareness and customer contact skills. Within TNT Express a customer satisfaction survey is used to determine the customer's perception of the service offered. This provides a considerable amount of data which can be used to target specific improvement projects. Therefore we argue that projects which are targeted to improve customer experience should be related to specific questions in the customer satisfaction survey. This could for example mean that a program targeted at creating customer awareness with drivers is coupled to an expected improvement of 10% on the question about driver friendliness. Commercial employees could help to make the

translation between operational aspects and customer experience. In this fashion concrete assumption could be made about the expected benefits.

Table 4.1 below summarizes the discussion above about indicators and measurement.

Criterion	Indicator	Measurement
Cost	Cost / connote	Calculate productivity increases / decreases per project and relate to project with help of Ops control
Service quality	Operational performance	Use quality data to relate projects to performance
Service level export	Weighted average cut off times	Model to be developed in cooperation with Ortec
Capacity	Average utilization	Use capacity model to calculate capacity changes. Average the utilization of van and freight
CO2	Kilometers	Estimate capacity impact per model
	Fuel consumption / 100km	Calculate per project
HR Motivation	MO aspects	Look into MO survey results and discuss with HRM department
HR Continuity	Individual indicators from HRM scorecard	Look for relevant indicators and discuss with HRM department
Customer experience	CLM Questions	Look for relevant questions in the CLM survey

Table 4.1: criteria, indicators and measurement

4.3 Risk

The second aspect of the portfolio model is Risk. Because the projects are dependent on a lot of external factors and have a considerable level of uncertainty it is important to deliberately manage risks. In the second chapter an extensive list of possible risks was derived from literature. This was used as a starting point for a discussion about the risks which are faced in the context of Process & Policies. Next to that some additional risks where defined based on practical experience. Finally a method to assess them was developed.

The full list of risks from literature is shown in table 4.2 below. The first risks mentioned in literature are design risk, technological uncertainty and manufacturing technology. Since Process & Policies is responsible for implementing innovations there is often some kind of technical risks. In this specific context it is difficult to make a separation between design, technology and manufacturing because there are heavily intertwined. Therefore we decided to combine them to one category technology risks, which includes all risks related to the unproven nature of concept or technology which is implemented during a project.
Secondly the literature shows a long list of commercial risks: commercial viability, consumer acceptance, trade customer risks, market uncertainty and finally competitive positioning. For certain projects, e.g. the current change in cut off times, the customer

acceptance is a very important factor. We decided to merge these risks into one category, customer acceptance, which addresses whether the proposed change would be acceptable to the customer from a value perspective (cost vs. benefits). Next to that the competitive risks is included as a separate aspect. There are some aspects like coverage and pricing which are heavily influenced by competitive aspects. If a large competitor (DHL or UPS) extends its service in a certain area competition it is likely that TNT will follow. Therefore the risk that actions of competitors will influence the scope or objectives of the project is a separate risk. It should be noted that TNT directly services customers so there is no intermediary who could cause a specific risk.
Public acceptance is also a risk proposed by literature. In the case that there is significant public relations issue involved in a project usually a cross-functional project would be started, which would be out of scope of this department.
The next category risks literature proposes are internal organizational risks. Organizational risk is included under the name agreement risks. This includes the agreement of depots or the OR. Next to that literature names a project team risks which we included as resources risk. Since the overall position compared to the strategy is already covered by the full model this will not be covered as a specific risk. Finally there are sometimes partners involved in projects (e.g. consultants), their effectiveness will be included as partners risks. The summary of this discussion can be seen in table 4.2 below.

Literature	TNT model
Design	Include in technology risk
Technological uncertainty	Include in technology risk
Manufacturing technology	There is no distinction between manufacturing and product technology
Commercial viability	Include as customer acceptance risk
Consumer acceptance risk	Include as customer acceptance risk
Trade customer risk	No intermediary
Competitive positioning	Include as competitive action risk
Market uncertainty	Included in customer acceptance and competitive action
Public acceptance	Out of scope
Organizational risk	Agreement risk
Project team risk	Resources risk
Project positioning	Covered by model as a whole
Supply & distribution	No supply & distribution channel
Co-development	Partners risk

Table 4.2: risks which were derived from literature

Next to the risks mentioned already above there is another risk which should be added. Projects effectiveness can largely be influenced by potential resistance to the implementation of projects. Since projects could be significant changes to the nature of jobs this is a separate risk. Note that this risk is covered in more detail in the aspect organizational impact.
Table 4.3 below summarizes the risks included in the model and there definition.

Risks	Definition
Technology	The effectiveness or reliability of the technology is unproven or it not certain whether it will function in the context of TNT
Customer acceptance	There is doubt whether the project will produce a result which is of sufficient value to the customer
Implementation resistance	The project will potential induce employee resistance which can effect the outcomes of the project
Agreement	There are parties which should agree, which are likely to be able to effect the project
Partner	There is a partner in the project which might not be effective
Competitive position	Actions of competitors might influence scope and value of the project
Resources	There is doubt whether sufficient resources are available to complete the project according to planning

Table 4.3: risks included in the model and their definitions

The most common models for risk management use impact and probability as criteria to rate the importance of certain risks (e.g. Smith, 1999). We will use these two also in this context. Impact will be split in two components because the impact could delay and failures could be distinguished. Although a long delay is likely to be a failure too, failure focuses on the influence on the profitability of a project. Delay is categorized in small delay, which is less than a month, considerable (1-3 months), and serious delays of more than three months. Failures are distinguished in partial and complete failures. A partial failure lowers the profitability of a project, but not to such a level that the existence of a project is threatened. Complete failure means that a project is not profitable any more if the risk is not managed properly and therefore the project is likely to be stopped. This risk assessment model is depicted in figure 4.5 below.

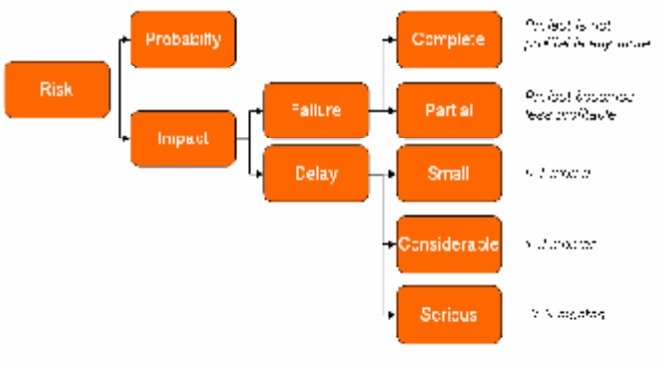

Figure 4.5: risk assessment model

4.4 Organizational impact

The third aspect in the model is organizational impact. This aspect is included to make an upfront assessment of the possibility to implement the project. This is extra relevant because there were considerable deployment problems recently. From the literature of change management and job design a list of job characteristics which influence

employees motivation have been derived. We will apply these to the context of TNT to make an estimate of the impact of changes of the jobs in the operation. This is relevant because if there is too much pressure from implemented projects on the organization it is likely to negatively influence the operational effectiveness.

Job impact

Literature identifies the factors skill variety, task significance, task identity, autonomy and feedback. The factors skill variety and autonomy were immediately applicable to this context. If a project lowers the autonomy (e.g. by additional control) or lowers the skill variety (by separating tasks) it is likely to cause resistance. Task significance and identity are more ambiguous and we decided to merge them into one criterion called importance. So if a project decreases the importance of a task (e.g. by automating important decisions) it is also judged negative. Finally feedback is considered not to be influenced negatively by projects because it more an aspect which is influenced on team level in the operations.

Based on experience in the organization we decided to add to factors. The first factor is working hours. Different methods of scheduling or changing the operational hours can have a considerable impact on the working hours of employees. This can cause serious resistance. Secondly some projects result in job loss. This of course also puts large pressure on the organization. Thirdly projects sometimes significantly change the content of the tasks included in a job, which can be perceived as negative. Table 4.4 below summarizes the factors included.

Factor	Definition	Example
Variety	The variety of tasks include in a job is decreased	Dedicating employees to a single task
Intensity	The intensity of the jobs is increased	Increasing productivity requirements
Importance	Responsibility for important parts of the process is displaced	Automating important decisions
Autonomy	The change reduces the autonomy of the employee	Introducing GPS trackers to monitor driving behavior
Working schedules	Schedules change in a way which is potentially perceived negative	Increasing operational time
Job loss	Jobs are lost by a proposed project	Automating important parts of the process
Task content	The content of the task assigned to the employee changes in a way which is perceived negative	Removing a valued task from job profile

Table 4.4: factors used to assess to potential resistance

These aspects will be rated on a three point scale considering their potential negative impact on the jobs on the work floor (as they would be perceived by the employees affected by the change). A high impact would mean that the change is likely to cause serious resistance. Low impact would mean that the change could be perceived as negative but is likely to be perceived as not really important. Figure 4.6 below summarizes the discussion about job impact.

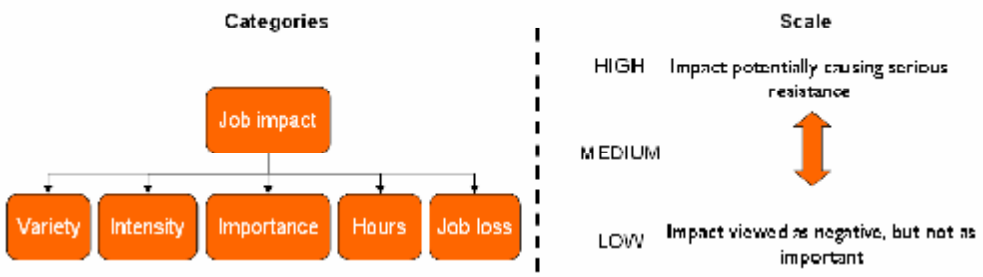

Figure 4.6: job impact assessment model

4.5 Resources

The last aspect of the model is Resources. It is important to assure that the accepted projects are feasible with the available capacity. It is therefore important to predict the workload for individual projects. Because workload can differ significantly across different phases in the project, the planning should also distinguish these phases. The table below shows the resulting data format.

Phase	Begin	End	Name	Hours / week
Business plan	1-10-2007	1-11-2007	JHH	4
Concept development	1-11-2007	1-2-2008	JHH	4
Pilot	1-2-2008	1-4-2008	JHH	16
Implementation	1-4-2008	1-7-2008	JHH	8

Table 4.5: template for resource estimates of Process engineering

If the workload per project is known one can calculate the resulting workload per employee per week. If this is matched with the available hours for each employee a workload per week can be calculated.

Resources from the operational depots

Next to the resources from Process & Policies also the resources from the operational depots need to be included. Often the input of operational is required for bringing in experience, gathering data, testing during the pilot or evaluating a potential change. We will include this by explicitly assessing the time which is required from which (type of) *employee*, how many of these employees, from which *depot* and in which *period*. An example of the resulting data format is presented in the table below.

Begin	End	Depot	Resource	Number of resource	Hours / wk
1-2-2008	1-4-2008	Arh	Transport manager	1	4
1-2-2008	1-4-2008	Arh	Supervisor	2	5

Table 4.6: template for the resource estimates of the depot staff required to participate in implementation

4.6 Applying the criteria model to current projects

A participative approach is essential to gain commitment for the portfolio model as well as to improve the model. The previous four sections described the criteria for each of the four aspects of the criteria model. In this section we describe how we tested the model by applying it to the most of important projects together with the project leaders. These projects were chosen in cooperation with the manager Process Engineering. The main criterion in selecting these projects was whether the projects were in or near implementation. Next to that it was ensured that some projects of each of the project leaders were included, to make sure that everyone gained experience with the model. The full list of projects is displayed besides.

{…left out…}

Also we decided that the project managers would have the responsibility to gather the data for their projects. Otherwise there would be a serious risk that the approach would eventually be to labor intensive to be functional in daily practice. Next to that project managers already gained some experience with the model and there feedback could be integrated in the model.

As we remarked in the first chapter, shortly before this research project was started, a project management structure was introduced. This structure segmented project management in four phases:

- In the first phase a business case was developed, which could be used to gain approval of the board;
- After approval a detailed planning would be made during the initiation phase, which needs to be signed off by regional management at the end of the phase, to assure commitment of the operational staff for the pilot or implementation;
- The third phase of the project management structure is the actual execution, in which all activities are carried out to reach the objectives of the project;
- Finally, after the third phase, the last phase is the project closing. In this phase all aspects of the business case are evaluated critically based on the practical experiences during the project.

Table 4.7: projects evaluated to test criteria model

This phase is meant to evaluate the effort during the project. For each of these phases a documentation template was developed in PowerPoint style. We modified the template to include all the criteria of the model developed for project assessment. Figure 4.7 below

displays the key elements of the documentation of each phase. Elements which were added or updated are marked bold.

Figure 4.7: Update of project documentation structure to include evaluation criteria

Practical problems and solutions

Initially the project managers had some difficulties with applying the criteria to their projects and the required gathering the involved data. The most important problems were:

- Although they used the defined components of the business cases, there was a large variety in how information was written down or calculated;
- Benefits depend heavily on the scope and form of the implementation. Project leaders were used to wait until a later stage (e.g. after the pilot had been executed) to determine the scope of actual implementation;
- Although project leaders were used to estimating cost they found it very difficult to make the benefits quantitative;
- Project managers were used to plan only phases of the projects. They often only planned the first phases of the project.

We solved the problem of different scales and formats by more detailed formats and working instructions for the project management structure, to ensure that a common format and scale was used.

The conclusion that benefits depend heavily on the actual scope of implementation is valid. However the process of developing a business case is meant to make the most important assumptions explicit. With explicit assumptions it is much easier to discuss the benefits and estimate their certainty. This was an important notion for the project managers to realize. During the process they often concluded that it was helpful to make the underlying assumptions explicit.

Although it would be unwise to focus on quantitative benefits only, it is useful to make benefits quantitative as much as possible, because it is much easier to compare them. Developing methods to quantify benefits also helps to make more explicit assumptions about the impact of the project. Especially in the case of service quality this proved quite hard initially. Together with the quality department we developed a system to link projects to failure codes. This also helped to stimulate the discussion between the two departments about quality improvements.
The problem that projects were often only planned until the end of the pilot is essentially also a problem of assumptions. However since benefits are only realized when projects are implemented it is important that also these assumptions are made explicit. To make the planning process more convenient the department started to use Microsoft Projects during this research project.
Eventually, when these initial problems were solved as described above, project managers clearly noticed the added value of the extended project structure. It helped them to think of all important issues and made it possible to compare different projects.

4.7 Conclusions

The sub-question which was considered in this chapter is how projects could be measured in terms of benefits, risks, organizational impact and resources. For each of these four aspects a number of criteria were defined. To determine criteria for benefits the ambitions of the programs were considered as well as the literature about operational strategy. This resulted in eight criteria: cost, service quality, time, capacity, CO2, HR continuity, HR motivation and customer experience. For each of these criteria indicators were determined. Risks will be measured in terms of probability and impact. A list of risk categories was developed based on literature as well as practical experiences. These categories will be used to assess projects. Organizational impact will be measured by considering the impact on the jobs in the operational organization. For this purpose a list of potential negative impacts was developed based on literature and discussions with the operational management. The impact will be measured on a three point scale. Finally resources will be measured by considering both required resources from the Process and Policies department as well as resources from operational depots required for implementing projects. We have developed standard formats for all of these criteria. To improve the model and gain commitment the model was applied to a set of the most important projects for 2008. Some practical problems were solved and afterwards the project leaders as well as management felt that the model helped to gain insight in a project.

Chapter 5 – Selecting projects and reviewing the portfolio

The previous chapter described the criteria to compare projects in the portfolio and tested the criteria by applying them to a set of current projects. In this chapter we will describe how these data about individual projects can be used to select new projects and to review the execution of projects.

During the problem analysis we described that the deployment of projects is an important problem. In section 5.1 we will discuss the question how to involve regional management to ensure their commitment to the deployment of the projects. In the next section we will describe how the data about individual projects can be integrated into the portfolio management, to support selection and review decisions. The next two sections, 5.3 and 5.4, will describe a blueprint for the selection and review processes. Based on these blueprints we initiated a selection and review process in the organization. The experiences gathered during the implementation are described in section 5.5 and 5.6.

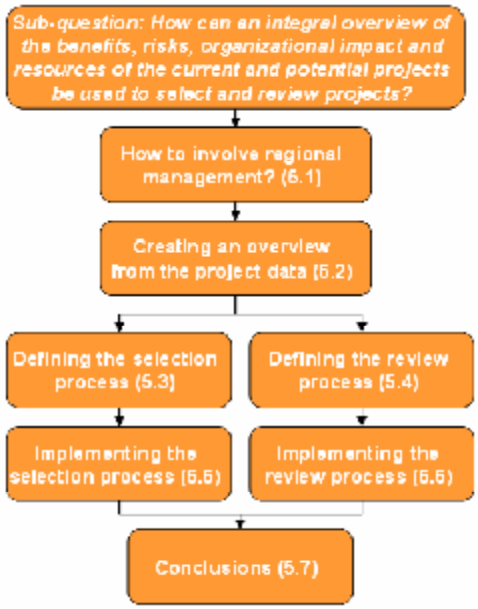

Figure 5.1: research approach of this chapter

5.1 How to involve regional management?

Within TNT Express Benelux regions have a considerable responsibility for their own results and freedom in achieving their targets. The functional departments of the headquarters are considered as supporting units that need to explain the added value of their projects to the management of the regions. This produces a creative tension between the operational focus of the depot management and the more strategic focus of the headquarter units. However, as we described during the problem analysis in section 1.3, this leads to deployment problems. Often projects in which considerable time was invested are rejected or put on hold shortly before implementation, because of other priorities of the regional management. Therefore gaining commitment of the regional management is an important consideration when selecting and reviewing projects. The data gathered during the portfolio analysis should facilitate a constructive discussion between the regions and headquarter about the priorities, which should ensure a smooth running operational process as well as important strategic improvements for future.

There are two important functions at the depot which play an important role in the process. These are the depot operations manager and the general manager. The depot operations manager is responsible for the three operational departments of a depot (transport, warehouse and office). He or she will be most directly affected by the implementation of projects, because employees need to be dedicated to support the projects. Therefore the depot operations manager is often directly involved in planning

and executing projects. Next to that the general manager of the region is directly responsible for the profit and loss account of the whole region and will be affected in his or her results by the benefits of the projects. He or she will have an important role in selecting the projects. (For more detail about the structure of the regions refer to appendix A.I). We will elaborate more on the involvement of regional management when describing the selection and review process in detail in sections 5.3 and 5.4. The next sections describe how the data of individual projects can be integrated to an overview at portfolio level.

5.2 Creating an overview from the gathered project data

One of the essential characteristics of portfolio management is that the whole portfolio is considered. Therefore it is necessary to create an overview of the data gathered for individual projects. Below we describe this process for respectively benefits, risks, job impact and resources. The data gathered when testing the criteria model on the individual projects, as we described in the last sections of the chapter 4, is the basis for the overviews presented below.

Benefits

An important reason to introduce the benefits in the model is that project managers are stimulated to think on (strategic) business level. To stimulate creativity challenging ambitions were formulated. Therefore it is logical to express the cumulative sum of benefits as percentage of the ambitions. The graph below visualizes the contribution of the assessed projects as sum of the ambition.

{...omitted...}

Figure 5.2: the (quantitative) benefits of the evaluated projects shown as percentage of the ambitions

One problem is that for a considerable number of projects and benefits it is only possible to express the contribution in a qualitative manner, because either it is uncertain what the benefit will be or there is no suitable scale. These benefits were rated on a five point scale and the table below summarizes the benefits.

{...omitted...}

Table 5.1: qualitative benefits of evaluated projects

Risk and impact

Essentially risk and job impact are the factors which could prevent projects from realizing its benefits. Therefore benefits need to be judged relative to the risks and impact. We developed a method to integrate risks and impact in one matrix. Before this could be done it was necessary to develop one scale for risk, because a project could have multiple risks with different impacts and probability. The first assumption we made is that the risks level of a project is comparable to the highest –individual- risk in the project. If a project for example has three risks which are respectively of medium, medium and high level,

the risk level of the project would be high. To classify the individual risks we assumed that a partial failure is comparable to a considerable delay and a complete failure to a serious delay. Next to that we segmented the probability scale in three even parts. This allowed us to develop a 3x3 matrix to classify the risks, which is displayed in figure 5.3 below.

Considering job impact we made the same assumption that the project job impact is equal to the highest individual job impact of the project. Based on this classification a 3x3 matrix could be developed showing the job-impact and risk of the individual projects.

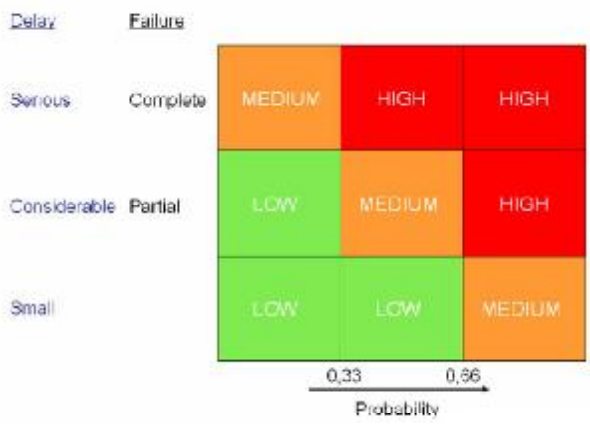

Figure 5.3: classification method for risks

{…omitted…}

Figure 5.4: Risk-impact matrix

Resources depots

The fourth aspect of the model is resources. This can be separated into resources from the department itself (project managers, engineers) and resources for the depots (which are required to support pilots and implementations. To provide insights in the resources required from the regions and graph was developed which shows for each quarter and each department how many hours are required for the planned projects. The planning is based on the consensus reached with the general managers of the depots (for further details see the next chapter). Figure 5.5 below shows the graph for depot Schiphol in 2008.

{…omitted…}

Figure 5.5: resources required from depot Schiphol in 2008

Resources Process and Policies

For the resources of the department itself a comparable graph was developed in which the total workload for each project leader is shown for each quarter. An example is depicted in figure 5.6 below.

{…left out…}

Figure 5.6: overview of hours required from one project leader in a year

Database
To minimize the administrative effort needed to provide the overviews described in the previous paragraphs we designed and implemented a database. We describe some more details about the database in appendix B.VII.

5.3 Defining a selection process

In the previous section we described how the data of individual projects can be integrated on portfolio level. In this and the next section we respectively describe how the portfolio data can be used to select projects and review the portfolio. We developed these process definitions in close cooperation with the manager Process & Policies. First step was to define the objectives for the processes. Next the key activities, participants and planning were considered.

Objectives
The objectives we defined together with the manager Process & Policies for the selection process are twofold:

- To align the projects with the strategic programs and ambitions;
- To create commitment of the regional management for the implementation of the projects.

The first objective is directly related to the objective of this research project. To align individual projects with the strategy an explicit selection based on the strategic vision and ambitions is necessary. To achieve the strategic goals actual deployment of the projects is essential and therefore upfront commitment of regional management is essential.

Key activities and participants
In a discussion we concluded that it would be most suitable to separate the strategic consideration from the regional preferences. This is done to exclude political motives from the strategic decision process. Because strategic alignment is the main priority of the system it is was logical to start with a strategic pre-selection. To ensure commitment of the regions it is wise to make full use of the freedom left after the pre-selection to incorporate the needs and preferences of the individual regions. Therefore in a discussion with the manager Process & Policies we decided to segment the process in three phases which we will discuss in more detail below.

Phase 1: Pre-selection based on strategic gaps
The inputs for the pre-selection phase are the quick scans which are conducted in the idea creation process, which we described in chapter 3. Based on the benefits which were discovered during the first phase the potential projects can be matched with the strategic ambitions and the gaps which still exist on these ambitions. Projects with a large contribution to an ambition with a large gap will logically receive priority. This pre-selection is done by the management of Operations and Services (headquarters) because they have the responsibility for the operation strategy of TNT Express Benelux.

Phase 2: Selection based on operational needs
To create commitment of the regional management operational needs of regions need to be taken into consideration. After the pre-selection there is room left to make choices about in which regions to start with the implementation and there is also room to sequence the projects in other ways. To explicitly balance strategic improvement with operational needs of depots this discussion is done by matching projects with operational problems of regions. This is done in a discussion between program managers and depot operations managers.

Phase 3: Explicit approval by functional and regional management
The last phase is the explicit approval of the plan by the functional management of the headquarters and the general managers of the regions. Because both aspects were taken into consideration when developing the proposal, this could be a ceremonial activity.

Planning
An important question is how often a the selection process should be executed. First consideration is that the process takes a considerable effort. Second the project selection should be in line with the budget- and year plan-cycle of the business unit, because benefits, resource requirements and impact are an important part of the budget and plans. By the efforts required and because the two mentioned cycles are yearly cycles, we together with the manager Process & Policies decided to execute the cycle once a year. A considerable disadvantage of this choice is that it limits the room to introduce quick changes and improvements through the year. The impact of this limitation should be an important consideration when evaluating this process.
The most suitable months to execute the selection process are the last two months of the year, because then a considerable number of quick scans executed during the rest of the year can be taken into consideration. Secondly, also because the implementation can start in the first months of the year, when operational volumes are at the lowest levels. Therefore the selection process is executed in the months November and December.

The three phases in the selection process, their participants and the planning are summarized in table 5.2 below.

	Pre-selection	Proposal preparation	Final approval
Objectives	o To align the projects with the strategic programs and ambitions o To create commitment of the regional management for the implementation of the projects		
Key task	Matching results of the quick scans with the gaps and the strategic ambitions	Match projects from pre-selection with operational needs of depots	Approve commitment of functional and regional management
Participants	Manager O&S, Manager P&P, Manager PE, PM's	Manager PE, PM's and DOM's	Manager P&P, Manager PE & GM's
Planning	November	November / December	December

Table 5.2: phases in the project selection process with objectives, tasks, participants and planning

5.4 Defining a review process

In the previous section we described the blueprint of the project selection process. To achieve results the projects need to be managed such that they deliver their benefits, on time and with minimal impact on the operational process. Below we discuss the review process we defined in cooperation with the program managers, regional management of depots and manager Process & Policies. This is done in a comparable sequence as the last section, discussing respectively objectives, key activities, participants and planning.

Objectives

The overall objective of the review process is to ensure that the plans developed during the selection phase are executed. To achieve this objective we argue that a number of objectives need to be covered. First, to finish all projects on time and with the projected benefits the risks of a project need to be managed. In this process the projects with either a high risk, a high impact or both, should receive close attention of regional management as well as the program managers. This is visualized in figure 5.7. Next it is an important objective to minimize the impact on the operational process of the depots. Thirdly there are important interrelations between projects and regions. For example it could be necessary to finish the implementation in one region before the implementation in the next region could be started. Another example is that the deliverable of one project is input for the other and thus the project can not be started before the other is finished. Next aspect to consider is, when projects divert from their objectives or planning it could be necessary to reconsider the yearly planning, considering whether projects should be postponed, stopped or shifted to another quarter in the planning. Finally it is important to learn from the implementations of projects.

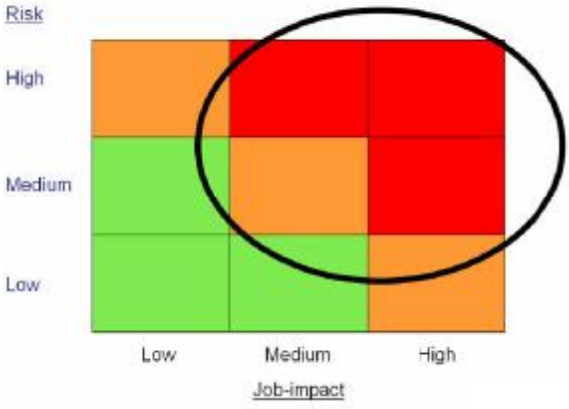

Figure 5.7: Focus of risk management should be on the high risk – high impact projects

Considering the five objectives mentioned in the previous paragraph there are also some objectives which do not belong to the review process. First details about projects should be excluded from this process, because in the review process we consider the overall picture. Secondly as we already noted, the whole review process the focus should be on the key risks and impacts and projects which do not have much risks or impact can be excluded. Therefore the five objectives for the review process which we defined together with the program managers and manager Process and Policies are:

- Manage key risks such that benefits and planning are achieved;
- Minimize impact of projects on operational process;
- Manage interrelations between projects;
- Reconsider yearly planning considering important disruptions;
- Establish lessons learned with implementing projects.

Key activities
As we already noted in the first chapter portfolio management should consider the whole set of potential as well as current projects. Next we also already noted that reviewing the lessons learned is an important objective of the review process. Therefore future, current and closed projects should be discussed during the review process. Below we describe the most important considerations for each category.

Discussing future projects
Considering oncoming projects it is important to discuss detailed planning of the pilot or implementation. Next to that the key risks and impacts need to be discussed to create awareness with the depot operations managers. They should monitor these key risks and impact next to the project leaders.

Reviewing current projects
For the current projects a comparable exercise can be done. Considering the benefits it is important to discuss the projects where benefits are still uncertain. If practical experience shows signs that a project might not achieve the planned benefits the review would be the correct location to discuss the issue. If the ratio "benefits versus risks" has shifted considerably this could be a good reason to put a project on hold or cancel it. If a sufficient amount of time and resources was planned for the project, this could be a trigger to discuss a potential replacement with another project. Next to that risks and impact should be considered discussing whether they deviate from planned impact and whether planned actions prove successful in practice. Finally if projects deviate from planning the impact on related projects should be considered. Because there is an overview of the whole portfolio alternatives for changing the planning could be evaluated easier.

Evaluating finished projects
Bottom-line for the evaluation will be the assumptions made in the business case. The first question is whether the projects actually delivered benefits and whether they are measurable. It is important that there is consensus between the program managers and the depot operations managers about the actual benefits, so that they won't be questioned in a further stage. Next to that the risks and impact need to be discussed. There always will be unexpected events in a project. If such a thing happens the question is whether that was anticipated as a risks or impact and if so whether the planned preventive action is executed and was sufficient. This discussion can produce valuable insights for risks and impact management in future.

Participants and planning
In discussions about this review of the projects regional management indicated that they had a need for a regular status update considering their depot. It was agreed that the program managers would visit each depot once a month to give the general manager and the depot operations manager an update and discuss relevant projects (either oncoming, current or closed). Next to that we argue that many issues are relevant for all regions because most projects are implemented in all regions. Therefore next to the depot review

it is important to have a portfolio review considering the highlights which are of interest to the whole community. Because only the highlights will be considered a lower frequency is appropriate. Therefore we decided together with the manager Process & Policies a frequency of once each quarter would be appropriate. The most important participants will the depot operations managers and the program managers, because they are mainly responsible for the implementation issues.

The discussion above is summarized in table 5.3.

	Depot review	Portfolio review
Objectives	o Manage risks such that benefits and planning are achieved o Minimize impact of projects on operational process o Manage interrelations between projects o Reconsider yearly planning considering important disruptions o Establish lessons learned with implementing projects	
Key tasks	o Evaluate finished projects o Review current projects o Consider oncoming projects	
Participants	GM, DOM, PM's	DOM's & PM's
Planning	Each month	End of quarter

Table 5.3: two review settings of the portfolio review process

An important remark is that the process described above requires considerable amounts of time from the management. This can be justified when one considers that otherwise separate meetings would be scheduled to discuss individual issues, which can now be discussed integral in the depot and portfolio reviews. However the frequency needs to be evaluated critical when some experience is gained in practice. Important considerations are whether the frequency is high enough to discuss critical issues and low enough to be feasible next to daily business.

5.5 Practical experience with project selection process

Section 5.3 described a blueprint of the project selection process which we developed in cooperation with the manager Process & Policies. To test whether this process would function in practice we executed a planning process according to the blueprint. This was done in the last months of 2007, to develop a planning for next year. The give an overview of the projects the data was summarized as we described in section 5.2. A proposal for potential projects for next year was developed based on the business cases developed in the first months of the project. This resulted in a list of (pre)selected projects with their strategic benefits, risks and resources required. This list can be found in appendix B.V. Next step was to develop a proposal for the general managers was to assess operational needs on the depots. This was done in cooperation with the Operations support manager and the Quality control manager. This resulted in the table below which

links problems at depots to important projects. For example depot Schiphol (Sp8) and Arnhem have productivity issues. The projects which contribute the most to productivity are Preplanning, Shortrec and GPS BoCo. The resulting proposal would be to start implementation of these projects in these two depots.

{…omitted…}

Table 5.4: the relation between operational problems in regions and individual projects

The table below shows the eventual proposal which gained consensus from all involved parties. It includes some projects which are executed in other depots and other projects which will be implemented selectively in 2008 (based on the needs of the depots). The proposal was discussed in two plenary and one individual meeting with the general managers. Specific needs, wishes and constraints lead to some additions and changes to the initial proposal. The resulting resource load was investigated in more detail and presented in the second meeting (for an example see section 5.3).

{…omitted…}

Table 5.5: the project planning for 2008 which was created during the selection process

Afterwards there was a positive attitude towards this process because:

- It provided a balanced view of both risks and benefits;
- There was considerable impact for the impact of project on the operational process of the depots;
- The gathered data provided a good base to conduct the discussion on a strategic level.

5.6 Practical experiences of the portfolio review workshop

The previous section described how the blueprint of the selection process was executed to test its practicality. In this section we describe how the review process, as we described in section 5.4, was initiated in practice. Because the research project was finished at the start of 2008 only the first steps are documented in this report.

A cooperative review process and active risk management was new for both the regional management as well as the program managers. Therefore we decided together with the manager Process & Policies to execute a workshop to develop the review process further in a participative approach and to initiate the first steps. Below we describe the content of the workshop. Afterwards we discuss the follow-up of the workshop as far as it was initiated at the end of this research project.

Review workshop

To initiate the review process a workshop was executed in which we discussed the different items of the review process with the depot operations managers, project leaders, program manager and the manager PE. In the workshop the progress reporting system was discussed, but also the different roles in idea creation and risk management. Also we did an initial review of the planning which was developed for 2008 and discussed the impact of some recent insights. Below we discuss the different items in more detail.

Progress reporting

Regional management has an important role in the management of the implementation of projects, as we described in section 5.1. Therefore it is important to discuss the progress of projects with them on a regular base. The program managers presented the proposal, which includes the two items of the review process we defined in section 5.4 (monthly depot review and quarterly portfolio review). Next to that the depot operations managers also receive the progress report from the project structure (refer to section 4.6) once every two weeks. An example of a progress report is shown in figure 5.8. After a discussion all participants agreed that this was a good methodology to monitor the progress of the different projects.

Key activities	Status	Deadline	Progress	Responsible	Issue	Next Step
1. Kick-off meeting with local management		week 2 2008		PM		
2. Cleaning/Loading data and discuss first results		week 5 2008		PM	Availability of data cleansing tool cause some problems. Tool will be available on February 11	Put pressure on central GO-team and prepare all needed data in order to minimize delays
3. Analyse results		week 8 2008		PM – Region	Due to current resource issues, current planning may not be met	Discuss issue with depot and try to adapt planning possibly in combination with other projects on other depots
4. Create tactical planning (based on 5 day data)		week 9 2008		PM		
5. Signing off business case by local management		week 10 2008		PM – Region		

Figure 5.8: example of the (biweekly) progress report

Risk management

The second item discussed during the workshop was risk management. Since risks are the factors which cause delays or failures, the management of risk is essential for the success of the projects. To develop understanding and commitment for cooperative risk management we discussed a case. In this case we discussed the roles in the different phases of the project structure. In figure 5.9 the directly related items in the project structure are circled.

First we interactively assessed the potential risks for a hypothetical project. It was stressed that the regional management has an important role to critically evaluate the risk analysis done by the project leader during the business case and initiation phase.

Second we discussed what could happen during the execution of the project. This resulted in the conclusion that some risks (e.g. implementation resistance and resource availability) are the primary responsibility of the depot operations manager and other risks (e.g. technical risks) are the responsibility of the program manager.

Third we discussed the evaluation phase. In this phase it should be critically evaluated whether all actual risks were identified and whether the proposed actions were effective. This should help to improve the risks management system for the future.
Afterwards there was a common understanding that risk management is important and that cooperation between the program managers and depot operations managers is essential for success.

Figure 5.9: risk management items in the different phases of the project structure

Idea creation
Next to progress reporting and risk management also idea creation was discussed. Although idea creation is not a part of the review process but a separate process, it is important that regional management is involved in the idea creation process to incorporate their practical experiences. It was stressed that a structured idea creation process is necessary to eventually guarantee a sufficient set of potential projects to select the best from. After a discussion it was agreed that the depot operations managers will also get access to the idea list (refer to section 3.2). Potential ideas and projects will also become an integral part of the quarterly review.

Discussion of recent development considering the yearly planning
As we described during the previous section, during this research project a yearly planning for all projects in 2008 was agreed. One of the important reasons to have a portfolio review in which all the depot operations managers are present, is that there are many precedence relations between the projects and thus changes in the planning affect the other projects. At the moment of execution of this workshop (approximately 1.5 month after agreement had been reached about the planning) there were already some developments which made changes in the planning necessary. These were discussed during the review and practical solutions were found either during or shortly afterwards the workshop. Information gathered about the resource impact of different projects, as we gathered during this research project, was essential to consider the impact of changes.

Evaluation of the workshop
An anonymous internet survey was conducted to verify whether the participants viewed the objectives as achieved. The results of the survey are discussed in full detail in Appendix B.VIII. The number of respondents was low, so the results need to be judged critical. However, because the opinions were quite consistent, we draw the following indicative conclusions:

- Strategic programs are clear and applicable to participants
- The progress reporting, risk management and idea creation systems are clear and viewed as effective by the participants
- There is room to improve the discussion about the changes in the year planning
- The quarterly review is viewed as valuable by participants

Follow-up of the workshop
As we described in the previous paragraphs all important items in the review process were discussed and there was mutual commitment between the program managers and the depot operations managers. As we mentioned at the start of this section, this research project ended shortly after the workshop. Further experiences need to be gathered with executing depot as well as quarterly reviews; however, we argue that, since there is knowledge and commitment, this is a good starting point for the review cycle.

5.7 Conclusions

The question which was central in this chapter was how the data gathered about benefits, risks, organizational impact and resources could be used to select the right projects and to review their implementation. First we argued that involvement of the regional management is essential to get their commitment for the implementation of the projects. Secondly, we showed how the data about individual projects could be summarized in a benefits graph, a risk-impact matrix and a resource overview. These overviews were an important tool to get the oversight required to make decisions at the portfolio level. The next necessary step was to define blueprints of the selection and review processes together with the involved management. To align the projects with the gaps on the strategic ambitions as well as to gain commitment of the regions for the implementation of the projects a three step selection process was proposed. To review the portfolio a depot review as well as a portfolio review were proposed. For both the selection and review process objectives, key tasks, participants and planning were determined. The last step we executed was to initiate both processes in practice to gain insight in the practical applicability of the blueprints. The whole selection process was executed and afterwards regional and functional management had reached an agreement about the planning for 2008. The data gathered about the different aspects of projects and the structured process were considered an important success factor in this process. As to the review process only the first steps could be taken before the end of this research project.
Looking back we can conclude that a well defined process, a participative approach in which regional management is closely involved and a good summary of the project data are all essential prerequisites to select and review projects. In the next chapter we will

consider what steps are required to implement the whole portfolio management system in a sustainable manner in the organization.

Chapter 6 – Integrating portfolio management in the organization

In the previous chapters we described different elements of portfolio management. We described how to create awareness of the strategy and how to develop new ideas. We also we described which criteria to use to evaluate projects and how to use these criteria to select and review these projects. In this chapter we will discuss how these processes fit together to ensure a strategical aligned project portfolio. Based on this discussion of the total portfolio management model we discuss the organizational arrangement which are necessary to ensure a sustainable inplementation of portfolio management.

In section 6.1 we will start with a discussion of how the different processes fit together. This will lead to the conclusion that some elements need to be considered in more detail. This will be done in the remaining sections of the chapter. The next section, 6.2, will consider which role division and meetings are required to support this process model. The following section will discuss the management scorecard resulting from the project structure. Finally in section 6.4 we will summarize the supportive information and knowledge management structure which we developed to support the program structure.

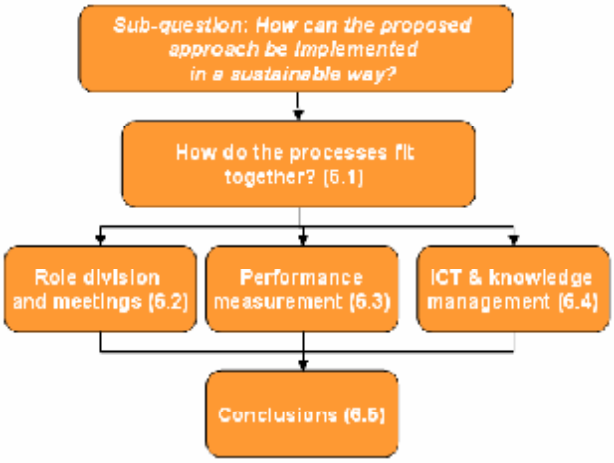

Figure 6.1: research approach of this chapter

6.1 How do the processes fit together?

The objective of this research project was to create a link between the projects and the strategy. In the different chapters of this report we described different parts of the portfolio management system. It is important to understand that these components should fit together to achieve the objective. The idea creation process, which we described in the third chapter, should ensure that the best projects are available to select projects from. The selection process, which was described in the previous chapter, uses project data to select projects according to the strategic programs. Finally the review process, which was also described in the fifth chapter, ensures that the risks and impact of projects is managed in such a way that projects are deployed on time and deliver the planned benefits.

These three core processes are related to the processes, activities and documents on project level. As we described in the fourth chapter four phases are distinguished in the project structure of Process and Policies: business case development, project initiation, project progress (or execution) and project evaluation. Next to these four phases in the idea creation process a quick scan is added as an intermediate phase between an idea and a comprehensive business case. There is a clear link between this project structure sequence and the three core processes of portfolio management. In the idea creation phase the quick scan is an important activity. The project selection phase is clearly related

to the business case. The portfolio review is directly related to the initiation and progress of projects. One important remark which should be made is that the relation between project selection and portfolio review is not purely sequential. As we stated in the previous chapter it was chosen, based on practical reasons, that there would be one complete selection cycle each year. However when reviewing the portfolio it is important to critically review the current projects and when the benefits of projects become doubtful or better ideas are developed there should be space to include new projects.
Next to these project- and portfolio management activities, there are also strategic, supportive activities and processes necessary to control the system. Although they were not the primary focus in this research project we will discuss them shortly in this chapter. First of all, the strategic programs which function as base for the project selection and review should be refined regularly. As we considered in the third chapter it is important that the programs are not only refined but that changes are deployed such that ownership and awareness is created. Next to that, we argue that the system should be complemented with a knowledge management process in which the lessons of individual projects are shared such that the performance is improved. Finally the system needs to be complemented with a performance measurement system to create opportunities for management to steer on the performance of the group. The whole system is summarized in figure 6.2.

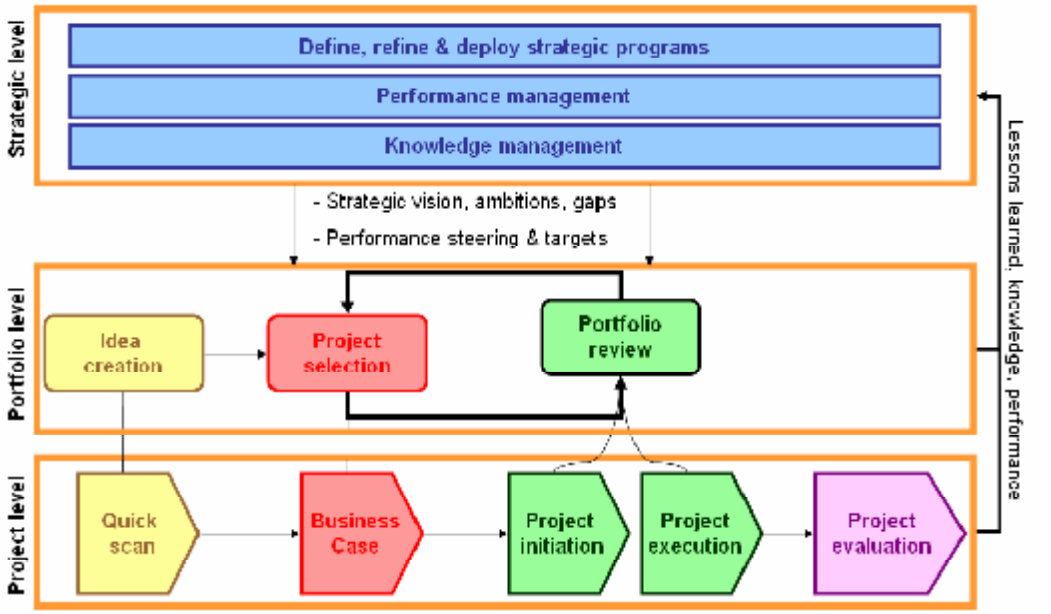

Figure 6.2: the different levels in the portfolio management organization and the interconnections

We used this system-scheme as a base for an interactive discussion with the manager Process and Policies, manager Process Engineering and the two program managers to discuss responsibilities within the system and supportive system and processes required. In section 6.2 we discuss the role division in this system. Next we consider also which

meetings are required to ensure continuity of the system. In the next section, 6.3 we discuss performance measurement. In the final paragraph we discuss the supportive ICT system and the knowledge management process.

6.2 Roles division and meetings

To assure a sustainable implementation of each task or activity, described in the system-model of the previous section, should have a responsible person. Based on a discussion with management we considered each element in the scheme. First it is important to note that we consider the current functions as fixed, because a change in the function structure was not realistic on the short term considering that shortly before the new function of program manager was introduced.

The basis for dividing the roles was that each level in the system model has its own leading function. The project leader is responsible for the project management of his projects. The program manager is primarily responsible for the portfolio management activities considering his programs. Finally the manager Process & Policies and manager Process Engineering are responsible for the strategic level activities. This is summarized in figure 6.3 and below we discuss the function profiles in more detail.

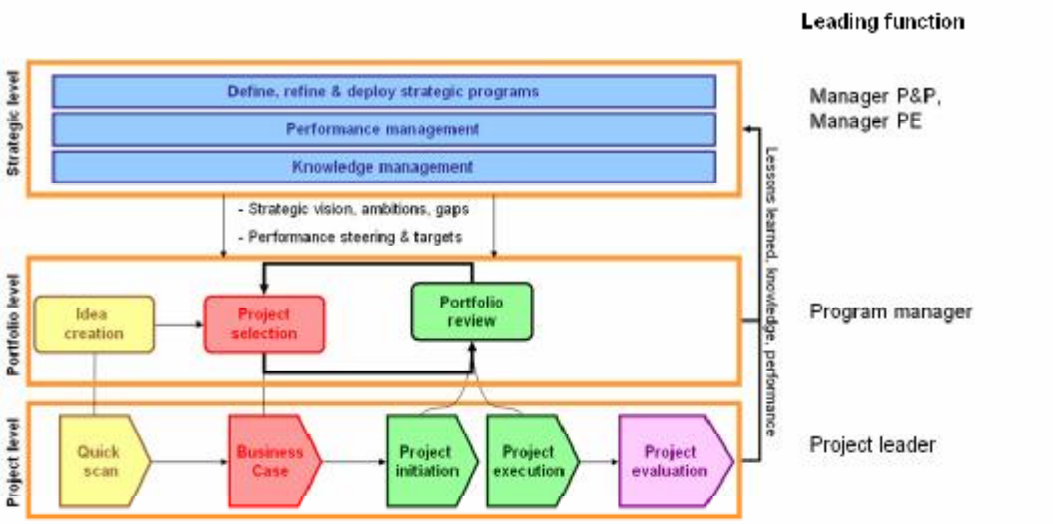

Figure 6.3: responsibilities in the portfolio management system

The first role to consider is the project leader. Just as they have been doing for years the main fraction of their work is managing and executing pilots and implementations in project form. Based on the new portfolio structure they will be more explicitly involved in the broader environment of their projects, because they develop business cases based on concept studies. Also bringing in ideas for new projects, during brainstorm and based on daily experiences, is an important part their role. Finally it is very important that they evaluate their experiences during the projects and document them in the defined format.

The program managers have the important role to assure that the projects count up to the ambitions of the programs. They assure that projects are focused at delivering business benefits on time, by coaching the project managers in the identification and management of the risks of their projects. Next to that they are more aware of the interdependencies between projects and assure that they are managed and taken in account in planning projects. Third, they are in close contact with the depot operations managers to involve to assure their commitment to the projects and the cooperatively manage the key risks and impacts of the project portfolio. To keep the programs running they assure that new ideas are developed in a continuous fashion and that the best are developed into projects for their programs. All these tasks should enable them to present real benefits to the business based on the efforts within their programs.
In the new structure the manager Process Engineering will have a more supportive role. She will coach the project leaders and program managers, mainly considering their professional functioning and development. Next to that she will lead the negotiation with the general managers about the overall project planning and is responsible for the strategy awareness of her group. She assures that the group documents their experiences and takes them into account with future projects. Finally she is responsible for the overall effectiveness of the group, considering innovation, development and productiveness (will be discussed in more detail in the next section).
On the background the manager Process & Policies will have an important role in aligning the programs with the business strategy. He will be involved more directly in the discussion about the business and overall operations strategy, at the board level. He will drive the reviews of the programs and ambitions and assure that they keep in line with the corporate plans and the plans of other departments. He has also an important role in transferring this knowledge to the department.
As has been discussed in the previous section the depot operations managers and general managers have also an important role in the system, to assure that projects are deployed. They will be involved in selecting and reviewing the projects to create common commitment to the projects.
This role division is summarized in table 6.1 below.

Role	Key tasks
Project leader	o Bring in ideas o Execute concept studies, define business cases o Execute pilots & implementations of projects o Evaluate projects & document experiences
Program manager	o Plan & report at strategic benefit level o Manage key risks & impact o Manage interdependencies between projects o Communicate with depot ops managers o Drive innovation process
Manager PE	o Coach project leaders & program managers o Negotiation with general managers about project planning o Strategy deployment o Knowledge management o Manage group performance

Role	Key tasks
Manager P&P	o Participate in business strategy & cross-functional discussions o Drive program & ambition reviews o Strategy deployment
Depot ops manager	o Monitor key risks & impacts o Provide resources for projects o Contribute to evaluations of projects
General manager	o Discuss project planning

Table 6.1: role division in the portfolio management model

The different meetings have an important role in managing the system. These plenary settings are the right moment to consider the overall picture and assure that activities are in line with other activities. Certainly because portfolio management considers a whole set of projects, meetings play an important role in the process. In the previous chapters we already discussed several different settings. For idea creation we discussed the brainstorm meeting in the third chapter. A brainstorm workshop or other idea workshops techniques (refer to Ch. 3) could be repeated upon demand (considering the idea list and how many quick scans are in process). Next to that we discussed the selection process in chapter 5, which essentially consists of three meetings. The pre-selection meeting could be combined with the program review, which we will discuss later on. The second step, the development of a proposal based on depot needs could be combined with a portfolio review. Finally the project plan for next year should be approved in an approval meeting with all general managers.
Considering the review process we proposed two review settings. The depot review and the portfolio review. Further details were discussed in section 5.4. As we mentioned in the previous section the strategic perspective didn't receive much attention yet. After a discussion with the manager Process and Policies, we proposed a program review to be held twice a year. This review will consider the strategic programs and whether they are still in line with the business strategy. Secondly performance will be considered based on a performance measurement system, which we will discuss in the next section. The table below summarizes the discussion about meetings.

Meeting	Participants	Objectives	Frequency
Idea creation meeting	PE	o Brainstorm about new ideas o Consider technical developments o Select best ideas the develop business case	Based on need
Project plan approval meeting	Manager P&P, Manager PE, GM	o Decide on which projects to implement where in next year, which quarter	Once a year
Depot review	PM's, DOM, GM, Manager PE	o Review planning, risks and impact of projects of that specific depot	Each month
Portfolio review meeting	PM's, DOM's, Manager PE	o Review risks and impact of projects in implementation phase	Each quarter

Meeting	Participants	Objectives	Frequency
		o Stop projects which fall behind expectations o Discuss lessons learned o Prepare proposal for general managers based on business cases	
Program meeting	Director O&S, Manager P&P, Manager PE, PM	o Refine programs & ambitions based on strategy o Pre-select projects & balance portfolio o Manage organizational performance	Twice a year

Table 6.2: meetings in the portfolio management system

6.3 Management reporting and performance indicators

In the previous section we already mentioned that strategic activities are required to control the system. Next to refinement of the strategic programs performance management is an important issue at strategic level. A comprehensive set of performance indicators is the base of a good performance management system. In this section we discuss a set of performance indicators which we proposed to manage the system.

Performance indicators have different roles in management. They signal where priorities are, measure the effectiveness of the team and function as starting point for improvement actions (Sandstrom & Toivanen, 2002; Pawar & Driva, 1999). Before this research project, there was no formal set of performance indicators. Therefore a comprehensive set of performance indicators need to be defined and reviewed on a regular base. The four perspectives of the broadly accepted Balanced scorecard (Sandstrom & Toivanen, 2002) served as basis for the determination process. To gain a comprehensive view a Balanced Scorecard looks into the customer, financial, internal and innovation perspective.

First we concluded that the customer and financial perspective converge in the benefit aspect of the criteria model. In a sense the depots in which the projects are deployed a customer. Their experiences are measured in the CSI. This is a web-based survey which is filled in by regional management after a project is finished and includes aspects as communication and participative approach. The overall score on the CSI will be the second performance indicator in the combined customer/financial perspective.

The second perspective, the internal perspective, we look at the process of realizing the benefits. As was remarked before resources, risks and impact need to be managed to make projects successful and the indicators should focus on these aspects. Finally the innovation perspective takes a pipeline view of the innovation process of the department. It measures the throughput at different stages in the pipeline.

The resulting indicators are described in the table below. The database which we introduced has been designed to provide a large part of this information (for more detail see next section). This can be used as input for the program review meeting, where the organizational performance of the department is reviewed.

Perspective	Indicator	Description
Customer / financial	Benefits	Cumulative benefits as percentage of ambition (e.g. cost, quality, time, etc.)
	CSI	Group score on the client survey
Internal	Risk management	% of the risks which were managed such that they had no impact (based on self-survey in the evaluation
	Deadlines met	Average delay (days per project) considering the original planning
	Deviation from planning	Average deviation from resource usage (hours per project)
	Lessons learned	# of lessons learned document in the projects
Innovation	# ideas	The number of ideas which are noted in the idea list
	# concept studies	The number of projects for which a business case has been developed
	# projects implemented	The number of projects where implementation was finished

Table 6.3: performance indicators in the developed management scorecard

6.4 Supportive ICT structure and knowledge management

A considerable amount of information about projects is gathered during the portfolio management processes described before. An essential success-factor in implementing such a structure is an easy to use information structure to support the process. This structure should comprise of a linked set of tools which minimize the effort required for data entry and documentation and produce useful overviews of the gathered data. Therefore the final aspect we discuss considering the implementation of portfolio management in the organization is the ICT- and knowledge management system.

During the research project we developed a comprehensive ICT-structure. This structure consists of tools on project as well as portfolio level. On project level, we developed a number of sheets to support benefit analysis for the quality, cost, capacity and time criteria. Next to that Microsoft Projects is used to make a milestone and resource planning for the projects. Together with information about the risks and job impact this is compiled into a business case, which is entered into a PowerPoint format.

On portfolio level we developed a database in MS Access to create an overview of the portfolio considering benefits, risks and job impact. The information from the business cases is entered into this database. The database automatically produces reports about these three aspects which can be used in program management (for more details about the database refer to appendix B.VII). Next to that MS Projects can be used to produce aggregated planning's and resource loading overviews. The functions of the different tools are summarized in table 6.4 below. The interrelation between the different tools is depicted in figure 6.4.

Tool	Platform	Function
Benefit sheets	Excel	o Calculate expected benefit on a common scale
Business case	PowerPoint	o Give a overview of benefits, risks, impact and resources of a project
Project planning	MS Project	o Plan milestones and resources usage of project
Project database	Access	o Give aggregated overview of benefits, risks and impact of project portfolio
High level planning	MS Project	o Give aggregated overview of planning and resource usage of portfolio

Table 6.4: different tools within the ICT structure

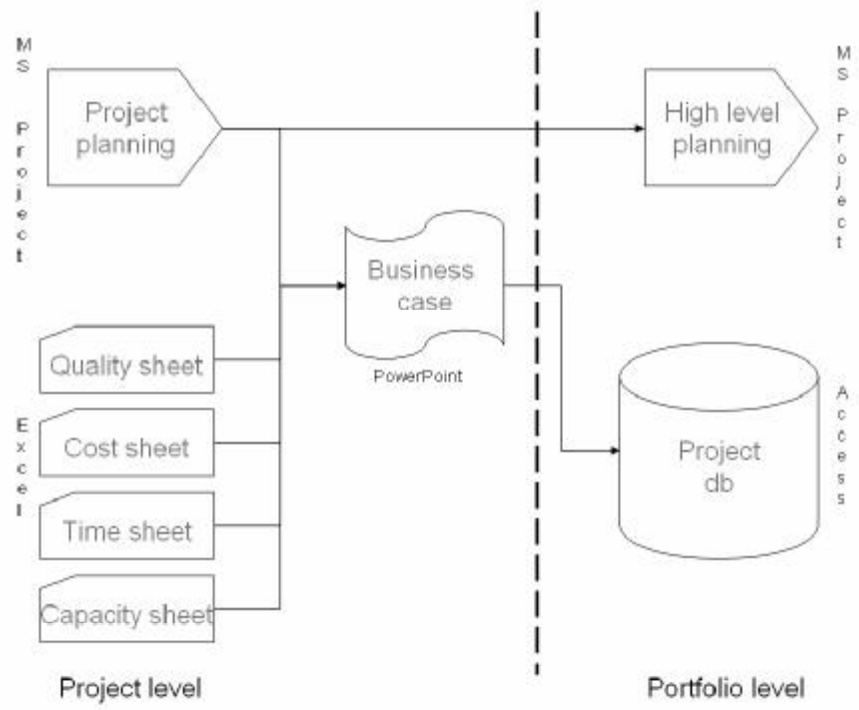

Figure 6.4: overview of the supportive ICT-structure

Knowledge management

In section 4.7 we already noted that many aspects of projects (e.g. risk, benefits, etc.) were difficult to estimate in advance. Because a correct estimation of these aspects to base the selection of projects on is essential for the system to function, it is also important that the group keeps learning. Therefore it is important that projects are evaluated afterwards and experiences are documented. Important aspects to consider are:

- Were all benefits identified and estimated in a correct fashion?

- Were all risks identified and were sufficient preventive actions identified and executed?
- Was the proposed planning realistic? Which factors caused specific delays?

As we described when discussing the role division, project leaders are responsible for evaluation their projects and documenting their experiences. This is done in the standard format of the project structure and stored in a project map on the network drive, such that they can be found in a later stage. The manager Process engineering is responsible for the overall knowledge management of the group and should consider all experiences on a regular base to make sure that important lessons are shared with the whole group. Possible opportunities to share the important lessons are the team meetings, workshops as they were organized within these projects, or just by email.
If this is done in a structural way it is likely that the group will improve in its prediction and will produce more realistic business cases and planning's in the future. The process is summarized in figure 6.5 below.

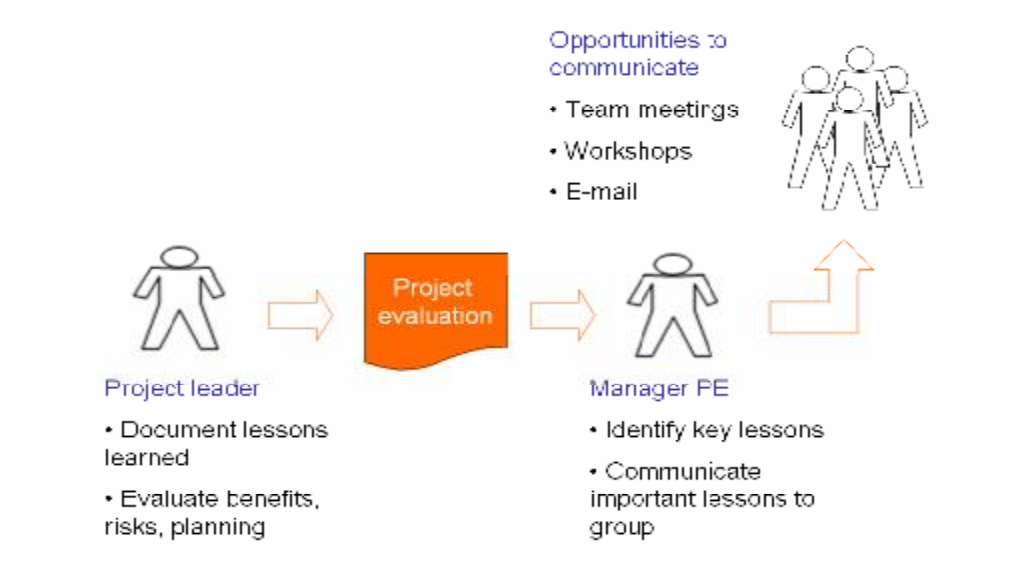

Figure 6.5: blueprint of the knowledge management process

6.5 Conclusions

The central question in this chapter was how the proposed approach, which we discussed in detail in the previous chapters, could be implemented in a sustainable manner. First we discussed the relation between all the different elements in the solution. Our solution added an intermediate level between the strategic activities and the project management activities. The three core activities of the portfolio management level, which need to be sustained to assure an aligned set of projects, are idea creation, project selection and portfolio review. An important note for a successful implementation is that project selection and portfolio review are not sequential activities, but are interconnected.

Therefore it is important to consider potential projects throughout the year, certainly when other projects are cancelled. Secondly a role division was proposed which fits the three level approach. The project leader is responsible for managing his projects. The program manager is responsible for portfolio management activities for his programs. And the manager Process engineer and Process and Policies are responsible for the strategic activities. These strategic activities are refining the strategy, knowledge management and performance management. For performance management we developed a Balanced Scorecard together with the management. Next to that, we developed a blueprint for a knowledge management process. Finally we also discussed the ICT-structure which we developed to support the organizational structure. Next to project level documents a portfolio management database is an important tool to get an overview out of the extensive quantity of project data.
To summarize, this research project developed a comprehensive approach in which portfolio management is the link between strategic programs and actual projects. To sustain the three core activities of the portfolio management system, we developed a corresponding role and responsibility division, a customized management scorecard, a knowledge management process and a matching ICT-structure.

Chapter 7 – Conclusions and discussion

In chapter 1 we discussed a research approach which consists of five sub questions to answer the main research question. In the first section of this chapter we will summarize the answers to these questions and consider which conclusions could be drawn considering the main research question. In section 7.2 we will discuss the results from the perspective of TNT as well as from a scientific perspective. Based on the discussion we will make some recommendations for necessary actions and further research.

7.1 Conclusions

This research project was initiated with the objective *"To align current and future projects of the Process & Policies department with the strategy"*. In section 1.2 we described an initial problem analysis. We concluded that there are three problem areas which are strongly interrelated: strategic alignment, internal control and deployment of projects. Based on insights from literature we concluded that these problems are caused by a lack of portfolio management. Next to that we concluded, based on literature and the problem analysis, that the benefits, risks, organizational impact as well as resources should be taken into consideration when comparing projects. This led to the following main research question:

How can the project portfolio be optimized based on the strategy considering risks, benefits, organizational impact and resources?

Below we will briefly summarize the conclusions on all five sub questions and then draw some conclusions considering the main research question.

1. *How can the current strategy be translated to the context of the Operations & Services stream in such a way that ownership is created?*

It is essential that employees are aware of the strategy and can apply it to their daily practice, certainly for a group which is directly involved in innovation, like the Process & Policies department. We did an extensive analysis of the strategy formation and communication process within TNT Express Benelux in the past few years. A large amount of time was spent by senior management to define a strategic roadmap until 2010. However we concluded that the employees of Process & Policies had not been directly involved and that there has been only a limited amount of communication about the strategy. Therefore we developed a workshop to interactively discuss the strategy. Afterwards employees indicated in a survey that both the business unit as well as the operations strategy were clear to them and applicable to their daily practice. Therefore we conclude that an interactive approach to communicate strategy can create the necessary ownership.

2. *How can the best ideas be identified from which select potential projects can be selected from?*

In the problem analysis we concluded that the ideas for projects were generated on an ad hoc base. Based on literature and the problem analysis we concluded that a structured process was necessary to generate the best ideas from which potential projects can be selected from. With the insights from literature we engaged in a discussion with the management to define a blue print for an idea generation process. To initiate this process we conducted a brainstorm session together with the project leaders and program managers and an initial selection of ideas was made. For these ideas a quick scan was initiated. The results of the quick scans were not available before the end of the research project. We conclude that it is essential to structure the process of idea creation in such a way that idea generation, initial selection and idea development are conducted in a structured way.

3. *How can projects be measured in terms of benefits, risks, organizational impact and resources?*

The central process in portfolio management is the selection of projects. In chapter 1 we proposed a broad approach in which benefits, risks, organizational impact and resources are taken into consideration when selecting projects. Based on a literature study and discussion with the project leaders we elaborated a list of criteria and indicators for each aspect. As to the benefits we take into consideration the impact on cost, quality, capacity, time, CO2 emission as well as HR related aspects as customer experience, HR continuity and HR motivation. Considering the risks a list of potential risks has been developed which are scored considering their impact as well as probability. Organizational impact is scored based on the job-impact. To estimate this impact we developed a list of potential negative impacts on the operational jobs, which are scored based on their impact. Finally as to the resources both the resources of Process & Policies are taken into consideration as well as the resources of the depots in which the projects are implemented. To test the practical applicability of this criteria model the project leaders evaluated a set of the most important projects for 2008 according to the criteria. Based on their remarks we made some modifications to the model and some additional recommendations for the application of the criteria. Afterwards the project leaders indicated that the model helped them to investigate all relevant aspects of their projects. We conclude that the extensive list of criteria proposed during this research project helps to identify all relevant aspects of projects and that a practical set of indicators is essential for the applicability of the model.

4. *How can an integral overview of the benefits, risks, organizational impact and resources of the current and potential projects be used to select and review projects?*

The information about projects needs to be used to evaluate current as well as future projects. Based on an interactive discussion with the management we defined a blueprint for the project selection as well as the portfolio review process. An important starting

point for defining these two processes was that the regional management should be involved to assure their commitment to the implementation of projects.
First we defined a three step selection process. This process starts with a pre-selection based on strategic gaps by the senior management and program managers. Secondly, projects are matched with operational problems of depots together with the depot operations managers. Finally, the plan is approved by senior management as well as the general managers of the regions. Based on practical considerations the full selection process will be executed once a year. This process has been executed once during the research project. This resulted in a mutual commitment of both regional management and senior management about the project planning for 2008, which was largely contributed to the structured approach used and the gathered data.
Secondly, we defined a review process together with the relevant managers. This consists of a monthly depot review for each region and a quarterly portfolio review in which all regions are present. It is important to note that the plan defined during the selection process is not fully fixed and that during portfolio review the plan can be altered based on new insights. To initiate this process we developed a review workshop, in which progress reporting, risk management and idea generation were discussed interactively with the depot operations managers and the program managers. Afterwards participants indicated that they considered the system to be effective to manage to the project portfolio in a cooperative way. Further experiences were not available before the end of this research project.
We conclude that a structured selection and review process is required. Strategic alignment as well as commitment of the regions need to assured by these processes.

5. How can the proposed approach be implemented in a sustainable way?

In a project based organization, portfolio management is the link between the strategic and the project level. The three processes which need to be sustained on portfolio level are idea creation, project selection and portfolio review. Also the links with the project and strategic levels need to be sustained. To guarantee commitment and participation of the relevant employees we developed the different parts of the system in a participative way and initiated the activities as far as possible to get practical feedback.
To support the system we defined a corresponding role model in cooperation with the management, in which there is a function responsible for each level in the system. Next to that during this research project we developed a supporting ICT-structure in which a portfolio database plays a central role. Although strategic level activities were not the main focus of this research project, we defined a management scorecard and a knowledge management process.
We conclude that a participative development method is essential to get commitment for the system and that the other elements of the organization (role division, ICT-structure, management reporting, knowledge management) need to be aligned with the proposed portfolio management model.

Based on the discussion above of the conclusions as to the different sub-questions we draw the following conclusions regarding the main research question:

- There are three essential processes at portfolio management level which need to be sustained: idea creation, project selection and portfolio review;
- These processes need to be linked closely to project management activities and strategic processes;
- A broad criteria model is required to capture both strategic alignment as well as regional commitment to deployment and to assure internal control;
- Strategy awareness is essential for the system to function and can be created by discussing strategy in an interactive way;
- Other elements of the organization, e.g. the role division and ICT-structure, need to be in line with the portfolio management model;
- A participative approach in developing the system is essential to gain commitment of the relevant employees.

7.2 Discussion

In this section we will reflect on the conclusions drawn in the previous section. Based on this reflection we make some recommendations for further action and research. We will start with the reflection from TNT's perspective and next we will consider the scientific perspective.

TNT's perspective

The objective agreed with TNT to develop a system to bring current and future projects in line with the strategy. An integral approach was taken and a customized system was developed. A participative approach was adapted to assure commitment of the relevant staff and management. All items have been tested in practice to a certain extent and practical feedback was incorporated into the system. Therefore we consider the objective of this research project largely met.

Some remarks should be made. A strategic system should prove its validity in practice by showing a clear impact on business results. In view of the long horizon of projects this cannot be evaluated at this point in time. We argue that the best guarantee at this point in time is that the system is in line with recent insights in literature, customized to TNT's situation, developed in a participative way and tested in practice as far as possible. However we recommend that the results of the system are evaluated by the end of 2008 to consider whether real impact on the business results has been realized.

Risks

At the start of this research project we identified a list of potential risks (refer to Appendix B.I). Some of the risks remain a continuous threat to the system and should get continuous attention. We mention the three most important ones. First the system requires that the project leaders and management invest considerable time in portfolio management activities. It should be assured that the gathered data are used effectively and that the system is applied in a flexible way. Next to that the system should not constrain the creativeness and involvement of the employees of Process and Policies and become a sort of bureaucracy. During the research project we regularly discussed this potential risk and we argue that there are a number of reasons why the system will not constrain the employees but rather empower them:

- The responsibility for results is placed downwards rather than upwards. By introducing the function of program managers and by closely involving the employees of Process & Policies in portfolio management processes, employees have a considerable voice in the strategic and tactical planning
- The system was developed in close cooperation with the employees. Since their experience was incorporated into the system, it is more likely that the system is sustainable in practice
- In the idea creation process there is explicit room for employees to express their ideas and it is visible what is done with the ideas
- An ICT structure was developed to minimize the administrative workload
- In the strategic and quarterly reviews the regional management and the board serve as critical sparring partner for the program managers, which creates a natural interest for the program managers to sustain the system

We conclude that maximal effort has been done to involve employees, provide room for them to express their ideas and minimize the administrative workload. However, for the next coming period of time, there should be critical attention for keeping the administrative workload on a minimal level and to assure that the data generated are actually used.
Next to that there is a risk that risk-averse behavior is stimulated by risk assessment. Although the current portfolio is rather risky, there should be awareness of this risk. Finally the system could induce a focus on quantitative benefits. Therefore we argue that it is important that there remains awareness of these three risks.

Other points requiring management attention
We would like to draw attention to the risk that project selection and portfolio review is executed in a sequential fashion. To mitigate this risk there should be a continuous awareness that the negotiated project plan should be adapted to important new insights.
Secondly, we want to point out that especially the review and idea creation process have only been initiated. These processes need critical attention from the management for the next period of time to assure that they are continued. Finally, we notice that at the end of this research project it became clear that the global operations organization is developing a comparable system for improvement project portfolio management. Attention is required to fit between the global and Benelux system.

Recommendations
Based on the risks and other points described above, we make the following four recommendations to TNT:

1. Evaluate the real impact on business results bt the end of 2008
2. Preserve continuous awareness of the following risks:
    a. The system becomes a bureaucracy due to extensive data requirements and inflexible adoption
    b. The system stimulates risk-averse behavior.
    c. The system stimulates focus on quantitative benefits
    d. The system becomes inflexible when project selection and portfolio review are executed in a sequential fashion

3. Since idea creation and portfolio review have only been initiated, these processes require attention from the management in the next period of time
4. Attention is required for the fit of the portfolio management system with the comparable system which the global operations organization is developing

Scientific perspective
The main topic of this research project, portfolio management, has received much attention in scientific literature in the past few years. The developed system is in line with recent insights in literature. It is a relevant addition to the current research because of two reasons. First the area of application, namely in a process optimization organization, is relatively new. Most research about portfolio management in literature considers portfolio management in the context of New Product Development and ICT-Development. Next to a new area of application, the description of the system we developed is more detailed than in most papers. We discuss e.g. the role division, the required meetings, ICT-structure and the detailed criteria model.
As we already remarked the system needs to be judged as to its impact on the business results. This can only be done in a longitudinal case study of about 2 to 3 years. When discussing the literature we already noted that only a few of such studies were found in literature. This could be a recommendation for further research. Next, as we already remarked, most descriptions of portfolio management systems in literature are rather high-level. More detailed case studies could be an addition to this field of research.

Therefore our recommendations to the scientific community are:
1. Execute more longitudinal case studies to test the effectiveness of portfolio management systems
2. Describe more detailed cases in literature

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Glossary

DHO	Divisional headquarters. TNT has two divisions Express and Mail.
Director O&S	Manager Operations & Services (board representative of operations)
DOM / Depot ops manager	Depot operations manager
GM	General manager (manager of depot/region)
Manager PE	Manager Process Engineering (part of Process & policies)
Manager P & P	Manager Process & Policies
NGO	Non-governmental organization
NPD	New Product Development
Operations & Services	Operations & service is the stream within TNT Express which is responsible for all aspects of the operational organization. O&S exist of a number of department: Quality, Process & Policies, Safety, Health & Environment and Security
PL	Project leader
PM	Program manager
Portfolio management	Portfolio management can be defined as achieving the desired combination in an assortment of projects that enables a company to achieve its growth and profit objectives associated with its corporate strategy without exposing the company to undue risks (Mikkola, 2000).
Process & Policies	Department within the stream Operations and Service which is responsible for the important improvement projects considering operational processes, tools and equipment
Stream	Express Benelux exists of five functional streams which consist of a number of departments.
TNT	Thomas Night Transport. A international mail and express company which originate from a merger between the Dutch Royal Mail and the Australian Express company TNT.

Appendix A – Context and history

This appendix consists of a number of documents describing the context of this project or developments before this research projects was started.

Appendix A.I – Product, competitors and organization of TNT Express Benelux

This chapter will provide an overview of the company and its environment.

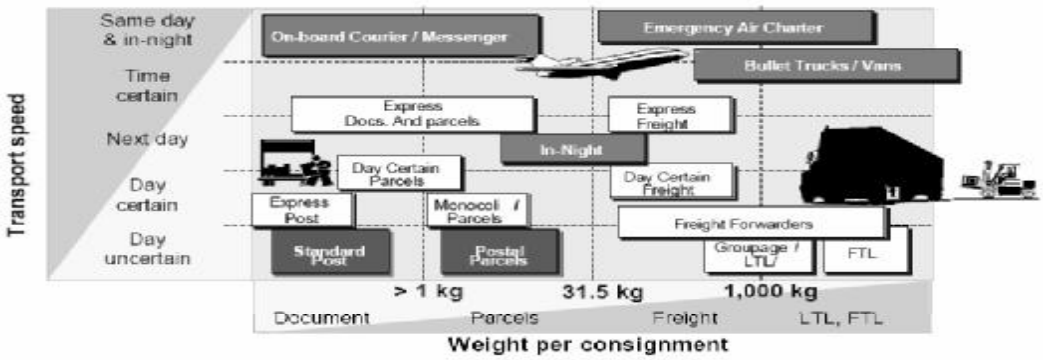
The Express market

The Express market and product is closely related to other mail and postal services. To gain some insight in the market first the different types of products will be described. Next to that the history of the market and some recent developments are sketched. Finally the competitive arena is considered.

Product

Part of the large logistics market is the Courier, Express and Parcel (CEP) market. Within this market one could distinguish products based on:

- Delivery time & time guarantees: packages could be delivered same day, day certain or even time certain;
- Weight and dimensions: usually everything below one kilogram is considered a document. Between one and 31,5 kilogram is considered a parcel and above that a shipment is named freight;
- B2B, B2C or C2C: packages could be delivered business to business or business to consumer. Consumer delivery is a different market because the delivery locations are more dispersed and customers are often not at home during the day;
- International or domestic.



These different criteria lead to multiple transport services. Although definitions vary same day delivery is usually referred to as courier. Express shipments are mainly business to business and time or day certain. (postal) Parcel delivery refers to packages which have less strict delivery requirements and require less speed. Many parcel deliveries are business to consumer or consumer to consumer. The characteristics of the different market are summarized below.

Characteristic	Courier	Express	Parcel
Speed	Very fast	Fast	Slow
Price	Very high	High	Slow
Reach	Domestic	Domestic & international	Domestic & international
Customer	B2B, C2C, B2C	B2B	B2B, C2C, B2C
Mode	Land	Land & air	Land
Network	Direct	Hub & spoke	Hub & spoke
Entry barrier	Low	Very high	High

History and developments

Since 1956 there is a free flow of goods between the different states in the US. This is more or less the starting point of the parcel industry (although UPS already recently celebrated it's 100th anniversary). In the mid seventies the airline market was deregulated and some years later also the interstate trucking traffic. These were the mayor milestones in the development of the domestic market in the US. Fedex and UPS were quick to utilize these opportunities and since then have been the mayor brands in the domestic market in the US. Originating from Australia TNT was the pioneer of Express in Europe. Starting from the UK they were the first to offer full coverage through Europe.

In the past 50 years the Express market has grown to reasonable size. The factors driving the growth in the last decennium are:

- *Globalization of manufacturing*: many manufacturing activities are displaced or outsourced to Asia which induced considerable good flows;
- *Growing importance of speed in manufacturing*: due to shortening product life cycles speed becomes more and more a competitive factor;
- *Just-in-time* and other popular concepts stress low inventories which induces additional Express shipments;
- *Service contracts*: most expensive assets are offered with service contracts which induce Express shipments of replacement parts;
- *Reverse flows*: due to increasing environmental efforts firms focus on reusing, refurbishing and recycling used assets;
- *E-business*: the advance of e-business has induced many ad hoc shipments from more distant suppliers.

Competitive arena

The global Express market is dominated by four mayor players. It is difficult to give a consistent set of figures on this market because everyone defines the boundaries in a different way (e.g. Parcel delivery is part of the postal division of TNT but Fedex combines this with Express service in one network). The following figures give some indication of the global developments.

{...omitted...}

Figure 2: Revenue, income and growth (based on 2006 annual reports)

Traditionally DHL and TNT have the strongest networks in Europe while UPS and Fedex have a strong position in the US market. Al parties are pursuing strong positions in the expanding Asian and especially the China and India markets. Considering the Dutch market the following graph displays that both TNT and DHL have strong positions. GLS and DPD are parcel networks.

{...omitted...}

Figure 3: Dutch market (2005, internal data)

Products

The following figure displays the product focus of the different parties in the market.

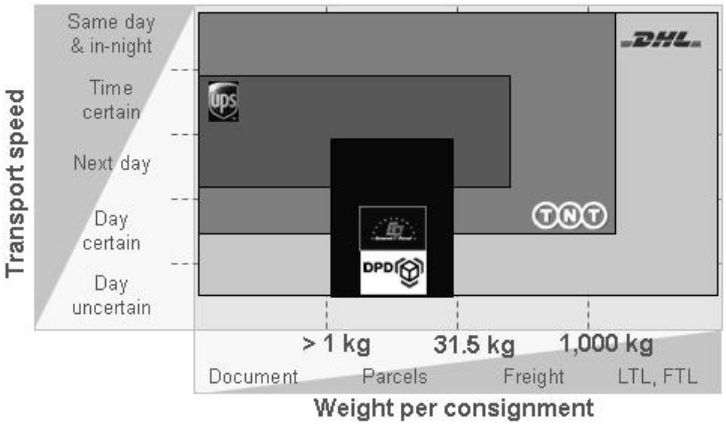


Figure 4: product focus of different parties in the market (source: www.tnt.nl)

Product portfolio TNT

Recently TNT Express globally harmonized it's product portfolio. The next day delivery options consist of four option, 9:00, 10:00, 12:00 and Express. The packages sends with the last service are delivered during the afternoon. Next to these options there are two economy express options, for packages which have less urgency.

	Internationaal		Domestic	
	Huidig Portfolio	Nieuw portfolio	Huidig Portfolio	Nieuw Portfolio
9:00 Express	✓	✓	✗	✓
10:00 Express	✗	✓	✗	✓
10:30 Express	✗	✗	✓	✗
12:00 Express	✓	✓	✓	✓
Express	✓	✓	✓	✓
12:00 Economy Express	✗	✓	✗	✗
Economy Express	✓	✓	✗	✗

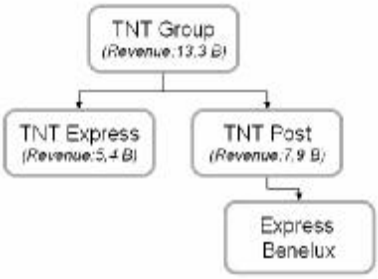
Strategy
The four players have some common elements in their strategic outlook for the next years (based on annual reports and investors outlooks), which are:

- *Acquisition and integration*: recent years have shown a large number of acquisitions of all parties (especially DHL) and will continue inorganic growth path in the near future.. TNT and DHL have launched large integration programs to integrate these businesses in the network and to harmonize product offerings;
- *Network and capacity expansion*: most firms are aggressively pursuing network expansion in Asia (especially China and India). DHL and TNT are also rapidly expanding their network in Eastern Europe. These expansions are combined with large investment for building up domestic networks and expanding the aircraft fleet and air hub capacity;
- *Environmental concerns*: transport is heavily dependent on fossil fuels. To reduce the associated risks and to contribute to solving this societal problem many companies consider green strategies as important;
- *Process re-engineering and technology*: since there is much price pressure in this market all firms are aggressively pursuing process improvement strategies and utilizing new technologies (like track & trace) to facilitate cost breakthroughs and to improve customer service;
- *Security*: due to terrorism security measures have increased significantly, which has large operational consequences for all Express delivery companies.

Also some specific remarks could be made. DHL has had the most aggressive acquisition strategy, also because they are trying to gain share in the US market and to become market leader in Europe. This has lead to integration problems and considering the financial data DHL is performing significantly worse then the other three mayor players. This has lead to a strong focus on shareholders returns for the next coming years. UPS pursues a centrally lead operations model. Combined with there experience and there strong position in the US market they are currently the best performing party considering profit margin. TNT has been the party which focused the most on special products and environmental programs.

Group, division, business unit

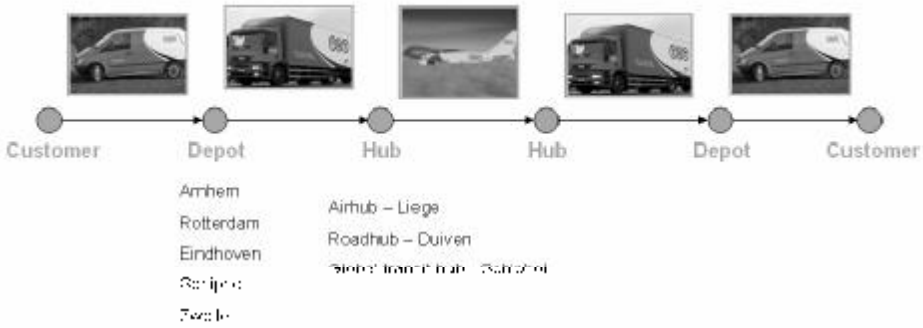
TNT Group is a global operating delivery organization. It originated from the Dutch Royal Mail organization PTT. Just before the split of the mail and telecom part in 1998, the company procured the Australian Express operator TNT. Originally they used the TPG and TNT brands concurrently, but in 2006 TNT was introduced as the only global brand. TNT Express is divided in geographical business units and a separate group which support the global network.



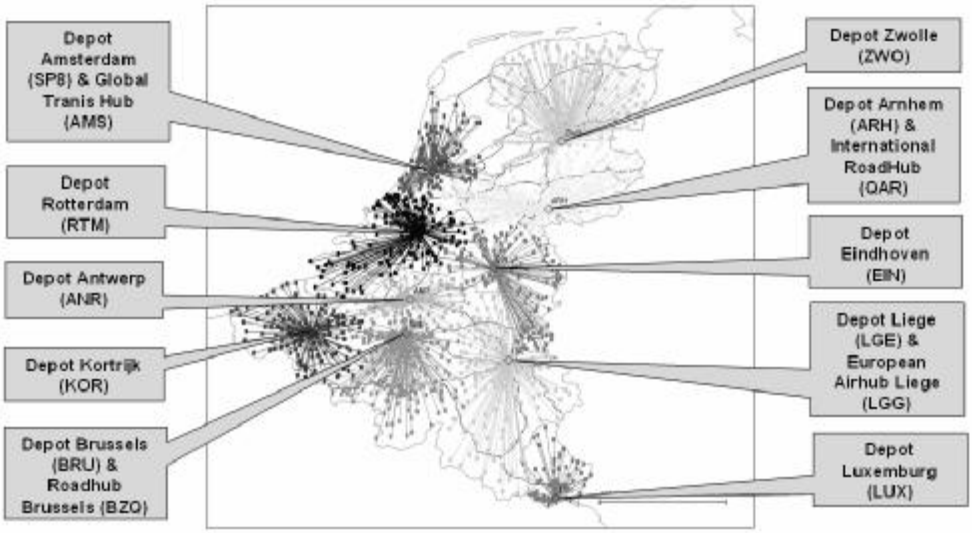
Express network and process

The Express network exists of road and air connections. The next day international service, which represents the largest part of the business, functions in a daily cycle. Depending on the location the packages are collected somewhere in the afternoon. In the Netherlands the packages are transported to one of the four main depots (sometimes through some support depots), located in Arnhem, Rotterdam, Eindhoven and Schiphol. Within these depots shipments are consolidated to be send to one of the three hubs. These are the European road hub in Duiven, the air hub in Liege or the global transit hub at Schiphol. The former processes the air shipments which are not shipped with TNT's own aircrafts. During the night the packages are shipped across Europe or around the globe. In the early morning the process is repeated in reverse order.

	2006
Number of consignments	217M
Number of tons carried	4,7M
Number of depots/hubs	1.231
Number of vehicles	23.462
Number of aircraft	44

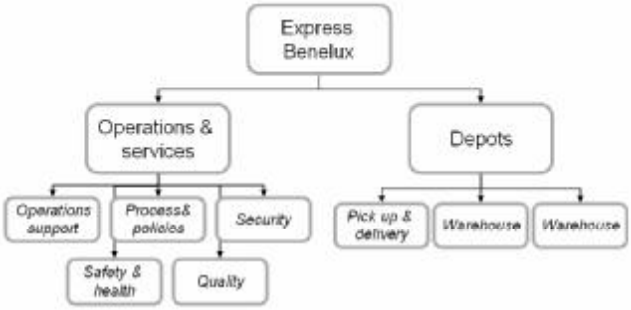


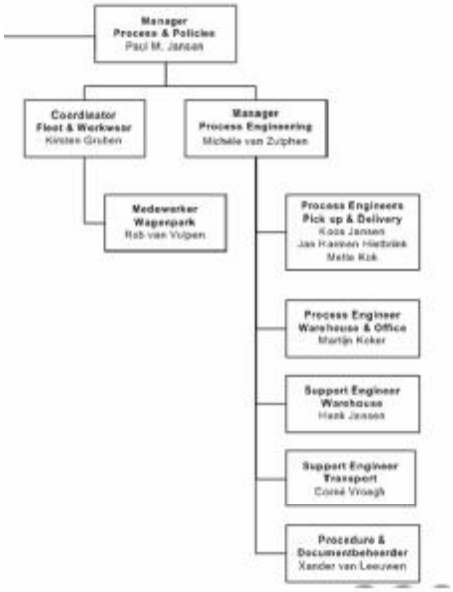
The figure below shows the total network of the Benelux which also depicts the additional depots and the road hub in Belgium and Luxemburg.



Operational organization

The operational organization of TNT Benelux consists of a number of staff departments at the depots which have a considerable independent position. The operational organization of the depots consists of three important parts. The pick-up and delivery organizes the transport part of the process. The warehouse organization is responsible for the cross-docking and consolidation within the depot. Finally the office organization is responsible for the planning, sales and customer service tasks.





At the headquarters of Benelux in Houten houses the stream Operations & services which consists of five staff departments, respectively Operations support, Process & policies, security, safety & health and quality. The assignment is carried out within the department process and policies. `The department has two main responsibilities. First it is responsible for procurement activities related directly to the operational process, like the vehicle park. Secondly the department houses the process engineering department which execute and implement process improvement projects.

Appendix A.II – SWOT analysis of Process & Policies department

This SWOT analysis was executed by the manager Process & Policies early 2007.

Strengths • Enthusiastic employees • Strong tendency to support the depots • Visibility at the depots of the Process Engineers	**Weaknesses** • No intake process • No focus • No priorities • No clear goals • Split expertise between Transport and Warehouse/Office • A lot of projects overrun the schedule • Low deployment of process improvement/changes • Activities department • All attention is fixed on short term improvement, no attention on change Project goals are set on implementing instead of realizing the ultimate goal
Opportunities • Developments at Divisional Head Office to make a step forward in process changes The Board promotes change (not more, but smarter)	**Threats** • low commitment depots to rolled out projects • lower deployment due to number of projects (too many projects to handle)due to pressure on the depots there is less time left for implementation of projects

Appendix A.III – List of initiatives of Operations and services in the roadmap

The list below was composed as input of the Operations and Service stream to the strategic roadmap development process of the business unit Benelux.

{...omitted...}

Appendix A.IV - Projects killed during strategy workshop

The list below is the result of an extensive discussion during the strategy workshop executed by CapGemini in July 2007, which resulted in a large number of projects being eliminated.

{...omitted...}

Appendix A.V – Program structure of Process & Policies

{…omitted…}

Appendix A.VI – Function profile strategic engineer

1. Doel van de organisatorische eenheid

De afdeling Process & Policies maakt onderdeel uit van de stafafdeling Operations & Services binnen TNT Express Nederland. De afdeling faciliteert en ondersteunt de operationele onderdelen van de 4 Express regio's en Sameday binnen TNT Nederland op het gebied van process engineering en fleet & workwear activiteiten.

De operationele onderdelen zijn verantwoordelijk voor de dagelijkse uitvoering van het express en sameday proces. De afdeling Process Engineering is georganiseerd rondom een aantal programma's die direct een bijdrage leveren aan het realiseren van de strategie van TNT Express Benelux. Binnen deze programma's worden de projecten uitgevoerd t.b.v. ontwikkeling en implementatie van processen, procedures en informatiesystemen. Daarnaast ondersteunt de afdeling de operatie met advies voor proces & organisatie analyses, best-practise sharing & proces optimalisaties, verbetervoorstellen, procedure- & documentbeheer voor geheel Operations & Services, functioneel beheer voor informatiesystemen, regio support werkzaamheden en kennismanagement. Binnen deze voortdurend in beweging zijnde omgeving is de Strategic Engineer Operations werkzaam. De programma's zijn van strategisch belang. De projecten en ondersteuningsactiviteiten zijn wisselend van tactisch en operationeel belang.

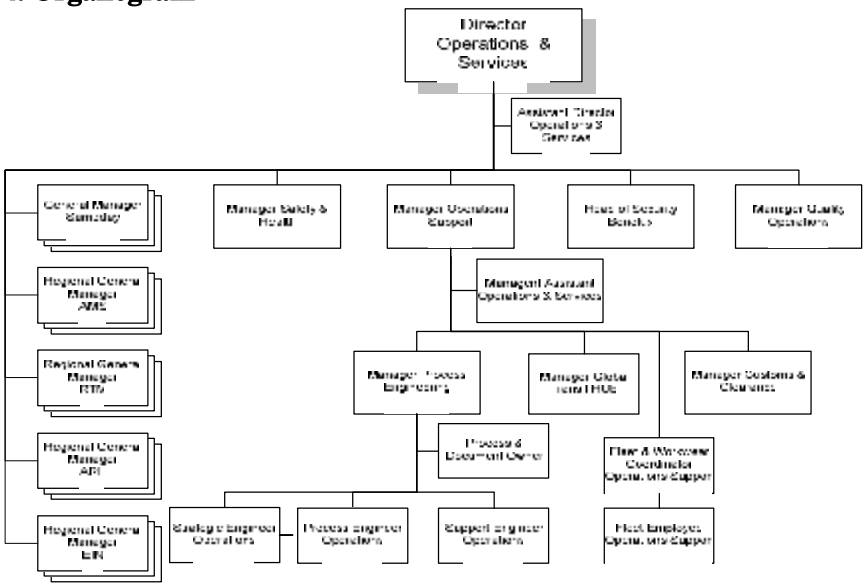
2. Doel van de functie

De Strategic Engineer Operations managet de strategische programma's die direct een relatie hebben met de strategie van TNT Express. Hij bewaakt de voortgang van de projecten die binnen zijn programma's vallen. Hij doet de functionele aansturing van de proces engineers die zich bezig houden met de projecten binnen de programma's. Naast het programma management zal hij deels ook zelf een aantal projecten blijven doen. De strategic engineer is binnen zijn of haar programma de spil tussen het senior management in de regio's, TNT Express Benelux Head Office en TNT Divisional Head Office.

3. De plaats van de functie binnen de organisatie

De Strategic Engineer Operations rapporteert hiërarchisch rechtstreeks aan de Manager Process Engineering.

4. Organogram



5. Kwantiteiten

- Verzorgingsgebied: TNT Express Nederland en Sameday;
- Aantal programma's: 3 a 4 van middelgrote tot grote omvang gelijktijdig. De strategische programma's zijn ondersteunend aan de doelstellingen en de strategie van TNT Express Benelux. De projecten hebben een grote onderlinge afhankelijkheid die programma overstijgend zijn. Deze afhankelijkheden worden door de strategic engineer gemanaged;
- Afbreukrisico: het strategisch belang van de functie uit zich in operationele en financiële afbreukrisico's van de TNT core processen en bedrijfskritische projecten t.b.v. proces verbetering en verandering;
- Aantal projecten: 3 a 4 projecten van middelgrote tot grote omvang gelijktijdig. Een substantieel deel van de projecten zijn onderdeel van wereldwijde programma's van TNT Express. Het wereldwijde karakter uit zich in regelmatige bezoeken aan internationale project overleggen en projectlidmaatschap van internationale projecten welke door het TNT Express Divisional Head Office zijn geïnitieerd;
- Procentueel wordt 50% van de productieve uren aan programma management en 50% aan projecten besteed;
- Contacten intern binnen TNT Express Nederland: Directie TNT Benelux, Groot Management Team overleg, Management en medewerkers Operations & Services, Management & supervisors Regio's, Management en medewerkers van andere stafafdelingen (Sales, CS, F&A, CIT, ICS, P&O), Key-users van informatiesystemen, vertegenwoordigers OR;
- Contacten intern binnen TNT Express Internationaal: TNT Express Divisional Head Office (o.a. Operations afdeling, Global Accounts), GNO (Global Network Operations), European Road Netwerk (ERN) process & system development afdeling,

BU Netwerk operationele afdelingen in European Road (QAR) en Airhub (LGG), Central IS (Duiven en Atherstone Engeland), Operations stafafdelingen van andere TNT Express Business Units;

- Contacten extern: Consultants, Projectmanagers, andere TNT divisies, Leveranciers van Operations Equipment en externe Operations informatiesystemen, Seminars, Congressen en Vakbeurzen. De strategic engineer moet *pro-actief* zijn op het gebied van innovatie voor TNT Express.

6. Hoofdactiviteiten per resultaatgebied

6a. Personele aspecten

- Functionele aansturing van de proces engineers en support engineers t.b.v. de realisatie van de programma doelstellingen
- Indirect leidinggeven aan leden van Operations projectteam of onderdeel van multi-disciplinaire projectteams;
- Functionele aansturing van de support engineer;

6b. Adviseren/Ontwikkelen/Implementeren

- Adviserende rol tussen Divisional Head Office, Benelux Head Office en de operationale eenheden in de regio's ten aanzien van wereldwijde operationele programma's;
- Ontwikkelen en doen van strategische beleidsvoorstellen aan de directie TNT Benelux en het Groot Management Team v.w.b. het optimaliseren of innoveren van de operationele organisatie, operations en netwerk processen in de gehele keten, procedures en informatiesystemen;
- Eind verantwoordelijk voor het vertalen en implementeren van het nationale en internationale beleid op alle niveau binnen Operations;
- Ontwikkelen en implementeren van nieuwe of verbeterde processen, procedures en/of informatiesysteem ondersteuning op strategisch niveau
- Selectie, doorlopen van offerte traject en prijsonderhandelingen voor OPS Equipment met leveranciers in i.o.m. de Operations & Service Professional Buyer.
- Opstellen en laten akkorderen van Operations Service Level Agreements met externe partijen als leveranciers en partners of interne partijen als de regio's, ICS, andere BU's;
- Verantwoordelijk voor de uitvoering van detail proces analyses o.b.v. de beschikbare Operations KPI's, proces reviews en rapportages, alsmede in samenspraak met de regio komen tot voorstellen ter verbetering van processen en operationele kosten, productiviteit en performance;
- Initiëren, tijdig signaleren, beoordelen van en adviseren over nieuwe innovatieve/externe ontwikkelingen in procesvoering, operations equipment, informatiesystemen op basis van kosten&baten, productiviteit en performance, alsmede de vertaling naar de operatie;
- Verantwoordelijk voor het Opstellen en uitvoeren van acceptatietesten van grote functionele wijzigingen in bestaande en nieuwe informatiesystemen, alsmede implementatie van grote releases of nieuwe applicaties i.s.m. ICS afdeling;

- Tijdig signaleren, beoordelen van en adviseren over effecten van organisatieveranderingen op processen, procedures en informatiesystemen.

- ***6c. Programma management***
- Zelfstandig managen van 3 a 4 strategische operations programma's;
- Bewaakt de voortgang van de operations projecten die binnen zijn/haar programma vallen en stuurt bij;
- Hanteert hierbij een projectmatige aanpak conform de projectmanagement methode gehanteerd binnen Process Engineering;
- Houdt continu in de gaten of de projectdoelstellingen voldoende bijdragen aan de strategische programma doelstellingen van TNT Express;
- Verantwoordelijk de business cases en plannen van aanpak voor Operations projecten;
- Samenstellen van operations multi disciplinaire projectteams t.b.v. de uitvoering van de strategische operationele programma's;
- Verantwoordelijk voor de programma communicatie en voortgangsrapportages van de projecten;
- Verantwoordelijk voor evaluatie en kennisborging van projecten en uitvoeren van audits, zelfstandig of i.s.m. het Business Excellence audit team, om behaalde project resultaten te toetsen versus de doelstelling.

6d. Project management
- Projectmatige aanpak van projecten conform de projectmanagement methode gehanteerd binnen Process Engineering;
- Zelfstandig leiden van Operations Projecten of participeren in multidisciplinaire projecten van TNT Nederland en TNT Express Divisional Hoofdkantoor;
- Opstellen van business cases en plannen van aanpak voor Operations projecten;
- Samenstellen van operations projectteams t.b.v. zowel de ontwikkelings- als implementatiefase;
- Laten vervaardigen van opleidingsmateriaal door Support Engineer of afdeling P&O Opleidingen;
- Verzorgen van project communicatie en voortgangsrapportages;
- Evaluatie en kennisborging van projecten en uitvoeren van audits, zelfstandig of i.s.m. het Business Excellence audit team, om behaalde project resultaten te toetsen versus de doelstelling.

7. Deskundigheid
- Minimaal WO opleidings-, werk- en denkniveau;
- 3 tot 5 jaar relevante werkervaring;
- Analytisch, conceptueel en innovatief denkvermogen;
- Goede sociale en communicatieve vaardigheden;
- Goed ontwikkelde adviesvaardigheid en organisatorische capaciteiten;
- Ervaring met projectmatig werken als projectleider;
- Resultaatgericht en hoge mate van eigen ondernemerschap;
- Pro-actief, service- en klantgericht, zeer kwaliteitsbewust en flexibel ingesteld;

- Zowel zelfstandig als in teamverband kunnen samenwerken;
- Affiniteit met ICT en procesmatig denken in het algemeen;
- Brede kennis van producten, processen, procedures en systemen van TNT en Operations in bijzonder;
- Goede beheersing van de nederlandse en engelse taal, in woord en geschrift;
- Goed overzicht kunnen behouden binnen complexe programmastructuren, helicopter view;
- Strategisch denken, visie ontwikkelen, lange termijn;
- Zeer goede presentatie vaardigheden;
- Effectief kunnen werken in een politiek krachtenveld;
- Overtuigingskracht, stevig kunnen aanzetten, energieke houding.

Appendix B – Background documents

This appendix consists of documents which have been produced during this research project.

Appendix B.I – Risks of research project and related actions

As we described in the first chapter the approach chosen has some important risks which can prevent the project from reaching its objective conform the original planning. These risks need to be managed to ensure that the project will reach its objective on time. Therefore the risks were identified and actions were identified to control the identified risks. This was done conform the structure which was also introduced in the portfolio model, which distinguishes between probability and impact (either a delay or a failure or both) of a risk. The risks, their probability and impact and the related actions are summarized in the table below.

Description	Prob	Failure	Delay	Action
Risk assessment to stimulate risk averse behavior	25%	Complete		o Communicate this risks to employees o Focus on actions & prevention in communication
Benefit measurement to stimulate focus on measureable benefits	50%	Complete		o Introduce measurement systems for quality & time o Communicate this to employees o Leave room for non quantitative benefits
Project assessment takes (too) much time from project leaders to sustain	50%	Partial	Considerable	o Report progress & compliance o Minimize redundant data entry o Develop an easy interface
Focus diverts from daily support to strategic changes	25%	Complete		o Reserve enough time for process & support engineers for support activities o Survey depots opinion about support
No one to support and update tool after project finished	25%	Partial		o Produce clear documentation o Use standard functions of Access as much as possible
Difficulties to estimate quality improvements	75%	Complete		o Cooperate closely with quality department o Introduce model to link with failure codes
System limits the freedom of project leaders to develop their own ideas	50%	Complete		o Structured documentation of ideas o New ideas as performance measure o Regular brainstorm workshops
Limited ownership of strategy with project leaders	75%	Complete		o Organize strategy workshop o Survey ownership after workshop

Description	Prob	Failure	Delay	Action
Commitment marketing to strategy workshop	25%		Considerable	o Discuss with marketing as early as possible
Commitment depot ops managers to portfolio workshop	25%		Considerable	o Present in Depot ops MT o Involve depot ops managers in discussion
Difficult to find date for workshops	75%		Considerable	o Start planning process as early as possible

Appendix B.II – Project planning

There are five months left in the research project. October will be used to design the measurement methodology and discuss this with internal and external supervisors. Also a preliminary discussion with the marketing discussion will also be done in this month. At the end of November a strategy translation workshop will be executed.
During November and December the current projects will be evaluated together with the project leaders. This will be complemented by data on potential projects which will be identified during a new ideas workshop in December.
In December and January the data will be summarized, analyzed and a methodology will be designed to present it in a comprehensive way. After this has been done a portfolio workshop will be executed to select the projects and ideas to pursue in the coming time and the discuss the time phasing. Below the planning per month is displayed. The next page shows a short description of the ideas per workshop.

	October	November	December	January	February
Translate strategy	o Preliminary discussion marketing	o Strategy translation workshop	o New ideas evaluation workshop		
Review projects	o Design measurement tool o Data delivery	o Project review 1 o Improve measurement	o Project review 2 o Improve measurement		
Portfolio analysis			o Summarize and analyse data	o Present data in comprehensive way o Portfolio & planning workshop	
Reporting					o Finish report & presentation

Appendix B.III – List of interviewed staff

The following staff was interviewed during the problem analysis phase:

Paul M. Jansen – manager Process & Policies
Bas Janssen – director Operations & services
Michelle van Zutphen – manager Process Engineering
Mette Kok – process engineer
Jan Harmen Hietbrink – strategic engineer
Koos Jansen – process engineer
Kirsten Gruben – advisor purchasing Ops Equipment
Rob van Vulpen – advisor purchasing Ops Equipment

Appendix B.IV – Analysis of the time registration

The department uses a time registration database. The past three years a database in Access was used. Recently it has been decided to switch to a reporting system based completely on Excel, because there were considerable problems with the Access database. Reports out of this database in Excel format are still available of the past three years are still available. It should be noted that the format of these reports is not consistent. Therefore not all data is available on each data and it took some time to make the data comparable.

Two types of analysis have been done. First an analysis of the reported progress compared to deadlines and the planned progress has been done to gain insight in potential overloading and projects overrunning schedule. Next to that an analysis of the types of projects done in the past few years was done.

Deadlines and delays

The reports of 2005 and 2006 report an actual progress compared to the expected progress (which relates to the project planning). An ratio was calculated which shows the actual progress compared to the planned progress. This was done for five reports in 2005 and 2006. The average ratio is 0,712, which shows that projects are on average 30% behind on schedule. Unfortunately data for 2007 was not available.

Date	Ratio
23-5-2005	0,67
26-9-2005	0,7
6-3-2006	0,82
24-7-2006	0,52
4-12-2006	0,85
Average	*0,712*

Table 3: ratio of actual progress versus planned progress

Lagging behind on schedule does not directly result in a delay of the final delivery of the project. The reports of 2005 and 2006 show an estimated delay in business days of the final completion of the project compared to planning. Table 2 below indicates the number of projects which were delayed and the average delay. As can be seen some serious delays were reported. The report of 23-3-05 doesn't show a delay, but considering the fact that the ratio reported in table 1 is comparable with the other reports this could be a problem with data validity.

	# projects	Avg. Delay
23-3-2005	0	0
26-9-2005	9	74
6-3-2006	6	87

Table 4: number of projects delayed in final completion (estimate based on current progress) and the average delay reported

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Type of projects

Based on the data of 2005 and 2006 the projects were categorized and the hours were summed up. The following categories were used:

Category	
C & C	Related to Customs & Clearance
Ops RE	Related to global operations re-engineering, mainly common systems
Optimization	Process optimization projects
Organization	Related to process changes, work descriptions and HRM
Support	Supporting depots

Below respectively the hours spend on the five largest projects and secondly on all projects which were to require more then 20 man days work (these were on average 20 projects and used 66% of the total time reported).

Month	C & C	Ops RE	Optimization	Organization	Support	Grand Total
2005-5		222	52	52		326
2005-9		362	45			407
2006-3		202		55		257
2006-7	45	100		105		250
2006-12		90	40	25	28	183
Grand Total	45	976	137	237	28	1423
%	3,2%	68,6%	9,6%	16,7%	2,0%	

Table 5: top 5 projects: hours categorized

Month	C & C	External request	Ops RE	Optimization	Organization	Support	Grand Total
2005-5	25		284	97	328,8		734,8
2005-9	80		470	45	259		854
2006-3	176		277		245		698
2006-7	125	20	220	80	315	28	788
2006-12			175	120	85	28	408
Grand Total	406	20	1426	342	1232,8	56	3482,8
%	11,7%	0,6%	40,9%	9,8%	35,4%	1,6%	

Table 6: projects > 20 man days: hours categorized

Below a graph is shown presenting the data reported of 2007. It is important to notice that a much larger percentage of the time is spend on projects relating to optimization and innovation. In 2005 and 2006 less then 10% of the projects were actually spend on optimization. This already reflects the switch in strategic focus, because in the previous most time was spend on operational support, organizational issues and the global common system projects, which are not projects with a large strategic impact on the business unit Benelux.

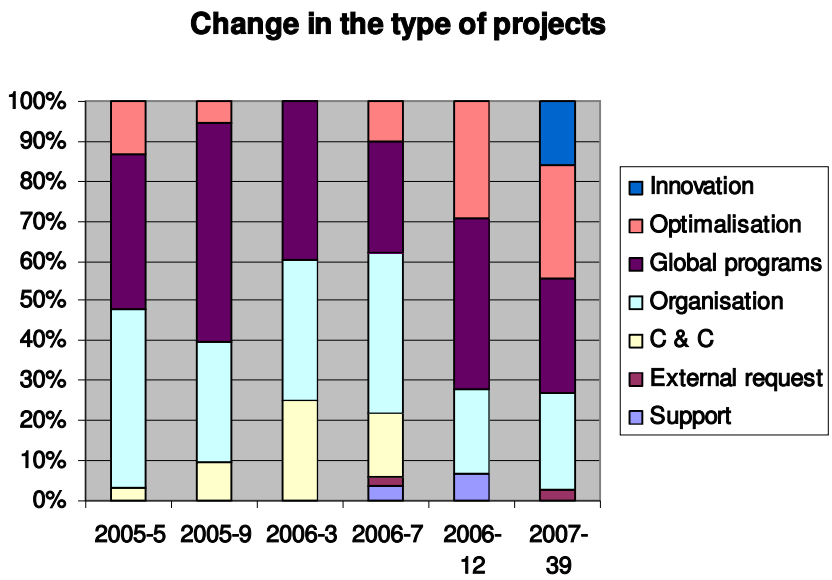

Figure 1: a change in the type of projects

Appendix B.V – Portfolio overview used for selection meeting

{…omitted…}

Appendix B.VI - Evaluation survey strategy & brainstorm workshop

During the problem analysis, which we describe in section 1.3, we concluded that strategy was considered to be ambiguous by the employees of Process and Policies and the idea creation was more or less conducted on an ad hoc base. As we argued in the third chapter these issues need to be approached on a structural way. As part of this research project we developed a workshop in which strategy is considered in an interactive way and in which we initiated the idea creation process by conducting a brainstorm.
The workshop had four objectives:

- To create ownership for the strategy and to translate it to the daily context
- To make all employees conscious of the link between projects and the ambitions of the programs
- Develop new ideas together
- To evaluate whether a strategy and brainstorm workshop is a valuable addition to a regular yearly cycle

As last point of the agenda of the workshop we did a short plenary evaluation to consider whether the objectives had been met. The initial reaction of the participants was positve. To verify these initial conclusions, we developed an anonymous survey. In this appendix we discuss the results of the survey. First we discuss shortly the development of the survey and the statistical validity. Next we discuss the individual aspects considered in the survey. Finally we draw some conclusions.

Development of the survey

We developed this survey in cooperation with the manager P&P. Guideline for developing the questions were the objectives mentioned before. We decided to devote two questions to the awareness of the strategy, two questions to the contribution of the workshop in the awareness and finally three questions about idea creation.

Number of respondents, response rate and statistical validity

The workshop had ten participants (excluding the author) and thus there were only ten respondents. This is a relative low number considering statistical validity. Therefore the results need to be judged critical, because outliers can influence the results considerably. Another factor influencing the validity of results is the response rate. Because all participants replied, there is no issue considering the representativeness of the results.

Strategy awareness

We considered two different levels strategy during the workshop (Benelux as well as Benelux operations strategy). It is important that the employees are aware of the content of the strategy as well as the link to their daily practice. The first two questions consider this. Below figure 1 and 2 show the results.

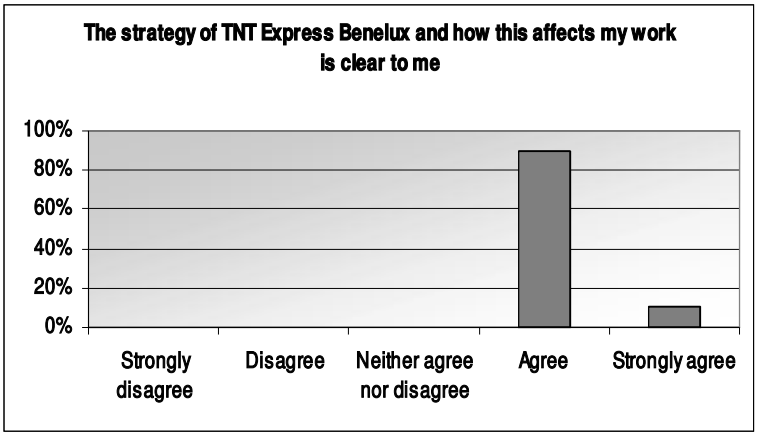

Figure 1

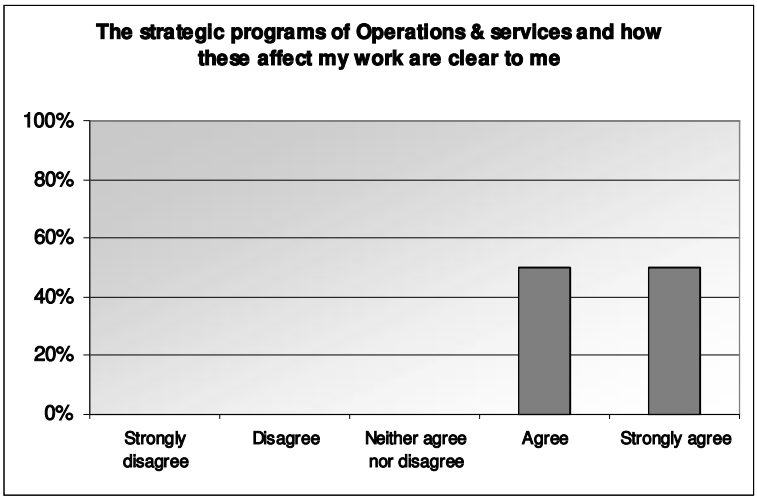

Figure 2

Considering that many employees indicated before that the strategy and the relation with their work was ambiguous, the results displayed in figure 1 and 2 are positive. They show a strong awareness for both levels of strategy considered during the workshop. Considering figure 2 it is likely that the interactive discussion of the strategic programs was effective.

Contribution of the workshop to strategy awareness

The results on the first two questions show a significantly more positive picture of the strategy awareness then the problem analysis at the start of this project. Since there has been significant attention for strategic topics in the last few months, it is still unclear whether this increase in awareness is caused by the workshop. Therefore the next two

questions consider the contribution of the workshop to the awareness. Figure 3 and 4 show the results.

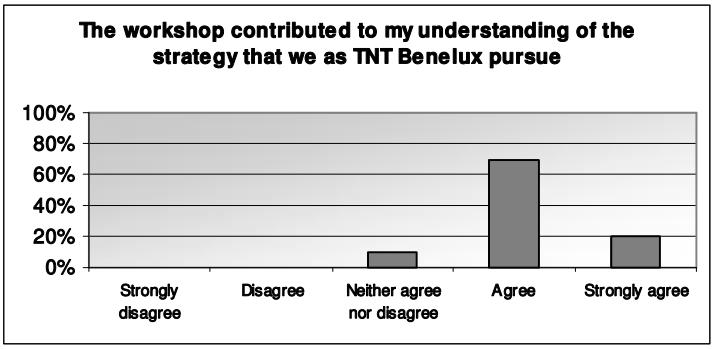

Figure 3

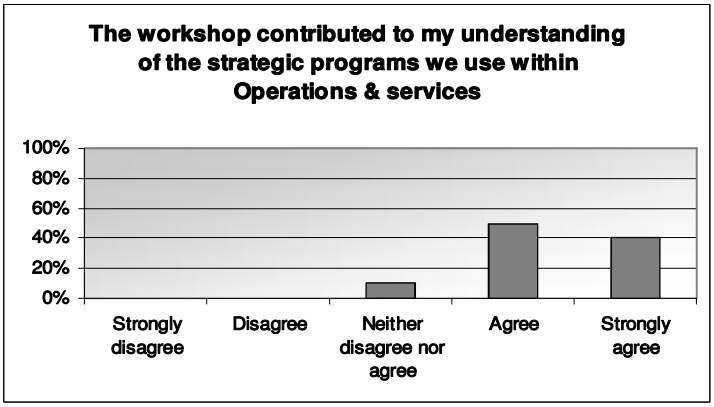

Figure 4

Based on the results presented in figure 3 and 4 and on the correlation with the results on the previous two questions we can conclude that the workshop contributed significantly to the strategy awareness.

Brainstorm and idea creation

Next to the creation of strategy awareness this workshop was also meant to initiate the idea creation process (as described in section 3.2). Therefore a brainstorm was executed. It is relevant whether the brainstorm produced valuable results, but also whether the participants perceived the brainstorm as a good setting to generate ideas. Figure 5, 6 and 7 show the results.

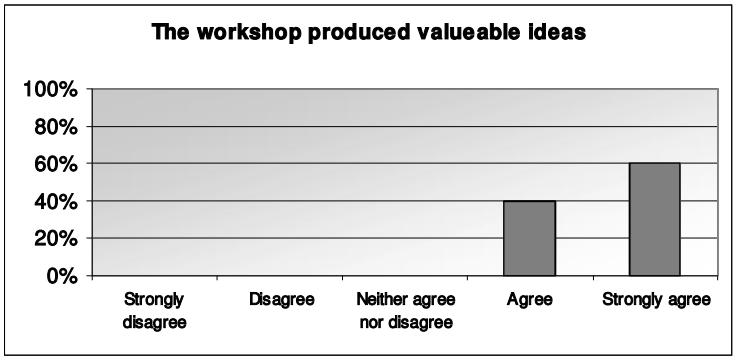

Figure 5

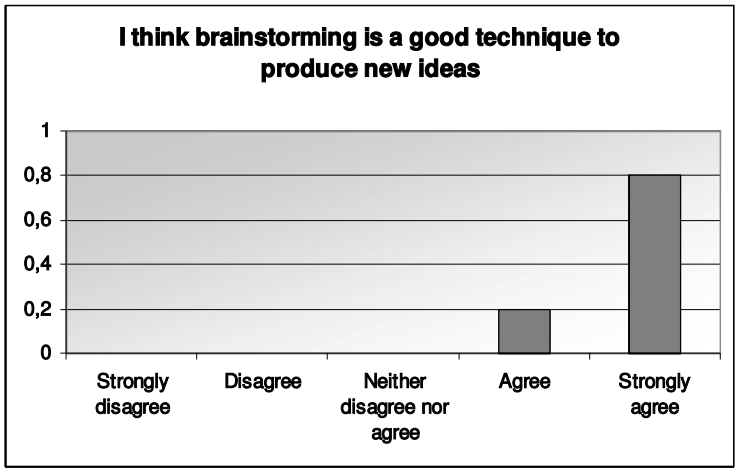

Figure 6

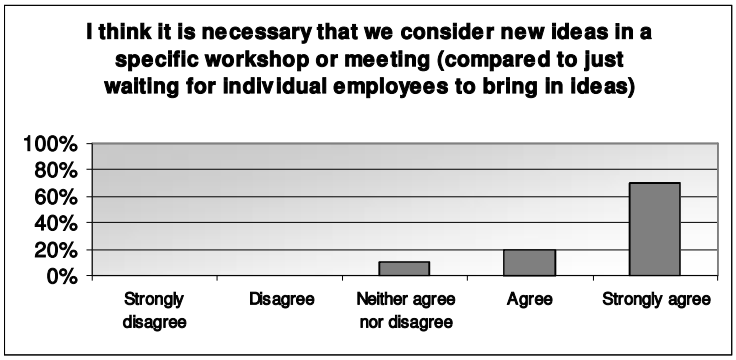

Figure 7

The participants perceived the ideas created during the workshop as valuable and think that a group setting is necessary to induce creativity. Also the brainstorm techniques were perceived as useful.

Conclusions

Because the answers on the questions above are relatively consistent and because of the high response rate, we argue that conclusions can be drawn, even based on the relative small number of respondents. We draw the following conclusions:

- The strategy of Express Benelux & the strategic programs are clear to all employees
- The workshop contributed to the clarification and the ownership of the strategy
- The brainstorm was valuable and is seen as a good setting for creating ideas

Appendix B.VII - Portfolio management database

To manage a portfolio of projects an overview is required over the different aspects of the projects in the portfolio. As we discussed in the different chapters of this thesis a project has many different aspects. Consequently there is also a considerable amount of data required to manage a portfolio of projects. Next to that, minimizing the effort required for administrative activities is a core success factor to ensure practical applicability of these kinds of organizational systems.
To provide the overview over the data of the different projects in the portfolio and to minimize the effort required for administrative purposes we designed a portfolio management database during this research project. The design was implemented in Microsoft Access and tested during the research project. In this appendix we elaborate on the *data model* of the database and the *key features* it provide.

Data model
The data model of the database is quite similar to the criteria model discussed in chapter 4 of this thesis. It is centered on the programs and projects. Figure 1 provides a schematic overview of the data model.

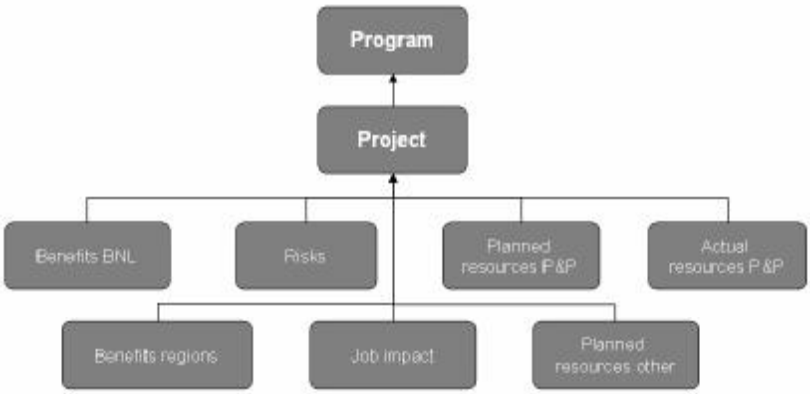

Figure 1: data model of the portfolio management database

The different elements of the model are (which are implemented as tables in the database):

- *Program*: stores the general data of programs, like the program leaders and the ambitions
- *Project*: stores general project data, like the project leader and year of implementation
- *Benefits BNL*: contains the benefits of a project on Benelux level
- Benefits regions: contains the benefits of a project on regional level (not automatically linked to BNL level)
- *Risks*: stores the risks of a project with their impact and probability
- *Job impact*: details the identified job impacts of the project with their estimated impact

- *Planned resources P&P*: contains data about the planned resources of the department for the project
- *Planned resources other*: stores data about the planned resources for a project from other functions and from the regional depots
- *Actual resources P&P*: logs the actual hours from the department related to the project

Key features

Based on the data model we described in the previous section, the database provides the following key reporting features:

- *Benefit summary*: the database provides an overview of the planned and actual benefits of project on Benelux as well as regional level. An example is shown in figure 3.
- *Risk classification*: the database automatically classifies the risks (based on the classification summarized in figure 5.3) and provides an overview, which enables management to focus on the important risks
- *Risk – impact matrix*: as summary of the risk and (job) impact of the projects in the portfolio the database provides an overview of the all risks and impacts in a risk – impact matrix. This can be helpful in the portfolio selection process because it provides quick insight in the risk level of a portfolio. An example of the risk – impact matrix in the database is shown in figure 4.
- *Resources summaries*: based on all the resources data entered (of P&P as well as other resources) the database provides an overview of planned resources. This can be used during the project selection cycle to give insight in the resource impact of a proposed plan. An example of a resource overview in the database is shown in figure 5.
- *Performance tracking*: the database gives insight in key performance figures which are used in the management scorecard described in section 6.3. Indicator calculated from the data are:
    - Actual vs. planned hours
    - % of risk managed
    - % of deadlines met
    - % ambition realized with planned or actual benefits

Screenshots

Below we show some screenshots from the database.

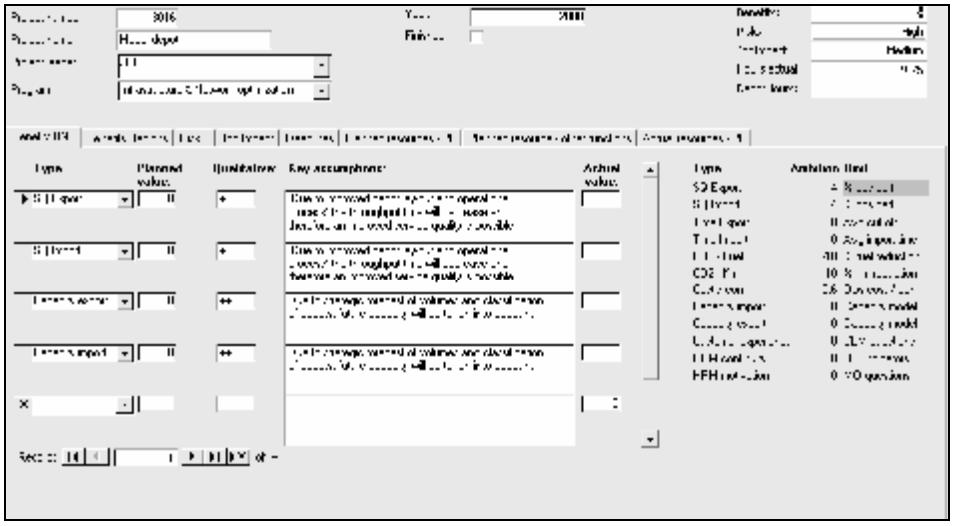

Figure 2: data entry screen of the database

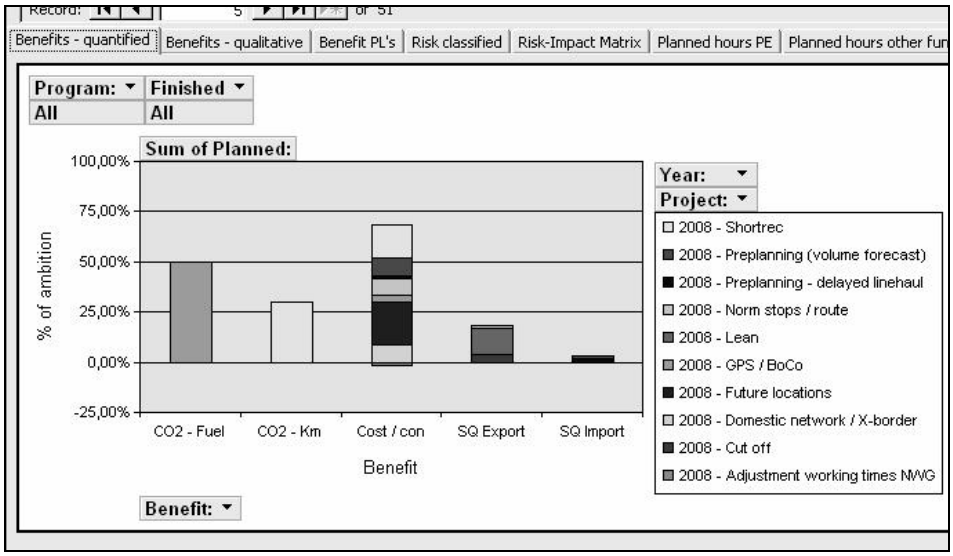

Figure 3: benefit summary

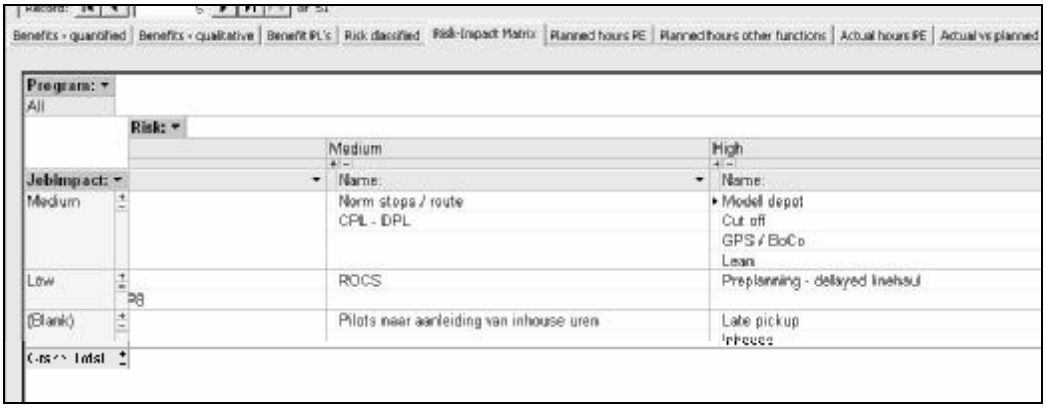

Figure 4: risk – impact matrix

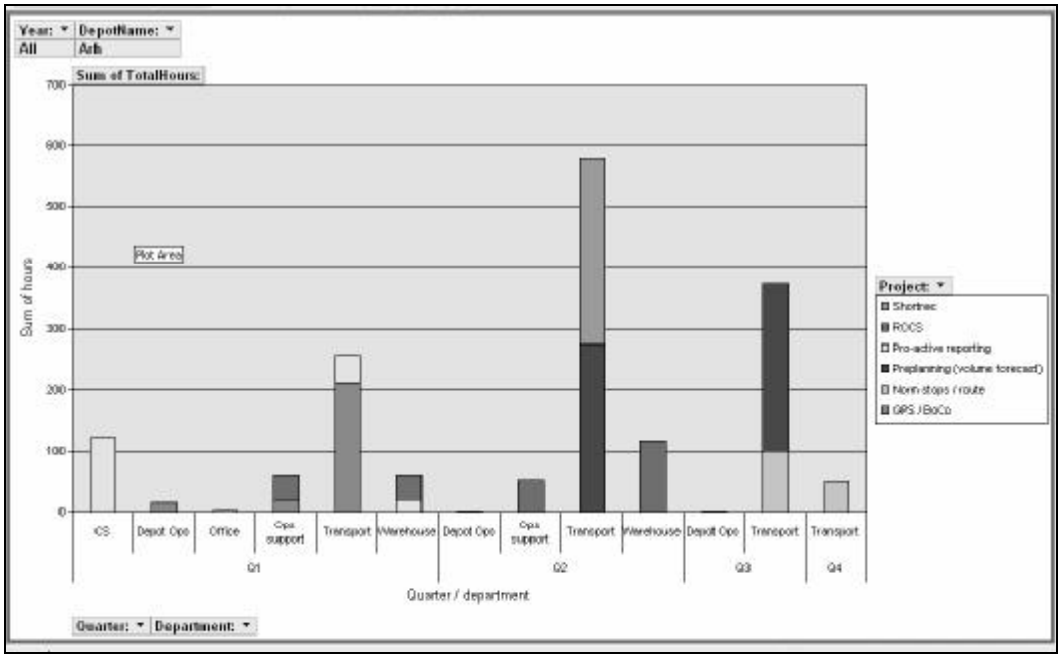

Figure 5: planned resources overview

Appendix B.VIII - Evaluation survey review workshop

The third critical process in portfolio management, next to idea creation and project selection, is portfolio review. The objective of this process is to ensure that the project planning developed during the project selection process is realized in practice. Since projects are executed on the regional depots the risks and planning need to be managed in close cooperation with the operational management of the depots. To ensure that the operations managers have enough knowledge of the portfolio management system and to facilitate mutual commitment a review workshop was executed. The workshop had the following objectives:

- Ensure knowledge of strategic programs of Operations & services and create awareness of gap to be closed by 2010
- Create mutual commitment for progress reporting and risk management system
- Underline role of operational management in idea creation
- Discuss current issues in planning
- Consider whether a quarterly review with the depot operations managers is valuable

Below we discuss the results of a short evaluation conducted in the form of an anonymous internet survey. First we discuss the development and validity of the survey. Next we consider the results. Finally we draw some conclusions.

Development of the survey

In cooperation with the manager P&P we developed a list of questions. As we discussed in section 5.6 the workshop had four parts discussing respectivelly progress reporting, risk management, idea creation and the current issues on the planning. For the first three items we decided that it would be useful to know whether the item was clear to the participants and whether they viewed it as effective. Considering the discussion about the planning we were interested in the question whether the discussion was viewed as constructive. Finally we added two questions about the awareness of strategic programs and whether the participants thought such a setting would be a good setting for a quarterly review.

Statistical validity

Eventually five of the ten participants completed the survey. Considering the small number of respondents individual opinions can influence the results significantly. To gain insight in whether the opinions differed between the head office (HTN) and the regions (Region) we segmented the results in these two categories. The response rate of the head office was 42% and of the regions 67%.

Awareness of strategic programs

An important precondition for aligning an organization with the strategy is that employees understand the strategy and how it affects them Considering the response to the question about the strategic programs, shown in figure 1, this precondition can be considered met.

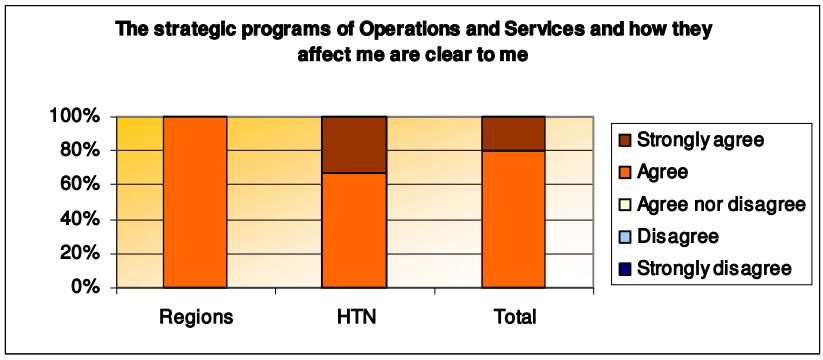

Figure 1

Progress reporting

A comprehensive system for progress reporting was developed in cooperation with the program managers and presented during the workshop. Figure 2 and 3 show that the system is clear to the participants and viewed effective.

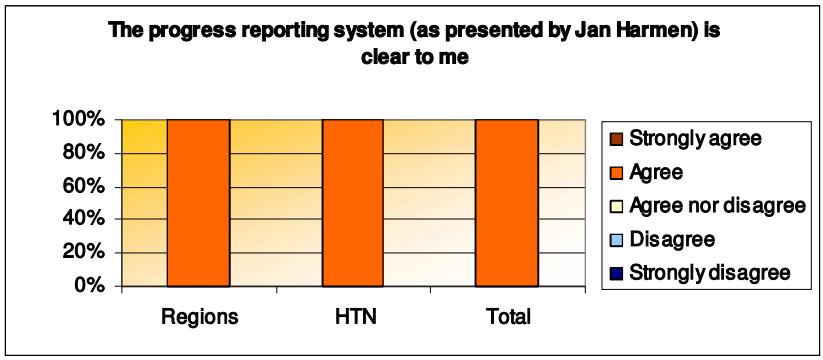

Figure 2

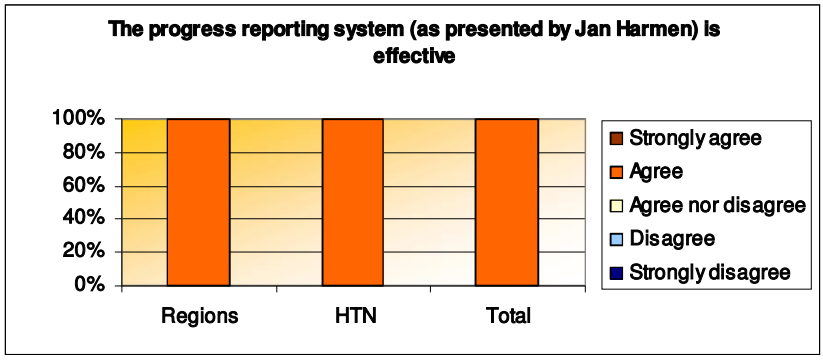

Figure 3

Risk management

Risk management is essential to ensure that all projects deliver their benefits on time. During the workshop a case was discussed to create awareness of the activities in the different phases of projects. Figure 4 and 5 show that the methodology is clear and viewed as effective.

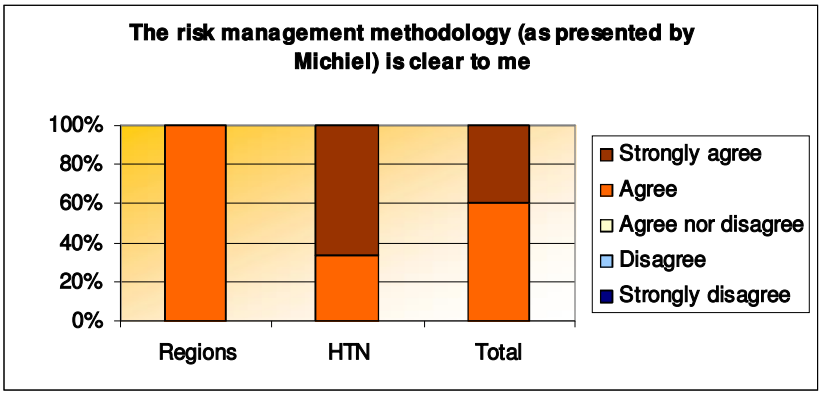

Figure 4

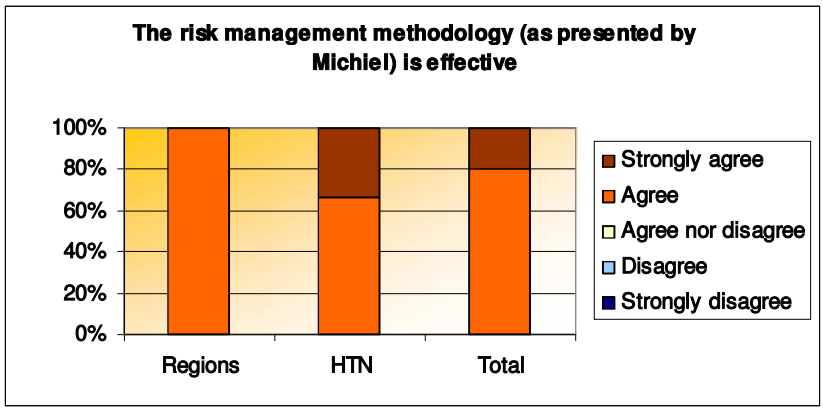

Figure 5

Idea creation

The third element discussed during the workshop was idea creation. It is important the operational management participates in this process, because they have a large amount of practical knowledge. Figure 6 and 7 show that there is a consistent opinion that also this system is clear and effective.

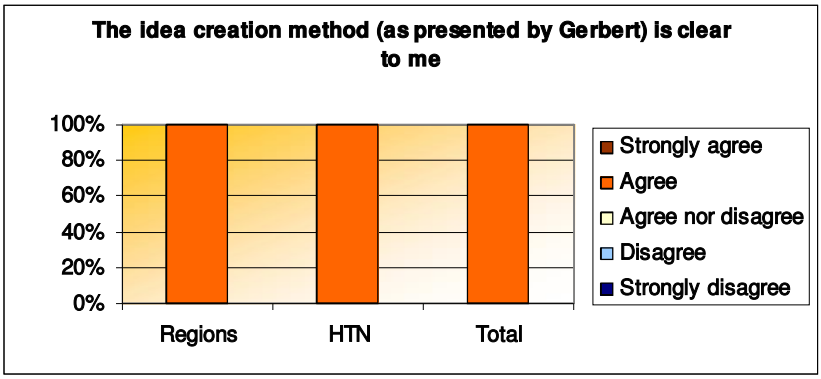

Figure 6

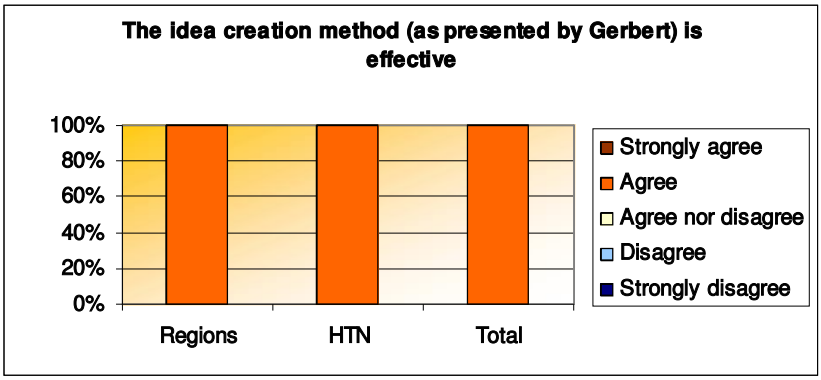

Figure 7

Discussion of issue on the current planning

An important part of the proposed quarterly review is discussing changes in the project planning. Since there are many precedence relations in the planning it is important that the whole picture is considered. During the review workshop we discussed the issues which developed during the first months of 2008. While discussing the planning it became clear that there was a need for detailed information about the resource impact of changes in the planning. This complicated the discussion about the planning. This point was also mentioned as an improvement point during the plenary evaluation at the end of the workshop. We expect that this is reflected in the less positive results on this question, which figure 8 shows.

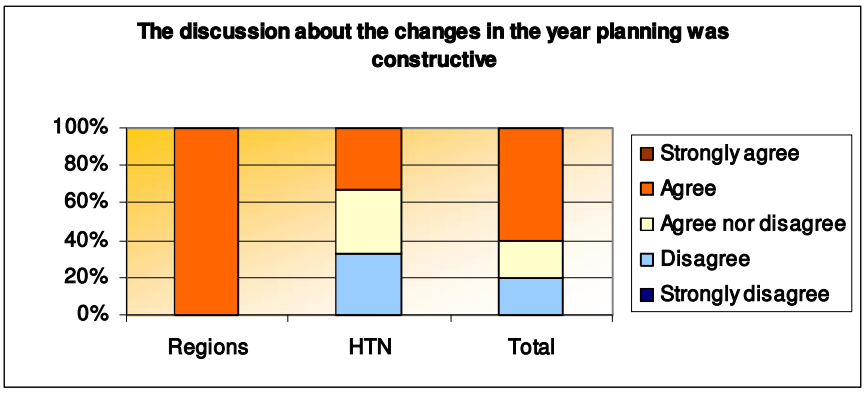

Figure 8

Is a quarterly review valuable?

Important part of the progress reporting system is a quarterly review with the depot operations managers and the program managers. This workshop can be considered a pilot for such a setting. Figure 9 shows that the overall opinion is consistent and positive about the quarterly review.

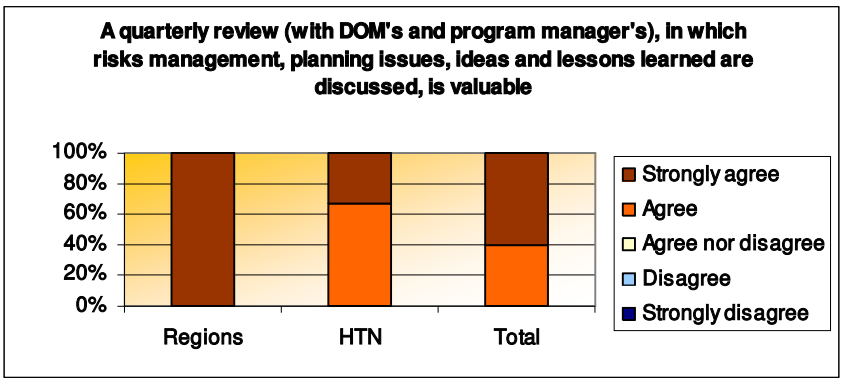

Figure 9

Conclusions

As we mentioned the number of respondents is low and therefore the results need to be judged critical. Since the results were quite consistent we argue that they can be used as indication of the opinion of the participants. Therefore we can draw the following conclusions:

- Strategic programs are clear and applicable to participants
- The progress reporting, risk management and idea creation systems are clear and viewed as effective by the participants
- There is room to improve the discussion about the changes in the year planning
- The quarterly review is viewed as valuable by participants