JÖNKÖPING INTERNATIONAL BUSINESS SCHOOL
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Project Portfolio Management & Strategic Alignment

Governance as the Missing Link

Master Thesis within Business Administration

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Master Thesis within Business Administration

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Abstract

Introduction – Project-based organizations face a series of challenges when trying to implement and manage their project portfolios successfully in line with their strategic goals. Good project portfolio management (PPM) practices play a crucial role in maintaining well performing portfolios, but PPM is still a fairly new academic field. And it was found that the current PPM literature embodies a gap in providing explicit governance criteria to assure consistent portfolio decision-making.

Problem – What are the criteria of portfolio governance that contribute to better aligning the project portfolio to organizational strategy? Do project-based organizations in fact not implement a governance framework to guide their decision-making rationale? If there is some sort of a governance framework, do project-based organizations implement it in a consistent manner every time they take portfolio-related decisions?

Purpose – The purpose of this study is two-fold. First, we attempt to fill a gap in the current PPM literature by proposing a portfolio governance framework that could enhance project portfolio decision-making. Secondly, it is our goal to find out whether decision makers in project-based organizations consistently cover all issues related to portfolio governance at portfolio meetings.

Methodology – The study employs both qualitative & quantitative methods to fulfill the two-fold nature of the study. A Portfolio Governance Framework, comprising 26 statements, was developed on the grounds of existing literature on PPM, strategy & governance. The proposed Framework was then used as a basis to carry out an online survey in which 31 respondents (executive level) from 25 project-based organizations (operating in Sweden) were asked about how consistent they are in discussing relevant portfolio governance issues.

Conclusion – The empirical findings of this study indicate that the majority of project-based companies do not employ a governance framework when it comes to portfolio decision-making. In the few cases that they do, it is mostly a set of policies that is not applied on a consistent basis.

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I. Introduction

This chapter introduces the reader to the topic of this thesis as well as outlines the problem and purpose of the study. Further, delimitations and relevant definitions are stated.

Nowadays an increasing number of organizations operate on a project basis and often face challenges to carry out these projects on time, within budget and on scope. The discipline to successfully manage each project, Project Management, has evolved to an established field for researchers and practitioners. These practices seem to be insufficient though when companies deal with many projects at the same time, also called *multiple projects* or *project portfolios* (Aritua, Smith & Bauer, 2009; Dooley, Lupton & O'Sullivan, 2005; Rad & Levin, 2006). Project-based organizations face great complexity when it comes to coordinating multiple projects, project networks and project-based organization networks. Although project management is helpful for single projects, small or large, it provides limited value to organizations that strive for portfolio added benefits. Hence, the need for better-established project portfolio management (PPM) practices is ever greater.

Contrary to project management, PPM is a rather new area of interest to the academics. As such, not many studies have been executed in order to make it a well-established theoretical field. What PPM refers to is the management of portfolios or collections of projects that help 'deliver benefits which would not be possible were the projects managed independently' (Turner & Speiser, 1992, p. 199). Furthermore, PPM is linked to 'the strategies, resources, and executive oversight of the enterprise and provides the structure for project portfolio governance' (Levine, 2005, p. 1). Thus, it should be mentioned that while there is a difference between governance and management, PPM is comprised of both in order to be effective. Overall, there are differences between the definitions of PPM, but most authors agree that the project portfolio should be aligned to the company's strategic objectives in order to be a valuable contribution to the overall organizational goals. As such, PPM can be seen as the link between an organization's strategy and its realization.

The ability to implement and manage project portfolios varies between organizations and the degree to which an organization 'practices the application of knowledge, skills, tools, and techniques to organizational and project activities to achieve its aims through projects' (PMI, 2007, p. 7) is what is referred to as its maturity. And the increasing number of frameworks and models (focusing on organizational maturity) developed by PPM practitioners emphasizes the growing significance of those for project-based organizations. These so-called maturity models (CMMI Product Team, 2009; PM Solutions, 2005; OGC, 2008; PMI, 2007; Rad & Levin, 2006) all follow a similar structure, being comprised of 5

maturity levels, with level 1 being the lowest and 5 – the highest in portfolio maturity[1]. And although it could be argued that these models are somewhat different in their approach, they all represent rather novel research in organizational practices supporting performance enhancement in particular for organizations operating on a project-basis.

Based on recent empirical research, hardly any company operating on a project basis is yet at the highest levels of maturity (PM Solutions, 2005). At the same time, it was also found that 'the use of strategic methods results in better alignment of the projects in the portfolio with business strategy, and with spending better reflecting strategy' (Killen, Hunt & Kleinschmidt, 2008a, p. 32). This indicates that there seems to be a linear correlation between the performance of PPM to the alignment of the organization's strategy. But so far not much academic research has been carried out describing methods that link long-term planning and strategy to portfolio decisions (Killen et al., 2008a). Thus it can be argued that such a gap poses a challenge to practitioners who aim to implement project portfolios in order to enhance the organizational performance. And although existing PPM maturity models discuss the importance of strategy and strategic alignment as a prerequisite to the project portfolio success, they seem to lack providing the necessary tools to actually do so.

And making sure that there is strategic alignment between the organization's strategy and the project portfolio is an aspect of the component portfolio governance, which has been used as an indicator for PPM maturity (OGC, 2008; PM Solutions, 2005). The underlying assumption is that the stronger the portfolio governance in an organization, the more mature it will be in implementing valuable PPM practices. Therefore, a solidly governed portfolio, which is aligned to the organization's strategic objectives, should be a goal for project-based organizations.

1.1 Problem Discussion

Previous studies on PPM practices show that companies still experience challenges in implementing projects, programs and project portfolios successfully. The reasons for that could be various. Many practitioners have tackled the issue from a practical perspective and have provided tools, methods and software programs to help companies achieve their organizational goals. However, the problems that companies experience have not been overcome. With the evolution of project management practices to more complex program and portfolio management ones, the need for new approaches to PPM has been brought about. The rather new area of management has also brought with it new challenges, different from the ones common in project management.

The most common challenge, as recognized by researchers and practitioners, is their inability to transform the organization's strategy into practical operational actions (Schlichter, 2007). Hence, the major focus when developing PPM tools and practices has

[1] For a details description of different Maturity Models see Appendix 1

been on process improvement. Although there has been much improvement on the process part, there has not been any proof for a direct positive 'correlation between process capability and project success' (Jugdev & Thomas, 2002, p. 8). This could either mean that the processes in question have not been enhanced well enough to have a tangible positive aspect or that processes are insufficient to look at when considering portfolio performance.

At the same time, numerous authors point out the importance of portfolio governance as a driver for portfolio decision-making. Taking a deeper look into the subject of portfolio governance, we found no tool, method or guideline to help organizations in either implementing a governance framework or developing their own. Also, there is consensus among authors that aligning the portfolio to the organization's strategy is found to be of vital importance. Yet there is still a lack of well-developed governance criteria that would facilitate the alignment of the project portfolio to the organization's strategy, Furthermore, some authors suggest that portfolio governance be left at the organizational level, not the portfolio level (PMI, 2006). This means that there is a discrepancy as to what organizations are supposed to implement in order to be better able to achieve their organizational goals.

Based on the often conflicting information provided by various authors, it is not surprising that companies are still underperforming. Keeping these challenges in mind, a series of research questions arises:

1. *What are the criteria of portfolio governance that contribute to better aligning the project portfolio to organizational strategy?*
2. *Do project-based organizations in fact not implement a governance framework to guide their decision-making rationale?*
3. *If there is some sort of a governance framework, do project-based organizations implement it in a consistent manner every time they take portfolio-related decisions?*

1.2 Purpose

The purpose of this study is two-fold. First, we attempt to fill a gap in the current PPM literature by proposing a portfolio governance framework that could enhance project portfolio decision-making. Secondly, it is our goal to find out whether decision makers in project-based organizations consistently cover all issues related to portfolio governance at portfolio meetings.

1.3 Delimitation

Although project portfolio management processes represent an important aspect of PPM practices, this thesis will not focus on process-related issues but rather on the linkage between the portfolio and the strategy, which appears to be one of the main challenges in reaching higher levels of PPM maturity. Also, it shall be mentioned that we are aware of the fact that not all types of organizations aspire to reach the highest levels of PPM

maturity, especially if their main operations are less dependent on project performance. Furthermore, for the purpose of this study, only organizations whose overall success strongly relies on the project portfolio performance are considered. Moreover, this thesis is delimited by reviewing primarily portfolio governance, which constitutes a main factor that needs to be developed further in current PPM practices.

1.4 Definitions

A Project is an undertaking that has a narrow scope with specific deliverables, in which success is measured by budget, on time, and on scope delivery to specification and for which project managers are responsible.

A portfolio of projects is a collection of separate projects and it is said to have a business scope that changes with the strategic goals of the organization. Success is measured in terms of aggregate performance of portfolio components, added value beyond the sum of single project outcomes and alignment to the organizational strategy.

Organizational Strategy is the determination of long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resource necessary for carrying these goals.

PPM Maturity is the degree and willingness (attitude) to which an organization applies measurable and perceived indicators to achieve specific strategic goals.

Portfolio Governance addresses the organizational and decision making set of policies used to manage and review the portfolio of projects by establishing the limits of power, rules of conduct, and protocols of work.

Project Portfolio Management (PPM) is a dynamic decision making process that combines management and governance practices, which helps to assure the portfolio's appropriateness of its strategic direction.

Portfolio Review Board (PRB) is the decision making body that is in charge of the activities related to portfolio governance and management.

Project Management Office (PMO) is the project-based organization's unit that is responsible for keeping track of both individual projects and project portfolios.

Project-based organizations are organizations that arrange their internal and external activities in the form of projects.

1.5 Outline of the Thesis

In order to give the reader a better understanding of the structure of this thesis, it is necessary to shortly outline the content of the main chapters.

Chapter I introduces the topic of this thesis as well as outlines the problem and purpose of the study. Further, delimitations and relevant definitions are stated.

Chapter II consists of the Methodology of this thesis. It gives a description of the study, discusses the research philosophy connected to the purpose of the thesis and elaborates on the research strategy, approach and methods that were chosen to conduct the study.

Chapter III provides a critical review on the current Project Portfolio Management (PPM) literature, as well as relating theory on strategic alignment, governance and maturity. It also serves as a basis for the Frame of Reference in Chapter IV.

Chapter IV introduces the Frame of Reference that will be used for the analysis of the empirical findings in Chapter V. The Frame of Reference presents the proposed Portfolio Governance Framework and discusses the contribution of the Framework to current PPM literature.

Chapter V presents the findings of the conducted PPM Governance survey, which is based on the proposed Portfolio Governance Framework, analyzes and discusses the results and provides answers to the proposed research questions.

Chapter VI summarizes the main findings of this study in relation to the proposed research questions and offers concluding remarks and managerial implications. Limitations concerning the study and suggestions for further research are presented as well.

II. Methodology

This chapter gives the reader a description of the study, discusses the research philosophy connected to the purpose of the thesis and elaborates on the research strategy and methods that were chosen to conduct the study.

2.1 Description

First it is our intention to describe the origins of this two-fold study in order to provide the reader with a better understanding on how the topic of this thesis has evolved.

The idea for the study came as a result of a previous study on PPM that was carried out in the fall semester of 2008. The study was conducted in cooperation of JIBS and Capgemini® and its goal was to better understand the challenges and milestones of project-based organizations. 48 companies were studied through an online standardized survey that consisted of 54 questions. While there were numerous interesting findings, one of the results confirmed an assumption that the researchers had prior to the study, namely that companies still implement projects, programs and project portfolios unsuccessfully. The reasons for that result are various, including imperfect processes, and decision-making rationale. One aspect, which was particularly striking was the lack of a standardized framework to guide companies prior to portfolio decision-making meetings.

The distinction between project management and project portfolio management will be elaborated on more in Section 3.1. What must be noted is that project management has been well developed in the last 60 years but the management of a project-based firm is a quite novel research field, with project portfolio management within it even more novel (Artto & Kujala, 2008; Killen et al., 2008). There are numerous tools, volumes of literature and countless advice journals on project management, but project portfolio management has only recently, perhaps in the last 10 years or so, become of interest to academics. It is for that reason that much of the issues and specifics pertaining to PPM have not yet been well developed. This presents both a challenge to the researcher but also an opportunity to further contribute with academic work to theoretically advance the field. This led us to seize the opportunity to contribute with a project portfolio governance framework that we believe is much needed in current PPM practices.

When beginning our research, we approached the field without any preconceptions as to the reasons for this lack. We collected the relevant information from the library of the University of Jönköping, from databases such as ABI/Inform, Academic Search Elite, Emerald and Science direct, searched the Internet for related published books, and read the websites of the major project management institutes, among others. Also, through personal communication with the vice-president of Capgemini® Jonas Winqvist as part of the previous PPM study, we acquired additional insights on the subject. While examining the literature on project portfolio management, we were not sure what we were looking for

specifically and were not able to pinpoint the focus/purpose of our thesis yet. An aspect that was repeatedly stated to be crucial for successfully performing portfolios was the need for strategic alignment of the portfolio towards the organization's objectives. This leads to the questions on how strategic alignment can be measured and assured in the long run. The concept of PPM maturity of an organization is discussed in detail in our theoretical background part. In essence, PPM maturity in organizations refers to how well organizations implement project portfolios and project portfolio management. Several maturity models have been developed to assist organizations in this endeavor, and the maturity models tend to be quite similar in the criteria they use to measure maturity.

It was one such study, carried out by the consultancy PM Solutions in 2005 and was based on their own maturity model ('PPMMM', Appendix 1.3) that drew our attention. It measured maturity of companies implementing project portfolios, from a number of perspectives. The most important finding from that study was that organizations scored lowest or second lowest on portfolio governance, out of all 5 perspectives (PM Solutions, 2005). However, while there are numerous tools, techniques and advice on how to improve the other 4 areas in order to reach a higher maturity level (both on the market as software, and in the different books as guidelines), nothing substantial existed for companies to follow, in order to increase their portfolio governance maturity. It is for this reason that we decided to look into portfolio governance into more detail. And reviewing existing studies on PPM maturity revealed to us that portfolio governance is a dimension of portfolio management that is clearly underdeveloped.

We saw this as one of the main weaknesses of the current literature and formulated our problem discussion on it. Further reviews of PPM literature revealed that a portfolio governance framework has not been developed yet. Therefore, we believe a framework like this is necessary to ensure the consistency of the decision-making rationale at portfolio meetings, which sets the basis for mature PPM practices. And identifying this gap in the literature served as a foundation of the purpose of this study and for the here proposed Portfolio Governance Framework.

Besides proposing the said framework to fill this gap, we also saw the need to examine whether companies consistently use similar guidelines that bring awareness to underlying portfolio sections. Thus, in order to do both of our research statements in the purpose justice, it was found necessary to include an empirical investigation in this study. In other words it has been our aim to test the proposed guidelines (consistent usage of portfolio governance rationale for decision-making) vs. the actual or completely ad hoc practices in project-led organizations. And because we are only aiming at finding out whether organizations use such a tool or not, we decided that using a standardized set of questions, aiming at the consistency of the issues taken up during portfolio decisions, is what we need to know in order to reach a conclusion. Should we find out that there really is no such

framework, then we suggest that companies either use ours or develop their own, in order to make decision-making more valid and consistent.

Should there be such a framework on average, then we suggest that companies use our framework to identify the areas, which they deploy least often, in order to reach a higher state of validity and consistency. We believe, as is widely accepted among theoreticians and practitioners who test the maturity of project-led organizations, that consistency and standardized approaches are a vital part of implementing project portfolio more successfully.

2.2 Research Philosophy

When it comes to what constitutes acceptable knowledge (Saunders, Lewis & Thornhill, 2007) for the purpose of this study it is not easy to take a pure stand, but it is necessary in order to be guided by certain approaches, methods and tools. The reasons for that are numerous but perhaps the most important is the multifaceted nature of the current study. While on one hand it is derived from a gap in literature, on the other the proposed framework is built on what authors see as important most commonly. Therefore, it may be said that the current thesis can be separated into two distinct studies – one based on literature review to identify a gap and suggest a framework to fill it. This represents our theory-building part. And the other – an empirical study to test the employment of PPM governance frameworks in project-based organizations. It is believed that the practices of the surveyed companies would be much facilitated if they employ a governance framework to guide their portfolio processes. We propose one such framework. Still, because of the way we approached the issue of the current thesis, we can say that our study leans toward positivism more than any other paradigm.

Furthermore, it is important to mention that project portfolio management (PPM) and PPM maturity are rather new areas of research from an academic perspective. Because of that, much of the literature that has been used for deriving our Governance Framework is based on literature written by practitioners with long experience in the field. Hence, it can be argued that the literature review carried out in the first part of the study is theoretical but is based on empirical findings.

The epistemological perspective taken in the study is that of positivism because positivism is associated with the observable social reality, concerned with facts rather than impressions (Remenyi, Williams, Money & Swartz, 1998, cited in Saunders et al., 2007). In terms of the first part of the study, the current literature on project portfolio management, strategic alignment and organizational government was reviewed in order to formulate assumptions that were based on an identified gap in the literature. As pointed out above, since the literature on PPM is rather new and since the majority is based either on practitioners' experience or empirical studies, the gap in it was identified when reviewing

existing maturity models for PPM. The positivist stance of this theory allowed us to examine the literature with the goal to pinpoint an area that we could contribute towards.

It must be noted that we started off with an assumption that since PPM maturity was a rather new area of research, gaps existed in it. Insofar as positivism is supposed to be carried out in a value-free-way (Saunders et al., 2007), this still holds true for the study. As Punch (1998, p. 51) points out, 'the researcher has a value judgment at the start of the research (when the selection of the research area and research questions is made)' which is the stance we retain before beginning the study. As will be discussed below, in section 2.4, the mixed method model will allow us to deploy qualitative interpretation of the findings from the quantitative study. However, in terms of conducting the study itself, in between the beginning and the end the idea is to carry out the research in a value-free way (Punch, 1998) in order to allow for law-like generalisations (Saunders et al., 2007).

Since the research is conducted in the sphere of management, we believe that 'only phenomena that you can observe will lead to the production of credible data' (Saunders et al., 2007, p. 112). While in many areas the feelings of the researcher may play a role in evaluating the data, it is our goal to conduct this study from a positivist perspective because we are not concerned with why managers take or do not take certain decisions at portfolio meetings but rather whether they take decisions pertaining to specific areas of project portfolio management. It can be said that for this study there not much can be done to change the content of the data collected (Saunders et al., 2007) and we can only assume what the reasons could be for these decisions. We are more interested in what those decisions are, as a sum, in order to be able to evaluate whether project-based organizations employ governance frameworks at portfolio meetings. As such, for the empirical part of the study, we will implement 'a highly structured methodology in order to facilitate replication' (Gill & Johnson, 2002, cited in Saunders et al., 2007, p. 118) should any researchers in the future wish to expand the study to include companies from countries, other than Sweden, or to companies in Sweden that do not have specified PPM practices.

Insofar as the current study is concerned, it checks whether the surveyed companies employ governance frameworks for the decision making process at their portfolio meetings. In other words, since we cannot study the thing itself but only the way it appears (Walliman, 2001), confirming the use of governance frameworks in order to better understand decision-making at portfolio meetings is a positivist approach.

However, as the goal of the study is also to collect information about ongoing portfolio meeting practices, the information that is deemed necessary to confirm or overthrow the existence of governance frameworks can be said to aim at figuring out which social structures have caused to the occurrence that we are trying to understand (Saunders et al., 2007), i.e. critical realism. Furthermore, the critical realist perspective is even stronger in

that the information that we consider relevant to our study is to be derived at multiple levels – the portfolio, the strategy and the board perspectives. This is contrary to the belief of direct realism that the world is unchangeable (Saunders et al., 2007), because the underlying assumption for the decision-making body is that changes are made on a regular basis to reflect the changes in the external environment (i.e. the portfolio objectives have to be aligned with the organizational strategy, which changes when the environment drives it to).

We may be tempted to approach the study from a critical realism perspective, because we may not want to lose 'rich insights into this complex world … if such complexity is reduced entirely to a series of law-like generalisations' (Saunders et al., 2007, p. 105). However, it is only in the beginning and the end of the study that we need to evaluate information in order to carry out the research, and the study itself will be approached from a positivist, value-free, stance.

As implied, the challenge for the positivist paradigm is that of reducing complex data to generalizations. But it is the purpose of this study to confirm or overthrow the usage of portfolio governance frameworks in organizations, and not to evaluate the methods or tools used instead of such frameworks. Whether the results could be generalized to be true to all companies that fit our survey sample criteria, is rather ambiguous, but in this study we can evaluate or check for a tendency in companies to do so, thus making the results of the survey transferrable to other companies, operating in Sweden, that deploy PPM practices. Therefore, we deem this challenge as an irrelevant obstacle in our thesis.

2.3 Research Design

This section presents the reader with the research strategy, the framework within which it is to be applied, from whom and how the data is to be collected.

2.3.1 Quantitative & Qualitative Research Approach

'The language of 'quantitative' and 'qualitative' has always been distinctly unhelpful as a technical guide to research methods and we would be better off without it'

(Oakley, 2003, cited in Gomm, 2004, p. 6)

When it comes to deciding about the approach for a study, what matters more is not the inevitable polemics of *pro* or *con* one or the other approach has, but rather the guidelines that these two approaches provide the researcher with, depending on the type of study to be conducted. As pointed out by Punch (1998), the two approaches do not present a dichotomous choice, but rather a continuum (see Figure A).

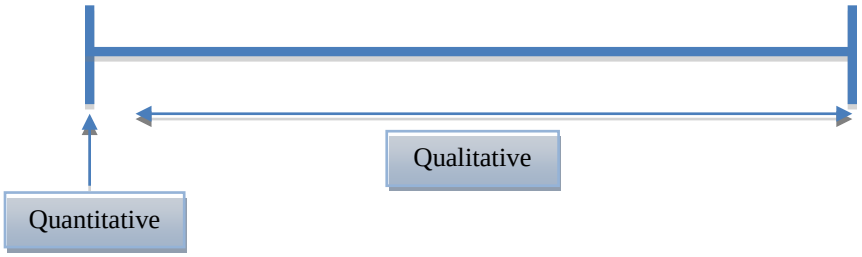

Figure A: Quantitative & Qualitative Spectrum (Punch, 1998, p. 23)

While it is quite difficult to undertake a study from a purely quantitative or qualitative approach, it is evident that the qualitative approach encompasses a much wider range than the purely quantitative approach. The difference between the two pure approaches is understandable; as the qualitative approach implies general guiding questions for the study, a loosely structured design and that the data does not get prestructured (Punch, 1998). On the other hand, the quantitative approach implies 'prespecified research questions, tightly structures design and prestructured data' and the results would often be presented in numerical form (Punch, 1998, p. 23). As rightly criticized by many (Punch, 1998; Creswell, 1994; Gomm, 2004), it is almost impossible to appoint a pure approach to a study. On one hand, the researcher may have *experiential knowledge* (Punch, 1998) even in an under-researched area therefore making the exploration of vast amount of empirical data not entirely assumption free. Furthermore, in terms of introducing the structure of the research *a priori* or *a posteriori* (Punch, 1998), it may be impossible to do so at the very beginning or at the very end – even if we start with clear research questions and a clear idea of what we want to accomplish with the quantitative study, and even if the results of the study are presented in numerical form, some form of interpretation may be required to make sense of the results. Therefore, new structure may emerge even after the beginning of the quantitative study. The same implications exist for qualitative studies – even if the structure of the research is presented *a posteriori*, in order to avoid confusion and overload with the data (Punch, 1998), some knowledge in the area and loose goals may be present prior to the beginning of the study.

The explanation above was necessary in order to better understand the stand we take in our study. Again, our study is two-fold and employs approaches that lean towards both qualitative and quantitative characteristics. In the first part of the study, the part that deals with creating a project portfolio governance framework, we start without *a priori* assumptions. However, because we have participated in the execution of a previous study on similar topics, and regardless of the fact that the PPM area is largely under-researched, it may be said that we possess *experiential knowledge* (Punch, 1998). While we had no pre-specified research questions, in general we tried to understand the challenges that companies face, when executing project portfolios, the reasons for the still rather low

success rate of project portfolio outcomes and the rationale at portfolio decisions. It is with these thoughts in mind that we explored existing PPM literature.

For the second part of the study, our study leans more towards quantitative approach characteristics. The pre-specified questions that we employ are derived from the project portfolio governance framework from the first part of the study. The need for executing the second part of the study is as stated in Section 1.2 – to find out 'whether decision makers consistently cover all issues related to portfolio governance at portfolio meetings'. It must be noted that it is not our goal to test the content of the framework, because in order to do so, more time and resources would be needed[2]. Therefore, we rather aim at checking for consistency of the issues taken up, rather than the issues themselves. As such, the second part of our study has a quite tightly structured design and the data may be said to be pre-structured as well. The main difference from a purely quantitative approach that our study presents is that our results are not presented in a numeric form, other than statistical data that will supplement the explanations. What would be more interesting to explore from the results are potential generalizations about the consistency in the three areas that constitute the framework – portfolio characteristics, strategic alignment and review board aptitude – because just statistical numbers would be insufficient to draw profound conclusions. Therefore, the continuum of our study is both ways, from qualitative to quantitative and then back to qualitative (Figure B).

Figure B: Continuum of this Study

As will be discussed in detail in the further sections, this study combines qualitative and quantitative approaches in order to 'capitalize on the strengths of the two approaches, and to compensate on the weaknesses of each approach' (Punch, 1998, p. 245). Because of the rather complex nature of the study, it was found necessary to combine both methods and data. In terms of the way the two methods have been brought together, we have kept the following questions in mind (Punch, 1998, p. 246):

[2] In order to test the content of the framework, a company would have to implement it. Before and after that a test would have to be done to measure whether there are any improvements in the performance of the project portfolio. While this may be valuable, it is beyond this thesis' goal and capacity to test that.

- Will the two approaches be given equal weight?
- Will they be interactive or separate?
- How will they be sequenced?

In this study's case, the approach applied is more of a hybrid than any of the other 10 combinations that authors propose. The study has characteristics from the following two types – *Qualitative research facilitates quantitative research* and *Problem of generality* (Punch, 1998). The former combination approach means that the qualitative research helps to 'provide background information on context and subjects; act as a source of hypotheses; and aid scale construction' (Punch, 1998, p. 247). This holds to some extent true for this study, as the qualitative nature of the first part acted as a source for assumptions, and also provided the background for the portfolio governance framework. However, in the pure sense, the aim of the study has not been to carry out a quantitative study that needed qualitative support for background information because the first part of the study is equally important as the survey part.

Because of the equal importance of the two parts of the study, it also shows characteristics of a quantitative approach, whereby the addition of the survey results, which present some quantitative evidence, may help to mitigate the fact that it is often not possible to generalize in a statistical sense the findings of the qualitative research. Therefore, the two parts of the study are seen as inseparable and only one part of the study may not prove sufficient in order to be convincing enough. Thus, we deploy a hybrid combination of qualitative and quantitative approaches.

2.3.2 Research Strategy – Abduction

The research strategy that will be employed for the purpose of this study is that of abduction (Alvesson & Sköldberg, 2003). In our study, further to a review on PPM and other literature, relevant to the field, a gap was established – namely that there is no project portfolio governance framework to guide decision-makers for portfolio decisions. Because the existing literature on PPM is based on either practitioner's experience (where the practitioner is the author of the literature) or on empirical data, including case studies, we view this literature as the empirical research that is required for the abduction approach. Furthermore, because we connect strategic alignment and corporate governance, which are much more established theoretical fields, to the rather new area of PPM, the combination serves as our theory basis when developing the project portfolio governance framework. The logical and also the inventive character of abduction (Reichertz, 2007) has allowed us to explore the field of PPM in more complex ways than by using deduction or induction purely. The ability to design a logical operation which produces new knowledge (Reichertz, 2007) is what we have aimed for in the entirety of this thesis.

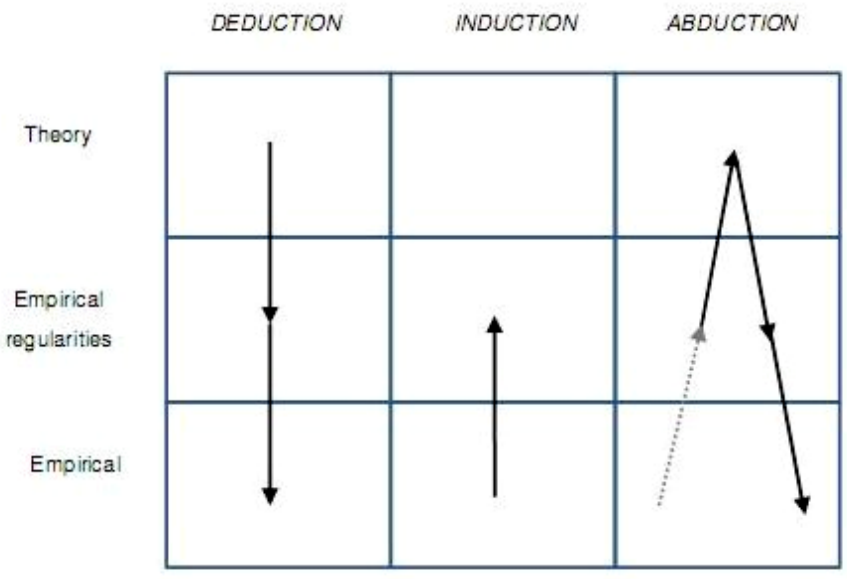

Figure C: Deductive, Inductive and Abductive Approach (Alvesson & Sköldberg, 2003, p. 45)

Figure C above shows how the abductive approach can contribute to both theory generation and confirming empirical regularities, in order to see certain patterns and to reveal deep structures (Alvesson and Sköldberg, 2000). What this means in terms of research strategy is that one takes a 'general look through the broad outlines of the theoretical and empirical research field, followed as quickly as possible by a leap into one's own empirical material' (Alvesson and Sköldberg, 2000, p. 18). In simple terms, the general look into the theoretical and research fields is done in order to uncover possible patterns, and the empirical work – to confirm or overthrow them. If needed, the process is repeated with another finding, in order to confirm it and create new knowledge. That means that for the first part, one uses more of an inductive approach in order to explore theories and empirical data, and to reach a conclusion/generalization, and then uses deduction to test the generalization 'to see if the theory [or generalization] applies to specific instances' (Spens & Kovacs, 2006, p. 374).

The characteristics of abduction are plausibility, defeasibility and presumption (Dew, 2007). While plausibility is said to be truth based on appearances, it really depends on the type of information we have at hand (Dew, 2007). Based on that information we may draw conclusions and then overthrow some of them as less plausible or more plausible – which would lead us to want to test them in order to confirm or overthrow them, in the search of truth. Confirming or overthrowing these initial conclusions or hypotheses in favour of one of them, or in favour of a new finding, is defeasibility (Dew, 2007). In order to test our hypotheses, 'we presume that our abductions are true' (Dew, 2007 p. 39) that is the presumptive characteristic of abduction.

In terms of the objectivity of the abductive approach, it has been argued that abduction tends to be subjective, because different people are likely to recognize different patterns (Dew, 2007). However, in the case of the current study, the fact that two people came to the same conclusion in terms of the gap in literature makes the finding more of an objective result. Another explanation could be that the level of experiential knowledge of both authors is similar. Still, because abduction calls for a general overview of both the theoretical background and the empirical findings (Spens & Kovacs, 2006), it is highly unlikely that the level of experiential knowledge of both authors in an underdeveloped field as PPM was high enough to reach the same conclusion or draw the same parallels based on theory entirely. As such, the abduction process in identifying the gap in literature is somewhere in between subjective and objective.

The abduction approach is seen by many authors as almost magic-like in that it allows the researcher to discover patterns that are not obvious at first, by using intuition at the subconscious level (Dew, 2007), or for allowing creativity (Reichertz, 2007; Kovacs & Spens, 2005) to name a few. The lack of a clearly pre-structured approach to the research is deemed appealing to many, but few actually consider the potential shortcomings of abduction and the implications that those could have for their study.

As Alvesson and Sköldberg (2000) discuss, one such pitfall could be reinventing the wheel, when the researcher has too weak an insight into the field of interest, he or she may come to a conclusion that has been previously reached by someone else, thus making the findings of a new study not very worthwhile. Another drawback could be jumping to conclusions (Dew, 2007) that could be the result of not having identified enough or appropriate enough options to further test. The reason that these are important is much like *experiential knowledge* – being aware of these potential dangers to the research, the researcher could ensure that the research actually brings about new knowledge, as it is supposed to when using abduction. One way could be to constantly test new hypotheses or conclusions. Another could be to cover as much material in the field as possible, after something 'puzzling' has been discovered. Because there may not be an explanation available at first, but by looking deeper into the field, one may actually come across other studies that have looked at that discovery before and have found a suitable theory, explanation, or have developed one already.

While abduction may also be criticized for its inexplicability, because one should rely on pure chance in order to make a startling discovery, this is not entirely the case. As rightly pointed out by Reichertz (2007) abduction occurs as a consequence of a particular situation, when for example one allows for abductions to happen – through 'the achievement of an *attitude* of preparedness to abandon old convictions and to seek new ones' (Reichertz, 2007, p. 221). This implies two things – one is open mindedness, which is not hard to achieve in an unexplored field as PPM. The other is that a person should be immersed in

the field in order to allow for synergies to develop from exploring the field. Therefore, it can be said that an abduction strategy requires somewhat of a prior knowledge in the field, an interest, in order for new information and interdependencies to become visible. Hence, abduction requires that data is taken seriously and the validity of previously developed knowledge be queried (Reichertz, 2007).

As mentioned before, our study consists of two separate parts that differ both in terms of our approach and in terms of the desired results. As a result of the two-fold nature of this study and the use of both quantitative and qualitative approaches, it may be said that the abduction approach applies to the entirety of the current thesis. Further to the discussion on abduction above, the approach for our thesis has been the following:

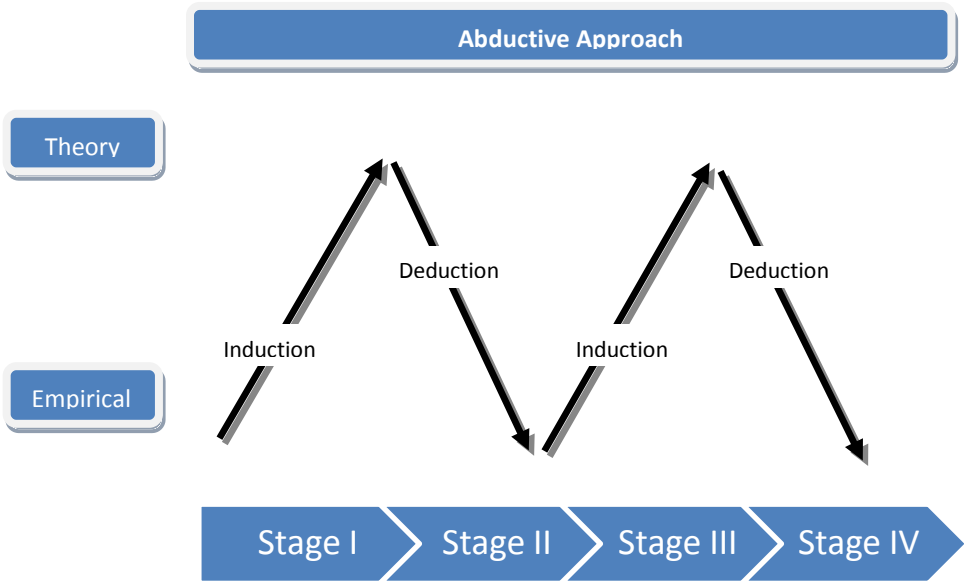

Figure D: Abductive Approach of this Thesis in Stages

The first part of the study starts off with more of an inductive, theory development process, in which we review the current literature that is available in order to make general preliminary conclusions. It must be noted that this part is not purely inductive because inductive, in its pure form, means a 'theory building process that starts with observations of specific instances and seeks to establish generalizations about the phenomenon under investigation' (Spens & Kovacs, 2006, p. 374). How the first part of our study differs is in that we do not directly do field observations, but rather borrow findings and studies from previous empirical work in the field. Nevertheless, the character of the PPM literature review/process is more inductive than deductive, in order to reach the conclusion that a governance framework has not yet been developed.

Concerning the second part of this thesis, the study leans towards a quantitative approach but because the framework that is used as the grounds for the study is novel, it is hard to argue that it is grounded in a well-established theoretical body of knowledge (Creswell, 1994). Again, few studies are purely quantitative or qualitative, so identifying towards which side the study will or leans to will have implications about the used method (Punch, 1998). In terms of the breadth or scope of the framework, it may be said that it is aligned with substantive theory characteristics (Creswell, 1994) because it is restricted to the consistency of the rationale/issues used or taken up at project portfolio meetings. Thus, it neither tries to approach large categories of phenomena, which are most common in natural sciences (Creswell, 1994), nor does it encompass actors other than decision-makers at portfolio meetings, or companies implementing project portfolios.

Therefore, the assumptions that underpin the second part of the study can hardly be specified into *hypotheses* and although the results of the study may be generalized law-like conclusions these will only apply to the actors mentioned above. Since the objective of this study is to test or verify our presumptions, we assume that the second part of the study is relatively quantitative. However, because in our study's case pure numbers or results from the survey would not tell us much, we will interpret or analyze the results qualitatively. This combination of applying quantitative tools and analyzing the results qualitatively will be discussed in more detail in Section 2.4.3 below. Still, it must be noted that such an approach is not novel and has been suggested as rather appropriate in such complex studies (Spens & Kovacs, 2006).

Thus this study is the result of assembling 'such combination of features for which there is no appropriate explanation or rule in the store of knowledge that already exists' (Reichertz, 2007, p. 219) or that rests on a 'puzzling' observation that cannot be explained using established theory (Spens & Kovacs, 2006; Dew, 2007). The abductive approach suggests that the empirical data and theory building phases overlap, with the intention to suggest new theories after the theory testing phase (Spens & Kovacs, 2006).

Reviewing the available empirical findings on PPM practices, as well as case studies, maturity models and other relevant literature led to raising questions as to why companies still implement project portfolios unsuccessfully. The more we looked into possible reasons for that, the more the research questions took shape (Stage I, Figure D). The process that we went through to formulate the research questions was of inductive character in that based on observations, in our case, of other empirical findings, we developed the concluding questions, which are based on presumptions. Since these presumptions are the ground for our questions, it may be said that they represent theories that subsequently relate to the reviewed literature (Saunders et al., 2007). Based on PPM practices and relevant literature, i.e. a 'new rule is discovered or invented and, at the same time, it also becomes clear what the case is' (Reichertz, 2007, p. 219).

What followed next was the process of formulating the purpose of our study, which is closer to the deduction approach. However, this does not reflect deduction in its pure form, because deduction means starting from a general law over to a specific case (Spens & Kovacs, 2005) or the act of testing the identified theories and ideas (Saunders et al., 2007). Since in Stage II (Figure D) of the process we do not directly test the developed ideas, it is arguable whether the approach is purely deductive. However, because the developed ideas were compared against previous findings from earlier studies, this sort of comparison is to an extent a test of the validity of our presumptions. Hence, Stage II (Figure D) is of more deductive character, than inductive.

Going back to the issue of the study at hand, after having gone through Stage II (Figure D), we recognize that authors implicitly agree that portfolio governance is vital for the project portfolio success. However, there still had been no governance framework developed. Furthermore, there is evidence that points to the fact that portfolio governance is a dimension in which most project-led organizations score rather low (PM Solutions, 2005), and yet such tool was not developed. This is why we saw the necessity for a project portfolio governance framework. Again, based on the literature review that had been done in Stage I (Figure D), the review on relevant to governance fields, such as corporate governance and strategic alignment, we developed the project portfolio governance framework, which is the result of the exploratory work, making this stage, Stage III (Figure D) of more inductive character.

The abduction alternation between induction and abduction characteristics in the second part of our study have to do with the way we have carried out the research. The induction characteristics of the first part of the study (Stage III, Figure D) of the study are the formulation of the project portfolio governance framework, that represents a generalisable result, or theory development process (Spens & Kovacs, 2006) that applies to the inexplicable phenomenon, which in our case is the fact that companies still implement project portfolios unsuccessfully. Once established, the framework can serve as general guidelines for companies, or PPM theory on portfolio governance. The deduction approach in the end is represented by applying a quantitative tool, or conducting a standardized survey, in order to confirm or overthrow our presumption that project-based companies are not consistent in using portfolio governance to guide their PPM decision-making and processes – Stage IV, Figure D.

2.4 Research Method

The following sections present the reader with the research method chosen for this study, describe the characteristics of the sample and questionnaire design as well as elaborate on the data analysis procedures used.

For the two-fold nature of the purpose of our study, it was found necessary to use a mix of research methods in order to be able to answer all of the research questions proposed. Therefore a *mixed method model* was employed (see Figure E) which allows the researchers to combine 'quantitative and qualitative data collection techniques and analysis procedures' as well as 'quantitative and qualitative approaches at other phases of the research such as research question generation' (Saunders et al., 2007, p. 146). Thus, an obvious advantage of this model is that different combinations of methods (quantitative & qualitative) can be used for different purposes within the study. And since the purpose of this study is comprised of three research questions with different aims, we see the need to use a combination of multiple research methods in order to explore our assumptions.

As stated before, the mixed method model also appears to be the adequate research choice method on the level of data collection and analysis. This model gives us the option during data analysis to also *qualitise* quantitative data and *quantitise* qualitative data (Saunders et al., 2007) that was obtained through the conducted survey.

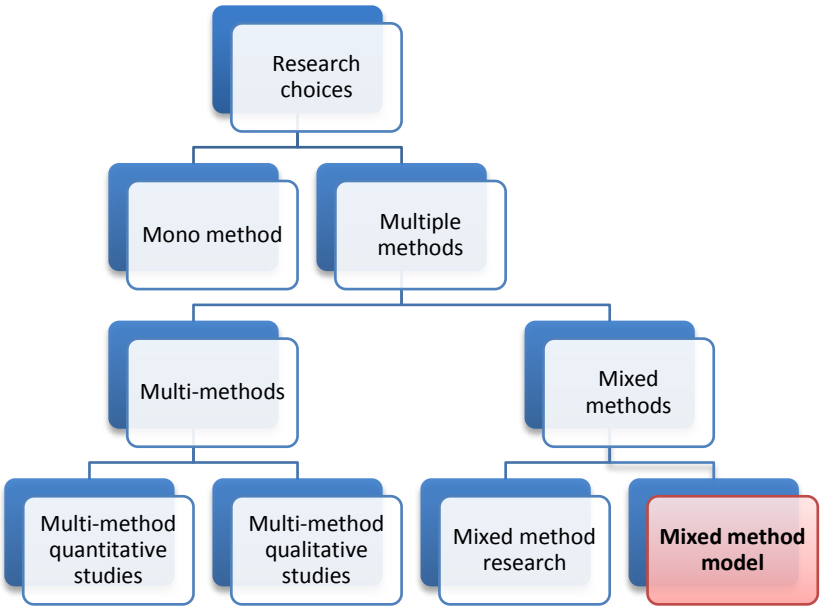

Figure E: Research Choices (Saunders et al., 2007; p. 146)

The empirical research of this thesis is carried out as a *cross-sectional study* since a particular phenomenon (usage of a governance framework for decision-making) is studied at a particular time (limited time frame to conduct the survey). Employing this time horizon is in line with the selection of our research strategy, since cross-sectional studies generally make use of the survey strategy (Robson, 2002).

2.4.1 Sample Selection

In order to conduct a survey comprising the empirical part of this study, a representative sample of participants had to be selected. And the issue with sampling which arises more and more in today's research - and also challenged the authors of this thesis is that limited resources (i.e. time, accessibility, funding etc.) force one to practice *convenience sampling* rather than follow an accurate sampling plan (Punch, 1998). But if decided for a sampling plan, this one should be in line with the logic of the proposed research questions of the study (Punch, 1998). Thus if the nature of the research questions requires a statistical representativeness of the sample in order to conduct a legitimate sample-to-population inference, this should be fulfilled (Punch, 1998). This is generally true for sampling in survey research (in a purely quantitative approach) in which the researcher is not only interested in the characteristics of the sample but also in those of the population from which the probability sample has been derived (Schofield, 1998). Nevertheless *representativeness* can be also seen as subject to interpretation (Gomm, 2004). Thus if the research question does not require a statistical inference a non-probability sample can be drawn, which is mainly based on subjective judgment of the researcher (Saunders et al., 2007).

Figure F below illustrates the thought process of deciding for a non-probability sampling technique that is appropriate to the proposed research question and approach.

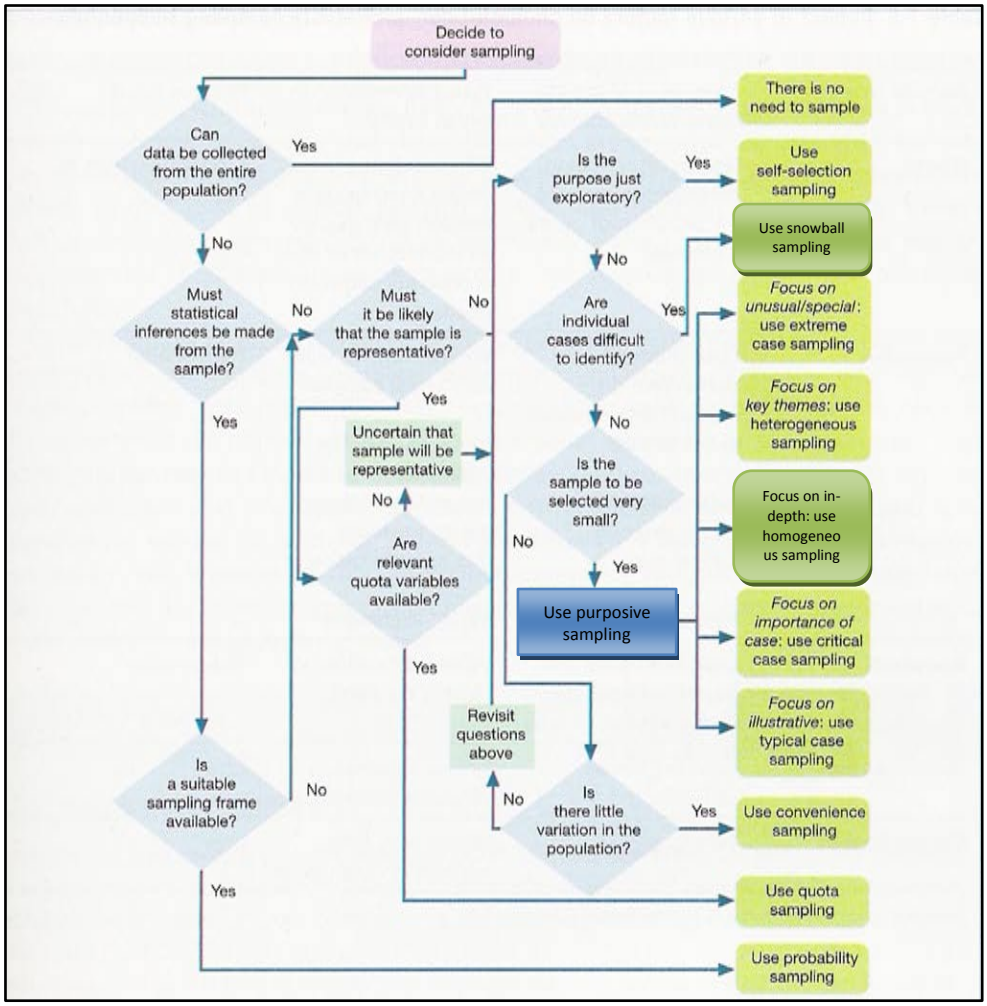

Figure F: Selection process of a non-probability sampling technique (Saunders et al., 2007, p.227)

As highlighted in Figure F, in the case of our study we employed *purposive sampling* with the focus of having a *homogenous* subgroup consisting of participants holding similar (executive level) positions within their organization. This is due to the fact that relatively fast it became clear that the sample we needed in order to result in a reliable answer for our research focus had to be selected in a 'deliberate way with some purpose or focus in mind' (Punch, 1998, p. 193). This purpose we had in mind was the goal of our research question, which seeks to find out whether or not decision makers consistently cover all issues related to portfolio governance at portfolio meetings. And since the idea of *purposive sampling* or *theoretical sampling* is that a scheme of classification is used in which one or more subjects of each type are selected by their theoretical relevance, irrespectively of how common or rare they are (Gomm, 2004), this sampling method appeared to be the most appropriate. The classification scheme for the sample of this empirical study can be broken down into the following criteria displayed in Figure G:

- ✓ Type of organization: project-based
- ✓ Size: small to medium-sized enterprises
- ✓ Location: Sweden
- ✓ Industry: across industry sectors
- ✓ Position of participants: executive level
- ✓ Availability: access to contact information

Figure G: Sampling Criteria (Classification Scheme)

Keeping in mind these criteria, our purposive sample resulted in 31 Swedish project-based organizations from 7 different industry sectors (telecommunication, transportation & travel, financial services, energy, healthcare & pharmaceuticals, manufacturing & production and public service providers). Per organization 1-2 contacts (respondent prospects) were then chosen to answer the survey. Each of the 53 employees that were selected and contacted are part of the portfolio team at their organization, meaning that they are either Head of the Project Management Office (PMO) or occupying an executive position (i.e. CEO, CIO, CFO) that enables them to be part of the portfolio decision-making body. Thus all participants and survey respondents are members of the Portfolio Review Board (PRB) of their organization. The identification of these individuals was necessary in order to ensure the validity and reliability of the survey. Only decision makers concerned with the project portfolio are said to have the ability to judge whether a portfolio governance framework is being used in their organization or not.

The stated sample criteria, which ask for a very clear cut set of people holding a certain position, were sometimes difficult to obtain due to limited availability of relevant contact information. Because of this issue limited access and resources to reach preferred participants directly, our sampling approach for the survey shows attributes of *snowball sampling* by which subsequent respondents are contacted through the help of the initial respondents (Saunders et al., 2007). In some cases we had to approach the companies in this way in – meaning, that we needed to ask our original contacts to indentify further persons at their company holding the same decision making power. Nevertheless, it shall be pointed out that this approach had only been employed in a few cases in which the original contact person did not see herself/himself able to participate in the survey (i.e. due to being in the wrong position or lack of time).

As displayed in Figure H below, 53 employees (executive management level), working in 31 different project-based organizations operating in 7 various industry sectors in Sweden were contacted, comprising the sample of this study. Out of the selected and contacted employees, 31 (from 25 different companies) agreed to participate in the study and completed the online survey. This resulted in a response rate of 58% of contacted employees. And although the sample size might appear fairly small, it is perfectly credible

for confirming our assumption on whether or not there is a tendency for project-based organizations to use a governance tool such as our proposed framework to improve their PPM practices. The sample taken gives a clear view on the general tendency that can be observed in project-based organizations operating in Sweden across industries. And it is believed that a larger sample size would only confirm this tendency. This belief is based on the actual progress of the survey during which the more people replied to the survey questions, the more confirmed the general tendency was found to be.

Industry Sector	**No. of Contacts**		**No. of Participants**		**Response Rates**	
	Companies	Employees	Companies	Employees	Companies	Employees
Telecommunication	3	6	2	2	67%	33%
Transportation & Travel	3	7	2	3	67%	43%
Financial	7	11	6	7	86%	64%
Energy	3	6	3	3	100%	50%
Healthcare	2	2	2	2	100%	100%
Manufacturing & Production	6	9	5	6	83%	67%
Public Service Provider	7	12	5	8	71%	67%
Total	**31**	**53**	**25**	**31**	**81%**	**58%**

Figure H: Sample Size - No. of Contacts and Participants

2.4.2 Questionnaire Design

The data collection technique that has been found appropriate for this study is a standardized questionnaire, which was carried out as an online survey. The advantages of internet-mediated (electronic) questionnaires are that respondents can easily access and navigate it, are not able to modify it and may remain anonymous (Witmer, Colman & Katzman, 1999). Since internet-mediated questionnaires are administered via a website, the layout and structure needs to be attractive and easy to navigate for the respondent (Saunders et al., 2007). Therefore we created a highly structured questionnaire consisting of standardized questions that were grouped into three main parts / areas of focus (*I. Portfolio characteristics; II. Strategic alignment; III. Portfolio team skills*). And researchers agree that compared to unstructured techniques, structured methods such as the standardized questionnaire surveys 'seem to be more *scientific*, more like the proven [and thus favored] methods of the natural sciences' (Wilson, 1998, p. 111).

When designing the research questions, we neither adopted nor adapted them from other questionnaires, but developed our own set of questions, which proved to be relevant. And aside from asking the respondent to state his/her name, organization and current position, the questionnaire consists of a set of standardized *closed* or *forced-choice questions* (deVaus, 2002) in which the respondent was able to choose from a category that describes the behavior of the portfolio team. Although the questions are closed-ended in their nature, we found it important to also give the respondent the option to further comment on each question in his/her own words; and provide us with additional information that might be of relevance when qualitatively evaluating and analyzing the collected data.

Figure I illustrates the standardized design that all 26 questions of the questionnaire follow (see Appendix 2 for the complete questionnaire & the results). The web application that was used to carry out this questionnaire was provided by eSurveyspro (2009), which offers free services to conduct online surveys. Not only did it provide the survey respondent with an easy-to-use questionnaire layout, but also supported us in creating, managing and analyzing the survey.

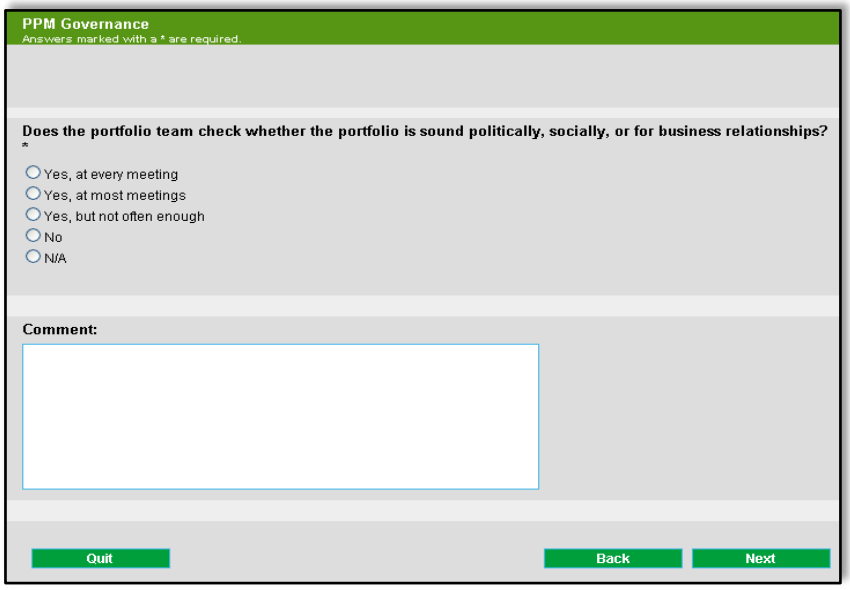

Figure I: Example Question from the online Questionnaire (eSurveyspro, 2009)

2.4.3 Data Analysis Procedure

The obtained data from the online survey is analyzed using both, quantitative and qualitative methods. The use of mixed analysis procedures can be seen advantageous under the aspect that they allow more possibilities to elaborate on the results (Creswell, 1994). This notion also appeared to be useful for the evaluation of this empirical study.

For the first part of the analysis of the empirical findings it was interesting to examine the quantitative data quantitatively, using the percentages to derive the overall tendency of the participants' answers *(a. yes, at every meeting; b. yes, at most meeting; c. yes, but not often enough; d. no; e. N/A*). And in order to be able to answer our research questions, it appeared to be essential to take it a step further and to group & analyze the survey data by significant aspects - relevant to the frame of reference. This was carried out in three ways:

1. By the 3 parts (areas of focus) the questionnaire is divided in: *I. Portfolio characteristics; II. Strategic alignment; III. Review board aptitude*
2. By the respondent type: *Nature of the company (Public service provider vs. Market driven organization)*
3. By the respondent type & framework part

The Second part of the analysis was influenced by a more qualitative focus in which the general tendency of the survey results as well as the participants' comments were used to make direct connections to the literature review in chapter III (PPM, Strategic Alignment & Governance) and the frame of reference in chapter IV (Portfolio Governance Framework). Pointing out significant discrepancies between the survey results, participants' remarks as well as the overall tendency have been considered vital in analyzing the quantitative results qualitatively.

Although we applied both quantitative and qualitative analysis procedures for interpreting the quantitative data we have derived, our primary goal was to verify our assumption about a lack of consistent portfolio governance practices. So besides discussing the results in relation to relevant theory, putting the focus on the type of answer chosen by the respondent (regardless of the industry of the organization) is the one of most important aspect of the analysis of the empirical study. In other words, any answer chosen by the respondent other than *a) yes, at every meeting* indicates that a certain issue/area concerning the project portfolio is not reviewed on a regular basis and thus verifies our postulation that many project-based organizations still do not use consistent portfolio governance practices to ensure optimal portfolio decisions.

2.5 Validity, Reliability & Generalisability

'Infallibility in scientific matters seems to me irresistibly comic.'
(Peirce, 1931-35, Vol.I:X, cited in Reichertz, 2007, p. 223)

The opinion of philosopher Charles Peirce on the topic of attempting to achieve an absolute certainty about the validity of abductive inferences is quite intriguing. The issue here raised

is that through an abductive approach one can only achieve 'an intersubjectively construct and shared truth' (Reichertz, 2007, p. 222), meaning complete certainty about the verification of this study cannot be attained due to its construct. Thus, this limitation should be kept in mind by the reader when examining the outcomes, conclusions and managerial implications of this thesis.

Nevertheless, validity on the level of the instruments used to carry out the empirical research of this study may be examined. The *internal* validity refers to the ability of the questionnaire (data collection technique) to measure what is intended to be measured (Saunders et al., 2007). The aim of the questionnaire of this study is to examine whether governance practices are used as the basis for decision-making in order to ensure a consistent rationale for the decision-making process. Thus, content-wise it shall be argued that the authors of this thesis base their survey questions on relevant literature (written by researchers & practitioners) that has been reviewed in relation to project portfolio management, strategic alignment and portfolio governance. Therefore, it can be claimed that the questions asked are capable of bringing clarity to the research assumptions proposed. Overall, the authors of this thesis aim to verify with the conducted survey whether or not decision makers (executive/senior management of a company) cover all issues related to PPM. The answers received through the questionnaire might, therefore, also indicate whether the consistent use of a rationale such as a governance framework is missing. In general, it is assumed that its usage will have a positive effect, resulting in better PPM performance and higher organizational maturity. But it has to be noted at this point that further research has to be done in order to verify the theoretically assumed positive impact on PPM performance caused by the use of an integrated governance framework.

The reliability of the data collection techniques and data analysis procedures used refers to consistency, meaning that if tested at a different time and under different conditions, the findings produced are still consistent and therefore reliable (Saunders et al., 2007). It can be argued that a standardized questionnaire consisting of closed questions, as used in this study, provides a rather high degree of reliability (in terms of presenting a comparable set of data), since the provided set of answers are consistent and limited by the choice. Further, it may be asked whether the techniques and procedures used to carry out the research represent a reliable tool in assisting the researcher to find desirable answers for the undertaken study. The online questionnaire does fulfill this criterion for our study since its results did not only give us enough information to confirm our prior stated assumption but also to draw significant conclusions and relevant managerial implications. It can be argued, though, that one limitation of the survey represents the language, since it was not carried out in our participant's native language (Swedish) but in English. Nevertheless, concerns about misunderstanding or misinterpretation of the survey topic and questions were prevented. All respondents were aware of the fact that this study is carried out in English

and did not show any unease with this. Furthermore, all respondents were given the opportunity to contact us should any questions arise or if there was ambiguity about the meaning the questions.

The generalisibility of the entire study is an interesting matter that has to be looked at separately for the two parts of the purpose. The developed PPM governance framework, which comprises the first part of the study and is proposed as a tool to enhance PPM practices, is constructed as a very generic set of 'guiding' statements. The statements are formulated in a manner that directly addresses the decision making body (i.e. portfolio review team): *'We are aware of synergies between portfolio components', 'Based on the identified strategic goal, we can define a set of projects that will help achieve it'* or *'We fully understand and can interpret the necessary information to make optimal portfolio decisions'*. Those examples taken from the framework show that due to the nature of the framework, these statements are applicable to any project-based organization. And although the use of such a framework was in this study only tested on Swedish companies in form of a survey, it is our clear goal and understanding that the proposed portfolio governance framework is a relevant tool to all organizations that strive to improve their PPM performance – regardless of their location, size or industry. Therefore this notion of creating a framework as generic as possible was done with the reasoning that it can be used in various business settings/environments in general.

The generalisibility concerning the second part (empirical research) of this study has to be treated differently. Since the sample was chosen on a purposive basis, the level of possible generalization of the data is defined by the quality of the theoretical inferences from the sample data (Saunders et al., 2007). This is also described as *theoretical generalization* (Gomm, 2004). In our case it means that with the purposive sample we had drawn the respondents answers can be used to draw general conclusions back to the literature and the proposed portfolio governance framework. This allows is to contribute to the theoretical body of knowledge in PPM.

Overall, it may be concluded that the formulated research problems and purposes of this study have been able to be answered/verified by the means of the taken research approach. Thus, the conclusions drawn based on the findings of the previous literature as well as from the empirical research are believed to be credible and trustworthy due to the use of appropriate research methods.

III. Background & Literature Review

This chapter provides the reader with a critical review on the current literature on Project Portfolio Management (PPM), as well as relating theory on strategic alignment and governance.

Project portfolio management has its roots in the Modern Portfolio Theory first developed by Henry Markowitz in 1952 for which he received a Nobel Prize (Horvitz & Wilcox, 2007). The Modern Portfolio Theory is essentially a financial tool for optimizing investment portfolios based on overall risk-reward attributes rather than just adding investments that were believed to be potentially highly profitable (Rad & Levin, 2006). Ultimately, investment portfolios would yield the highest returns (they would be maximized) and would involve a manageable and predictable risk levels when portfolios are optimized through diversification. Thus, the portfolio potentially can have maximum returns with minimum risk (Rad & Levin, 2006).

The success of the Portfolio Theory in the financial sector led to its application in other disciplines, such as the field of regional science (Chandra, 2003) and project management (Chandra & Shadel, 2007; Rad & Levin, 2006). The use of the principles of financial portfolio theory in project portfolio management is relatively new, as the field of project portfolio management is relatively new. However, the principles for portfolio maximization are being applied in project-based organizations that wish to achieve greater results than from the outcomes of separate projects.

For the purpose of the current study it is worth explaining what project-based organizations are and why the issues concerning them are important. As stated in Artto and Kujala (2008), some authors distinguish between project-based and project-led organizations in that project-based organizations 'organize most of their internal and internal activities in projects', while project-led organizations undertake projects 'as a growing part of their operations' (Hobday, 2000, cited in Artto and Kujala, 2008, pp. 475-476). Distinguishing between organizations that carry out operations in projects just based on their amount for this study is of no fundamental consequence because we view the importance of implementing project portfolios well as equally important in both types. Therefore, when referring to project-based organizations, we follow the general definition given by Artto and Kujala (2008) that a project-based organization 'also covers "project-led" firms that undertake projects only as part of their operations' (Artto & Kujala, 2008, p. 476), because projects are seen as the firm's business vehicles. It must be noted that in the current thesis the terms *project-based* and *project-led* are used interchangeably.

Another issue that comes out of the definition for a project-based organization is how projects and organizations actually interact and how these interactions can be categorized to

reflect existing organizational structures. Based on the magnitude of the interaction between projects and firms, Artto and Kujala (2008) categorize these structures the following way:

	One firm	Many firms
One project	1. Management of a project	3. Management of a project network
Many projects	**2. Management of a project-based firm**	4. Management of a business network

Figure J: Framework of project business: four distinctive management areas (Artto & Kujala, 2008, p. 470)

In their introduction and discussion on project business as a research field, Artto and Kujala (2008) identify both the management areas and their characteristics. We will briefly mention the differences between the four, before concluding that this study is concerned with organizations from type 2 Area (Figure J).

Area 1(Figure J), *Management of a project* has been well researched over the 60 years that project management has existed and includes knowledge areas and process enhancement for single projects. *Management of a project network* (Area 3, Figure J) pertains to managing a project across many organizations and including other stakeholders that are relevant to the project, hence networks, or project coalitions. The project is seen as a temporary undertaking that is also highly dynamic (Artto & Kujala, 2008). *Management of a business network* (Area 4, Figure J) relates to several organizations that engage in mutual projects from time to time in order to achieve synergies but could also be to decrease competition or rivalry. These are usually made up of 'competitors, financiers, customers and their clients, contractors and their subcontractors, suppliers, designers, architects, manufacturers, service providers, integrators, and consultants' (Davies, 2004, cited in Artto & Kujala, 2008, p. 471).

The current study is interested in the organizations in Area 2 - *Management of a project-based firm* (Figure J) as projects can and are grouped into portfolios that are themselves very complex. The characteristics of such organizations are that they could contain two types of projects – internal and external. Internal projects could be development or capital investment projects, or restructuring change projects; external projects are customer delivery, product types, etc. (Artto & Kujala, 2008). As noted, this research area is rather

new and 'includes research primarily on a firm's management ability and consequently the capacity of the firm to initiate and execute projects that either directly or indirectly benefit the organization' (Artto & Kujala, 2008, p. 472). This area is not directly concerned with the relationships of such a company with other project-based organizations, or with project coalitions. Rather, it is interested in the complexities and challenges for managing projects and project portfolios within one organization (Artto & Kujala, 2008).

3.1 Project, Program, Portfolio – the Essentials

As briefly mentioned above, projects as a way for organizing work in enterprises have been around for over 60 years. And research on how this work can be better carried out, or project management, has also been around long. Over time, projects have become organized into more and more complex bodies that today comprise project programs, portfolios, multiple project collections and others.

3.1.1 What Is a Project?

There are main differences between projects, programs and portfolios. As per the definitions of the Project Management Institute (PMI), a project is an undertaking that has 'a narrow scope with specific deliverables', in which 'success is measured by budget, on time, and products delivered to specification' and for which project managers are responsible (PMI, 2006, p. 6). But these components are only part of the objective rather than independent measures of success (Levine, 2005). Furthermore, most executives are not interested in such measures of success (Levine, 2005). There are various types of projects in the available literature. There are investment, IT, R&D, product, service and internal development projects. Historically speaking, managing projects was initially related mostly to investment (or financial), R&D and IT projects (Elonen & Artto, 2003) and as a field of research and practical application is rather well developed (Dooley et al., 2005). Companies nowadays also very commonly organize product and service developments into projects and research has well extended into these spheres. However, internal development projects (such as restructuring undertakings, or projects to increase the efficiency or transparency of a company, or to make the company with a flatter hierarchy) seem to be lacking in research (Elonen & Artto, 2003).

3.1.2 What Is a Program and a Portfolio?

A program consisting of projects is different from a single project in that it has 'a wide scope that may have to change to meet the benefit expectations of the organization'; its success 'is measured in terms of Returns on Investment, new capabilities, and benefit delivery' (PMI, 2006, p. 6). Last but not least, a portfolio of projects is said to 'have a business scope that changes with the strategic goals of the organization [and] success is measured in terms of aggregate performance of portfolio components' (PMI, 2006, p. 6). While it is clear that a project is defined by cost and scope of the undertaking with a

specific stop and start date, the difference between a program and a portfolio of projects is rather unclear as per the definitions provided by PMI (2006).

Figure K is a simplified pyramid that visually presents the levels of project, program and portfolio, whereby the portfolio of projects sits at the top of the pyramid because it reflects the organization's strategy, vision and mission. The portfolio is then divided into programs of projects whereby each program reflects a common objective (PMI, 2006). Projects that make up the programs and portfolios are limited in time, scope and budget as temporary undertakings, the outcomes of which bring the organization closer to achieving its strategic goals.

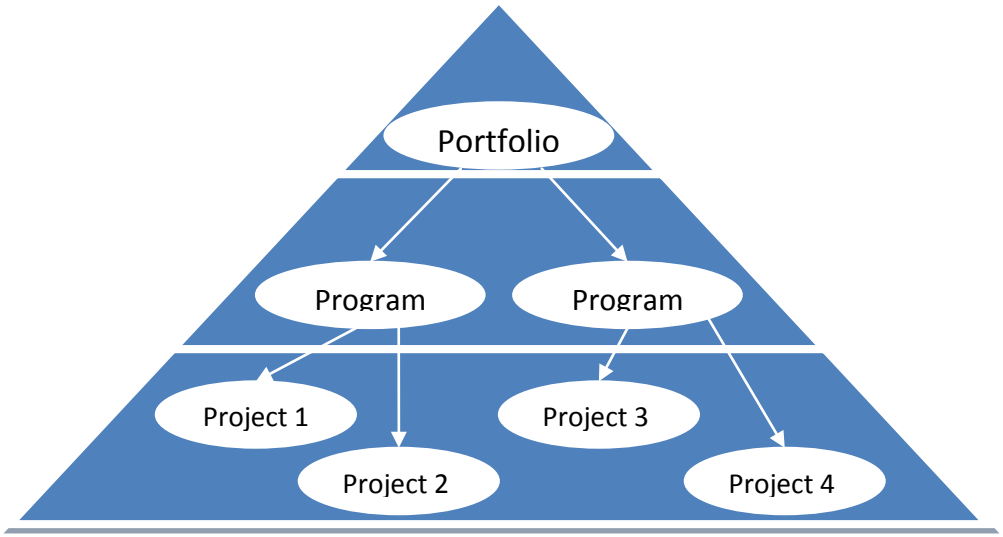

Figure K: Project, Program and Portfolio Pyramid

It is important to note that while the term project portfolio has become widely accepted various names exist that pertain to the same entity. Project portfolios have often been referred to as *multiple projects* (Aritua, Smith & Bauer, 2009; Dooley et al., 2005; Hendriks, Voeten & Kroep, 1999; Patanakul & Milosevic, 2006; Yang & Sum, 1992; etc.). Also, some authors seem to use program and portfolio interchangeably as they are seen as closely related terms (Elonen & Artto, 2003; Dooley et al., 2005). It is perhaps not surprising that program, multiple projects and portfolios all relate to collections of projects. However, it is the management of these domains that really differ because they imply different actions and responsibilities.

Based on the discussion above it has become rather clear that companies, consciously or not, separate the different types of projects into two distinct types of project portfolios –

Internal project portfolio (IPP) and External project portfolio (EPP). Although the nature of the projects may differ quite a lot and may not make it easy for organizations to categorize the portfolios into only 2 types, it is viewed to be easier from a logical perspective and for the aim of visualization to separate them. IPPs are comprised of projects that pertain to the internal betterment of the organization – organizational change projects, or internal development projects, such as new features to existing services/products, capital investment, new product development, or even maintenance projects (Artto & Kujala, 2008; Levine, 2005). On the other hand, EPPs are comprised of external projects, such as production and/or customer delivery type projects (Artto & Kujala, 2008).

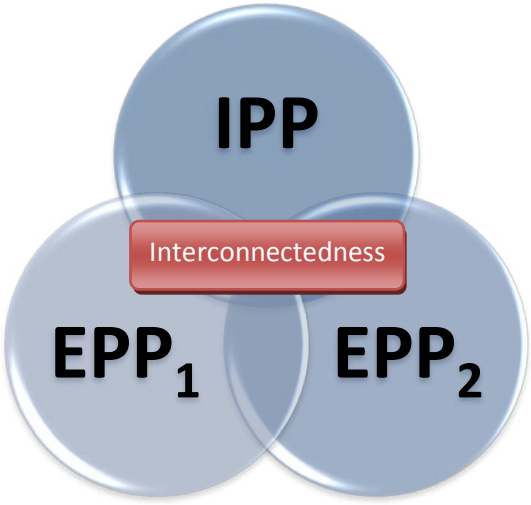

Figure L: Interconnectedness

The interconnectedness between the two types of portfolios (Figure L) is vital for the balance of the project-based company outcome. Because if internal projects are oriented towards enhancing the features of an existing product that has been discontinued then time, resources and efforts are wasted. The same goes for organizational change projects that do not reflect the fast changing environment. Even from an external perspective – if external portfolios have a goal that is no longer aligned to the strategy and has a very small chance of achieving the organizational goals, then these projects would also be redundant and, logically, should be killed regardless of the stage they are at. Of course, this has proven to be easier said than done, as companies are often reluctant to terminate a project well underway, as found in the previous study of JIBS and Capgemini® carried out in 2008. Still, what is important to keep in mind is that project portfolios should not only be aligned to the organizational strategy but should also be reviewed for relevance in relation to each other.

3.1.3 What is PPM?

Project portfolio management (PPM) has been defined by different authors in various ways. Firstly, as noted briefly in the previous section, PPM was created based on the concepts of financial portfolio management (Rad & Levine, 2006). The management of a portfolio of projects is thought to deliver increased benefits (Platje, Harald & Wadman, 1994), which are greater had these projects been managed separately (Aritua et al., 2009; PMI, 2006). This is what Turner (1999) calls managing projects in a coordinated way, for *added benefit*. However, PPM is more than just managing a collection of individual projects for increased benefits (Dooley et al., 2005). PPM also focuses on project selection and it deals with balance of projects within the portfolio (Cooper, Edgett & Kleinschmidt, 1999). It is a dynamic decision making process (Cooper et al., 1999) which helps assure the portfolio's appropriateness of its strategic direction (Tidd, Blessant & Pavitt, 2001, cited in Dooley et al., 2005) through a learning loop. The learning loop that Dooley et al. (2005) proposed is the feedback and learning part from each closed project, to measure how successfully the projects have been relative to their objectives, which according to the authors is never analyzed.

3.1.4 PPM Purpose and Objectives

The objectives of PPM also slightly differ among authors but most agree that managing the project portfolio ensures a balanced portfolio, links the portfolio to the organizational strategy and maximizes the value of the portfolio (Elonen & Artto, 2003; Dooley et al., 2005). What a balanced portfolio refers to is a portfolio that consists of projects that are 'long and short term, high and low risk, across markets and technologies' (Cooper et al., 1999, p. 343). Furthermore, PPM is a way to help link projects with the firm's values and culture (Levine, 2005). On a more operational level, PPM is used for 'periodic reviews of the total portfolio of all projects, making go/kill decisions … on an ongoing basis, and developing a new … strategy for the business, complete with strategic resource allocation decision' (Cooper et al., 1999, p. 343) and in order for PPM to be effective it must be employed consistently over time (Dooley et al., 2005). Perhaps most importantly, PPM is a top-down approach (Levine, 2005), which means that it directly reflects the organization's strategy, mission and vision. It is described as 'a set of business practices that brings the world of projects into tight integration with other business operations', through strategic, financial and executive oversight (Levine, 2005, p. 22). Therefore, PPM is more than just managing a collection of individual projects or maximizing the value of the portfolio – it is a combination of both governing the framework within which projects are defined and managing the projects so as to achieve the above mentioned objectives.

3.1.5 Common Issues Related to PPM

Common issues related to PPM are not hard to find but at the same time vary quite a lot from author to author. Furthermore, studies of the challenges in organizations implementing project portfolios (and project portfolio management) are rather few (Elonen

& Artto, 2003). Common topics for discussion in PPM include alignment of the projects to the organization's goals, resource allocation and total amount of projects in the portfolio, methods for project selection and prioritization (and power struggles), control and monitoring, information flow, organizational learning, challenges in the implementation and resistance to change, among others.

Among the most frequent challenges in PPM is the too large of an amount of projects that the portfolio consists of (Elonen & Artto, 2003; Rad & Levin, 2006). When projects take up longer or cost more than expected, the portfolio is found lacking sufficient resources to allocate to all projects and in turn projects may end up continuing even longer.

While project management may help to an extent in executing a specific project within budget and time, it is ultimately the management of the portfolio that is responsible for selecting and prioritizing the right amount of projects that should be carried out. This brings us to the second very common issue – selection and prioritization of project, or finding the right projects (Rad & Levin, 2006). Balancing the portfolio to include low and short term, high and low risk projects that spread across markets and technologies (Cooper et al., 1999) has proven a rather difficult task to achieve in many organizations, regardless of size, industry or geographical location. While there are some guidelines as to how to support a balanced portfolio, these are either too industry or too portfolio type specific to be applicable to all companies.

Other PPM issues relate to organizational learning from the projects within the portfolio. Studies show that companies rarely evaluate the outcomes of the projects within the portfolio, whether these outcomes really have contributed to the organization's goals (Dooley et al., 2005). This challenge points to a need for PPM to include more thorough closing and feedback processes that could help project-based organizations when launching further projects. As pointed out, managers wrongly believe that the projects are too different from each other to be able to compare and because of this rarely use any accumulated information from projects previously carried out (Dooley et al., 2005).

Yet another common PPM challenge in project-based organizations is the lack of standardized procedures that can help enhance the project portfolio outcomes (PMI, 2006). While this challenge varies from organization to organization it is rather striking to find out that that a study carried out over a long period of time concluded that no organization has a perfectly standardized process base for its entire organization that is enhanced on a regular basis (PM Solutions, 2005). Although not all organizations need perfectly standardized processes across the organization, Dooley et al. (2005, p. 474) found that 'greater organizational efficiency and less conflict can be achieved through greater structure … of managing multiple projects'. This view has been supported both in previous studies (i.e. Cooper et al., 1999) and in more recent ones (i.e. Killen et al., 2008a).

Although strategic alignment is pointed out by almost all authors as a prerequisite for an effective and efficient portfolio, organizations continue to struggle to pick projects that contribute to the organization's goals. Being a recurring topic in almost any publication on PPM, it is no surprise that studies have actually found a clear correlation between portfolio performance and the level of strategic alignment (Cooper et al., 1999; Killen et al., 2008a; PM Solutions, 2005).

While alignment of the project portfolios to the organizational strategy is the central issue in the current study, it must not be forgotten that it is not the only major issue in PPM practices. One of the challenges in PPM currently has been prioritization of projects and portfolios at portfolio meetings, despite the existence of numerous tools to help companies achieve that (J. Winqvist, personal communication, 2009-04-06). The practitioners' perspective has been that strategic alignment and prioritization are equally important for the actual achievement of the organizational goals (J. Winqvist, personal communication, 2009-04-06). Why companies still struggle, and more importantly, even if they have adopted tools, techniques and methods to follow prioritization guidelines, why they actually do not do so, is a rather striking issue. But it is one that needs a separate study in order to focus in detail on that issue at hand. It is for that reason that the current study does not delve into prioritization issues but rather mentions it for the purpose of awareness.

The body of research on PPM challenges is far from complete at this stage as PPM is a rather new concept, which historically has been used in specific types of portfolios only (such as financial or R&D). However, a discussion has sprung up about the usefulness of the methods applied by PPM practitioners, since these methods are not that novel but have instead been adjusted for project portfolio management purposes. The types and success of such methods will be discussed below.

3.1.6 Types of PPM Methods

There are various types of PPM methods. Many of them, if not most, are not new. Such are financial methods for evaluating profitability, or scoring methods. Both of these have been around for a lot longer than PPM as a concept and practice was established. Authors point to scoring models and checklists, prioritizing tools, visualizing tools, financial methods, strategic alignment methods, mapping approaches and others (Cooper et al., 2001; Killen et al., 2008a; Rad & Levin, 2006). A common finding in all studies is that there is no one method that is sufficient (Cooper et al., 1999; Killen et al., 2008a). Companies tend to use a combination of tools and methods for its PPM practices. For example, Killen et al. (2008a) found that companies use between 2 to 3 different types of methods to satisfy their PPM needs. There are a few important outcomes from this study. Companies that have been found to have successful portfolios use at least 3 different types of methods. While most companies use financial measures for PPM, successful companies, or *benchmarking* companies, do not use financial measures as their main method. On the other hand,

companies that score the lowest on portfolio success prioritize financial measures above other measures in their PPM practice. In comparison, 'the use of strategic methods results in better alignment of the projects in the portfolio … and with spending better reflecting strategy' (Killen et al., 2008a, p. 33). Similar results are reported by Cooper et al. (2001) and by Hart (1992; cited in Morris & Pinto, 2007).

Hence, it may be said that while using three or more methods for PPM processes is important, placing most importance on strategic methods contributes the most to portfolio success. A similar conclusion is reported in Rad & Levin (2006) whereas this type of method reflects the vision and the mission statement of the organization. As such, it may be concluded that when managing a project portfolio, it is best to use a top-down approach so as to assure both the alignment of the portfolio to the strategy and its greater prospect for success, as a result of that. However, it must not be forgotten that the top-down approach should be complemented by allowing bottom-up approaches or ideas to emerge, since people in the line, or project employees, often have a more detailed view of the processes and challenges at hand. Therefore, a combination of both top-down and bottom-up is viewed as the most complete.

In terms of the types of methods that companies employ, it may be said that they are numerous. Most of them are on the market as software products and companies can either buy them directly or can hire consultants to implement them for the company. These include, among others (Killen et al., 2008a, p. 32; Rad & Levin, 2006, pp.32 - 38):

- Financial methods – discounted cash flow, ROI, real option analysis
- Scoring methods – balanced scorecard, ranking matrix, dependency matrix, optimization models
- Checklists – lists of hurdles, threshold requirements
- Portfolio maps – bubble charts, portfolio grids, portfolio matrices
- Strategy methods – using strategy to drive top-down allocation of resource bundles
- Stage-gate model – each project is broken down into stages that need to be approved before continuing with the execution
- Analytical Hierarchy Process – a prioritization tool

What is quite noticeable from the sample list above is that all but strategy methods are specific and many of them have resulted in products on the market. The strategy method approach is only provisional and depends on the company to find its own way in driving the top-down approach. The goal of the strategy approach is clear – to align the portfolio to the organizational strategy, but there is a lack in specific guidelines or product-like result to help companies employ strategic alignment methods. A similar conclusion can be drawn for the portfolio maps approach, because grids and matrices only reflect the form of the method, not the information type to be presented in them. Yet, it is ironic that strategic

methods and portfolio maps have the strongest positive influence on portfolio performance (Killen et al., 2008a).

Based on the literature review on strategic alignment methods, only one mentioning of such a method was found – the Strategic Alignment Model with Weighted Criteria (Wysocki & McGarry, 2003, cited in Rad & Levin, 2006, p. 33) and even this method is categorized as a scoring method, and its goal is to assign a budget to each objective found in the mission statement. Therefore, although a more detailed overview of the specific steps within method are lacking, it may safely be concluded that this is a process enhancement approach for breaking down the mission statement into specific objectives and then to weigh them. A more general and fundamental guiding framework is still missing.

3.1.7 Shortcomings of the Current Literature

PPM as an area of academic interest is rather new. As such, the research that has been carried out has not been consistent and has so far not been integrated into a common body of knowledge. While many findings seem to be reinforced in various studies, this is hardly the overall norm and there is a lack of consensus among authors. It is hard to call all authors academics for the main reason that much of the literature available on PPM is very practical and based on personal practical experiences of the authors. Even the most comprehensive works in the field of PPM have little theoretical foundation. Yet, as this is not unusual in the general field of business administration, such a reason can hardly divert other practitioners from taking an interest in the findings so far. What is mostly lacking to date is an overview and a generalized approach to PPM, partly due to the lack of consensus but also because of the novelty of the field.

Currently most studies are rather supplementary to other partial studies. These are usually case studies that are limited to specific geographical areas (the USA or Australia), types of portfolios (R&D or product innovation), to a specific PPM process (such as project selection) or other limitation. Therefore, it is hard to generalize the findings and to claim them to be PPM theory. More research needs to be carried out in separate PPM processes, but also studies that have already been done need to be repeated in other industries or locations to assure generalisibility.

3.2 Aligning Strategy and PPM

'The strategic goal of an organization is one of the most illusive concepts, certainly in the context of a project portfolio model, primarily because it does not lend itself to easy definition and/or quantification.'

(Rad & Levin, 2006, p.113)

Although the importance of alignment of an organization's strategy and its business activities has been discussed extensively in the literature over the past decades, its connection to project portfolios is rather new. But also in the field of PPM this alignment can be seen as a crucial factor for the overall success of the project portfolio. And researchers and practitioners have been emphasizing that if a project-based organization wants to realize its business strategy successfully the objectives of the projects within a portfolio need to be aligned with the strategy (Archer et al., 1999; Cooper et al., 2000; Elonen & Artto, 2003; Dooley et al., 2005; Levine, 2005; Dietrich & Lethonen, 2005; Srivannaboon, 2006; Martinsuo & Lethonen, 2007; Killen et al., 2008a). Thus in order to understand where this need for alignment comes from; it appears to be necessary to first take a look at the concept of strategy.

Strategy is one of the oldest and most researched areas of organizational theory and definitions are numerous. One of the first attempts to describe organizational strategy was made by A.D. Chandler who defined it to be 'the determination of long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resource necessary for carrying these goals' (Chandler, 1962, p. 13). In other words, strategy or *competitive strategy* is 'a combination of the ends (goals) for which the firm is striving and the means (policies) by which it is seeking to get there' (Porter, 1986, p. 16). Thus, strategy can be seen as the required actions that need to be taken to realize an organization's formulated vision, mission and goals.

Due to the competitive nature of business goals and objectives, the strategies through which they are realized are often driven by the external business environment (Aritua et al., 2009). Outperforming rivals and creating a sustainable competitive advantage (goal) through differentiation from the competition (strategy) would be one example that illustrates this relationship (Porter, 1996). But in order to achieve this successfully, Porter (1996) also points out the need for a *strategic fit* between each activity and the overall strategy of the firm. So for project-based organizations this translates into projects being the main business activities and the performance of the company's project portfolio indicating to which degree the organization can differentiate itself from the competition. Here, the direction of the business strategy takes a crucial part in composing the project portfolio (Cooper et al., 1999). This underlines the benefits of actually having each project portfolio aligned with the company's strategic objectives.

And the task of aligning the project portfolio with the business strategy has been assigned to project portfolio management (PPM), which in this context has been also defined as the *centralized management* (PMI, 2006) or *operationalization* of the organization's business strategy (Cooper et al., 2000), comprising specific plans to apply the necessary means and resources to achieve the strategic business objectives (Yelin, 2005). Based on empirical findings, Dietrich & Lethonen (2005) further argue that the management of projects, programs and portfolios should be a part of the strategy process for the organization to be able to implement its strategies successfully. This process may be divided into (1) establishing main strategic objectives; (2) formulating the strategy (3) implementing the strategy; and (4) practicing strategic control and evaluation (Munive-Hernandez et al., 2004). And according to Aritua et al. (2009) program and portfolio management should occupy a position between strategy formulation and delivery (stages 2 & 3 of the strategy process), enabling and facilitating the implementation of the strategic objectives.

In their recently developed system model of a multi-project / Portfolio environment (Figure M), Aritua et al. (2009) describe the different linkages and dependencies between the business *context* (vision, mission and strategic objectives) and the *content* (portfolios, programs and projects).

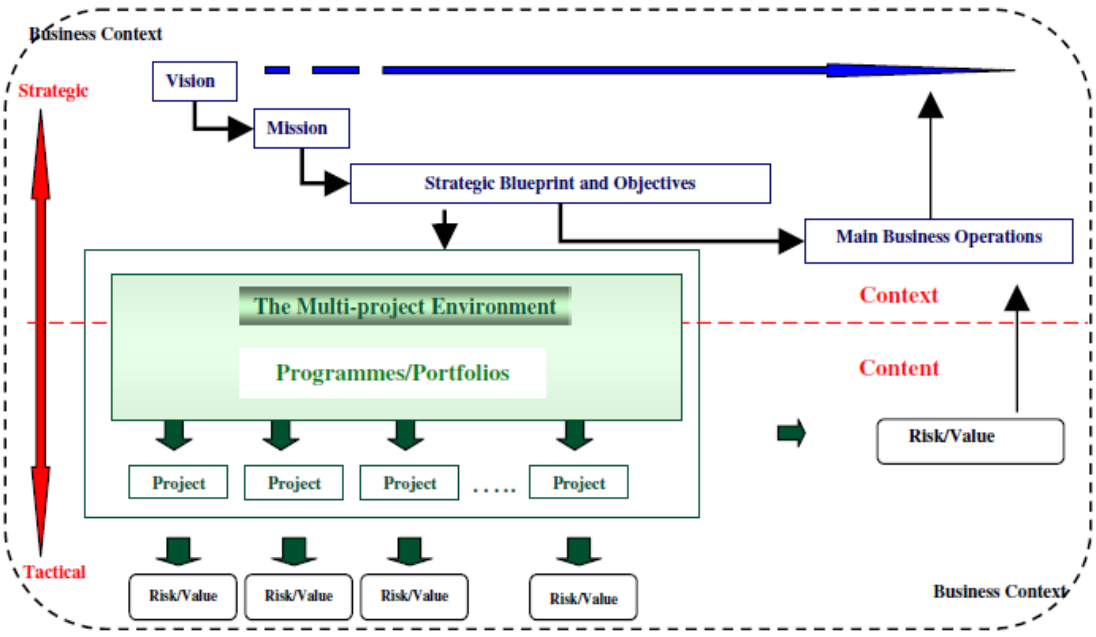

Figure M : System model of a multi-project environment (Aritua et al., 2009, p.75)

According to the authors, the ideal situation is given once the contextual matters, which define the strategy, serve as a basis for deriving the content for projects in a way that they can accomplish the strategic objectives. And this ideal situation, bridging the gap between context and content and aligning projects to the overall strategy of the organization, is what

multi-project management intends to achieve (Aritua et al., 2009). Although the model gives a comprehensive overview on the interrelationships between strategy and PPM, accurately emphasizing that PPM is realized through a top-down approach, the authors miss to make an appropriate distinction between program and portfolio management. As mentioned above programs and portfolios are seen as separate entities and represent different levels of management. Still, what is important to keep in mind despite the lack of such a distinction is that the linkage between content and context is an important step towards implementing efficient program and/or portfolio management.

But while PPM has been identified to guide this alignment, the current literature on PPM lacks defining concrete methods that link strategic planning and project portfolio decisions (Killen et al., 2008a). Furthermore it can be criticized that the empirical studies which have been conducted are rather limited in either having their main focus on project management practices (which are often wrongly transferred to the portfolio management level) or only the strategic alignment of R&D / NPD project portfolios (Cooper et al., 1999; Killen, Hunt & Kleinschmidt, 2008b). In addition to this, findings are often either based on case studies with relatively small samples (i.e. Elonen & Artto, 2003; Winter & Szczepanek, 2007; Killen et al., 2008b) or only cover one certain industry (i.e. Aritua et al., 2009). Thus the existing literature is still rather scarce and assumptions as well as conclusions are based on few studies. This limits the validity of the results plus their applicability to all project-based organizations in all industries.

All in all researchers and practitioners give the impression of using very different approaches to identify and overcome the challenges and issues connected with efficient project portfolio management. Nevertheless, they all seem to agree on one aspect: The need for strategic alignment. In specific, the need of having the project portfolio aligned with the strategic goals of the firm is essential in order to obtain and maintain a successfully performing project portfolio. And empirical studies confirm that there is a positive correlation between the strategy-project portfolio alignment (Cooper et al., 1999; Dietrich & Lethonen, 2005; PM Solutions, 2005; Killen et al., 2008a/b). Consequently a portfolio's alignment to the business strategy is often even seen as a prerequisite for a project's successful realization. And PPM, the management of these project portfolios, thus represents the necessary tools or means to reach this anticipated linkage. Therefore it only seems logical that the higher the degree of alignment between PPM practices and the strategic objective of an organization, the more likely it is that the project portfolio will successfully realize the strategy.

3.3 PPM Maturity

The word *maturity* describes the state of being mature or having reached full development (Webster, 1988). And an attempt to characterize and discuss maturity in an organizational context was carried out by Andersen and Jessen (2003). The authors view maturity as a measurement of the organization's ability to effectively use projects for different purposes in order to achieve its business objectives (Andersen & Jessen, 2003). The three proposed dimensions of maturity consist of *action* (ability to act and decide), *attitude* (willingness to be involved) and *knowledge* (an understanding of willingness and action) and they relate to risk and insecurity, power and responsibility sharing, hard and soft values and cooperation (Andersen & Jessen, 2003).

Based on this, full organizational maturity may be seen as the state in which an organization is perfectly capable in achieving its strategic goals. This is also in line with the view of practitioners who see a mature organization as one that is competent in meeting its needs by using standardized approaches (including continues reviewing of performance); while an immature organization lacks the implementation of these processes (OCG, 2008). Transferred to the management of project portfolios, maturity could generally serve as an indicator stating to which degree an organization is able to manage its project portfolios successfully.

Yet, maturity in organizations that implement projects, programs of projects and project portfolios is a rather recent concept and it has not been academically discussed in depth. As such, the definition has been proposed by practitioners in the field of project management and is used to measure 'the degree to which an organization practices the application of knowledge, skills, tools, and techniques to organizational and project activities to achieve its aims through projects' (PMI, 2007, p. 10). In an extensive study carried out by PMI in 1997 it was discovered that companies with better project management practices have better project performance, and the term maturity was coined after this research was published. Since then, the term maturity has been used to identify gaps in the program and portfolio management practices in organizations in order to improve them through applying 'standards' or collections of identified best practices. Rad & Levin (2007, p. 45) further state the practical indications of organizational project management maturity are 'that projects are clearly linked to business strategy, there are consistent processes for projects and for portfolios, these processes are closely practiced, there is success in each and every aspect of all projects, and duties of all project management personnel are clearly defined'.

But while the concept of maturity is quite suitable (both in the direct meaning of the word and as a standard to judge a company's PPM practices by) the accepted definition of the word, as suggested above, seems to be incomplete for the various levels of executing and working towards achieving the company's objectives. That is to say that while maturity in the above mentioned sense is very well fitted for project management it seem inappropriate

for program and/or portfolio management because of the inherent differences between projects and programs/portfolios.

And since there seems no academic consensus for the term maturity in the PPM context so far, a rather general definition is hereby proposed which attempts to serve on the project portfolio level. So measuring the maturity of a company that applies the project portfolio approach, maturity is understood as *the degree and willingness (attitude) to which an organization applies measurable and perceived indicators to achieve specific strategic goals through the management a collection of projects portfolios.* Measurable indicators are hereby understood as knowledge, skills, tools, and techniques while perceived indicators are the attitudes toward risk and insecurity, power and responsibility sharing, hard and soft values and cooperation. And since the ability of an organization to manage project portfolios efficiently to an extent to which their performance reflects the realization of strategic objectives is very different depending on the organizations capabilities and willingness, different *degrees of maturity* should be differentiated. Not all organizations driving to reach the highest possible degree of maturity. In fact every company needs determine their own minimum level of maturity at which they are able to achieve a beneficial ROI (PM Solutions, 2005).

Measuring the degree or level of PPM maturity in an organization has become a popular technique over the past few years in order to support companies in enhancing their performance. And existing project portfolio maturity models (Appendix 1) attempt to identify said levels of maturity of an organizations ability to successfully manage its project portfolios. Nevertheless, there is still a lack of well-developed governance criteria that would facilitate the alignment of the project portfolio to the organization's strategy, which leads to higher degrees of maturity. Therefore it shall be claimed that the issues related to reaching higher maturity levels in PPM may to a certain extent originate in or be caused by insufficient governance practices.

3.4 Corporate Governance & Portfolio Governance

The following sections provide the reader with a discussion on the importance of sound governance practices on a corporate and portfolio level.

3.4.1 Corporate Governance

Corporate Governance (CG) is a field of research in which the existing literature does not agree upon a single definition. The complexity of the term makes it rather challenging to grasp and formulate all aspects in one statement. Thus throughout the last decades, researcher and practitioners described the concept of CG in various ways.

An early definition of Corporate Governance was given in the Cadbury Committee Report (1992, p. 15), stating that CG is 'the system by which companies are directed and controlled'. Elaborating on this rather general statement, Keasey, Thompson and Wright (1997, p. 2) state that governance includes the 'structures, process, cultures and systems that engender the successful operation of the organization'. And Monks and Minow (1995, p. 1) view CG as 'the relationship among various participants in determining the direction and performance of corporations'. This is in line with the more behavioral perspective of CG, which focuses on the interactions among the various groups of actors that are influential at a board's decisions-making process (Huse, 2007). Combining both, the system and relationship approach, the following definition was found to be the most comprehensive and valuable for the purpose of this thesis:

'Corporate governance comprehends that structure of relationships and corresponding responsibilities among a core group consisting of shareholder, board members and managers designed to best foster the competitive performance required to achieve the corporation's primary objective.'

(Millstein, 1998, p. 13)

Nevertheless, it shall be pointed out that a *unified definition* of corporate governance is unlikely to exist due to the complexity of this umbrella term. Most explanations made on CG concepts or systems are biased, tending to only reflect the values of the entities promoting them. Huse (2007) acknowledged this difference of ideologies among participants and thus identified four different groups of CG-definitions, stressing the different perspectives each group of actors takes (Figure N). And for the purpose of this thesis the internal perspectives, which contain the managerial and firm definitions are from greater interest since they focus on the creation of value for the organization. The internal perspectives also represent the point of view of the actors that are part of the main decision-making body (executive level) of an organization, which are expected to posses the right rationale for governance related decisions. However it shall be pointed out that this focus on the internal perspectives does not negate the other perspectives presented in Figure N,

but just puts less emphasis on the stakeholders and shareholders view for the reasoning of this study.

	Unitary perspectives - **discrete** - **short-term**	Balancing perspectives - **relational** - **long-term**
External perspectives - **value distribution and protection**	**Shareholder definition**: 'the board is considered to be accountable to *all* shareholders; such accountability includes the monitoring of managerial opportunism' ➢ *What is best for shareholders*	**Stakeholder definition**: 'the relationship between actors who are in the process of decision-making and exercising control over firm resources' ➢ *What is best for stakeholders*
Internal perspectives - **Value creation**	**Managerial definition**: 'to employ or design techniques or systems that can secure the interest and values of the management' ➢ *What is best for management*	**Firm definition**: 'how the board contributes to value creation throughout the whole value chain' ➢ *What is best for the firm*

Figure N: Comparison of CG definitions – (adapted from Huse, 2007, p. 23)

Overall it can be argued that all four – the 'shareholder', 'stakeholder', 'managerial' and 'firm' perspectives – basically focus on what CG-practices are best for the certain group of actors. And since CG is also about 'the use of corporate power and the ability to control this power' (Huse, 2007, p. 27), it is not surprising that issues among the four groups are likely to occur which can turn into a power struggle on different organizational levels. Although this might be an apparent issue many companies are dealing with, it can be prevented and consensus can be achieved through a clearly communicated structure of authority and a formulated set of corporate policies (Davis, 2006), which the majority of actors agree upon.

While it has proven very difficult for researchers to reach a consensus on what CG inherently is, it has been easier to identify what its areas within an organization CG are concerned with. The following components of CG have been summarized by Davis (2006, p. 154):

- Board structure and balance
- Directors' responsibilities generally (incl. conflict of interest)
- Board delegation and reporting by management
- Implementation of board strategy and decisions
- Measurement of organizational performance
- Assessment of risk to the business and internal control
- Corporate policies and codes of business practice
- Board committees – audit, remuneration and nomination

But when it comes to the question on how a good governance system should look like, opinions vary. Contingency theory[3], which often is applied to the concept of governance, claims that there is no such thing as one perfect structure, and in addition that not all designs are equally good. 'A corporate governance design needs to fit both the actors and the context' (Huse, 2007, p. 97) and of course the corporate governance system of each organization would vary depending on different factors. Thus it can be argued that in order to have an efficient governance system that respects the interests of all actors, it is necessary that the interests of the management, the board, shareholders and those of other stakeholders of the firm be aligned. However, it can be pointed out that there is no 'one-size-fits-all' corporate governance system, which can be applied to all organizations (Hilb, 2005). This hints to the fact that an ideal structure or system comprising *best practices* for CG does not exist *per se* either since it is highly dependent on a series of contextual factors such as the business environment, firm size and resources, etc.

This dependency of several contextual factors needs also to be applied in terms of the composition of the board of directors which is the central supervising and decision-making body of a company's governance system. Here once more the literature proposes various conclusions concerning the composition and the size of the 'perfect' board, but yet again it shall be pointed out that a 'one-size-fits-all' solution does not exist (Heracleous, 2001; Hilb, 2005). But while there is a need to differentiate between different board structures, the role of the board and its main tasks has been mainly agreed upon to consist of (Melin, 2007, p. 9):

- *Setting corporate strategy, overall direction, mission, vision*
- *Succession: the hiring and firing of the CEO*
- *Controlling, monitoring, or supervising top management*
- *Reviewing the use of resources*
- *Caring for shareholders and their different interests*
- *Increasing legitimacy; networking*

[3] For a detailed review on the characteristics of contingency theory, consult Huse (2007)

Organizations strive to use widely accepted CG practices, anticipating superior organizational performance. And it has been debated in the literature whether and to what extent CG systems can actually influence business performance (Heracleous, 2001). Overall it has been found that CG systems can be highly influential to the organization's performance as long as they are connected to the strategic management of a business (Heracleous, 2001). But it has been found and criticized upon the fact that practices of governance boards often lack strategic direction (Hilb, 2005). Thus, in order to enhance organizational performance, the members of the board need to be capable of setting strategic objectives while at the same time ensuring that those will be fulfilled by management.

The above discussion on the topic of corporate governance serves as a basis for a comprehensive overview of the issues organizational management might face when aiming to implement and sustain a transparent and sound governance system. At this point, it shall be noted that governance practices should not be confused with management practices since there are distinct differences between the two. This is further elaborated on in the following section.

3.4.2 Management vs. Governance

It is necessary to investigate the differences and similarities between management and governance so as to make it clear what types of purpose PPM is supposed to serve. Governance is used in various contexts, such as in the political science sphere, as well as in the business arena. In business terms, corporate governance has no consistent definition, although it is generally believed that corporate governance refers to the procedures associated with decision-making (Hodges, Wright & Keasy, 1996). The authors go on to define the role of governance as to 'providing structures to give overall direction to the organization and to satisfy expectations of accountability to those outside it' (Hodges et al., 1996, p. 7).

Compared to governance, management has a much more operationalized role. Although there is still a debate as to what management should entail, it has been accepted that management is about 'organization and coordination of the activities of an enterprise in accordance with certain policies and in achievement of clearly defined objectives' (Business Dictionary, 2009). Clearly, management is supposed to enact those certain policies that are provided by the decision-makers in the enterprise, or through governance. In simple terms, governance provides the framework of policies while management enacts it. Surely, this relationship between the two entities is much more complex than what has been presented here but it is beyond the scope of the current paper to delve into academic discussions about the proper definition of the two terms.

What is more important to the current paper is the role that governance and management play in PPM. As Rubin (2003, in Rad & Levin, 2006, p. 41) states 'Portfolio management without governance is an empty concept'. Although PPM stands for project portfolio management, the above mentioned roles and responsibilities of PPM strongly suggest that PPM reflects a combination of governance and management, because it is a 'top-down approach designed to assure that the list of projects contributes to or is essential for the realization of the business' strategy and goals (Yelin, 2005, p. 141) while at the same time it is operationalized for 'periodic reviews of the total portfolio of all projects, making go/kill decisions … on an ongoing basis, and developing a new … strategy for the business, complete with strategic resource allocation decision' (Cooper et al., 1999, p. 335). Therefore, we see governance as an inseparable part of project portfolio management.

3.4.3 Project Portfolio Governance

According to PM Solutions (2005, p. 39) portfolio governance is comprised of processes, procedures and decision-making of a portfolio review board to make sure that the portfolio 'is managed against strategic criteria and balanced to maintain an optimal mix of projects to achieve the organization's strategy'. PM Solutions (2005, p. 39) point out that portfolio governance 'addresses the organizational and decision making processes used to manage and review the portfolio of projects [by] establishing and maintaining the structure and procedures' necessary. The goal of portfolio governance is to ensure that the projects are aligned with its vision, strategy and objectives (PM Solutions, 2005).

These definitions may be a good starting point for project portfolio governance but there is lack of a clearly stated framework since it is only mentioned that the portfolio is managed against strategic criteria (PM Solutions, 2005), that certain component key descriptors assure that 'Strategic objectives [are] supported' (PMI, 2006, p. 38), or that the project portfolio is aligned to the organization's objectives (Rad & Levin, 2006) but these in turn are not mentioned. Levine (2005) further raises the issue by wondering what criteria affect decision-making but proposes no suggestions.

Nevertheless, authors have gone ahead and have elaborated on what the framework is supposed to achieve at an organizational level, namely 'to align, organize and execute activities in a collectively coherent and intelligible manner in order to meet goals' (PMI, 2006, p. 9) or in more general terms to make sure that the projects within the portfolio are aligned to the organization's strategy (Rad & Levin, 2006; Levine, 2005; PM Solutions, 2005). And although the term governance, in this case portfolio governance, has not been defined within a framework, authors seem to be at a consensus as to what it is supposed to accomplish, thus making the operational goal of portfolio governance easily definable.

The problem with this approach is that although standardizing processes has been assumed to lead to better performing projects, the claimed correlation between process capacity and

project performance has not yet been substantiated (Jugdev & Thomas, 2002; Killen et al., 2008) and organizations continue to carry out projects that are not executed within budget, on time or on scope. There may be numerous reasons for that, with imperfect processes being one of the potential ones. However it seems more probable that, after 60 years of developing project management models (Artto & Kujala, 2008) for enhancing the process side of the projects, programs, and portfolios, a limited approach has been taken – process enhancement needs to be driven by and complimented with portfolio governance.

We hereby view portfolio governance as the representation of corporate governance at the portfolio level. As such, while corporate governance establishes the limits of power, rules of conduct, and protocols of work, portfolio governance defines these as a framework for the portfolio of projects. Furthermore, the framework for portfolio governance considers 'the decision-making mechanisms such as committees and review boards, policies and procedures, and the level of authority assigned to these boards' (Rad & Levin, 2006, p. 45). It is therefore important to discuss these bodies in more detail.

Indirectly, there is a consensus among authors about the importance of portfolio governance boards. Different authors call these bodies for decision-making by different names but all authors discuss their composition, roles and responsibilities. Governance teams (Levine, 2005), Portfolio review boards (Rad & Levin, 2006), Strategic project offices (Pennypacker & Sepate, 2002), Enterprise portfolio review boards (PM Solutions, 2005) and Strategic Planning and Business Process Groups (PMI, 2006) all refer to the decision making bodies that are in charge of the framework and activities related to portfolio governance and management. Slight variations about the roles and responsibilities of the members exist among authors, but they are insignificant.

The similarities between authors about the PPM governance board have to do both with the composition and its roles and responsibilities. PPM governance teams are said to consist of the individual who brings together the strategies, measurements, and cash management such as the COO, the CEO or the president (Levine, 2005). Further important members of the team are the CFO, the CPO (chief project officer), the CIO and/or representatives of the project management team, depending on the type of enterprise or type of projects (Levine, 2005; Rad & Levin, 2006), or in general by the executive decision-makers (Rad & Levin, 2006).

It is the responsibility of the council to make the vital decisions that influence the project portfolio through adopting a PPM process that needs to be announced officially and put in a PPM charter – a sort of a contract that specifies what is to be achieved and through which procedures (Levine, 2005). Such a council or a board is an 'organizational entity that is responsible for mapping strategy to projects and monitoring projects and portfolios to ensure [that] they continue to address strategic initiatives' (Pennypacker & Sepate, 2002, p.

2). The personnel (strategic group) assigned to the review board is primarily responsible for managing the project portfolio in order for the project portfolio to continue to meet the needs of the enterprise (Pennypacker & Sepate, 2002; PM Solutions, 2005). Thus by being the responsible entity to ensure efficient PPM practices, the council/board serves as a critical link between the business strategy (context) and the execution of tactical plans (content) (PM Solutions, 2005; Aritua et al., 2009).

In Levine (2005) one separation exists – while the PPM governance team is responsible for adopting the PPM process, the PMO is responsible for the oversight of all projects, thus dividing the levels of authority into two parts – board and execution. The board is said to 'set the direction of the portfolio and decide which projects should be approved, denied, activated, deactivated, terminated, require additional analysis or require resource allocation' (Rad & Levin, 2006, p. 46), which represents the overall management aspect of the portfolio. Further divisions of the decision making body and its responsibilities are provided by PMI (2006) when suggesting that the Strategic Planning and Business Process unit be further split into an *Aligning Process Group* and a *Monitoring and Controlling Process Group*. These two are to make up the PMO, with a portfolio manager being responsible for each portfolio in the organization. The two groups are to have specific but different responsibilities. When taken together these groups should assure a 'tight linkage of the portfolio management processes within the overall ongoing business process cycle' (PMI, 2006, p. 9).

What is interesting to note in these suggestions for board composition and responsibilities is that they imply a separation of the PPM board from Senior/Executive Management. Furthermore, some propositions add even more executive and managerial, and hence hierarchical levels, by splitting up the responsibilities of the board into sub-boards. Notwithstanding the importance of boards, and unless an extremely large company is concerned with its PPM roles (arguable even in their case), responsibilities and processes, it seems rather unnecessary to add too many levels of hierarchy. The reasons have to do with bureaucratization of processes, the time-consuming decision-making and purely avoidable hierarchy within one organization, which can decrease flexibility, innovation and flexibility (Rad & Levin, 2006).

Furthermore, as the project portfolio reflects the business strategy of the organization, issues pertaining to the management and governance of the project portfolio should be discussed at meetings of senior management. It is therefore suggested that most organizations would benefit most from a PPM Board, which is of the same composition as Senior or Executive Management but with elected representatives from project management and operational management. It is hereby also assumed that most executive management meetings contain such representatives on most occasions.

An interesting finding emerged during the time of contacting the companies that are part of the survey. Despite the above suggestions for separating the PPM boards and the executive boards, in practicality the people who were in the end responsible for PPM issues were senior and/or executive managers. Although many line managers in the contacted companies voiced an interest in helping us with the survey, they passed on the survey to executive managers, because the line managers were not part of the decision-making body. Therefore, in practicality it shows that executive and senior management is the decision-making body for portfolio related issues.

IV. Frame of Reference

This chapter introduces the Frame of reference that will be used for the analysis of the empirical findings in Chapter V. The Frame of reference presents the Portfolio Governance Framework and discusses the contribution of the Framework to current PPM literature.

The available literature on portfolio governance presents rather large gaps in terms of a governance framework and the current focus solely on managing the portfolio is rather unacceptable. Furthermore, much attention has so far been paid to different methods for selecting and prioritizing projects, depending on the type, size, duration, and other criteria. As such, both software-based and non-software based models for project selection and prioritization have been well established. As discussed in part 3.1.6 of this paper, most (successful) companies employ more than two PPM methods at the same time. Therefore, while the collection of these PPM methods represents a large part of the overall *prequalification model*[4], it is incomplete without an equally well-developed PPM governance framework.

As elaborated on in section 3.4.2 PPM is more than just management, it also includes governance. Therefore, it cannot be assumed that PPM 'should focus purely on the ongoing processes of portfolio management' (PMI, 2006, p. 38). We hereby view portfolio governance and portfolio management as inseparable. Hence, making sure that a governance framework for the project portfolio exists is seen of great importance.

The need for an overarching portfolio governance framework is directly related to the need for a consistent rationale for decision-making. As some studies have found, the decision-making process at portfolio meetings is not entirely rational and often, about half of the time, decision-makers are led by subjective opinions and approaches (Christiansen & Varnes, 2008). In a Danish study, the four factors that played a role in this process were 'the formal system and rules, observations of others, the organizational context, and organizational learning' whereby the optimal or rational decision-making was displaced by what the authors called *appropriate decision-making* (Christiansen & Varnes, 2008, p. 89). What *appropriate decision-making* was influenced by were signals from top management as to what behaviour was acceptable and not by the set of rules for conducting portfolio meetings. While this is only one case study, the results from it may be an alarming indication of why the decision-making process related to the project portfolio is far from perfect in many organizations. Different reasons may exist in different organizations but the lack of a generic portfolio governance framework to support and ensure an apt decision-making process is also a prerequisite that has been overlooked by many.

[4] For an extensive overview on current PPM methods see Levine (2005)

Various authors consciously or unconsciously point to the lack of a portfolio governance framework. Elonen and Artto's (2003) summary of the 'inadequate portfolio-level activities' as a cause of problems for project, program and portfolio execution are presented below, in Figure O.

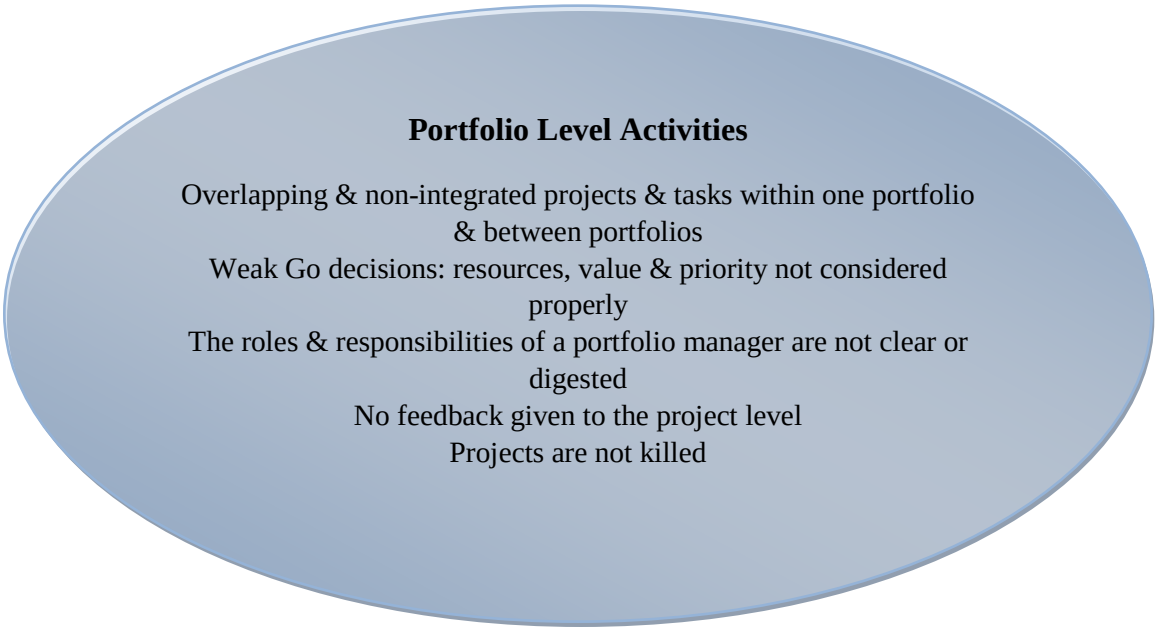

Figure O: Summary of problems in managing multi-project environments (Elonen & Artto, 2003, p.400)

Although the authors did not give an overarching name to the list of problem areas, it is clearly the case that they comprise portfolio governance. Makleff (2005) also clearly states that for an organization to take full advantage of its PPM practices, it needs to consider developing a PPM governance framework. However, the reality is that no generic governance framework has been proposed and companies are left to develop one on their own. On one hand this approach is not necessarily wrong, because each organization can take into consideration the specific challenges that it faces, that make it different form other organizations. However, we view it as easier for companies, and hence more likely to be implemented, if such a generic framework exists, so that companies can use it, and if needed, can alter it to fit their specific needs.

4.1 A Portfolio Governance Framework

The Portfolio Governance Framework presented in Figure P is comprised of a collection of relevant / critical aspects and issues that need to be considered during a portfolio meeting. It is proposed to serve as a guide assisting the portfolio review board before actual decisions concerning the portfolio are made. It is divided into three main parts, each comprised of a series of statements. *Part One* is concerned with general characteristics of the portfolio and its current value to the organization. *Part Two* deals with the strategic alignment of the project portfolio and the organizational goals. And *Part Three* directly addresses the board members and their willingness and ability to make relevant project portfolio decisions. The critical literature review on PPM, strategic alignment and governance displayed in chapter III, represents the foundation of the three parts of the Portfolio Governance Framework.

On one hand, this framework represents a checklist and on the other hand it also provides a Likert-like scale that enables the review board to measure to what extent each of the issues/ areas are actually covered during a portfolio meeting. The difference between the hereby proposed scale and the 5-point Likert scale lies in the necessity for the organization to take a stand. Therefore, the medium (neither agree nor disagree) has been taken out of the current scale. The need to take a stand at portfolio decision-making sessions is to make sure that portfolio review board members critically assess the current situation for each statement. And because we believe that there is always room for improvement, board members should be able to identify areas that can be improved, than take the easier non-confrontational approach of staying neutral. The 15 core statements (in bold) are supplemented by 10 additional supporting statements (in italics) that based on information derived from the literature and practitioners experience, are found to be relevant.

Moreover, the framework is flexible in that companies may add or take away statements that they see fit in order to support their specific reality. It is for this reason that the framework has two types of statements – core (that apply to any project-based organization) and supporting (that are also relevant to every organization but may be amended to better reflect specific demands). Therefore, its flexibility should not be considered a weakness, but rather a strength.

□	Statement	Scale
	Part One – Portfolio Characteristics	
□	**1. The portfolio is sound politically, socially, and for business relationships.**	1 2 3 4
□	**2. The portfolio is feasible both technologically and economically.**	1 2 3 4
□	**3. The portfolio does not involve excessive risk.**	1 2 3 4
□	*4. The goals of the portfolio are quantifiable/ measurable.*	1 2 3 4
□	**5. We are aware of interdependencies between portfolio components.**	1 2 3 4
□	**6. We are aware of synergies between portfolio components.**	1 2 3 4
□	**7. We use an agreed upon set of policies across the organization to guide PPM.**	1 2 3 4
□	**8. The portfolio is free from internal politicking (personal lobbying etc.).**	1 2 3 4
□	*9. We apply PPM methods to support the PPM process.*	1 2 3 4
□	*10. The follow-up methods are relevant for measuring project delivery on scope.*	1 2 3 4
□	*11. We periodically review the entire portfolio to reflect changes in the individual projects (scope, benefits, budget & timing) as well overall business conditions.*	1 2 3 4
□	*12. We have allowed for sufficient portfolio capacity and resources to ensure the delivery of successful projects.*	1 2 3 4
□	*13. The size of the portfolio (amount of components) does not compromise its performance.*	1 2 3 4
	Part Two – Strategic Alignment	
□	**14. We are aware of changes in the strategic goals.**	1 2 3 4
□	*15. The current portfolio components are still relevant to the organization's strategy.*	1 2 3 4
□	*16. The current portfolio is still able to reach the changed strategic objectives.*	1 2 3 4
□	**17. There is a need for new criteria for evaluating portfolio process appropriateness.**	1 2 3 4
□	*18. Current internal portfolios still support the objectives of the current strategic objective.*	1 2 3 4
□	**19. Based on the identified strategic goal, we can <u>define</u> a set of projects that will help achieve it.**	1 2 3 4
□	*20. Based on the <u>defined</u> set of projects, we can <u>identify</u> any existing project proposals to match it.*	1 2 3 4
□	**21. The portfolio team has the right skills, capacity and budget to achieve the strategic goals.**	1 2 3 4
	Part Three – Review Board Aptitude	
□	*22. We have all the information about the portfolio (project performance, standardized set of requirements to measure against, charts, etc.) to make optimal portfolio decisions.*	1 2 3 4
□	**23. We fully understand and can interpret the necessary information to make optimal portfolio decisions.**	1 2 3 4
□	**24. We share the rationale for making optimal portfolio decisions.**	1 2 3 4
□	**25. Our final decision is sound.**	1 2 3 4
□	**26. Based on the final decision we are able to identify and formulate the next steps.**	1 2 3 4

Figure P: Portfolio Governance Framework

4.2 Discussion of the Three Framework Parts

This section has the aim to demonstrate the significance of each part and statement the proposed Portfolio Governance Framework is comprised of. In addition to that it lays the grounds to answer the first research question of this thesis, which the authors touch upon in the problem discussion.

1. *What are the criteria of portfolio governance that contribute to better aligning the project portfolio to organizational strategy?*

4.2.1 Part One – Portfolio Characteristics

This first part of the Framework is mainly concerned with general characteristics of the portfolio and its current value to the organization. Since it was found especially important to ensure that the portfolio is sound (politically & socially), feasible (technologically & economically) as well as balanced in terms of risk exposure (Makleff, 2005; Cooper et al., 1999); these aspects are the first that a review board should consider (statements 1-3 in Figure P). And as Davis (2006) has pointed out, a set of agreed upon corporate policies is an aspect that has to be considered as a main component of a solid governance system within an organization – this is of course also valid on the portfolio level and was therefore included in the Portfolio Governance Framework (statement 7).

But not only consensus on PPM policies is desirable, rather also a high degree of consistency in PPM methods and processes is preferable in order to ensure a positive portfolio performance (Rad & Levin, 2006; statements 9 &10). In addition to this, statement 13 reflects on another issue, which has been brought up in the literature and concerns the size of the project portfolio (Elonen & Artto, 2003; Rad & Levin, 2006). Here it shall be mentioned that the review board has to ensure that the amount of portfolio components (i.e. projects) do not compromise its performance through an overload of projects. Overall, this section on the characteristics of the current project portfolio of an organization is appropriate to start with since it provides the decision-making body with a complete overview on the present situation concerning the portfolio (components) and its management (methods & processes). Therefore the areas addressed in it are generally valuable for any project-based organization that seeks to improve its ability in successfully governing its project portfolios.

In practice this could have different implications, depending on the responses of each of the review board members. So if correctly used as a checklist and guideline during a portfolio review meeting, a desirable outcome would be that board members are able to verify that they are aware of the majority of the characteristics of their currently managed project portfolio (using scale 3 or 4 for most statements). If that is not the case it indicates that the organization is lacking fundamental PPM and governance practices to ensure a stable performance of its project portfolio. This still presents a current issue in numerous project-

based organizations since studies have shown that companies still score very low when it comes to portfolio governance maturity (PM Solutions, 2005). Therefore the decision-making body in each organization should encourage further improvement and development in this area to guarantee sustainable success.

4.2.2 Part Two – Strategic Alignment

The second part of the framework deals with the strategic alignment of the project portfolio and the organizational goals. Authors and researchers of the PPM field are in consensus in viewing it essential to have projects and portfolios of projects aligned with the organizational strategy in order to successfully reach the formulated business objectives (Archer et al., 1999; Cooper et al., 2000; Elonen & Artto, 2003; Dooley et al., 2005; Levine, 2005; Dietrich & Lethonen, 2005; Killen et al., 2008a). This is also backed up by empirical studies, which have actually confirmed that there is a positive correlation between portfolio performance and the level of strategic alignment (Cooper et al., 1999; Dietrich & Lethonen, 2005; PM Solutions, 2005 & Killen et al., 2008). These aspects are illustrated in statements 15-19 in Figure P. Furthermore it is pointed out by Rad & Levin (2005) that besides being aware of changes in the strategy and adjusting your portfolio accordingly (statements 14-20) the portfolio team must also have the right resources in order to do so (statement 21). Directing the review board towards these issues appears to us critical since a successfully performing portfolio requires constant supervision and alterations of its components. Thus these 8 statements of this section emphasize the importance for a review board to make solid adjustments according to the changing business goals and ensure a strategic 'fit' between the organization's objectives and its project portfolio.

So ensuring that strategic alignment of the project portfolio towards the business goals of the organization is maintained, especially under changing conditions, is one task that the review board should consciously cover. This implies that board members are aware of potential changes in the strategic objectives, are able to identify required resources and decide upon new projects that can support the new direction. Empirical studies show that this awareness of the decision making-body does exist and organizations try to focus on satisfying these requirements in order to eventually benefit from the positive correlation between the strategy-project portfolio alignment (PM Solutions, 2005 & Killen et al., 2008). But if this is not the case and this awareness does not exist yet among board members and low scores (1-2) are given for the majority statements in the framework, it might indicate the low ability of the organization in maintaining an agile project portfolio and further improvement is needed.

4.2.3 Part Three – Review Board Aptitude

The last section of this framework directly addresses the board members and their aptitude to make relevant project portfolio decisions. Statements 22 & 23 in Figure P address the availability of all information related the project portfolio for the board members as well as their aptitude to interpret the given information. These aspects have been touched upon in the PPM literature and concerns were raised regarding the insufficient flow and use of information (Elonen & Artto, 2003; PM Solutions, 2005; Artto & Dietrich, 2007). Further it was found that the decision-making process at portfolio meetings is not entirely rational and often, about half of the time, decision-makers are led by subjective opinions and approaches (Christiansen & Varnes, 2008; Rad & Levin, 2005). This need for a shared rationale for optimal portfolio decisions is illustrated in statement 24. And of course it should be a given that the final decisions which are made by the review board (decision-making body) concerning the portfolio are sound and explicit enough to formulate necessary strategic steps or actions that need to be taken based on this (Schlichter, 2007; statements 25 & 26). So the main purpose of this part of the portfolio governance framework is that the members of the decision-making body in project-based organizations are aware of the information that is provided to them as well as their ability to take justified portfolio decisions.

This last part of the framework, which makes the board members reflect on their own skills and ability of governing the project portfolio, is very likely to be the one that might receive the most biased scores. It can be assumed that members of the review board perceive their decision making capabilities to be better than they actually are and are probably a bit reluctant in giving low scores such as 1 or 2 – even if they would be justified in some cases. Although one might think that this section has a negative connotation to it, it is very useful in identifying a possible lack of information or necessary knowledge in order to make optimal portfolio decisions. Thus board members should focus on filling it out as objectively as possible in order to identify those needs (i.e. better flow of information between the project managers and the portfolio review board). This will in return be beneficial since it has been proven that a higher degree of information availability and is reflected in higher levels of portfolio management efficiency (Martinsuo & Lethonen, 2007).

All in all, the discussion of the three framework parts elaborated on above, mainly tries to emphasize the importance of each of the statements that the framework is comprised of. Here it shall be pointed out again that the literature review on project portfolio management, strategic alignment, organizational maturity and corporate governance enabled us to identify critical areas of portfolio governance which review boards may lack to examine in a consistent manner. The statements in the framework, which we came to formulate as a result of this, represent an answer to our proposed research question. The statements guide the decision-making body towards essential portfolio governance criteria

that assist to ensure a better alignment of the portfolio and the business strategy; eventually resulting in improved portfolio performance and higher PPM maturity of the organization. So it is important for the portfolio review board to consider all statements since only in its entirety it represents a balanced framework covering all essential criteria for sound portfolio governance practices.

4.3 Contribution to the PPM Body of Knowledge

At this point it appears to be essential to reflect upon the contribution that the proposed Portfolio Governance Framework represents not only for this study but also in regards to the project portfolio management field itself. As stated in our purpose, we developed this framework with the idea in mind to fill a gap in the current PPM literature, which we have found in particular in the area of portfolio governance. Although it has been pointed out by different authors (i.e. Levine, 2005) that sound portfolio governance practices set the basis for a rational portfolio decision-making process, when looking into the subject of portfolio governance we found no tool, method or guideline to help organizations in either developing or implementing such a governance framework. Further, authors (i.e. Archer et al., 1999; Cooper et al., 2000, Yelin, 2005) agreed that aligning the portfolio to the organization's strategy is of vital importance and providing guidance for this task has been seen as an aspect of portfolio governance, which has also found to be an indicator for the maturity of PPM practices (OGC, 2008; PM Solutions, 2005). And studies have shown that organizations are on average on low maturity levels, especially when it comes to portfolio governance (PM Solutions, 2005). But here again, the literature appears to pose a lack of well-developed governance criteria that would actually support the alignment of the project portfolio to the business' strategy and enhance organizational maturity in PPM practices.

As stated in the title and purpose of this thesis, we argue that sound portfolio governance represents the link between PPM and the strategic alignment of the organizational goals (Figure Q). The Portfolio Governance Framework proposed in this study, embodies exactly this linkage. Furthermore, it is a tool to assist the portfolio review board in considering all relevant aspects in order to attain a decision-making rationale that enables them to make optimal portfolio decisions. This is essential for project-based organizations, since their success ultimately relies on obtaining and maintaining a balanced project portfolio with a performance that reflects the business strategy and supports achieving the business objectives.

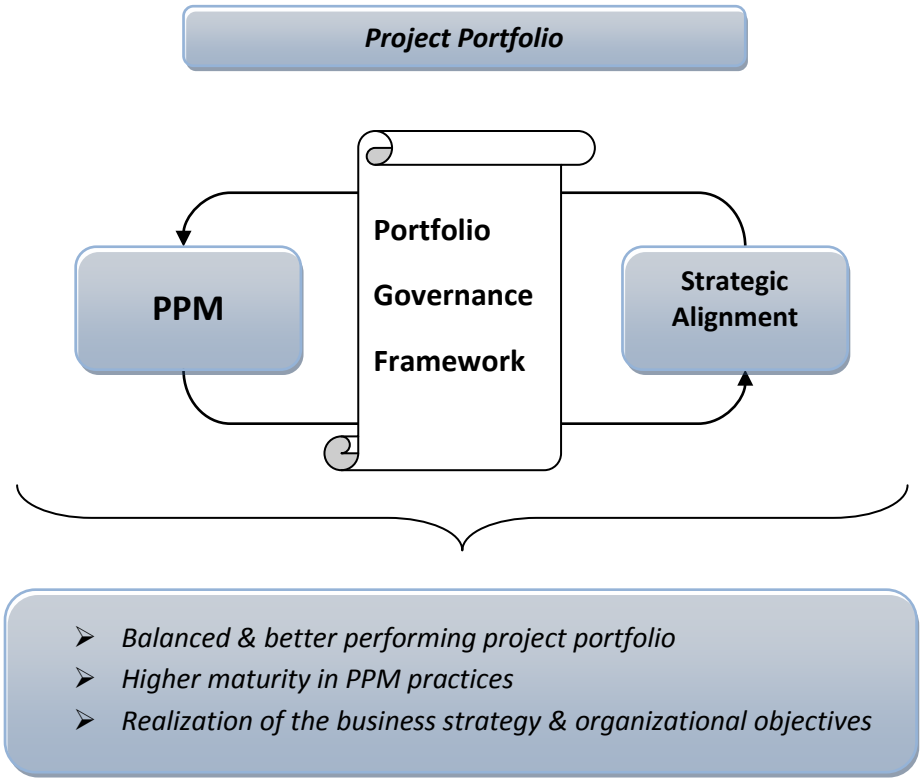

Figure Q: Portfolio Governance as the Link between PPM & Strategic Alignment

As illustrated above in Figure Q, the advantages of integrating such a framework are numerous. When used on a consistent basis it may result in a better balanced and performing project portfolio, more mature PPM practices (in particular portfolio governance) and an increased probability of successfully executing the business strategy and realizing the organizational objectives.

The practical challenges of implementing such a framework may primarily lay in the potential unwillingness of the review board (or executive management) to do so. Often organizations fail to fully implement and use processes and methods that are proposed by researchers or PPM consultants. One can only make proposals and suggestions to the management of an organization and try to point out the advantages of employing a certain tool. Whether it in the end will find usage in a consistent manner, is up to the organization itself. While ultimately it is the company's final decision to use or not use such a framework, the theoretical implications proposed above, as well as the practical implications that will be discussed in the section below, point in a direction that suggests that using a portfolio governance framework would be beneficial to an organization. Hence, implementing a governance framework should be treated as any other novel process or enhancement in an organization and a potential resistance to change should be overcome.

V. Empirical Findings & Analysis

This chapter presents, analyzes and discusses the findings of the conducted PPM Governance survey and provides answers to the proposed research questions.

The two separate purposes of the current study have been identified through the research questions proposed in the problem discussion. The first research question was addressed in Part 3.2 – Portfolio Governance Framework, and the other two are discussed below.

2. *Do project-based organizations in fact not implement a governance framework to guide their decision-making rationale?*
3. *If there is some sort of a governance framework, do project-based organizations implement it in a consistent manner every time they make portfolio-related decisions?*

The survey that was conducted for the second part of the study was used as a tool to identify whether project-based companies use a governance framework to guide their decision-making rationale. The Portfolio Governance Framework (Figure P), which was proposed as the missing link between PPM practices and Strategic Alignment (Figure Q), serves as the foundation for the survey questions (Appendix 2). 31 companies and 53 employees were contacted. Of them, 25 companies and 31 employees replied, which means a response rate of 81% of the contacted companies and 58% of the contacted personnel. We have contacted companies operating in Sweden that to large or at least to some extent match the definition for a project-based organization. And the people that were aimed at are in senior/executive positions and/or members of the portfolio review board. Of all companies that participated in the survey, 20% represent the public service provider type, and 80% - the market driven organization type.

5.1 Presentation of the General Findings

The general findings from the survey show that project-based companies generally do not employ a project portfolio governance framework to ensure a rational decision-making process. Furthermore, even if companies have a set of guiding principles these are also not considered on a regular basis, and are not implemented consistently across the organization. The implications from such an observation are manifold. It is worth pointing out that the initial assumptions for the current study have been confirmed. Namely, it may be concluded that decision makers do not consistently cover all issues related to portfolio governance at project portfolio meetings.

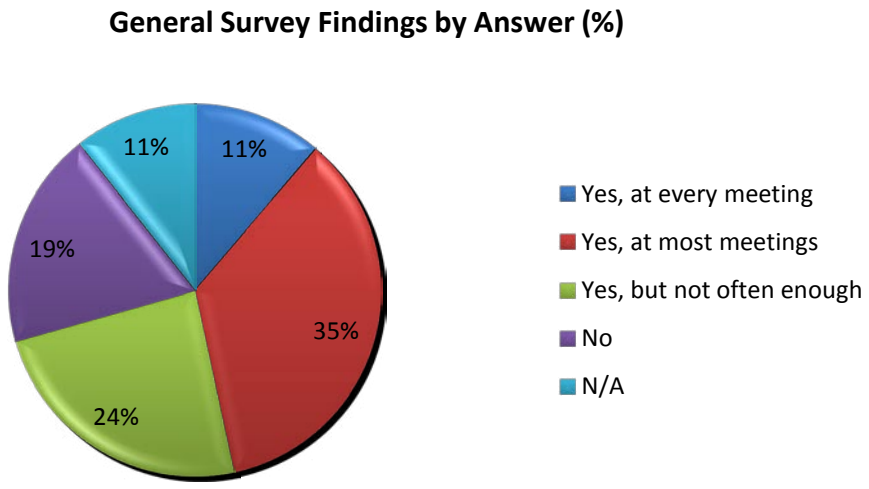

Figure R: General Findings from the PPM Governance Survey by Answer Choice (%)[5]

As is noticeable in Figure R, only 11.2% of all issues pertaining to portfolio governance are discussed on a regular basis. On average, 35.4% of all issues are covered at most meetings but are overlooked when the board sees fit. Although this seems as a rather high number, it must be kept in mind that it represents barely over a third of all relevant governance topics. Altogether, the issues that are never covered and those that are only taken up rarely represent 42.8%, which is also quite high. What is even more striking is that for none of the questions "*Yes, at every meeting*" is dominant (Appendix 2) – it is at best second to "*Yes, at most meetings*" or "*Yes, but not often enough*". As one respondent honestly commented 'We do not use portfolio governance' (International Coordinator at a Swedish public service provider, 2009). This finding is in line with the findings in a Danish case study by Christiansen & Varnes (2008), thus confirming that decision-making at portfolio meetings is not entirely rational in companies operating in Sweden as well. It is noticeable that 37% of the issues listed in the Portfolio Governance Framework are discussed at most meetings but as stated in Section 4.2, unless such issues are discussed at every meeting, there is inconsistency over time which in turn leads to a lack of longitudinal progress overview and could hamper portfolio performance.

Such lack of consistency implies imperfect project portfolio management practices. It seems that companies are more focused on more operational management aspects and leave portfolio governance out of PPM. As discussed previously, management and governance should be seen as inseparable parts of PPM and by focusing too much on one while not paying enough attention on the other is potentially detrimental to the organization.

[5] See Appendix 2 for the Survey Summary (by Question & Answer Choice)

Such findings raise more questions than they give answers to. Although there is no such tool as a governance framework on the market the question still remains why companies do not develop their own set of guiding policies to ensure consistency of the processes. Furthermore, it makes one question the willingness of companies to either develop or adopt such a framework. We must not forget that decision-makers are people and review boards consist of people that may be very different. Because such a framework would question their awareness of many issues, the availability of information and their ability to interpret it, there may be more to implementing a framework than just the lack of such a tool. Just as it has been mentioned before, although there are numerous prioritizing tools on the market, decision makers' use of them is still very limited and this shows in the portfolio outcome as negative (J. Winqvist, personal communication, 2009-04-06). The limitations that such a framework may pose may be of similar nature. Still, that does not change the fact that companies should employ a consistent decision-making rationale.

The importance of consistency when it comes to portfolio governance has been discussed before but will be mentioned briefly again. On one hand a portfolio governance framework constitutes the general issues that are supposed to be applicable to all portfolios and projects, it is the foundation for a consistent rationale for decision-making. On the other, consistency of the issues taken up at every meeting provides a means for tracking progress at every meeting. Last but not least, consistency is the key to standardized processes, which lead to higher PPM maturity levels, or portfolio performance (PM Solutions, 2005). Hence, consistency is a vital prerequisite for rational decision-making, standardized processes and enhanced portfolio performance.

Last but not least, a few other issues spring to mind – is there a difference in the results when comparing the three parts that comprise the governance framework and are there differences in the results when it comes to different types of companies – do companies in a competitive market environment show results unlike those in a non-competitive environment? It is also worth discussing the implications of the general results in terms of the areas that the portfolio governance framework was deducted from. These discussions follow below, in Sections 5.1.1 to 5.1.3.

5.1.1 Findings by Framework Part

As discussed in Section 4.2 the Portfolio Governance Framework consists of three distinct parts: 1. *Portfolio Characteristics*, 2. *Strategic Alignment* and 3. *Review Board Aptitude*. In terms of consistency according to Framework part, the results go along the lines of our assumptions that alignment of the project portfolio to the organization's strategy is the most overlooked compared to the other two parts. Only 8.87% of the issues concerning strategic alignment are discussed at every meeting, in comparison to 13.15% of the issues of portfolio characteristics and 10.32% of the issues concerning the review board aptitude section (Appendix 2). Still, although the assumption that strategic alignment is not

considered consistently enough, organizations now face another challenge as recognized in the current survey – the capabilities and attitude of the portfolio review board members. Last but not least, considering the low numbers among all three sections of the framework, it is quite striking that there is very low consistency overall.

Looking at the comparison from a different angle, 49.6% of the issues concerning strategic alignment (Figure S) are not discussed or not discussed often enough at portfolio decision-making sessions. This is compared to 42.68% of the issues concerning Portfolio Characteristics and 31.62% of the issues pertaining to Portfolio Review Aptitude (Figure S).

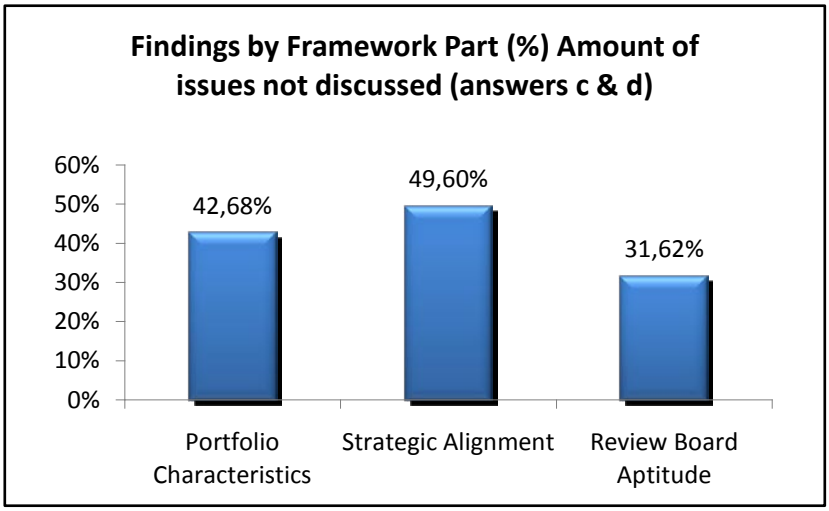

Figure S: Findings from the Survey by Framework Part, answer *c) No* and *d) Not often enough* (%)

This lack of consistency was only assumed to exist, but the confirmation is quite striking, because studies have found that strategic alignment results in 'spending better reflecting strategy' and have the 'strongest positive influence on portfolio performance' (Killen et al., 2008, p. 32). Therefore, when more than half of the issues concerning PPM are not consistently reviewed at every meeting, there is a risk that strategic alignment would not be achieved and hence the project portfolio would be underperforming. Considering the findings from previous studies on project portfolio performance and performance success rates (PM Solutions, 2005; Killen et al., 2008; Cooper et al., 1999), the lack of strategic alignment and disregard for general portfolio characteristics can be flagged as a field that companies need to improve at. Thus, striving for more consistency of strategic alignment issues is a prerequisite for enhancing portfolio performance.

5.1.2 Findings by Organization Type

The companies that were contacted for the survey were 31 in total, with a total of 53 respondents and they all operate in Sweden. Although the sample size is large enough to show a tendency in the use of a portfolio governance framework, it does not make sense to further divide the sample into the 7 industries that it is comprised of because for some industries the amount of respondents is not as high as in others. The need for a more varied industry representation is based on the goal to get results that are applicable to companies across industry, size and type of service/product. Therefore, the criterion by which the companies have been divided is that of market competition, i.e. whether a company is active in a competitive market or if it represents a monopoly. The survey is comprised of 26% respondents from the public service provider type and 74% from market driven organizations.

This distinction is necessary because one may assume that companies that do not face competition, such as governmental agencies (for example the car safety check agency) may not experience the same pressure and need to enhance their services so as to attract customers. This may be completely different for a company that faces fierce market competition, such as a company in the manufacturing/production sector. As previously discussed, the business market environment can be a strong driver for companies to form a competitive advantage (Aritua et al., 2009) that would set them apart from other companies in the same sector. Hence, it would be interesting to find out whether there are differences between the usage of portfolio governance frameworks and the consistency of the issues taken up at portfolio decision-making sessions between the two types of companies. The first type we call Public service providers, and the second – Market driven organizations.

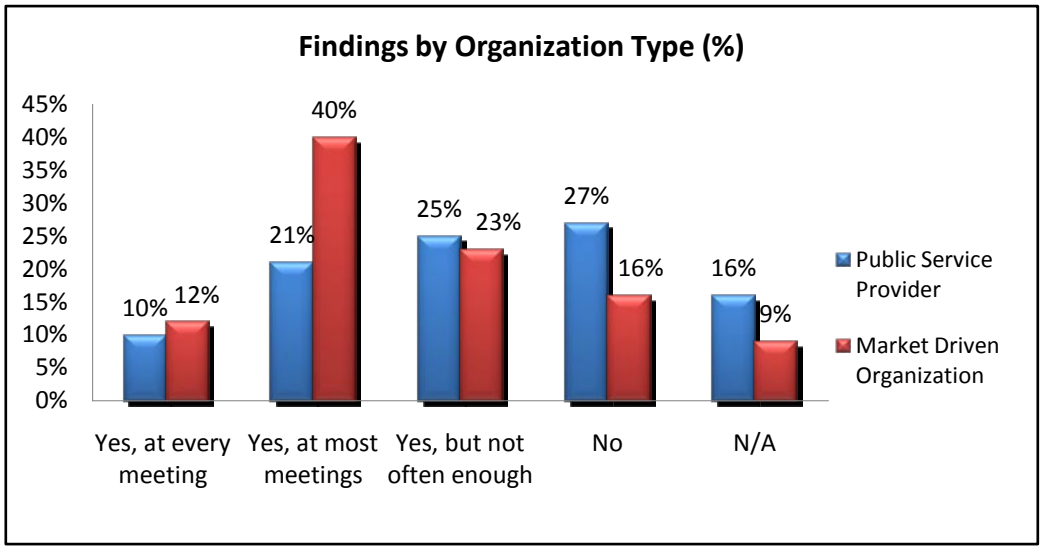

Figure T: Findings of the PPM Governance Survey by Organization Type and Choice of Answer (%)

As Figure T shows the tendency in the consistency of the issues covered at decision-making sessions between the two types of companies are not very pronounced. In general, the same tendency can be noticed in both types of companies, namely the lack of such consistency in the issues. Only 11% of all issues that are relevant to portfolio governance are covered consistently (median of the two types of organizations for *Yes, at every meeting)*, while about 50% of them (median of the two types of organizations for *Yes, but not often enough* and *No*) are not. Over a quarter of the issues (27%) in public service providers and almost a fifth (16%) in market driven organizations are never touched upon, and a quarter of all portfolio governance matters (25% and 23% respectively) are not considered often enough.

Still, there is a difference between market driven and public service organizations in that market driven organizations tend to consider more than a third of the portfolio governance subjects (40%) compared to only a quarter (21%) in public service providers (Figure T). Consequently, public service providers may be considered as performing relatively worse in their portfolio governance aspect, compared to market driven organizations. Although it cannot be concluded that this lower efficiency is due directly to market competition drivers it may be assumed that the organizational performance is influenced by portfolio performance (which in turn is driven by PPM). And it has been shown in previous studies that governance can have much influence on organizational performance (Heracleous, 2001).

Therefore, considering the indirect link between portfolio governance and organizational performance, a question arises whether companies of the public service provider type need to improve in the portfolio governance aspect. The short answer to that question is ‘Yes’. The reason behind this is not connected to PPM *per se* but rather to the fact that Sweden, as any EU country, will not be able to sustain its governmental monopolies for a long time in the future. Since it is not the aim of this study to engage in political discussions, it will only be mentioned that companies operating in Sweden, regardless of which type they fit into, should be better prepared for competition, as more EU policies on deregulation are enacted.

5.1.3 Findings by Organization Type and Framework Part

Based on the finding that there are differences in the consistency of the issues taken up at portfolio decision-making sessions between the two types of companies, it would be interesting to find out whether there are further differences by framework part as well. These differences may be an indication of what areas each type of company may be better at and what areas need to be improved. Figure U below summarizes the results of the survey for the Portfolio characteristics part, according to organization type.

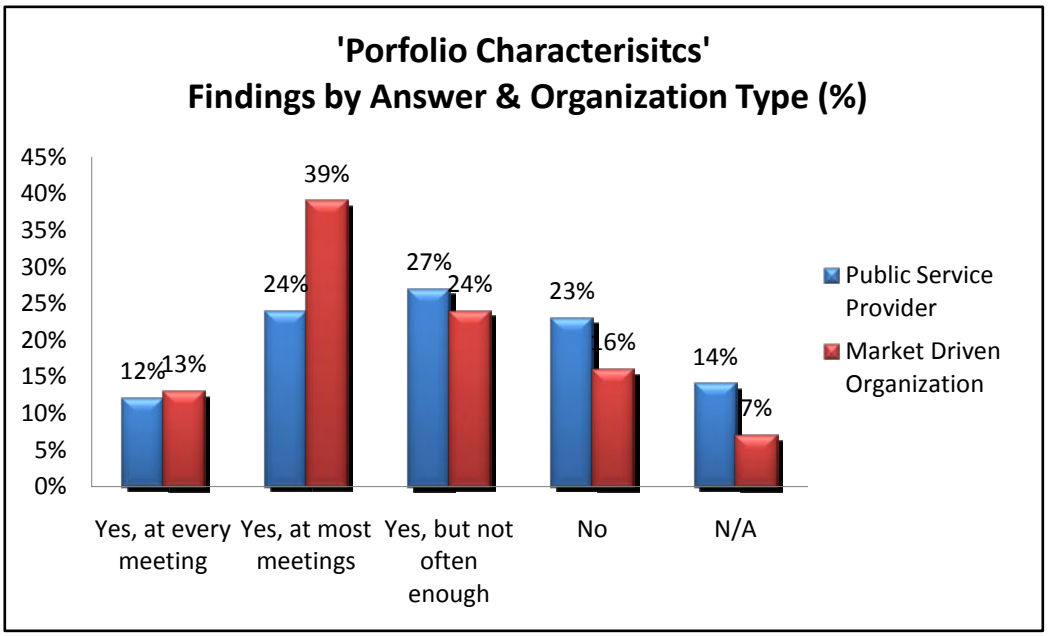

Figure U: Survey Findings by Organization Type and Part I of the Framework (Portfolio Characteristics)

Comparing the two types of organizations by framework part it is obvious that the trend of consistency, or lack thereof, is still valid. The issues concerning portfolio characteristics are not taken up on a regular basis, with only 12% in public service providers and 13% in market driven organizations, being consistently discussed at portfolio decision-making sessions (answer *Yes, at every meeting*). In comparison, 16% of such issues in the market-driven organizations are not discussed at all as opposed to 23% in public service providers (answer *No*). In both instances a discrepancy between the two types of organizations is noticeable whereby market-driven organizations show a better portfolio governance practice than their counterparts at public service providers. It may be concluded that market-driven organizations are assumed to have better performing portfolios concerning the portfolio characteristics. That again could be attributed to the necessity for a sustainable competitive advantage (Cooper et al., 2001; Heracleous, 2001) that is more pronounced in market-driven organizations compared to such a necessity in public service providers.

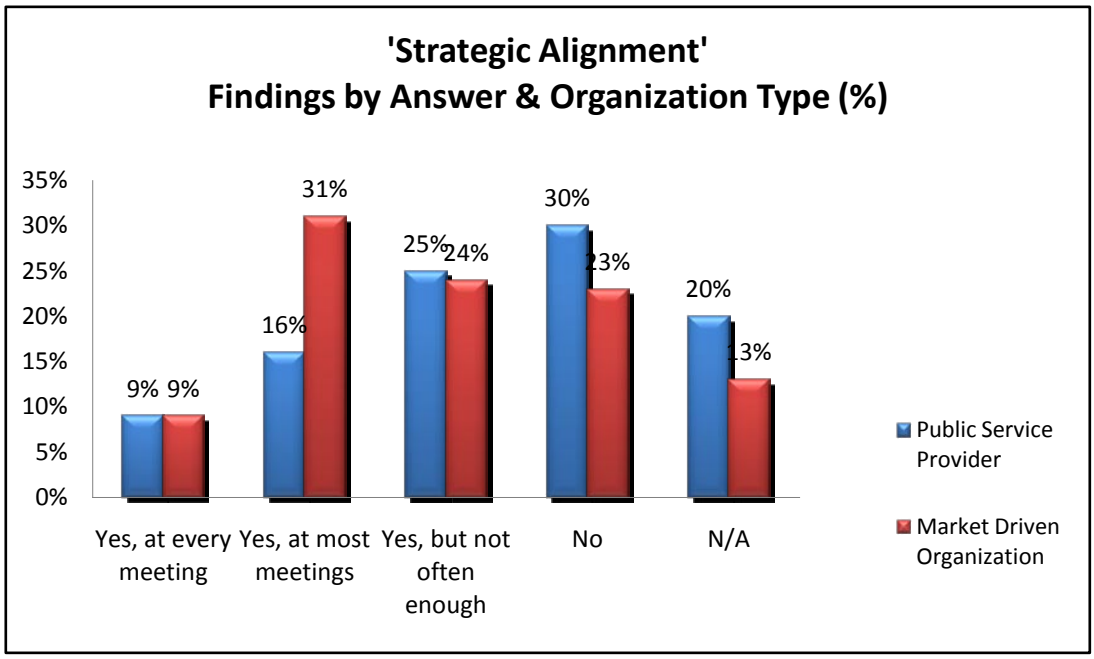

Figure V: Survey Findings by Organization Type and Part II of the Framework (Strategic Alignment)

The main concern of the current study, namely strategic alignment (Figure V), again confirms the presumption that companies do not take the necessary steps to ensure alignment of their project portfolios to the organizational strategy. Only 9% of the issues related to strategic alignment in both types of organizations are considered on a consistent basis, leaving the remaining 90% not covered on a regular basis at decision-making sessions. An astounding 30% (public service providers) and 23% (market-driven organizations) of the issues are never considered (answer *No*) which is a vast gap in the practices that could potentially lead to better performing project portfolios and thus, better achievement of organizational goals.

The difference between the two types of companies in terms of the amount of issues that are not covered is not as high as the difference in the amount of issues that are so relatively speaking (answer *Yes, at most meetings)* – 16% for public service providers as opposed to 31% for market driven organizations. This means that market driven organizations cover almost twice as many issues at most meetings compared to the amount in public service organizations. This again shows a discrepancy, possibly due to the need for a sustainable competitive advantage that would set the company apart from the rest in a competitive market environment.

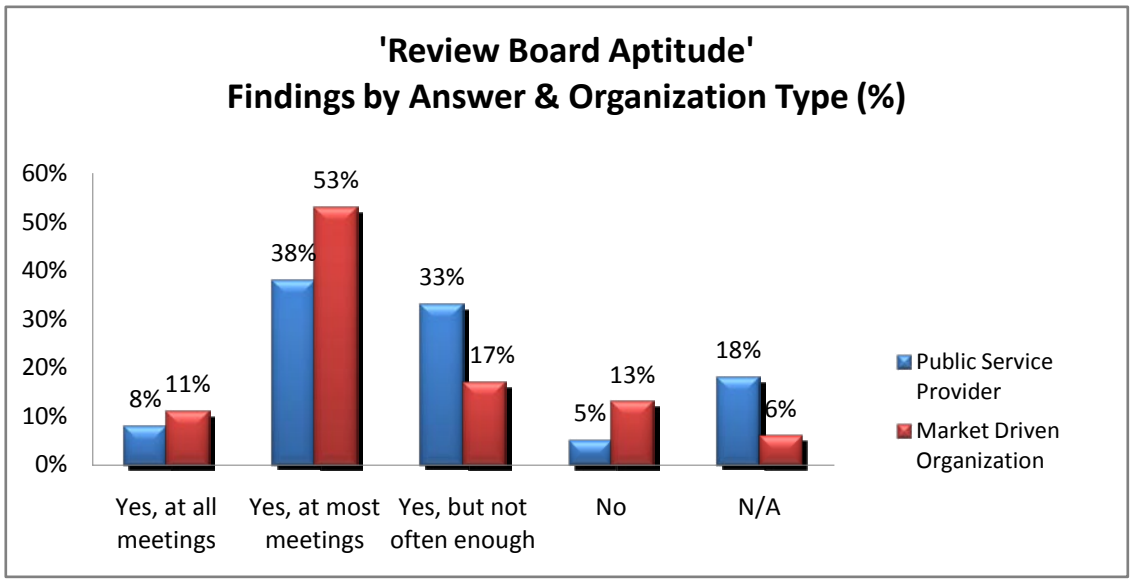

Figure W: Survey Findings by Organization Type and Part III of the Framework (Review Board Aptitude)

The issues concerning Review board aptitude (Figure W) show the least consistency in absolute numbers (answer *Yes, at every meeting)* from all three parts of the framework. At the same time, the largest amount of issues is considered at most meetings when it comes to board review aptitude (answer *Yes, at most meetings)* compared of the other two parts of the framework. This means that decision makers are aware of the need for a sound final decision and a shared rationale and most often that seems to be the case in both types of companies. A note must be made that there have been pronounced discrepancies in the answer chosen and the comment provided after that, so it should be kept in mind that many of these answers are contradictory.

However, there is still a significant difference between the consistency in public service providers and market driven organizations, even in terms of the issues considered at most meetings. It seems that market driven organizations feel a need for a consistency and shared rationale more often than public service providers – 53% for market driven organizations show a relatively higher consistency than 38% for public service providers. Furthermore, public service providers may consider the highest amount of issues discussed but altogether 38% (answers *Yes but not often enough* and *No)* of the issues are not paid attention to on a regular basis. This may be due to organizational structure differences between public service providers and market driven organizations whereby in public service providers the final decision may be assumed to be taken by one person instead of be the result of consensus by a portfolio review board. However, this cannot be confirmed directly in the current study, as there are no direct questions related to organizational structure.

Considering that strategic alignment was assumed to be the aspect that companies perform worst in, this assumption has been confirmed only to an extent. Compared to the other two parts of the framework, strategic alignment in absolute numbers (answer *Yes, at every meeting*) scores about the same as Review Board Aptitude, and lower than Portfolio Characteristics, in both types of companies. But when considering the overall results (combined answers *Yes, but not often enough* and *No*), then strategic alignment comprises the issues that are most often overlooked at portfolio meetings in Market Driven organizations (47% for strategic alignment compared to 40% for portfolio characteristics and 30% or review board aptitude). Public service providers do not consider more than half of the strategic alignment issues (combined answers *Yes, but not often enough* and *No*) at all or not often enough (55%) compared to the issues concerning portfolio characteristics, which are taken up almost as rarely (50%) and 30% of the issues for review board aptitude. The fact that these issues represent such a high percentage is enough grounds to conclude that companies need to improve in the strategic alignment aspect.

The results presented above are raw data that shows a specific tendency in the organizations in terms of whether and to what extent they use portfolio governance frameworks. Furthermore, the data that is presented in parts 5.1.1 to 5.1.3 shows the additional differences between companies in terms of what focus they put on the different parts of the governance framework. Although this data is sufficient to answer the research questions posed at the beginning of the current study, we still see a need to interpret it in order better understand what the implications are of using or not using governance frameworks. Section 5.2 below discusses on a more thorough level the implications of the survey results and how these relate to the Frame of Reference and the field of PPM in general.

5.2 Analysis of the Survey Results and Discussion

The following sections present the reader with an analysis of the empirical findings, which are discussed in relation to relevant literature.

5.2.1 Implications for PPM Practices

Project portfolio management is a rather new area of research. As such any theoretical development on PPM contributes to making PPM a fuller body of knowledge. When it comes to the most controversial discussion, the differentiation of project from portfolio management, it is quite obvious that project management practices are limited in their ability and scope to cover portfolio management related issues. The results from this survey confirm this. As pointed out by Levin (2005), the measures of success for a project are quite different from those for a portfolio and most executives are not interested in project measures of success (Levine, 2005). Projects are measured in terms of delivery on time, scope and budget and are temporary undertakings, while portfolios reflect the

organization's strategy, vision, mission and goals – or the organization's *soft criteria* (PMI, 2006). Therefore, considering the overall direction of the portfolio and how well it represents the organization's soft criteria is more appropriate for evaluating a portfolio's performance. The topics that have been included in the survey specifically target these challenges and generally disregard the success rate of individual projects because it has been our intention to provide a tool to executives to measure performance on a level higher than project management. What the results from the survey point to in the PPM literature is that although executives may initially be more interested in the more overall picture that the portfolios represent, they still end up operationalizing the topics covered. This could be because of the ease of use of the tools that measure project performance, compared to the complexity and often lack of existence of tools that tackle portfolio performance. Also, it could be that some projects are extremely large and take up large amounts of the organization's resources – time, human resources and funds. As such, they could deserve separate attention but we still stress the importance of considering the portfolio level first, before going into each project's performance.

The comments that some of the respondents have provided prove to be especially valuable in interpreting the results from the survey and seeing the logic behind the choice of answer. It is rather common that respondents recognize the need to enhance their PPM processes and decision-making and some openly admit to not following all rules. For example, one respondent replied that there is a need for agreed upon PPM policies across the organization and that their implementation 'will happen within the next 1-2 years' (Portfolio manager at a major Swedish financial institution). Another respondent recognizes that there is a need for better PPM processes to ensure delivery on time, scope and budget and admits to not having implemented such yet (CEO, major Swedish financial institution).

Furthermore, some discrepancies between the answers and comments of some of the respondents point to rather faulty PPM processes. Namely, that the decision makers define the size of the portfolio in a rather technical manner, by limiting the size of the portfolio according the allocated budget. While the approach itself is not faulty, not considering balance of the portfolio, strategic alignment of the components and interdependencies between the components/portfolios (for example Figure L), is rather limited and may result in a poorly performing portfolio. The reason for that is that when the budget is divided into a specific number or amount of projects within a portfolio, it does not ensure that the projects within the portfolio would be managed in a way to deliver increased benefits (Platje et al., 1994), which are greater had these projects been managed separately (Aritua et al., 2009; PMI, 2006). This hints that these organizations do not use PPM to guide their portfolios but rather apply project management practices. Therefore, it would not be a surprise to find out that their project portfolios are underperforming.

Overall, judging by the survey results it may be concluded that companies still face challenges when applying PPM practices. However, these challenges can be seen as opportunities to enhance PPM practices so as to achieve better portfolio results, which in turn would be beneficial to the overall company performance. Having identified these difficulties, it may be easier to deal with them. Therefore, although the results are somewhat negative, the prospects for improvement are not.

5.2.2 Strategic Alignment Challenges

Aligning the project portfolio to the organizational strategy has been discussed in length in the current study and is the main focus of it. As has been pointed out by Porter (1996) the *strategic fit* between an organization's business strategy and its actions (in our case – project portfolios) is necessary for achieving sustainable competitive advantage. And the direction of the business strategy is a key driver in composing project portfolios (Cooper et al., 1999). Therefore, achieving an alignment between the business strategy and the project portfolio is of vital importance for the successful performance of the portfolio and hence the organization in general. The survey's aim was not to measure to what extent the organizations have managed to achieve strategic alignment but whether they consider the issues related to strategic alignment at portfolio decision-making sessions. The results clearly indicate that in general companies are very inconsistent in this undertaking.

A reason for that could be that although companies in general see the need for strategic alignment, they fail to review the fit on a regular basis. And if the business environment has changed and the strategic goals have been altered the lack of alignment may have been easily overlooked. A respondent admits to never checking for changes in the strategic goals at portfolio meetings (portfolio manager at a large financial institution) but recognizes that this should be done.

Another respondent admits to rarely reviewing the portfolio components' fit to the strategy and even goes on to argue that strategic alignment which results in 'benefit delivery and impact on strategy is not in-scope of PMO' (upper management position, large manufacturing company). This is rather striking as project portfolio definition through strategic alignment; benefits delivery and follow up are seen as a part of one complete cycle of PPM (Tidd et al., 2001, cited in Dooley et al., 2005). This hints at possible performance challenges that could be well avoided if all steps are taken into consideration. An almost identical issue is found in a different company where the respondent attributes strategic alignment to be the 'business side's responsibility to align and reshape its plans to achieve the new goals' (CIO, large financial institution).

Another reason could be a lack of overview of the project portfolio to check whether it has steered away from the previously set strategic goal. The over-engagement with single projects, regardless of how large or important they could be, could shift the focus from the

portfolio level at every meeting to singular projects at every meeting and thus the overall strategic alignment could be overlooked. Interestingly enough, some respondents have chosen the *N/A* answer in the survey when asked whether the review board checks for changes in the strategic objectives. While it is understandable that 'The strategic goals should not change that often' (head of strategy and analysis, large energy provider) that still does not take away the necessity to check for such changes. We do not imply that a review board member would forget that changes have been made to the strategic goals but rather wish to stress that reviewing this at every meeting would bring awareness to the whole board. And when discussing issues that need to be addressed after a change in the strategic goals, the change itself will be kept in mind. If these are not brought up at the meeting, one can easily overlook the necessity to change another part of the PPM practice – the method for follow up, to adjust the individual project goals or could also have a result that is incomparable to the revised strategic goal.

Moreover, one respondent directly admits to never checking for changes in the strategic goals because the company has not yet 'linked our strategic goals to our change initiatives, which means that today we only do an overall evaluation when there are changes in the strategic goals' (Head of PMO, large financial institution). This is more than alarming as it has been argued numerous times that strategic alignment is key to successfully performing project portfolios (Killen et al., 2008). Still, the awareness of the respondent to the potential pitfall can be seen as a positive occurrence because since the issue has been identified, it can be resolved.

Overall the issue with consistency in the decision-making rationale stands. Respondents in general show awareness of the issues of strategic alignment but rarely cover them on a regular basis. Because of the lack of consistency in the decision-making rationale it may be concluded that organizations usually take up issues on a case-by-case basis, which means that if an issue is deemed important because of current developments in the company it is very likely that the other issues may be left out of the discussion. As logical as this may seem when it comes to specific challenges the organization faces at a specific time, such an approach does not ensure any consistency in the direction of the business strategy (Cooper et al., 1999). And since the business strategy is crucial in composing the project portfolio, it is rather expected that with a weak strategic alignment, the project portfolio would underperform.

5.2.3 Portfolio Governance Inferences

There is lack of a unified definition on portfolio governance but as discussed previously, it may be concluded that portfolio governance establishes the limits of power, rules of conduct and protocols of work at the portfolio level. Furthermore, portfolio governance is an inseparable part of PPM that helps achieve alignment of the organizational strategy to the project portfolio (PM Solutions, 2005). Judging by the results from the survey we

observe inconsistency in the answers. It is quite noticeable that some respondents tend to be very positive on every aspect pertaining to portfolio governance, because the portfolio review board is part of the portfolio governance setting.

In general, using a set of agreed upon policies consistently across the organization is a step towards implementing a more sophisticated portfolio governance framework and sets the basis for stronger strategic alignment and better performing portfolios. It is noticeable that some companies have agreed upon policies but in the best-case scenario only use them from time to time. Therefore, it may be concluded that there is no consistency in the portfolio governance approach as well.

It is also noticeable that some respondents do not have a developed and agreed upon set of policies. This is quite striking because it is thought to be a standard prerequisite for companies that want to operationalize their vision, strategy and mission. As stated before, one of the biggest challenges that companies face is their inability to turn strategy into actions (Schlichter, 2007). And a governance framework assures that this process is done in line with the organization's goals. Some respondents quite openly answer that although there is a set of policies these are not considered often enough and are not implemented across the organization. This lack of consistency raises the question why companies even have a set of guiding principles if they are not willing to use them. Surely this question has been posed to other areas in business administration, but it is still quite surprising that the rules and law that the companies themselves develop are completely disregarded.

Another example when it comes to using a set of guiding principles is provided by a respondent who claims to be consistent in their use but goes on to say that they have not been implemented in all divisions of the organization. Again, the contradiction points at inconsistency, that could not have a positive effect on the project portfolio and hence, on the organizational performance.

As discussed in section 4.2.3 is can be expected that these answers be biased because the questions directly pertain to the willingness and ability of the review board to make optimal portfolio decisions. A respondent confesses that the review board does not fully understand and cannot interpret the necessary information to make optimal portfolio decisions because 'optimal decisions in a company of a certain size are to some extend theoretical' (PMO Head, large financial institution). Although the size of the company and the amount of the portfolios could definitely be a setback to the process of understanding and interpreting necessary information, this points even more in the direction of inherently underperforming portfolios. Unfortunately, such objectivity has been rather rare in this survey because most of the answers that pertain to portfolio review board issues have been very positive. Again, the need for objectivity is to be able to identify the real levels of information availability

and to assure understanding in order to take up discrepancies at the meeting, before decisions are made wrongly. The higher the degree of information availability and systematic decision-making, the higher the levels of portfolio management efficiency (Martinsuo & Lehtonen, 2006).

Furthermore, another respondent argues that the review board of that company makes sure that the portfolio is free from internal politicking but goes on to say that this consensus is not explicit; that portfolio decision-makers share a common goal and that this should be enough. However, these two statements are rather contradicting because the purpose of explicitly agreeing that the portfolio is free from internal politicking is to open the floor to any lingering doubts about it. It is very easy to avoid conflict by not addressing the issue of internal politicking but it could be counter productive because the portfolio components may change to suit one person's need which may not necessarily be aligned to the organization's overall strategy.

Perhaps the most important conclusion about this part of the survey is not necessarily that our assumptions have been confirmed. As stated in the very beginning of this study, organizations have been found to score the lowest in portfolio governance maturity in a previous study (PM Solutions, 2005). Rather, the most controversial result is that respondents do not realize that they do not help the organization with being extremely subjective in their assessments. It is quite striking that the answers in some cases are completely opposite to the comments in the comments field and this should be an alarming signal. Respondents need to be more objective, not only in their intentions but also in their actions in order to assure better overall performance. Hence, portfolio governance should be applied in practice as well regardless of whether it is in the form of a set of guiding principles or if they adopt a standardized portfolio governance framework to help them achieve their organizational goals.

VI. Conclusions & Further Research

The final chapter summarizes the main findings of this study in relation to the proposed research questions and provides the reader with concluding remarks and managerial implications. Limitations concerning the study and suggestions for further research are presented as well.

Based on the two-tiered nature of the study, the three research questions that we have aimed at answering have been tackled in different parts of this thesis.

1. '*What are the criteria of portfolio governance that contribute to better aligning the project portfolio to organizational strategy?'*

The criteria that are relevant to consider for successful portfolio decisions have been outlined in form of 26 statements in the Portfolio Governance Framework (Figure P). They consist of general portfolio characteristics, portfolio governance issues and review board aptitude. Although these can be found in various literature sources the combination of the three, as well as considering the interdependencies between them, is what comprises portfolio governance. Portfolio governance assures the link between PPM and strategy alignment of the project portfolio (Figure Q). Taking out one part (set of criteria) or only considering another gives an incomplete set of policies to guide the PPM processes. Therefore, the three parts are seen as inseparable and to better align the project portfolio to the organizational strategy the scaling system proposed (1-lowest, 4-highest) is suitable. It draws the decision-makers' attention to the level of perceived performance for each statement. And scoring relatively low helps identify the areas that can be improved.

2. *'Do project-based organizations in fact not implement a governance framework to guide their decision-making rationale?'*

The results of the portfolio governance survey indicate that companies in general do not implement portfolio governance frameworks, an astounding 41% of the issues relevant to portfolio governance are either never discussed or are only discussed rarely. In the few cases that companies have guided portfolio decision-making sessions, only sets of policies comprising 11% of all portfolio governance issues are considered. Even in these cases, in which companies develop their own sets of policies, they rarely use them to guide their decision-making rationale in a consistent manner. Therefore, it may be concluded that overall companies do not implement portfolio governance frameworks.

3. '*If there is some sort of a governance framework, do project-based organizations implement it in a consistent manner every time they take portfolio-related decisions?'*

As briefly stated in the answer above, the findings of the survey indicate that even if companies have an agreed upon set of policies they only use them when it comes to 16% of the portfolio governance issues. Overall, 35% of the agreed upon set of policies are either never discussed or discussed rarely. Therefore, it can be concluded that even in the presence of some sort of a portfolio framework, organizations are very inconsistent in its application to portfolio-related decisions.

As indicated above, the initial assumptions prior to starting the study have been confirmed. Namely, that in general there is a lack of consistency when considering portfolio governance issues and that companies in general do not apply a portfolio governance framework to guide their decision-making rationale. Thus, a tendency in PPM practices is noticeable, namely that project-based organizations have imperfect portfolio decision-making rational. Furthermore, the goal of the conducted empirical study was not to test the content of the proposed portfolio governance framework, but it is noticeable that most issues listed in it are relevant to project-based organizations. This is due to the fact that the framework has been mainly derived from available literature on PPM, strategic alignment and governance. By reviewing the most important aspects of these fields, but also by considering what issues authors tend to agree on, we have hereby made a first attempt at defining a tool that is currently missing in both PPM literature and on the market.

Indirectly, the relevance of the framework parts has been accepted. Judging by the replies of the survey, only 10.67% of the issues have been deemed not applicable, and in many cases this can be attributed to the fact that some companies have not yet implemented a policy for the issue at hand, although they may be aware of it. Hence, it may be said that the proposed Portfolio Governance Framework fills a gap in the current literature on PPM practices. Considering again that this Framework can assist in achieving better alignment between the organizational strategy and PPM practices (Figure Q), implementing such a framework would be beneficial in project-based organizations. It helps to both raise awareness of the relevant governance issues at hand and to keep track of progress over time by ensuring consistent decision-making rationale. Furthermore, we are aware of the fact that different companies may face different challenges or may operate in different environments, but the generic and flexible nature of the framework makes it widely applicable.

The empirical part of the study, carried out as an online survey, primarily targeted the issue of consistency of the decision-making rationale at portfolio review meetings and was found to be a rare occurrence. What is interesting about the results from the second part of the

study is that more questions came out of it than answers. Our initial assumptions were confirmed but this now leads one to wonder what the reasons could be for such a lack of consistency – is it the lack of a portfolio governance tool, the unwillingness of companies to develop one themselves or their reluctance to explicitly discuss issues that also question their level of awareness and ability to interpret available information? And if companies would adopt a portfolio governance framework, what could be potential technical challenges and setbacks in doing so? And to what extent would such an undertaking meet a lot of resistance to change? Clearly these are not easy questions and they would pose challenges to resolve. Nevertheless, it is still believed that companies could benefit from such a framework, regardless of their size, industry, type of organization and level of project-oriented activities.

One may argue that the Portfolio Governance Framework developed in the course of this study, is limited to the resources used to construct it. Nevertheless, the authors of this thesis claim to have exhausted the majority of the accessible sources of relevant literature on PPM, strategic alignment and portfolio governance. But it may be acknowledged though that more studies could be either underway or not accessible during the timeframe of writing the current thesis. Therefore, the proposed Portfolio Governance Framework allows room for further improvement. The empirical part of this study is limited by the fact that the study only focused on companies operating in Sweden. As such, we cannot automatically deduct that the findings in this study are applicable to all project-based organizations. Although surveying 25 companies can definitely indicate a tendency, the amount of companies may not be representative of all project-based organizations. Still, since the primary goal of this study was to only identify a tendency, and judging by the way the responses progressed overtime, we may safely conclude that a larger number of respondents would very likely only confirm the hereby identified tendency.

Due to the valuable findings of this study, this thesis poses a base for further research in the academic field of PPM. And being aware of the limitations of our own study, it is hereby suggested that further studies on portfolio governance practices in project-based organizations should be conducted, in order to not only verify assumptions and findings of this thesis, but also to identify and fill other theoretical gaps in this rather new area of research. Further studies should be carried out to measure the level of positive correlation a Portfolio Governance Framework would have on PPM maturity over time. Furthermore, this would also help identify more relevant criteria, or statements, that relate to portfolio governance. On a more general level, this study could be applied in different settings to confirm the findings – in more organizations or in other countries. Executing such studies would contribute to the further development of the PPM body of knowledge.

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Appendix 1- Project Portfolio Management Maturity Models

This section gives an overview of the four main maturity models that are currently used by organizations to measure their PPM maturity.

1.1 Capability Maturity Model Integration (CMMI)

The Capability Maturity Model Integration is the successor of CMM, which was developed by the Software Engineering Institute (SEI) between 1987 and 1997 (CMMI Product Team, 2009) as a tool to 'evaluate the ability of contractors to deliver a software project' (Murray, 2006). Since then, CMM and CMMI have been increasingly used as 'a general model of the maturity of processes (e.g. project and program management)' (Murray, 2006). CMMI is a process improvement approach, a collection of best practices, 'that provides organizations with the essential elements of effective processes'. Currently, there are three distinct CMMI models, which are supposed to serve different purposes – for development, for acquisition and for services (Murray, 2006). These models are 'all software engineering related' (Murray, 2006).

The levels of maturity range from 1 (lowest) to 5 (highest) and organizations are appraised according to 'key process areas'. Key process areas include the following (CMMI Product Team, 2009): engineering (consisting of requirements management, product integration, measurement and analysis, process and product quality assurance, requirements development, technical solution, validation and verification), project management (consisting of project monitoring and control, project planning, supplier agreement management, integrated project management, risk management, quantitative project management,), support (consisting of configuration management, measurement and analysis, process and product quality assurance, decision analysis and resolution, causal analysis and resolution) and process management (consisting of organizational process definition, organizational process focus, organizational training, organizational process performance and organizational innovation and deployment).

The 5 levels of maturity are as follows (CMMI Product Team, 2009, p. 35):

1. Initial – ad hoc processes, no stable environment to support processes, common is heroics of single people, tendency to overcommit, abandonment in times of crisis and inability to repeat success.

2. Managed – processes are planned and executed in accordance with policy; adequate resources for controlled outputs, processes are monitored and reviewed. Existing processes are retained in times of stress. The delivery of services or products is visible to

management at major milestones or completion. The work products and services satisfy descriptions, standards and procedures.

3. Defined – managed process, tailored from the organization's set of standard processes that contribute work products, measures, and other process improvement information to the organizational process assets. The standards, process descriptions and procedures for a project are tailored from the organization's set of standard processes to suit a particular project or organizational unit, which makes them more consistent. The processes are described more rigorously by stating the purpose, inputs, entry criteria, activities, roles, measures, verification steps, outputs and exit criteria.

4. Quantitatively Managed – defined processes that are controlled using statistical and other quantitative techniques. Quality and process performance objectives are used as criteria for process management. Performance is understood in statistical terms.

5. Optimized – quantatively managed process that is continually improved through both incremental and continuous improvements.

The maturity levels 'are measured by the achievement of the specific and generic goals associated with each predefined set of process areas'. In CMMI it is believed that maturity at an organizational level can be achieved by first achieving 'control first at the project level and continuing' up from there, by using 'both quantitative and qualitative data to make decisions' (CMMI, 2009), making this approach a bottom-up approach.

1.2 Portfolio, Programme and Project Management Maturity Model (P3M3)

The Portfolio, Programme and Project Management Maturity Model (P3M3) is owned by the Office of Government Commerce (OGC) which is a department within the UK government. It originated from an enhancement of the OCG's Project Management Maturity Model. The first version of the P3M3 has been released in 2006 and the second and current version which incorporates latest capability and PPM practices is available to the public since 2008 (OGC, 2008).

According to the developers, the P3M3 has become 'a key standard amongst maturity models, providing a framework with which organizations can assess their current performance and put in place improvement plans with measurable outcomes based on industry best practice' (OGC, 2008). It focuses on the overall maturity of a company by acting as a roadmap for ongoing improvement in order to achieve organizational goals (OGC, 2008).

The overall structure of the current P3M3 version is displayed in Figure X. The three pillar structure emphasizes that the model was developed with the objective to give organizations the option to assess their maturity in portfolio, programme and project management separately of each other. Thus it can be seen as incorporating 3 models in 1.

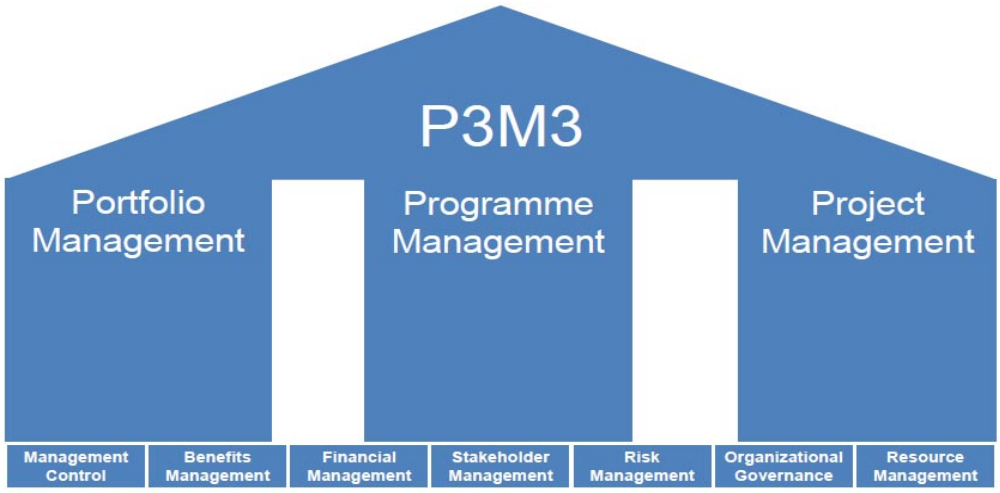

Figure X: P3M3 Structure (OGC, 2008, p.9)

The P3M3 is an evolution of the Capability Maturity Model and the research for its development is to a great extent based on the latter one (Hubbard, personal communication, 2009-03-04). Therefore the 5 levels of maturity which are derived from the CMM, are process-oriented and described as (OGC, 2008):

- Level 1 : Awareness of process
- Level 2 : Repeatable process
- Level 3 : Defined process
- Level 4 : Managed process
- Level 5 : Optimized process

And since the P3M3 is very process oriented in its nature, it focuses on specific *process perspectives* within an organization that are subject to enhancement on the way to becoming a mature organization. The OGC identified 7 critical perspectives which are Management Control, Benefits Management, Financial Management, Stakeholder Management, Risk Management, Organizational Governance and Resource Management (Figure X). And each of the process perspectives defines needed key characteristics of initiatives (processes and practices) put into place by a maturing organization (OGC, 2008):

1) **Management Control** – covers the internal controls of the initiative and how its direction of travel is maintained throughout its life cycle, with appropriate break points to enable it to be stopped or redirected by a controlling body if necessary.

2) **Benefits Management** - ensures that the desired business change outcomes have been clearly defined, are measurable and are ultimately delivered through a structured approach and with full organizational ownership
3) **Financial Management** -ensures that the likely costs of the initiative are captured and evaluated within a formal business case and that costs are categorized and managed
4) **Stakeholder Management** - includes communications planning, the effective identification and use of different communications channels, and techniques to enable objectives to be achieved
5) **Risk Management** - views the way in which the organization manages threats to, and opportunities presented by the initiative
6) **Organizational Governance** - looks at how the delivery of initiatives is aligned to the strategic direction of the organization
7) **Resource Management** - covers management of all types of resources required for delivery (including human resources, buildings, equipment, supplies, information, tools and supporting teams)

Besides the 7 process perspectives, the P3M3 also takes into account *generic attributes* which are embedded in each of the process perspectives and serve as indicators of process and behavioral mature (OGC, 2008). These four generic attributes are stated as 1) Planning, Information Management, Scrutiny & Review, Skills & Competency (Hubbard, personal communication, 2009-03-04). Together, process perspectives and generic attributes are applicable to all of the 3 (portfolio / program / project management) maturity assessments that are incorporated in the P3M3.

1.3 Project Portfolio Management Maturity Model (PPMMM)

The Project Portfolio Management Maturity Model (PPMMM) has been developed by the management consulting company PM Solutions. The model was published in 2005 and is derived from PM Solution's Project Management Maturity which became an industry standard for assessing project management maturity (PM Solutions, 2005). PPMM model is based on best practices and focuses on specific PPM-related improvement processes that support organizations to reach strategic objectives. And the better the organizational capabilities a company has in managing its project portfolios, the higher its maturity.

The PPMM also leverages from the research and wide acceptance of the CMMI concept, and follows the same pattern of five levels of maturity (Figure Y). Thus the requirements of reaching a certain level of maturity within this model are in line with those of the CMMI.

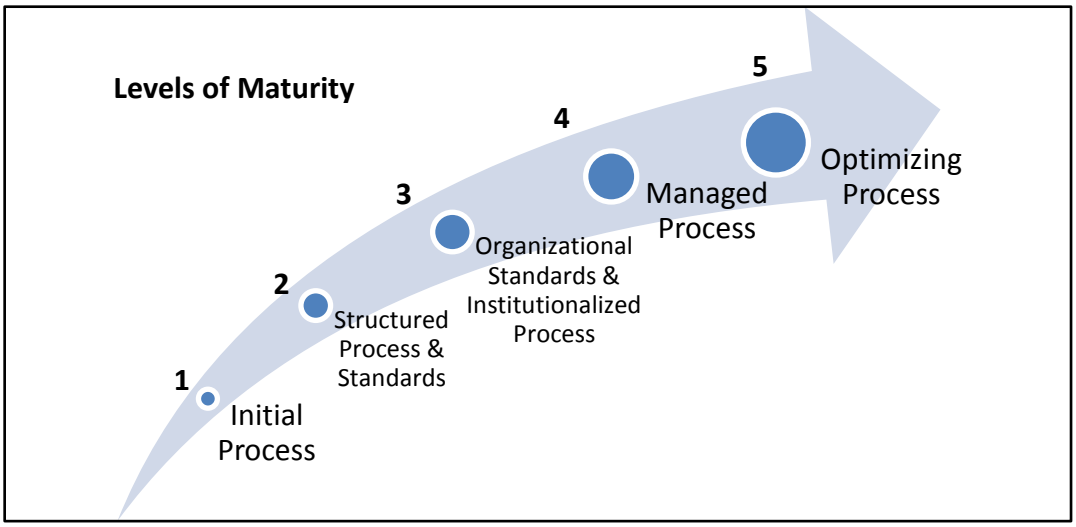

Figure Y: Maturity Levels of the PPMMM (PM Solutions, 2005, p.17)

The six PPM components which in this model are identified to be crucial in assessing an organization's PPM maturity are Portfolio Governance, Project Opportunity Assessment, Project Prioritization and Selection, Portfolio and Project Communications Management, Portfolio Performance Management, and Portfolio Resource Management (PM Solutions, 2005). These components are seen to be essential for developing an effective organizational portfolio management environment. And the processes on within each component are (PM Solutions, 2005):

1) **Portfolio Governance –** processes that facilitate governance of an organization's project portfolio
2) **Project Opportunity Assessment –** processes around identifying and consistently assessing project opportunities
3) **Project Prioritization and Selection –** processes that facilitate the review, prioritization, and selection of projects in the project portfolio
4) **Portfolio and Project Communications Management -** processes that assist the collection and sharing of portfolio information
5) **Portfolio Performance Management –** processes that enhance the collection, analysis, and management of information used in portfolio performance management processes and decision-making
6) **Portfolio Resource Management –** processes that facilitate the assignment of resources across the organization to support the projects in the organization's portfolio.

The PPMMM provides guidelines stating which practices an organization needs to have implemented in each of the six components in order to have reached a certain level of maturity in this particular component. Thus, on the one hand it is a tool to determine the current maturity of an organizations PPM process and on the hand it also provides a map / logical path for progressive improvement for these processes.

1.4 Organizational Project Management Maturity Model (OPM3)

OPM3 stands for Organizational Project Management Maturity Model and was developed by the Project Management Institute in 2003. It is a collection of 'more than 600 documented best practices' (Rao, 2004). The maturity model combines the best practices with the PMBOK Guide Body of Knowledge (PMI, 2006) and the widely used CMMI in order to measure the capabilities of organizations (Jedd, 2005). Like CMMI, OPM3 is a model that measures the maturity of 9 knowledge areas in terms of the 3 domain processes – project, program and portfolio. And the model consists of 4 maturity levels for each domain, thus forming '12 groups of content'. The 4 levels of maturity are as follows (Wilson, 2008):

1. Process Tribalism – immature organizations with 'tribal leaders' or 'chiefs'. The forms of governance are very poor because if the leader goes away, the organization looses all the information it has. Poor processes.
2. Process Feudalism – the organization has process that are documented but they are different for every part in the organization. Also, there is little feedback from the user community on how to improve those processes.
3. Process monarchy – processes are documented and consistent throughout the organization (standardized processes) but there is little feedback from process users. These organizations usually hire an external consultant to fix any problems which means that there is a disconnect between the people who create the processes and those who use them. People may not necessarily agree with the processes (rebels may exist).
4. Process republic – this is the highest level of process governance, the most mature stage. There are documented processes that are consistent among the different parts of the organization but all processes were developed with significant feedback from end user. Then the organization sets up governance bodies to prevent governance entropy (the organization slipping back into its old ways)

The governing bodies consist of both executives and lower levels of the hierarchy. This would mean that the organization would not have people who rebel silently. There are 3 different branches of process governance: 1. Executive branch, 2. Legislative branch (people representatives) and 3. Judicial branch (such as the PMO).

Further to the processes that are evaluated in OPM3, the model also takes into account the environment that these processes take place in. The environment categories are called 'organizational enablers' and consist 17 separate categories. It is believed that both the processes and the enablers can be improved. These are (Schlichter, 2007, p. 10):

- Organizational Project Management Policy and Vision
- Strategic Alignment
- Resource Allocation
- Management Systems
- Sponsorship
- Organizational Structures
- Competency Management
- Individual Performance Appraisals
- Project Management Training
- Organizational Project Management Communities
- Organizational Project Management Practices
- Organizational Project Management Methodology
- Organizational Project Management Techniques
- Project Management Metrics
- Project Success Criteria
- Benchmarking
- Knowledge Management and PMIS

OPM3 is both hierarchical and continuous maturity model, but also modular (Schlichter, 2007). The levels of maturity *de facto* relate to standardization, measurement, control and continuous improvement (Schlichter, 2007). These levels of maturity were identified in project management practices and have been applied to program and portfolio management, as per the belief held by CMMI experts that organizational maturity can be reached by enhancing project management maturity.

Appendix 2 - Summary of Empirical Findings (%)

No.	Question	a) Yes, at every meeting	b) Yes, at most meetings	c) Yes, but not often enough	d) No	e) N/A
PART I – Project Portfolio Characteristics						
1	**Does the portfolio team check whether the portfolio is sound politically, socially, or for business relationships?**	**0%**	**32%**	**26%**	**10%**	**32%**
2	**Does the portfolio team review the portfolio feasibility, i.e. in technological and economic terms?**	**19%**	**52%**	**19%**	**10%**	**0%**
3	**Does the portfolio team ensure that the portfolio does not involve excessive risk?**	**6%**	**61%**	**16%**	**16%**	**0%**
4	*Does the portfolio team assess whether the goals of the portfolio are quantifiable/ measurable?*	**16%**	**29%**	**32%**	**19%**	**3%**
5	**Does the portfolio team discuss possible interdependencies between portfolio components?**	**13%**	**52%**	**19%**	**13%**	**3%**
6	**Does the portfolio team discuss possible synergies between portfolio components?**	**10%**	**48%**	**29%**	**10%**	**3%**
7	**Does the portfolio team use a set of agreed upon policies to guide PPM?**	**16%**	**39%**	**19%**	**16%**	**10%**
8	**Does the portfolio team make sure that these policies are used consistently across the organization?**	**13%**	**16%**	**39%**	**26%**	**6%**
9	**Does the portfolio team take into account whether the portfolio is free from internal politicking (personal lobbying, etc.)?**	**3%**	**13%**	**23%**	**42%**	**19%**
10	*Does the portfolio team confirm whether PPM methods are applied to support the PPM process?*	**16%**	**19%**	**16%**	**29%**	**19%**

11	*Does the portfolio team review the entire portfolio to see if it reflects changes in the individual projects (scope, benefits, budget, timing) as well as overall business conditions?*	**10%**	**29%**	**32%**	**19%**	**10%**
12	*Does the portfolio team assess if the portfolio capacity and resources are sufficient, to ensure the delivery of successful projects?*	**26%**	**32%**	**29%**	**10%**	**3%**
13	*Does the portfolio team check whether the size of the portfolio (amount of projects) does not compromise its performance?*	**23%**	**35%**	**23%**	**13%**	**6%**
	Total PART I	**13.15%**	**35,24%**	**24,81%**	**17,87%**	**8,93%**
PART II – Strategic Alignment						
14	**Does the portfolio team check for changes in the strategic goals?**	**13%**	**39%**	**19%**	**19%**	**10%**
15	*If the strategic objectives have changed, does the portfolio team verify whether the follow-up methods used are still relevant for measuring project delivery on scope?*	**6%**	**23%**	**23%**	**29%**	**19%**
16	*If the strategic goals have changed, does the portfolio team make sure that the current portfolio components are still relevant to the organization's strategy?*	**13%**	**35%**	**26%**	**6%**	**19%**
17	*If the strategic goals have changed, does the portfolio team examine whether the current portfolio is still able to reach the new strategic objectives?*	**16%**	**32%**	**19%**	**16%**	**16%**
18	**Does the portfolio team indentify whether there is a need for new criteria for evaluating portfolio process appropriateness?**	**0%**	**10%**	**39%**	**45%**	**6%**

19	*Does the portfolio team check if the current internal projects (i.e. organizational change; maintenance; supporting projects, etc.) still support the new strategic objective?*	**10%**	**19%**	**26%**	**26%**	**19%**
20	**Does the portfolio team make sure that the identified strategic goal is formulated clearly, so that a set of projects could be <u>defined</u> from it?**	**6%**	**16%**	**29%**	**35%**	**13%**
21	**Does the portfolio team feel that it has the right skills, capacity, budget to achieve the strategic business goal?**	**6%**	**42%**	**16%**	**23%**	**13%**
	Total Part II	**8,87%**	**27,02%**	**24,60%**	**25,00%**	**14,52%**
PART III – Review Board Aptitude						
22	*Does the portfolio team make sure that it has all the information about the portfolio (project performance, standardized set of requirements to measure against, charts, board members, etc.) to make optimal portfolio decisions?*	**10%**	**35%**	**35%**	**16%**	**3%**
23	**Does the portfolio team fully understand and can it interpret the necessary information to make optimal portfolio decisions?**	**6%**	**42%**	**26%**	**16%**	**10%**
24	**Does the portfolio team share the rationale for making optimal portfolio decisions?**	**16%**	**32%**	**29%**	**6%**	**16%**
25	**Does the portfolio team feel that the final decision is sound?**	**6%**	**71%**	**10%**	**10%**	**3%**
26	**Based on the final decision, can the next steps be formulated?**	**13%**	**65%**	**3%**	**6%**	**13%**
	Total Part III	**10,32%**	**49,03%**	**20,65%**	**10,97%**	**9,03%**
	Total results per answer choice	**11,29%**	**35,36%**	**23,95%**	**18,73%**	**10,67%**

Figure Z: Summary of Survey Findings by Answer Choice of the Respondent (%)