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Abstract

Getting value from IT investments is mentioned as one of the reasons why organizations should pay attention to IT governance. (Applegate et al (2009)). As far as the IT governance of IT is concerned, IT portfolio management is often viewed as a condition, without which it is difficult to fit in IT investment optimally within an organization's requirements. (Dhillon, et al (2010)). This article is about this IT portfolio management and discusses the state of affairs in the Netherlands in the year 2010.

The article consists of two parts. The first part explains the theory on which the study is based. Regarding this, the conditions for enabling introduction of portfolio management, its governance and organization, the data which is used in portfolio management and the possible results of performing portfolio management are discussed. The second part maps the actual practice of each of these four areas in the Netherlands.

It may be concluded that the examined organizations particularly focus on IT project portfolio management. The department that carries out this portfolio management, is often part of a staff department which is also involved in other tasks. The reason for starting portfolio management is the vast number of large projects, resulting in a lack of insight and overview. In general, the data for controlling portfolios is centrally available. The level of control of ICT portfolios varies per sector. Furthermore, the data in the portfolios is immediately related to the objective of the portfolio management. In the portfolio management process, people in over 50% of all cases use spreadsheets (Excel) and/or simple database applications (Access) for registering the data. In the Netherlands, portfolios are not used for arriving at indicators or for benchmarking.

Keywords: IT portfoliomanagement, practice, project portfolio management, it governance.

1. INTRODUCTION.

In the approach of IT governance, Dhillon et al (2010) indicate what coherence exists between business IT alignment and the organization of ICT. They remark that in order to arrive at alignment between client's wishes and the possibilities of the IT organization, there should be an architecture of ICT provisions, an overview of projects and one should keep an eye on the possible risks involved.. Jong-Sung Park et al (2010) remark that there is a statistically relevant relationship between procedural rationality and political behaviour in relation with the effectiveness of the decision process regarding IT investments. Portfolio management enables the management of organizations to govern according to a rational procedure in order to realize the predicted proceeds from ICT. When performing governance, the management needs to have options. From these options, it will select that particular option that yields the most proceeds, given the financial possibilities of the organization, the risk involved and the period of time in which the result has to be realized (Scantlebury (2007).

This article deals with this particular portfolio management. This involves portfolio management at the highest level in the organization, which offers opportunities for dealing with investments in ICT. Benson et al (2004) define a portfolio as a collection of data on a specific subject, which is set up such that its data can be easily used for making decisions based on this. Furthermore, Kaplan (2005) indicates that portfolio management is a process for controlling the investment in ICT across the entire organization and for ensuring that these investments yield the largest possible value for an organization. Portfolio management supports an organization in its implementation of disciplined improvements in the way it deals with the application of ICT in times of growth as well as in times of recession (Maizlitz, 2005). This way, it is possible to allocate ICT budgets consistently, repeatably and verifiably and to gear these to the organization's objectives.

Towards a definition

In the literature, one can find many definitions of portfolio management. Such as for example the following:

> *Portfolio management* is the ongoing management process of categorization, assessment and rationalization of the IT portfolio, which allows organizations to identify which items in the portfolio to maintain, invest in, replace or retire (Keen et al (2010)).
>
> *Portfolio management* comprises all structured processes for evaluating projects in a portfolio along different dimensions. This primarily concerns the composition of the portfolio, the total number of projects (Simon et al (2010).
>
> *IT portfolio management* deals with the combination of people, work processes and technology that is used for achieving a balance between investments and assets by making an inventory of all projects in a detailed manner. This is used for supporting the decision-making process. (Maizlish, 2005)

Building on the above-mentioned definitions, this study defines IT portfolio management as:

> *"passing through one or more IT portfolios in a continuous, systematic and structured manner on the basis of established criteria with the aim to support ICT governance. These portfolios are defined for a specific level in an organization. Portfolios can include projects and assets. A project or asset remains in the portfolio until it is no longer operational."*

This definition is in keeping with all three definitions, whilst emphasizing the fact that portfolios are gone through continuously and systematically, as well as the reason for working according to set

criteria. Furthermore, portfolio management (Maizlitz (2005) and Kaplan (2005)) can lead to indicators regarding the performance of the portfolio as a whole, as well as to indicators regarding the use of various technologies (Verhoef et al, 2007). The use of these indicators may simplify and improve the planning of individual projects. It can rationalize the choice for the technology used to realize a project . In this way the value of the results of an investments can be increased.

The theoretical part of the study starts by discussing the conditions for arriving at successful introduction of portfolio management; next, the organization and governance of the portfolio management process are examined. After this, it is specified which types of data one can use in portfolio management. And finally, the reasons for proceeding to portfolio management come up for discussion. It is investigated, whether the conditions for successfully working with portfolio management were present in the organizations as studied; which IT governance and which organization of portfolio management these organization have set up; which data was kept up to date in the portfolios in question and what was considered to be a reason for working with portfolios.

CONCEPTUAL FRAMEWORK.

1.1. Conditions for portfolio management and types of portfolio

Conditions for portfolio management.

Portfolio management is a tool for implementing disciplined improvements in the way the application of ICT is dealt with in times of growth as well as in times of recession (Maizlitz, 2005). Portfolio management rests on dealing with the allocation of ICT budgets in a consistent, repeatable and verifiable manner. According to Maizlitz (2005), it makes sense to set up portfolio management if:

- an organization does not use business cases or only applies a few criteria when deciding on ICT;
- an organization is not capable of gearing its ICT budgets to its objectives more than twice per annum;
- an organization does not benchmark its application of ICT;
- an organization applies hardly quantifiable criteria other than financial ones for deciding on its application of ICT;
- and the organization thinks that it deals with the pressure of cost-savings as regards an effective application of ICT in a balanced manner.

Kaplan (2005) and Jeffery (2004) both support Maizlitz' view. Based on *empirical* research in 130 organizations (all of which are in Fortune's top 1000 companies), each with an annual turnover exceeding eight billion dollars and an average turnover of 220 million dollars per annum in ICT expenses, it turned out in 2004 (Jeffery (2004) that:

- 41% of these organizations do not have an overview of their ICT expenses;
- 46% have no clear idea of their applications and infrastructure;
- 47% of the organizations do not have an overview of their ICT projects at central level;
- 57% did not have any criteria for weighing projects against each other;
- 41% did not regularly calculate its periodical return on investment for each project and each current expense.

So why is the introduction of portfolio management that hard? Kaplan (2005) remarks on this that to begin with, portfolio management is management. Portfolio management is a process that affects

managers more than their employees. The open and systematic evaluation of ICT expenses often constitutes a change for managers. They wonder why one would want this change. For convincing its managers, the top of the organization needs to answer the question what they want to achieve by portfolio management and what the implications of portfolio management mean to their managers. Maizlitz et al (2005) indicate how an organization can check ex ante, whether the use of portfolios does effectively result in improvements. They state that portfolio management is easier to introduce in organization when these organizations:

- possess clear principles in the field of ICT and a detailed and up-to-date information and ICT plan.
- they have mechanisms available for advising on the application of ICT, such as an ICT steering committee;
- they have a method for describing projects, for evaluating projects and for providing these with a priority;
- measuring takes place within the ICT organization;
- there is an up-to-date list of all the projects in production;
- there is powerful ICT governance in place.

In addition, Maizlitz et al (2005) remark that using portfolios is more difficult when:

- an organization hardly uses key performance indicators, does not measure these and does not analyse these;
- an organization does not have a budgeting process;
- the ICT organization can hardly demonstrate the proceeds of its projects;
- the relationship between the main customers and the ICT department leaves something to be desired;
- the ICT department does not achieve the agreed service levels;
- the productivity of the ICT workers is not high.

Which types of portfolio can an organization distinguish?

The ICT portfolio still to be set up or already set-up may consist of ICT projects and assets. Assets are ICT provisions that are in production. These assets consist of applications and/or infrastructures. The IT portfolios can be arranged according to, for example:

- type (Zwaan and Steenbakkers, 2007). Zwaan et al distinguish three different types of portfolios. These three different types are:
  - project portfolios for applications and/or infrastructures under development or maintenance;
  - application portfolios for applications that are in production;
  - infrastructure portfolios for infrastructures in production.

- phase (Maizlitz et al, 2005): in this context, there are portfolios with:
  - innovation/development projects (discovery portfolio);
  - application and/or infrastructure development or maintenance projects (project portfolio);
  - overview of infrastructures and applications in production (asset portfolio).

- objective (Weill et al, 2006). Weill et al distinguish portfolios according to the objective of the expenses for ICT. They identify:
  - ICT expenses aimed at saving costs or at increasing productivity. This may concern expenses for projects, applications and infrastructures;
  - ICT expenses aimed at improved information provision. This may concern expenses for management information, communication applications, analysis tools etc;

- ICT expenses aimed at achieving a strategic advantage in the market by means of ICT;
- ICT expenses for a basic ICT provision. These may be infrastructures with applications.

The first two classifications of portfolios are aimed at providing an overview and the making of evaluations for supporting the decision-making process on ICT. The last-mentioned classification is more aimed at enabling comparisons between expenses in ICT. The study adopts the Maizlitz (2005) classification.

1.2. Control and organization of the portfolio

IT governance and portfolio management.

Weill et al (2004) have researched who in organizations ultimately makes the decisions on ICT, what they decide on exactly and how they communicate their decisions. In a nutshell: they researched how the ICT governance of an organization is put together. Their study shows that decisions on ICT can be made by different parts of the organization. In general, this may involve decision-making by the general management, by the business or line management, and by the ICT management.

Weill et al (2004) argue that IT governance involves decision-making regarding five subjects. These being the principles at application of ICT; the architecture of the ICT provisions; the collective ICT infrastructure and the business-wide ICT applications; the other ICT applications and the priorities at application of ICT. According to Weil et al (2004), it is possible to communicate decisions on ICT via amongst other things, the decision-making structures in an organization, via plans and via formal decisions.

The organization around working with portfolios

In portfolio management, the following tasks are performed (Kraan et al (2007) and Maizlitz et al (2005)):

- planning the objectives and the actions of portfolio management.
- organizing the activities. This involves the set-up of portfolio management. Next, the tasks as well as the competences and responsibilities in portfolio management are distributed.
- the managing of portfolios. This management comprises the collection of information on the projects in the portfolio, processing this information on the basis of criteria, acquiring an overview and advice on the measures that need to be taken and contribution to the imple-mentation of the decisions on these measures. This takes place within the competences of portfolio management.
- checking to what degree the activities that were planned in advance have been realized, this also in order to gain an impression of the degree to which the objectives of portfolio management as a whole have been achieved.

Each project within a portfolio starts of as an idea and ends when an application is discontinued. Between the inception and the discontinuation, there are several stages. The stage gate process describes these stages, from the approval for the investment, to the execution, implementation and operation. Maizlitz et al (2005) state that, the stage gate process enables to assess a project on a number of factors. They mention for example:

- the alignment between an organization's strategy and the project or the ICT asset in question;

- the originality of this project or asset;
- the opportunity to provide the customer with extra possibilities, realize different channels to the market and enter different markets as compared to the uncertainty of the technology, the possibility for implementing the new ICT provision, the dependence on the realization of other ICT provisions, their complexity and the required knowledge;
- the possibility and the timing of commercial and technical success;
- the risks involved in the realization of the project and financial criteria such as return on investment.

1.3. Information in the portfolio

The content of the various portfolios is subject to the type of portfolio. Maizlitz (2005) provides examples of data in a portfolio. There is a limit to the number of projects, applications and infrastructures, that organizations can keep up to date as part of portfolio management. Besides, Kaplan (2005) states that on top of the standard information, one could also consider keeping additional information on upgrades, extensions etc. These extra items as mentioned by Kaplan (2005) immediately raise the question on when the organization will actually include a project for infrastructures or applications as part of the portfolio management process. One could for example decide not to organize small changes as a project, which means that these do not have to go through the formal decision-making process surrounding projects.

Portfolio management can require processing large amounts of data. Therefore, an organization may choose to do this using special tools. It is an option to consider a tool, when people in the organization have realized that portfolio management is more than just the creation of overview. Portfolio management enables the organization to view projects from different points of view. One is able to compare one's own data to that of others.

It is possible to use a tool in portfolio management. The use of a tool can result in added value. When choosing tools, it is apart from the functionality of the tool, important to consider the ease of working with other tools as well as the already present selection of tools within the organization.

1.4. Working with portfolios

One chooses to use portfolio management for three reasons. These reasons are improvement on how internal priorities are set, for benchmarking with third parties and for arriving at optimum performance indicators. Each of these reasons is further explained below.

Improvement on the setting of internal priorities by means of portfolio management is a result of the disciplined execution of the agreed procedures. This improvement develops gradually (Kaplan (2005)). When an organization starts to work with portfolios, an organization often decides in a less factual and more informal way on permission for an investment in a project of the portfolio. This less factual and informal deciding changes, when the ownership of a project in a portfolio transfers from ICT to a unit within the organization. In that case, the planning of ICT is often streamlined with the strategy of the organization. Thus, a well-defined process is created for registering projects in the portfolio. And the organization will have real time insight into the status of its ICT projects and assets at its disposal.

Having insight into projects and assets creates the possibility for an organization to divide the projects into types and to compare the investments in these types to those within their own sector as well as to those in other sectors. The organization is able to benchmark itself. An example may help clarify this. Weill et al (2006) for example, distinguish between four types of expenses on ICT as made by organizations and have indicators for these for each sector. Furthermore, Weill et al state that these

expenses are subject to an organization's strategy. Weill et al (2006) provide norms for the expenses per sector and per situation.

When working with portfolios, this ultimately can provide management with immediate figures on the performance of a portfolio as a whole or of a project amidst other projects in the portfolio. Kaplan (2005) provides examples of these measurements, such as:

- the number of projects and the types of projects, which deliver too early or too late;
- the variation in service level;
- the variation in costs for the ICT provision;
- the variation in resources;
- the variation in delivered IT services.

This data can be (temporarily) supplemented if necessary with data on the percentage of projects that comes within portfolio management; the percentage of projects that really supports the organization's objectives; the percentage of projects one is able to govern; and so on. These figures may lead to indicators (Verhoef et al, 2008).

RESEARCH INTO THE PRACTICE IN THE NETHERLANDS IN 2010.

The status of portfolio management in the Netherlands was investigated using in depth interviews. These in depth interviews took place with ICT managers and portfolio managers in 19 large organizations. The interview used standard questionnaires, which were sent to the interviewees in advance.

During the interviews, the study focussed on the following four questions:

- are the conditions that, according to Maizlitz (2005), facilitate the working with portfolios indeed available in the investigated organizations? And if so, what type of portfolio is used?
- how do these organization govern their ICT and how have they set up their portfolio management?
- what data do the investigated organizations keep in their portfolio and do they derive indicators from this data?
- what reasons do the organizations in question have for working with portfolios?

All the large organizations that were involved in the study in 2009-2010 each stated in advance, that they had indeed set up portfolio management and that portfolio management did support the IT governance process at organizational level. The investigated organizations were active in five different sectors in society. These are the industry sector, the banking and insurances sector, the public utilities sector, the education sector and the public sector. In each sector, at least three organizations were interviewed. All investigated organizations employ more than 1300 staff.

RESEARCH RESULTS.

3.1. The reasons for deciding to use portfolio management

In addition to a number of qualities of the investigated organization, figure 1 shows the results regarding the type of portfolio management and the presence of the factors that simplify the use of portfolio management. Figure 1 shows that the use of portfolio management in the Netherlands mainly constitutes the use of project portfolio management. This project portfolio management generally

keeps the data of between 100 and 200 projects. The smallest number of projects in a portfolio is found in the education sector, the largest number in the world of banking and insurances.

Setting up and using portfolio management was in all sectors, with the exception of the education sector, supported by having clear-cut principles for the application of ICT. An up-to-date information or ICT plan is not always available and in portfolio management, it is not always possible to presume that the responsibilities for deciding on projects are clearly assigned. This mainly applies to information intensive sectors such as banking and insurances and in the education sector.

Looking at research question (a) one can so conclude, that using the criteria of Maizlitz (2005) the conditions for an easy introduction of portfolio management are not present in every organization in a sector. The type of portfolio management encountered is mainly IT project portfolio management.

Sector:	Government	Education	Industy	Utilities	Insurance
Number appl.	0-200	200-600	30-90 per org.	20-200	300-3000
Size pm dep.	7-30 fte	often within existing tasks	1-30 or within existing tasks	1-10 fte	about 20fte
Type portfolio	more types	mainly projects	project portfolio	project portfolio	project portfolio
Conditions:	no up to date plan, not always clear responsab.	in 75% all conditions oke	all conditions oke	often all conditions oke	not always up to date plan, not always responsab.

Figure 1. : Number of applications, size portfolio management department, type of portfolio and conditions that facilitate performing portfolio management.

3.2. The governance of ICT and the organization of portfolio management and the data used in these.

Figure 2 shows the results regarding the control of IT, the organization of portfolio management and the handling of portfolios. The figure demonstrates that in virtually all sectors, the data that is needed for portfolio management is available in the organization at a central level. In the education sector, this availability is limited to projects that are executed school-wide. In all cases where the data is available at a central level, this data is used for IT governance. Ranking of projects on the basis of rational criteria is rarely found. Only the industry sector included an organization that ranked projects.

When discussing the governance of ICT, it turns out that depending on the subject of governance, the decision-making process in the investigated organizations varied. In all cases, the ICT organization deals with decision-making with regard to the operations of ICT. However, figure 2 shows that the decision-making regarding other subjects may differ. The general management often formulates the principles. Sometimes it does this in consultation with line or business management and with ICT management.

The "portfolio management" activity includes both the set-up of the function "portfolio management" within the organization as well as the creation of portfolios, assessment of their content, keeping the entries in the portfolio up-to-date and advising on these. These processes are not always explicitly set-up. These often use project plans and business cases but evaluation (verification in retrospect whether the business case was realized in conformity with the starting points at the start of the project) and the

Sector:	Goverment	Education	Industry	Utilities	Insurance
Decisions about IT:	Often IT	Depends on topic	Depends	Depends	Dependst
Processes:	In 50% also evaluation	Often no explicit organization	Cleaning& checking– need attention	Cleaning & checking need attention	Not always an portfoliomngmt organization present
Criteria:	obliged, alrea– dy there,agreed	Increasingly financial	Accent onst/ benefit	Cost/benefit & compliance	Financial and obliged by law, 70% obliged

Figure 2. : Who makes the decisions about IT? Which portfolio management processes need attention and which criteria are used to evaluate the entries within the portfolio?

securing of lessons learned does not take place. Evaluation criteria for assessment of projects predominantly appear to be financial ones in the industry sector, the public utilities sector and banking and insurances. In the public sector and the education sector, one uses many other criteria in addition to financial criteria.

Considering research question (b.) nearly all investigated organizations have the data needed for portfolio management available at central level. In setting the principles that govern IT and the priorities for IT general management decides or is involved in the decision in nearly all 19 organizations. Looking at the organization of portfolio management the processes defined in theory are not always explicitly set up. In organizations, where these processes are set up, the evaluation process and securing of lessons deserves attention.

3.3. Keeping data up-to-date and the use of tools

Figure 3 shows which type of data is kept in the IT portfolio. There are four different types of data: general data, status data regarding planning and budget, data on specific aspects such as risk and other data such as chance of success, ROI. Looking at the figure, one may ascertain that for portfolio management at central level, mainly general data and status data is kept. One predominantly keeps a record on the progress of the project and how many resources it takes up. In doing so, one knows the ex ante predicted status as well as the actual status.

Furthermore, figure 3 clarifies that less than half the investigated organizations use a tool that is specifically aimed at portfolio management. One often keeps a record of the projects in MS Excel or in an MS Access application. Portfolio management is aimed at supporting the governance of IT in an organization. The data of this portfolio management are in general not used for arriving at any other indicators but are used for developing indicators about the effort involved in a particular technology or

Sector:	Government	Education	Industry	Utilities	Insurance
IT Project portfolio data:	75% has general data, 50% status e.o	100% has status data	100% has status data	100% has all data relating status + financial	100% has general and status data
Tools:	50% uses tools as Apex or Princ.TB tool	25% uses (Princ. TB) tool	50% uses tool	50% uses tool	67% uses tool
Performance indicators:	37,5% rel.to deve 50% rel to operations 25% rel to projects	No indicators	Often no indicators used	Rel. productivity and change/asset in 50%	Not always

Figure 3. : Data kept in the portfolio, use of tooling and deriving of performance indicators

indicators such as the number of changes per ICT provision. Comparisons between projects with ex ante determined key performance indicators do not take place. Looking at research question (c) the data used for portfolio management concentrate on general data and status data. The data are removed when the project is finished. Use of a tool to do portfolio-management is not common practice. The use of indicators is limited.

3.4. The reasons for portfolio management and the experiences

Figure 4 shows that the direct reason for starting portfolio management lies in the large number of projects that organizations have to deal with. When making decisions on IT, people demand transparency in IT governance. Therefore, the organizations are of the same mind when talking about the purpose of setting up portfolio management. This is done for arriving at transparency and for having a clear overview of the status of current projects. This is done to a lesser extent for benchmarking oneself with third parties as an organization or for acquiring indicators in relation with ICT projects. These may however turn out to be additional advantages. Around 20-40% of the organizations report these advantages. These are often organizations that have been keeping portfolios over a longer period. Some organizations started this only recently (less than three years ago).

Therefore, one expects the following effect of portfolio management:

- better overall insight;
- less but better projects;
- better control on priority;
- more coherence between the projects.

In interviews a remark is made by some companies, among which by a public utility in the energy sector and an insurance company, that they had an obligation to realize more than half of the projects in their project portfolio. Either there was a legal reason (for example implementation of new financial laws), either the company was being split up and this had its consequences for IT, either the company merged with another company. Real choice of projects is then an illusion. Other companies remarked that the started with project portfolio management at board level in 2006 or later. So their portfolio management are in its early stage and these organizations could give only their expectations about the effect of portfolio- management.

Sector:	Government	Education	Industrt	Utilities	Insurance
Initial reasons:	too much money to small projects bad results	many projects and desire for transparency	transparancy and governan- ce	many projects poor results and transparancy	many projects costs & check on cole technology
Current reasons:	better gover- nance,	better governance in 50% bench- marking& indic.	better gover- nance and in 75% also indicators	75% better governance, 25% benchmarking 50% indicators	better governance and in 33% also benchmarking,
Effects:	transparancy & coherence	in the long term more governance	better overview and fast idea of significance project	less projects better and more overview	better governance and number of small projects decreases

Figure 4. : Reasons for portfoliomanagement and effects of doing portfolio management.

Considering research question (d) the overwhelming reason to set up portfolio management is get transparency and "single truth". "Single truth" means, that the registration of the project portfolio on company level is considered by the board as giving the status of projects at company level.

CONCLUSIONS

This article presents the results of a study into the status of portfolio management in the Netherlands. The study took place in nineteen organizations, which support their governance of IT with a clear insight into the current projects in their organizations. On average, this involved over 100 projects per organization. Initially, the application of portfolio management is aimed at arriving at an overview and next at the improved setting of project priorities. Therefore, this is almost always project portfolio management. It became clear that at central level, the investigated organizations virtually always had an overview of the current projects. This central overview of projects was used in the governance of ICT.

For project portfolio management one mainly concentrates on keeping a record of general and status data of projects. This is the essence as regards the data that is used in portfolio management. The data from the portfolio, which is used in the reports by the portfolio management, is often used by the management of the organization as a representation of the status of current projects.

In less than half of the cases, a specific portfolio management tool is used in portfolio management. In the year 2010, one has rarely reached a situation where projects are ranked on the basis of objective criteria as far as the level of working with portfolios is concerned. Today's portfolio management is aimed at having an overview of the status of ICT and to a lesser degree, for assisting in benchmarking or for generating better indicators on ICT projects. It follows that there is ample room for improvement.

Based on the four questions as addressed by this study, one may ascertain that the situation is not always one that makes the portfolio management easier. It is obvious that an up-to-date information and automation plan is often lacking and that the responsibilities in the field of ICT are not always that clear either. As regards the organization of portfolio management one may argue that often, the evaluating and controlling processes are not set up. This may coincide with the fact that portfolio management usually ends as soon as the ICT provision is taken into production. Portfolio management only keeps a record of the data that is required for performing this task. Often this is limited to keeping a record of the general and status data of a project. Furthermore, the use of tools for performing portfolio management is not common practice. The prevailing reason for starting portfolio management is the large number of projects that an organization has to deal with. By means of portfolio management, one hopes to achieve more transparency as regards the results and choices as involved in certain projects.

DISCUSSION.

The study into portfolio management in the Netherlands is limited to large organizations, which have declared to have set up portfolio management. The way in which these organizations use portfolios to

govern IT on company level concerns project portfolio's and rarely goes further than prioritizing and distilling indicators from data. It seems that portfolio management is still in its early stages in a large proportion of the investigated organizations.

The outcome of the research may be influenced by the fact that the research is focussed on portfolio management at company level. There apparently mainly project portfolio management is done. In other parts of the company other portfolio's as for example application portfolio's could be available. This could be subject for further research.

Another topic that came up was the relative limited choice companies had to choose projects. This may have influenced to fact that the focus of portfolio management is on getting transparency and "one single truth" of the status of projects.

The study itself made use of in depth interviews using questionnaires. This resulted in a limited number of organizations that could be interviewed. Nevertheless, the researchers do not have the impression that the picture of organizations being involved in taking the first steps in this field as emerges from the study, is incorrect.

The study reveals, that at board level project portfolio management is used and has a certain maturity level. Nearly every organization uses a formalized project management methodology. There however less attention to the control of the portfolio management process and its evaluation. The study reveals also, that asset portfolio management is not yet done at board level.

Doing asset portfolio management at board level would enable companies as insurers, which have often grown by mergers and possess often a lot of applications developed using a great variety of tools, to clean up their asset landscape in a structured, step by step, way. This type of portfolio management however requires that the required data of all IT assets are kept in the portfolio during the complete life of an asset within an organization. This type of portfolio management is not yet in place at board level. The current situation is, that since two or three years at board level a department takes care that all actual data about the organization's projects are available and are followed.

References.

Applegate, L., Austin, R.D. and Soule, D.L.: Corporate Information Strategy and management: text and cases, McGrawhill-Irwin, New York, 2009.

Benko, C. and Mc Farlan, F.W. : *Connecting the dots*, Harvard Business School press, Boston, 2003.

Cubeles, A. and Miralles, F. : Portfolio practices in IT Departments: A perspective Based on IT strategic rol, *International research workshop on IT project management*, 2009.

Dhillon, G., Coos, D. and Paton, D. : Chapter 11: Strategic IT/IS Leadership and IT governance, in *Strategic Information systems management*, editors Grant, K., Hackney, R. and Edgar, D, Cenacge learning, Andover, 2010.

Jeffery, M. and Leliveld, I. : Best practices in IT portfolio management, *Sloan management review*, spring 2004.

Kaplan, J.: *Strategic IT portfolio management*, Pittiglio, Rabin Tood & McGrath (PRTM), New York, ISBN 0-9766093-1-2, 2005.

Keen, J.D. and Smith, H.A.: *Developments in Practice XXXIV: Application portfolio management*, Communications of the Association of Information systems, Volume 26, Article 9, 2010.

Maizlitz, B. en Handler, R. : *IT portfolio management, step by step,* John Wiley, Hoboken, 2005. (Handler is VP ERP at Gartner, Maizlitz is CTO at Lockheed)

Park, J.S. et al : *Effectiveness of Strategic decisionmaking on IT investments: Antecendents and Its Impacts on IT investmenet performance*, 43th HICCSS, 2010,

Verhoef, C. et al : Kwantificering opbrengsten van een risicodragende investyeringsportfolio, in *Focus op IT bestuur, Essentiële elementen voor IT governance*, editors Smit, D. et al, Naf, SDU, Den Haag, 2008.

Thiadens, T.J.G. *: Sturing en organisatie van ICT voorzieningen*, 1st edition, van Haren publishing, Zaltbommel, 2008.

Thiadens, Th.J.G.: Various columns in 2006, 2007 and 2008 in the trade magazine *IT service management*

Scantlebury, S. et al : Three CIO advisory board responses to "Managing the realization of business benefits form IT investments, *MIS quarterly executive*, May 2007.

Simon,D. and Fischbach, K. and Schoder, D. : Application portfolio management- An ingrated Framework and a software tool evaluation approach, *Communivations of the ACM*, Volume 26, 2010,

Weill, P. et al : *Compilation of MIT CISR Reseach on IT Portfolio's, IT Savvy and Firm performance,* (2000-2006)., MIT , Boston, 2006

Weil,P. and Ross, J. : *IT governance*, Harvard Business School Press, Boston, 2004.

Zwaan, H. and Steenbakkers, W.: *Puzzelen met portfolio's*, SDU, Den Haag, 2007.