# VIENNA UNIVERSITY OF ECONOMICS
# AND BUSINESS ADMINISTRATION
# MASTER THESIS

## Title of the Master Thesis:

Success factors of projects carried out by professional project management and analysis of specific success factors of projects carried out by project management in the Austrian government services based on the case studies of the federal ministry of finance (BMF) and the federal computing center (BRZ)

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**Program:**  Professional MBA, specialization Project & Process Management

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I, Gernot Blümel, hereby declare,

1. that I composed the on hand Master Thesis "Success factors of projects carried out by professional project management and analysis of specific success factors of projects carried out by project management in the Austrian government services based on the case studies of the federal ministry of finance (BMF) and the federal computing center (BRZ)", 111 pages, self-dependent, without utilizing other than the stated sources and additives and that I did not make use of other illicit help,

2. that I have not submitted the Master Thesis nationally or internationally in any form as examination paper,

3. that this Master Thesis corresponds to the one assessed by the supervisor.

_____        _____

Date                                                                Signature

# Abstract

The topic of this master thesis covers a special area of project management: the success factors of projects. Additionally, the project management performance of special areas of the Austrian government services is analyzed with regard to its maturity and specific success factors.

The reason for choosing this subject lies in the personal experience and interest of the author concerning the Austrian government services: The budget of the Republic is more under pressure than ever. In private businesses project management is applied because it increases competitiveness, efficiency and therefore saves resources. Nevertheless, in many areas of the public administration, project management is still not applied. Furthermore, it is often argued that public administration is not comparable with private businesses due to special environmental circumstances. Therefore, an analysis of project management performance and the special circumstances under which public services are acting seemed suitable with regard to project management.

Two different hypotheses were postulated for this master thesis:

1: There are specific factors that are crucial for project success!
2: Special requirements for project management in public sector call for different project success factors than in private business!

According to hypothesis one, the objective of this master thesis is to clarify:

1.  are there critical success factors for projects which can be found in corresponding project management literature and if yes
2.  what are these success factors ?

Hypothesis two leads to the clarification of the following objectives:

1.  are there special requirements to PM in the government services and
2.  how professionally is PM performed in the Austrian government services taking the example of BMF and BRZ?
3.  do these special demands lead to critical project success factors that differ from those found?

The objectives of the first hypothesis were answered by reviewing project management specific literature. Objective one of hypothesis two was also answered by investigation of technical literature. To answer objective two and three of the second hypothesis an empirical part was necessary. The "company mature" model was used to gather information about objective two. For objective three, a specific questionnaire was designed to find out if there

are special project success factors that differ from those found in technical literature. To ensure consistency, the same respondents were used for both the "company mature" model and for the questionnaire.

The results show that both hypotheses can be verified. Surprisingly, the maturity levels of project management of the analyzed areas are considerably high.

# Content

# 1. Introduction and hypotheses

In 2005, I started my professional career as an assistant of a deputy of the national council in the Austrian parliament. After less than one year, I moved to the office of the second president of the parliament. It was December 2008, when my boss was appointed to be minister for European and international affairs of the Republic of Austria, and fortunately I was asked to move with him to the ministry as a political advisor in his cabinet. After finishing my studies of Philosophy at the University of Vienna in 2009, I considered doing an MBA to achieve an economical degree at University as well. One main reason why I decided for an MBA with a specialization in Project- and Process management (PPM) was the experience I gained in my professional life so far.

The work in politics is heavily characterized by crises. At a certain level, I had the impression that we don´t do anything else than crisis management, including all the circumstances that crises bring with them: fast acting on a daily basis, incomplete information as a basis for decisions, high competition with competitors who exploit all your faults, fast change of priorities of projects and strategies and so on. Now it is clear that, to a certain extent, this is the way politics works. That is what makes it so thrilling and interesting to work in this environment. But what I also saw was that many of these sudden events that shake the lives of leading politicians and their staff were also affecting the regular administration. I observed this in the parliament as well as in the government. With a shift of political priorities, priorities in the administration frequently change as well. That often makes it hard for civil servants to perform their work successfully. How to deal with a task, when you don´t know how much priority will be given to it over time? How to structure such tasks, how many resources to direct to their implementation if it´s not entirely clear how important the goals will be in the end? This was one of the author´s main motivations for choosing the specialization in Project- and Process Management.

During these studies, we learned that, at the early 90ties of the last century, "Management by Projects" was presented as a new organizational strategy. According to the IPMA point of view, project management presents a strategic option for the organizational structure of an organization.[1] Since this time, the social environment of companies has grown even more complex and in nearly all industries competition has become a global note and is not a local or regional aspect any more. According to Ashby´s law of "requisite variety", "only variety can absorb variety". Translated into the world of business this means, the more complex the environment is, in which a company acts, the more complex the company itself has to become in order to be competitive on the market. According to economics literature, there are a lot of benefits of professional project management, when it is applied professionally

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[1] Cp. Gareis R. (2005): Happy Projects, p 21

and successfully. But what makes a project a success? Is success always measured in the same way? Can we identify success factors for professional project management and if yes which are they? This leads to the first hypothesis of this master thesis:

1: There are specific factors that are crucial for project success!

And what does this mean for the public sector? As I experienced myself, this sector acts under very special conditions and circumstances and has often different priorities than those known from private business.

Originally, project management was used in areas which were characterized by projects with technical objectives in the military and in the space program. Later on, these experiences were used mainly for projects in the construction, engineering and IT industry.[2] Especially the ongoing financial crisis shows that governments all over the world have to act more efficient with their resources in a more and more complex environment. But projects in government services take place under special circumstances. In addition to the factors that I mentioned at the beginning of this chapter, frequently, legislative deadlines and defined allocation criteria's have to be fulfilled. The stakeholders of a project in public services differ substantially from those in private business: politicians, voters, labor unions, multilateral institutions, markets, etc. Decision processes are mostly longer than in ordinary business. But if the public sector differs so substantially from private businesses, what about the success factors of projects carried out by professional project management? Are they relevant to project management performed by government services too? Or does the definition of a "successful" project differ in the private and public sector? This leads to the second hypothesis of this Master thesis:

2: Special requirements for project management in public sector call for different project success factors than in private business!

Out of personal experience, it seems suitable to first asses the level of project management for the two identified cases of public institutions to make sure that analysis has enough potential for a further investigation of specific success factors. Another reason for benchmarking the level of PM is the assumption that the more professional PM is performed, the more the projects are a success and the easier it is to identify specific success factors for public services. It has to be mentioned that at the beginning of the working for this master thesis, it was intended to focus on the success factors of "project management". This was mainly due to a lack of knowledge in this area. After gathering more knowledge, it seemed more suitable to consider "project success" factors primarily. The reason for this was the

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[2] Cp. Gareis R. (2005): Happy Projects; p 21

original intention of this master thesis and the decision to do a professional MBA in PPM: being more efficient in doing work, being more successful! The interest lies not only in how to perform a special technique according to rules (successful "project management"), but rather to be "overall" more successful (therefore "project success"). "Project success" gives a more holistic view on the overall project, including different stakeholders and not only the project manager.

## 1.1. Objective of the Master Thesis

According to hypothesis 1, the objective of this master thesis is:

1. to clarify if there are critical success factors for projects which can be found in corresponding project management literature and if yes
2. what are these success factors ?

Hypothesis 2 leads to the following objectives:

1. are there special requirements to PM in the government services and
2. how professionally is PM performed in the Austrian government services, taking the example of BMF and BRZ?
3. do these special demands lead to critical project success factors that differ from those found?

## 2. Success factors of projects carried out by professional Project Management

In this chapter, technical literature of project management will be investigated. The goal is to verify the first hypothesis by answering the two objectives that derive out of it.

### 2.1. What is Project Management?

To get a better contextual understanding about what is meant by "success factors" of PM, a brief summary about the development of the meaning of what we call professional project management as well as a definition of the term "project" itself shall be given below.

### 2.1.1. Brief history of Project Management

From the earliest time of mankind, people were working together to achieve certain objectives. The Egyptian pyramids, the Great Wall of China or the story of Noah´s ark are only some examples to illustrate that. The desired output, the determinants for the project's success were in those days as critical as in projects nowadays: The pyramids, for example, did not only have to serve as graves for the Pharaohs, but also had to be a demonstration of their power and show historical relevance. They had to be perfect in many different ways. We can observe this when looking at the fact that some Pharaohs built not only one, but a second or even a third pyramid because the previous ones were not stable enough or did not comply with the aesthetical demands. As an example, we can take the bent pyramid of Pharaoh Snofru at Dashur. People had to deal with long time periods, lack of resources and critical situations until the work was finished. Changes in societies, priorities, ideas and intentions forced people to make plans, either instinctively, or on purpose:

> "For centuries, project management has been used in some rudimentary form to *create change* or *deal with change* in societies. *Change* in a positive sense is caused by the application of management action that results in the consumption of resources to create a desired product, service, of organizational process. *Change* also may be meeting uncertain situations to identify and implement actions to obtain the most

favorable outcome. Project management, in whatever form, has been used for centuries to plan, for, implement and meet change." [3]

The professional management discipline that we know today as "Project Management" was formally recognized in the 1950s. The term was used before, focusing on cost, schedule and technical performance, but missing the formal definition and integrative approach of embracing the management concepts and the process itself.[4]

Most of the PM tools of today were developed in the 50´s and 60´s of the twentieth century, such as the WBS and the CPM. The US government has been a leader in developing and promoting PM techniques and in the 1970´s different PM associations were established (PMI in the US and APM in Great Britain).[5]

In the 80´s PM tools were integrated into accepted practices and with the rising of personal computers, various software products were created, focusing on project management. At the IPMA world congress in Vienna in 1990, "Management by Projects" was announced as new organizational strategy, based on the assumption that projects as temporary organizations present a strategic option for the organizational structure of an organization.[6]

Today, there are various approaches, schools and masses of literature about this discipline. Project management, also, is not just project management any more. PMI, for example, defines nine PM knowledge areas[7], such as

- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resource Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management

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[3] Cleland and Ireland: The evolution of Project management; in Cleland and Gareis (2006): Global Project Management Handbook, p1-4;
[4] Cp. Cleland and Ireland: The evolution of Project management; in Cleland and Gareis (2006): Global Project Management Handbook, p1-4;
[5] Cp. Hartig (2000): Project Management an Project-Oriented Companies, p8
[6] Cp. Gareis (2005): Happy Projects, p 21
[7] Cp. Project Management Institute(2008): A Guide to Project Management Body of Knowledge

The ICB divides the competences for successful project management in three different parts, namely contextual competences, behavioral competences and technical competences:
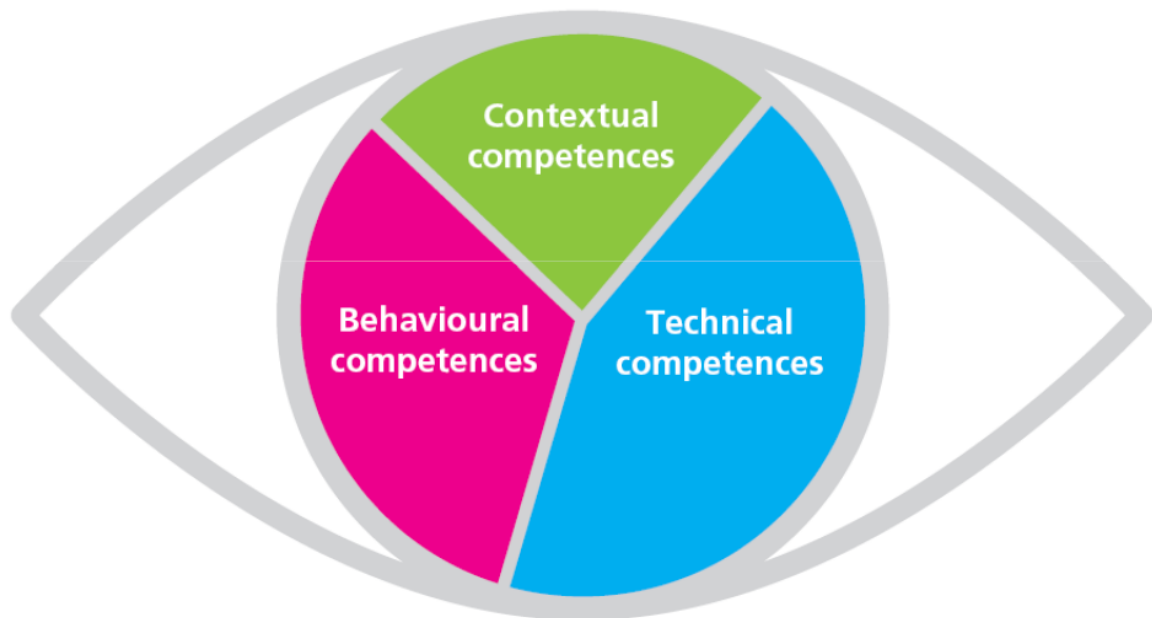


Source: ICB® 3.0, cover page

Figure 1

## 2.1.2. Definition of the term "Project"

There are various general definitions of the term "Project". As a basic classification, a project is distinct from other operational processes in a company. A "Process" refers to ongoing day to day activity that is performed mainly by standardized procedures in fixed organizational lines. It is a repetitive work, where no additional resources have to be directed to. In contrast to processes, a project is a relatively unique event in business performance that develops its own rules distinct from the line organization.[8]

The PMBOK defines "Project" as follows:

"A project is a temporary endeavor undertaken to create a unique product, service or result. The temporary nature of projects indicates a definite beginning and end. The end is reached when the project's objectives have been achieved or when the project

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[8] Cp. Pinto JK (2007): Project Management; p3

is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists. Temporary does not necessarily mean short in duration. Temporary does not generally apply to the product, service or result created by the project; most projects are undertaken to create a lasting outcome. (…) Projects can also have social, economic and environmental impacts that far outlast the projects themselves (…)."[9]

The ICB gives the following explanation:

"A project is a time and cost constrained operation to realize a set of defined deliverables (the scope to fulfill the project´s objectives) up to quality standards and requirements (…)."[10]

The Association of Project Management´s definition is:

"A unique set of coordinated activities, with definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined time, cost and performance parameters."[11]

According to ROLAND GAREIS Project and Program Management the definition is the following:

"A project is a temporary organization of a project-oriented organization for the performance of a relatively unique, short to medium term, strategically important business process of medium or large complexity."[12]

To put it in the most general way, all mentioned definitions have at least two aspects in common: A project has one or more specific goals and it is timely limited! Another aspect that can, at least implicitly, be found in the definitions is the budget or cost aspect. So the main determinants of a project seem to be time, cost and "quality" in the sense of special demands of desired output. What is interesting to note is that the term "project" does not include classical business case constraints. Return of investment or a certain minimal margin is not part of the definition.

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[9] Project Management Institute(2008): A Guide to Project Management Body of Knowledge; p5
[10] International Project Management Association (2006): ICB IPMA Competence Baseline Version 3.0; p13
[11] Association of Project Management (UK, 2000): Abridged Glossary of Project Management Terms
[12] Gareis R. (2005): Happy Projects; p 42

Taking the mentioned definitions, a first estimation of what project success means can be done: it would for sure include the dimensions of time, budget and quality. But this is not enough, as the following chapters will show.

## 2.1.3. Definition of the term "Project Management"

As the definitions of the term "Project" varies, also the explications of what is understood as "Project Management" does. The ICB, for example, does not even give an own definition for this term. Other PM approaches, like PMI or ROLAND GAREIS Project and Program Management give clear explanations.

The PMBOK defines "Project Management" the following way:

> "Project management is the application of knowledge, skills, tools and techniques to project activities to meet the project requirements. Project management is accomplished through the appropriate application and integration of the 42 logically grouped project management processes comprising the 5 Process Groups. These 5 Process Groups are:
> - Initiating,
> - Planning,
> - Executing,
> - Monitoring and Controlling, and
> - Closing."[13]

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[13] Project Management Institute(2008): A Guide to Project Management Body of Knowledge; p6
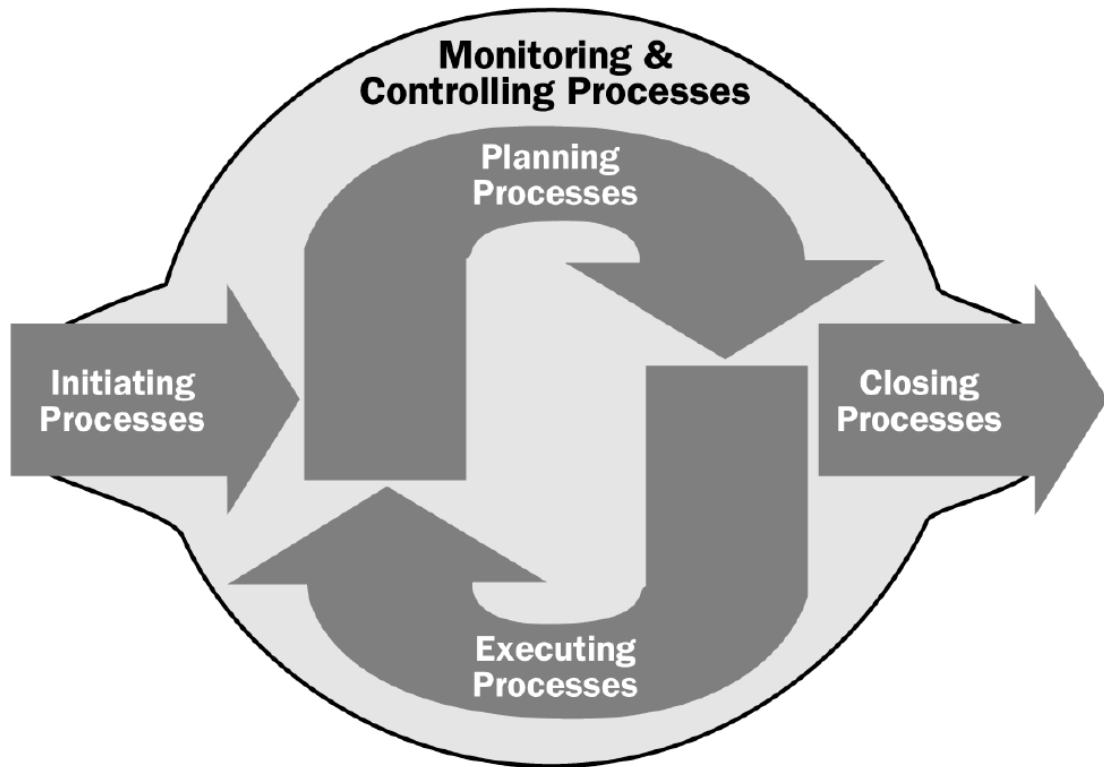
Project Management Institute, (*PMBOK*® Guide) Page 40
Figure 2

The ROLAND GAREIS Project and Program Management approach defines "Project Management" like this:

> "In functional terms, project management is a business process of the project-oriented organization which contains the sub-processes project start, continuous project coordination, project controlling and project close-down. Project management may also contain the resolution of a project discontinuity (project crisis, project change and structurally determined project identity change)."[14]

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[14] Gareis R. (2005): Happy Projects; p 59
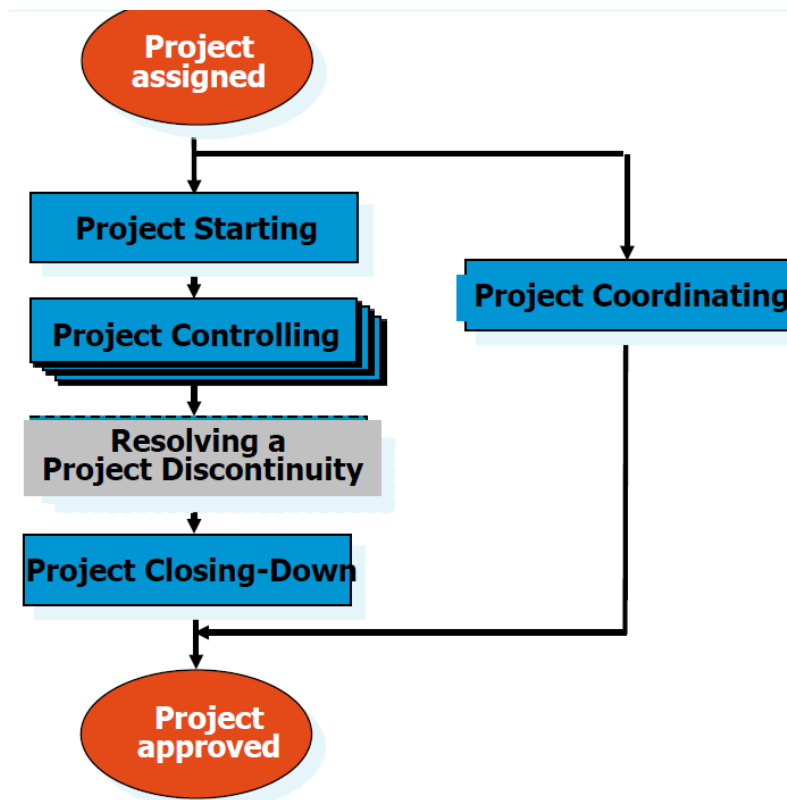
The business process "Project Management", Roland Gareis Project and Programme Management, in "Happy Projects" p 58
Figure 3

Summing it up, the most rudimental meaning of "Project Management" is: the process of performing a project by applying a set of tools to meet the project goals, which brings us back to questions which dimensions have to be fulfilled to consider project management to be a success.

For a long time it was common sense for managers to apply the three mentioned criteria for project success: time, cost, quality. This so-called "triple constraint" approach was once standard to assess project performance. Today at least a fourth criterion has been added: client acceptance.[15] This is due to the fact that the technical criteria's of time, cost and quality can be missed and nevertheless the project may be consider to be a success if the client is happy with it.

Formally, totally failed projects of project management seem to be more the rule than the exception. Taking the various different professional approaches to project management, we can see that this discipline is highly popular in international business nowadays. But given this enthusiasm, we should note that the same factors that make project management a so special undertaking (remember also the definitions of the term "project") are also among the

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[15]cp. Pinto JK (2007):  Project Management; p 13

main reasons why successful project management is so difficult. Project success is highly desired but not at all easy to gain as the following examples show:[16]

- Data Research surveys report that about 75% of software projects are cancelled
- A META group study reports that more than half of all IT projects are overshooting their budgets and timetables while failing to deliver their goals.
- The US Army made a study of IT projects and found that 47% were delivered to the customer but not used; 29% were paid for but not delivered; 19% were abandoned; 3% were used with minor changes; only 2% were used as delivered;

These numbers show how much room for improvement and research in the field of professional project management there still is.

## 2.1.4. The Benefit of Project Management

After the clarification of how this master thesis deals with the terms "project" and "project management" it shall briefly be explained why project management is of importance for today's business and what benefits companies that apply professional PM hope to derive out of this management tool. It also seems appropriate to deal with this aspect because one of the basic questions of this master thesis (are there success factors for PM?) implies that there is a need of successful projects. And why would that be if there was no benefit to be derived out of a successfully implemented project? So why are projects important?

In literature, a number of reasons can be found why PM can be of use for the organization that applies it:[17]

- "Shortened product life cycles": Competition on a globalized market is increasing steadily. As a result, the life cycles of products are getting shorter and shorter. Looking at the electronic industry with computers, mobile phones, software products and so on, this can be easily observed. Life cycles are measured more in terms of months or even weeks than in years. This is also becoming progressively true for firms in service sectors that have to adapt more rapidly along with the needs of their customers.

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[16] Pinto JK (2007): Project Management; p 7
[17] Cp. Pinto JK (2007): Project Management; p8/9

- "Narrow product launch windows": It is becoming of increasing importance to find the right window of opportunity to launch a new product. Therefore, it is of interest that products are ready for sale in time. In recent times, this has become a matter of weeks.
- "Increasingly complex and technical products": the higher the complexity of a product, the more resources are needed to deal with all circumstances that come along (design, knowledge, applicability, …)
- "Emergence of global markets": the bigger the market, the more customers, but also the more competition. If companies had to comply with only regional, national or in some seldom cases continental competitors, there is nearly no business sector where competition has not become a global aspect.
- "An economic period marked by low inflation": Low inflation decreases the possibility of companies to keep up profitability and to pass on cost increases. Therefore, cost efficiency becomes more important and failure of projects causes more damage.

As shown, the environment in which companies are acting today is getting more complex and demanding:

"The complexity of the social environment of an organization can be measured on the basis of variety. Variety can be defined by the number of possible states which a social system can take on. A competitor can at the same time be a partner and a supplier of an organization. Ashby laid down the law of `required variety´. This states that `…only variety can absorb variety´. Companies must therefore build up a certain amount of complexity within their organizations in order to be able to match the complexity of their environments."[18]

Using projects as temporary organizations within an organization and performing them by professional project management can create this necessary amount of complexity to absorb variety and lead to a competitive advantage.[19]

Some benefits of project management mentioned in literature are:

- "making complex projects feasible
- assuring quality in the project results through a holistic project view

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[18] Gareis R. (2005): Happy Projects, p 23
[19] Cp. Gareis R. (2005): Happy Projects, p 23

- assuring the acceptance of the project result through team work and through project marketing
- providing short project durations and high accuracy in project planning
- optimizing costs by saving eventual penalties or interest payments, or through the optimization of interest yields
- transparency by providing project documentation
- assuring individual organizational learning through reflections within the project organization
- constructive relationships between customers, suppliers and partners"[20]

## 2.2. Project Management and the discussion about success

As already mentioned in the introduction of this master thesis, the motivation for choosing this topic was the benefit that project management can contribute to business in order to be more competitive and more successful. This leads to the question, how a project becomes a success and if there are specific factors a project manager has to consider in order to be successful. But it is not as easy as that, as the following quote describes well:

> "Most of the projects we hear of in media are either over budget, or are simply not good enough and still different lobbies of people claim that those projects have been successful. Neither the practitioners nor the academicians seem to agree on what constitutes project success.[21]"

Can a project be a success while missing important "hard facts" like time, schedule or budget? And if yes, how can this go along with the above mentioned definitions of projects and project management? How do international standardized approaches of project management regard this?

In the ICB IPMA Competence Baseline Version 3.0, we can read:

> "2.10 Project success
> To assess competences is one thing, but the ultimate goal of a project or programme manager is to be successful. For that reason within IPMA, project success is defined as `the appreciation by the various interested parties of the project outcomes´. This

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[20] Gareis R. (2005): Happy Projects, p 24
[21] Prabhakar, Guru Prakash: What is Project Success: A Literature Review, in: International Jorunal of Business and Management, September 2008; p3

definition is more challenging than `to produce the project deliverables within time and budget´, which is only part of it."[22]

This clarifies that "project success" is more than meeting the "hard facts" of a project plan. But is this the same as "project management success"?

During the literature research for this master thesis, the author found out that there are considerable differences between the terms "project success", "project management success" and "product success", although at a glance all these terms seem quite similar in meaning. But, as the author detected, under a scientific view, they are not.

To make it even more difficult, it appears that in the investigated literature, there seems to be no consensus of the exact meaning "success":

"While research investigating the field of PM has expanded significantly in recent years, PS [note: Project Success] remains a topical issue. There appears no consensus on the range of solution that can be applied across the board to PM problems. The results of many studies conducted to identify the determinants of PS still tend to be inconclusive. From the review of the historical development of PM, it becomes evident that there have been widely held views and interests on the definition and criteria used to judge PS […]. Such diversity has come due to differences in expectations, interests, and understanding between and among the different actors, and the importance attached to factors leading to PS […]. All actors in project have their own lenses to gauge the criteria/standard to evaluate and determine the success of projects. The definition of the concept remained captive to the interests and views of different actors in effect making the effort to provide a universally accepted criteria/standard for PS far from obvious […]. Different set of success factors to PS have been identified and defined by scholars in the body of PM literature. Recent studies have especially demonstrated an increasing multidimensional view of PS […]."[23]

The following quotation shows that it is not only an academic discussion, what a "success factor" is, but that all kind of stakeholders in PM are lacking consensus:

"Since the late 1960s (at least) project management researchers have been trying to discover which factors lead to project success (e.g. [1–3]) and have reached conclusions that have been widely reflected in literature written for project management

[22] International Project Management Association (2006): ICB IPMA Competence Baseline Version 3.0; p16
[23] Fanta Tesgera Jetu; The Cultural and Behavioral Dimension of Project Management; Linz 2011; p39 f

practitioners. In spite of these well-known research results and despite column-miles of words that have been written about project management [4], despite decades of individual and collective experience of managing projects [5], despite the rapid growth in membership of project management professional bodies and despite a dramatic increase in the amount of project working in industry, project results continue to disappoint stakeholders [6–8]."[24]

## 2.3. Project – Success does not equal Project-Management-Success

The lack of consensus in what makes a project a success was not the only difficulty in elaborating this master thesis. During the literature review, it was spotted that the term "success factor" was confusingly used for "project success" as well as for "project management success". Even more often, these two terms were not differentiated from each other. For clarification, this shall be done here before listing the identified "success factors".

In the ICB definition of "Project success", compare chapter 2.2., we learned that the ultimate goal of a project manager is to be successful. From a formal project process point of view, this would mean the project is performed on time, within budget and at required quality.[25] This formulation already makes clear that "project success" has to be more than that, because from a business perspective, a project might still be a success even if it was not performed on time, or even on budget or quality. As long as the client is happy with the result and the profit is high enough, many stakeholders of a project might not care about these formal three dimensions.

The ICB defines project management success as "the appreciation of the project management results by the relevant parties".[26]

And further:

"A key objective of project, programme and portfolio managers is to achieve success and avoid failure in their endeavours. They want to be sure they know what criteria will be considered in determining their success of failure and how it will be assessed. Defining these criteria distinctly and clearly is a major requirement from the outset of

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[24] Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 185
[25] Cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 185
[26] International Project Management Association (2006): ICB IPMA Competence Baseline Version 3.0; p40

the endeavour. To achieve the project, programme or portfolio objectives within the agreed constraints is the overall definition of success.

Project management success is related to project success; however, it is not the same. For example it is possible to carry out successful project management work for a project that has to be terminated due to a new strategic direction being taken by the organisation… […]."[27]

De Wit (1988) distinguishes between project success, which is measured against the overall objectives of the project, and project management success, which is measured against the widespread and traditional measures of performance, that is cost, time and quality. Furthermore, he also distinguishes between success criteria (the measures by which the success of a business or project is judged) and success factors (those inputs that lead to this previously defined success).[28]

Other authors do it differently. The following quote gives a simplified, but clear formula for project success and its components:

"According to Baccarini (1999, p. 25) project success consists of two separate components, namely project management success and project product success. He distinguishes between them as follows:
• **project management success** focuses on the project management process and in particular on the successful accomplishment of the project with regards to cost, time and quality. These three dimensions indicate the degree of the 'efficiency of project execution' (Pinkerton 2003, p. 337).
• **project product success** focuses on the effects of the project's end-product. Although project product success is distinguishable from project management success, the successful outcomes of both of them are inseparably linked. 'If the venture is not a success, neither is the project' (Pinkerton 2003, p. 344).
Thus, following Baccarini (1999), in simplistic terms project success can be summarised as: **Project success = project management success + project product success."[29]**

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[27] International Project Management Association (2006): ICB IPMA Competence Baseline Version 3.0; p40
[28] De Wit A.; Measurement of project success; in: International Journal of Project Management 1988; 6
[29] Van Der Westhuizen, Danie and Fitzgerald, Edmond P. (2005) *Defining and measuring project success.* In: European Conference on IS Management, Leadership and Governance, 07-08 Jul 2005, Reading, United Kingdom; p 2

As simple as this seems, there is still a lot of confusion about this differentiation in technical literature:

"It is common for project management literature to confusingly intertwine these two separate components of project success and present them as a single homogenous group."[30]

The following figure illustrates the different dimensions of project management success and project product success and shows how they are interlinked:
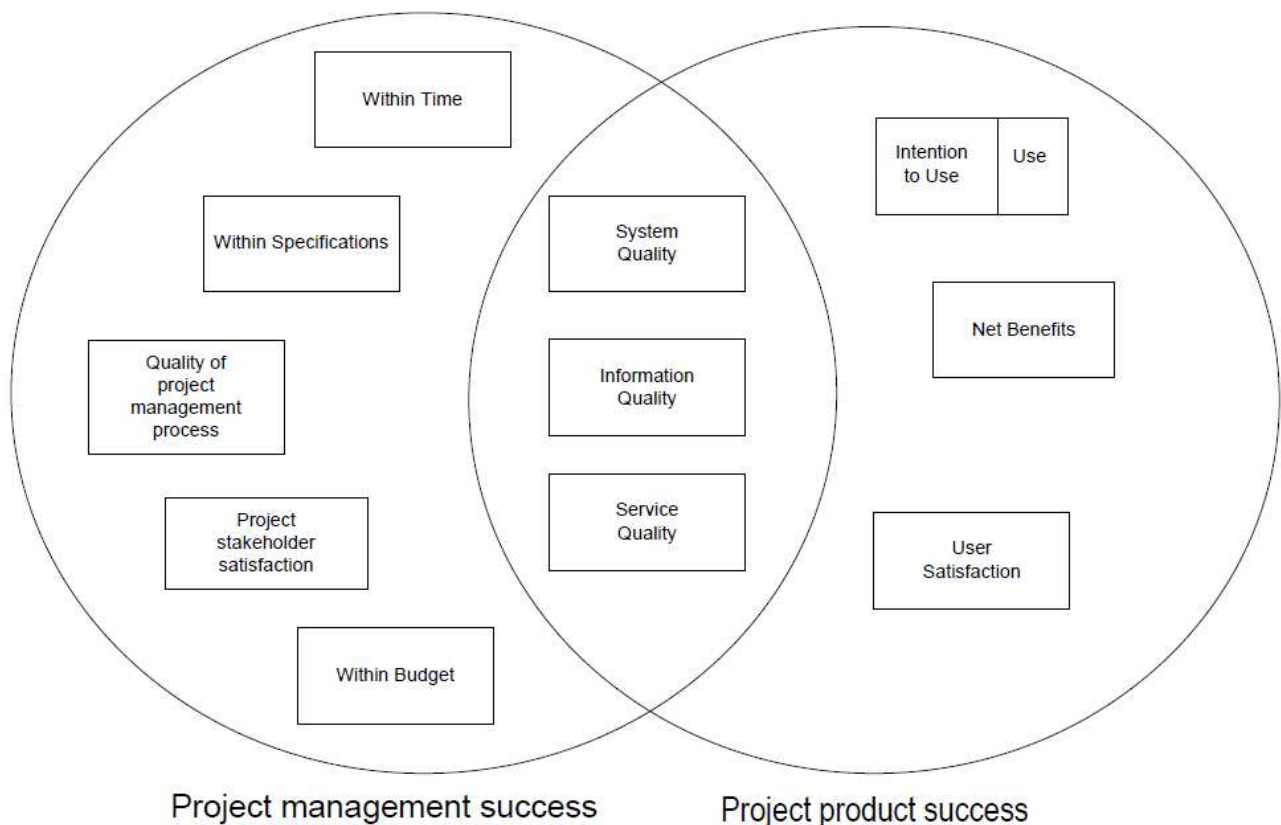


Van Der Westhuizen, Danie and Fitzgerald, Edmond P. (2005) Common dimensions in project management success and project product success; In: *Defining and measuring project success.* In: European Conference on IS Management, Leadership and Governance, 07-08 Jul 2005, Reading, United Kingdom;
Figure 4

Terry Cooke-Davies gives another clear explanation of how to explain and define project success factors:

"A comprehensive answer to the question of which factors are critical to project success depends on answering three separate questions: `What factors lead to project

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[30] Prabhakar, Guru Prakash: What is Project Success: A Literature Review, in: International Jorunal of Business and Management, September 2008; p4

management success?', `What factors lead to a successful project?´ and `What factors lead to consistently successful projects?´"

This clearly shows how important the differentiation between "project success" and "project management success" is.

## 2.4. Project Success Factors

In the following chapter, different approaches and findings of success factors of projects shall be given.

### 2.4.1. Terry Cooke-Davies: "The `real´ success factors on projects"

As already mentioned in chapter 2.3 of this master thesis, Terry Cooke-Davies finds the answer of the question what project success factors are in asking three different questions:[31]

1. What factors lead to project management success?
2. What factors lead to a successful project?
3. What factors lead to consistently successful projects?

These findings were published in the international Journal of Project Management in 2002 and in the following the results of this article shall be presented.

### 2.4.1.1. Factors that lead to project management success

Cooke-Davies took the data on which the following conclusions are based from an analysis of 136 projects that were executed between 1994 and 2000 by 23 organizations. The scope of these projects ranged up to 300 million dollars cost and up to 10 year duration. One of the findings was that when schedule delay and cost escalation of the different projects were compared, they showed the expected correlation. But: only a small amount of the cost escalation was due to schedule escalation.[32]

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[31] Cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 185
[32] Cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 186

"Two observations can be made about this phenomenon: firstly, mean performance against budget (4% cost escalation) is generally better than mean performance against schedule (16% late); and secondly, when the adequacy of specific project management practices, and the maturity of specific project management processes are compared with performance against each of these two criteria, then different practices are found to correlate significantly."[33]

By doing so, Cooke-Davies finds the following success factors for project management success:

"These practices that correlate to on-time performance are:

F1      Adequacy of company-wide education on the concepts of risk management.
F2      Maturity of an organization's processes for assigning ownership of risks.
F3      Adequacy with which a visible risk register is maintained.
F4      Adequacy of an up-to-date risk management plan.
F5      Adequacy of documentation of organizational responsibilities on the project.
F6      Keep project (or project stage duration) as far below 3 years as possible (1year is better).

On the other hand, those that correlate to on-cost performance are:

F7      Allow changes to scope only through a mature scope change control process.
F8      Maintain the integrity of the performance measurement baseline."[34]

Cook-Davies argues that in each of these cases, there is a significant measurable improvement in project success against the specific criterion.[35]

## 2.4.1.2. Factors that lead to a successful project

To bridge the gap between project management success and project success, Cooke-Davies focuses on the interest of those who established the project (the stakeholders) and what it was that they hoped to achieve by the project (the benefits). To do this, he takes an analysis

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[33] Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 186

[34] Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 186

[35] cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 186

of six project management "bodies of knowledge" where 60 core elements that are central to the way a project manager thinks about his or her work were identified. These 60 elements were clustered into eleven topic areas and related to each other through a "systemigram". By doing so, he says: "[…] it becomes clear that 'anticipated benefits' become the touchstone not only for formal 'stage gate' reviews of projects, but also for the continuous 'informal assessment' of the likely success of projects carried out by senior management, […]".[36]

In the following, Cooke-Davies focuses on the benefit of a project and draws attention to two aspects:[37]

1: Benefits are not delivered or realized by the project manager and project team because they require the action of operations management as he shows in the following figure. Therefore, a close co-operation between the two sides is necessary.



The importance of project management and operations management working together to deliver beneficial change from projects; in: Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 187
Figure 5

2: He concludes that delivering project success is necessarily more difficult than delivering project management success, because it involves "second order control" while PM success only involves "first order control."[38]
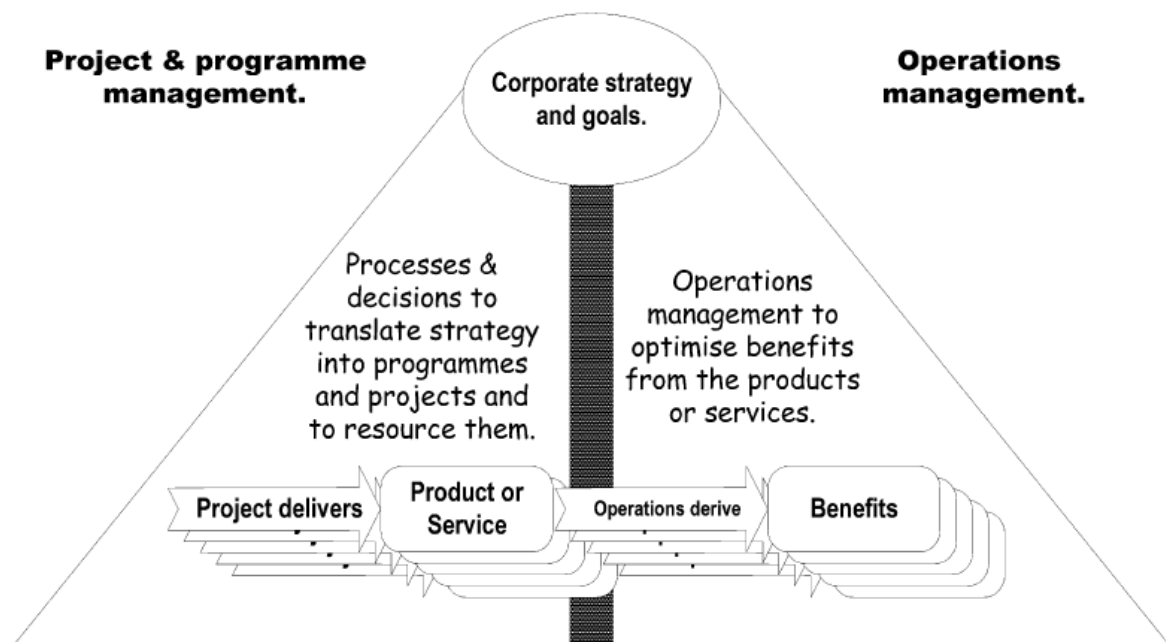
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[36] Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 186
[37] cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 187

"This, in addition to the eight factors that are critical to project management success, a ninth is critical to project success:

F9:     The existence of an effective benefit delivery and management process that involves the mutual co-operation of project management and line management function."[39]


### 2.4.1.3. Factors that lead to consistently successful projects

Cooke-Davies moves from project management success, through project success to corporate success, which includes a completely new set of processes and practices that lead to consistently successful projects. The fact that processes and decisions to translate strategy into projects (that are referred to in Figure 5 of the previous chapter) become in practice a suit of "corporate project management practices", which in turn create the context for management practices, is shown in the following figure:[40]



The corporate context for project success; in: Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 188
Figure 6

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[38] cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 187
[39] Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 188
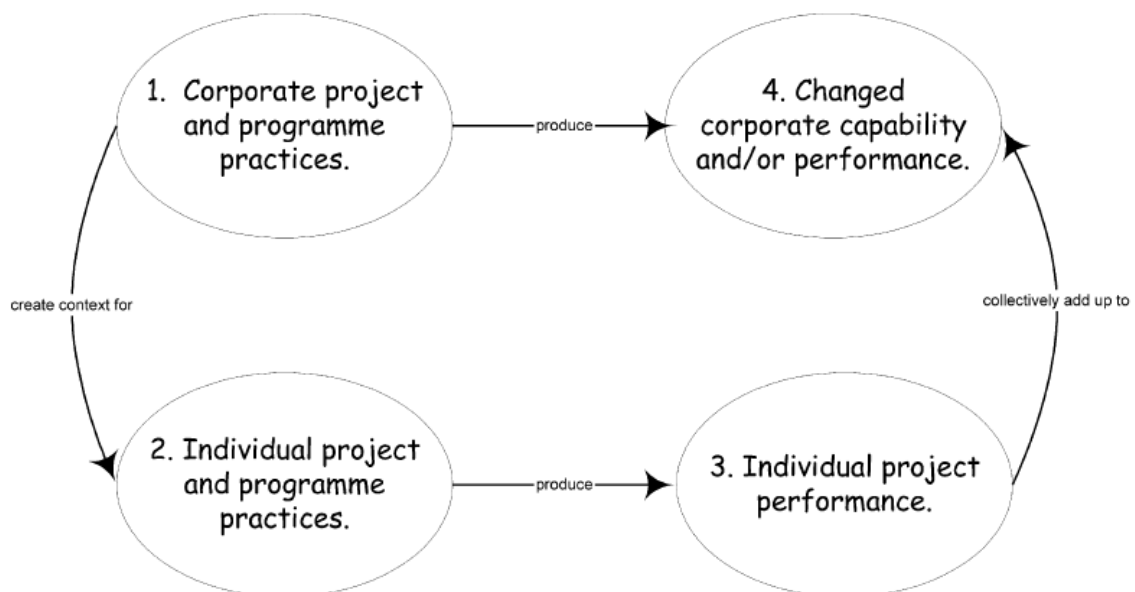[40] cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 188

Cooke-Davies argues that the current state of practices in large organizations shows three areas of practice in which it is difficult to make progress, and which are critical to consistent corporate success.[41]

"These are:

F10     Portfolio- and programme management practices that allow the enterprise to resource fully a suite of projects that are thoughtfully and dynamically matched to the corporate strategy and business objectives.

F11     A suite of project, programme and portfolio metrics that provides direct "line of sight" feedback on current project performance, and anticipated future success, so that project, portfolio and corporate decisions can be aligned. Since corporations are increasingly recognizing the need for "upstream" measures of "downstream" financial success through the adoption of reporting against such devices as the "balanced scorecard" [10], it is essential for a similar set of metrics to be developed for project performance in those areas where a proven link exists between project success and corporate success. […]

F12     An effective means of "learning from experience" on projects, that combines explicit knowledge with tacit knowledge in a way that encourages people to learn and to embed that learning into continuous improvement of project management processes and practices. […]"[42]

These 12 factors are Cooke-Davies' answer to the question which factors are critical to project success.


## 2.4.2. Pinto and Slevin: "Critical success factors across the project life cycle"

The work of Jeffrey K. Pinto, College of Business Administration at the University of Cincinnati, and Dennis P. Slevin, Graduate School of Business at the University of Pittsburgh, on project success factors is one of the most frequently mentioned in the investigated literature.

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[41] cp. Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 188

[42] Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 188 f

They observed ten critical success factors and four additional external factors for projects. In a study with more than 400 answered questionnaires they made two important findings:

> "1) The validation of a set of factors previously discovered as critical to project implementation success […].
> 2) The determination that these factors are not of equal and stable importance over the life of the project. Rather, different sets of these factors become more critical to project success at different phases in the project life cycle."[43]

The study not only validated the observed critical success factors for projects, it also made clear that, across the overall duration of the project, they are of different importance. This makes sense as projects may last for years and can be very complex. To support this view, we can take a look back to chapter 2.4.1.1 where Cooke-Davies´s observed success factor "F6" was: "Keep project (or project stage duration) as far below 3 years as possible (1year is better)."

## 2.4.2.1. Project critical success factors

To establish a list of critical project success factors, Pinto and Slevin received projective information from 54 managers who had major experience in PM. They were asked to consider a successful project with which they had been involved and to assume being in the role of a project manager. Furthermore, they had to indicate activities in which they could engage and which would increase the likelihood of project success significantly. Pinto and Slevin repeated this process until a set of critical activities was identified. These ten critical success factors were validated subsequently and found to be generalizable.[44] In the following, those success factors shall be listed and explained:[45]

- **Project Mission**
  This factor refers to the initial clarity of goals and general directions of the project. It has to be clear, why this project is done and what the desired output will be. Since a project might be a major commitment by an organization to direct money, time and human resources too, it is vital to have a clear vision of the goals underlying the project.

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[43] J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 67
[44] c.p. J.K. Pinto and D.P. Slevin: Project critical success factors: the project-implementation profile; in: Global project management handbook; 2006; p 13-4
[45] cp. J.K. Pinto and D.P. Slevin: Project critical success factors: the project-implementation profile; in: Global project management handbook; 2006; p 13-4ff

- **Top management support**

  It is important for a project manager to be able to count on top management support throughout the whole duration of the project. This is not only relevant for gaining enough resources. It is also vital to have accession to decisions and decision makers, especially when it comes to crises. Will the top management help the project to overcome crises or not? Will it use its authority to make it a success? Will it stay committed to the project even if some circumstances in the organization change?

- **Project Schedule/Plans**

  At the beginning of a project, all necessary activities must be listed and scheduled. Resources have to be determined (human, budgetary, and material) and the time frame has to be set. Another important aspect is the existence of measurement tools to assess the actual progress of a project at any time.

- **Client Consultation**

  The term "client" does not only refer to the firm's customer but to anyone who is the ultimate intended user of the project. Since the project is intended for the client´s benefit, client consultation and communication do not only have to take place at the beginning of the project, but throughout the whole project lifetime.

- **Personnel**

  The project team members represent an important ingredient for project success. If a company does not have the necessary skilled personnel in his own ranks, they need special training or have to be hired externally.

- **Technical Tasks**

  "Technical tasks" refer to the availability of the required technology or technological resources that are necessary for the project. The technical complexity and requirements are factors that are often underestimated by senior management. Does the organization have enough technical resources (skilled people, knowledge, equipment) of its own or do these resources have to be acquired externally?

- **Client Acceptance**

  This factor refers to the ultimate question: is the client satisfied with the project result and output? It is more than simply transmitting the result to the client and assuming that he is satisfied when all defined goals are fulfilled. The acceptance of the project result by the client is a crucial factor of success. It is a selling/marketing process!

- **Monitoring and Feedback**

  At each step of the implementation process, the key project team members have to receive feedback on how the project is progressing. This helps the project manager to gain the overview needed to make the project a success.

- **Communication**

  It is important that the three-way communication channels between the project teams, the clients and the parent organization stay open to ensure the transfer of relevant information among the project duration.

- **Troubleshooting**

  The ability to handle unexpected rises and deviation of the project from the plan is a vital aspect to ensure success, since it is safe to say that few projects are developed without problems along the way.

Additionally to these ten critical success factors, which to a high degree are all within the control of the project team, four additional factors were found. These four are often considered to be beyond the control of the project team but nevertheless have an important influence on project success. These are:[46]

- **Characteristics of the project team leader**

  Is the project team leader skilled enough to perform the project well (administrative skills, interpersonal skills, technical skills) and does he have the necessary amount of authority to perform his duties?

- **Power and politics**

  How high is the degree of political activity within the organization? How is the perception of the project concerning the organization member's self-interest?

- **Environment events**

  How volatile is the surrounding of the project? How likely are additional external, organizational or environmental factors making an impact on the project, either positively or negatively?

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[46] J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 68f

- **Urgency**

    How much time pressure lies on the schedule of the project or the project itself?

In their study, Pinto and Slevin not only validated the critical success factors, they also tested the ability of each critical factor in predicting project implementation success. They tested each of the factors independently against project success. In the following table, the Beta value and the T-statistic represent the strength of the relationship which exists between each critical factor and project success:[47]

Table 4

## Regression Results of Ability of Each Critical Factor to Predict Project Success

| Variable | Beta | T | Sig. T |
|---|---|---|---|
| Project Mission | .72 | 19.99 | $p < .01$ |
| Top Management Support | .32 | 10.60 | $p < .01$ |
| Schedule/Plans | .32 | 10.92 | $p < .01$ |
| Client Consultation | .39 | 11.86 | $p < .01$ |
| Personnel | .31 | 10.54 | $p < .01$ |
| Technical Tasks | .43 | 11.25 | $p < .01$ |
| Client Acceptance | .39 | 11.46 | $p < .01$ |
| Monitoring and Feedback | .29 | 10.89 | $p < .01$ |
| Communication | .32 | 10.38 | $p < .01$ |
| Trouble-shooting | .35 | 11.15 | $p < .01$ |
| Leadership | .43 | 12.44 | $p < .01$ |
| Power and Politics | .11 | 3.71 | $p < .01$ |
| Environmental Effects | .15 | 4.52 | $p < .01$ |
| Urgency | .32 | 7.18 | $p < .01$ |

Results of ability of CSF to predict project success; in:J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 71
Figure 7

"As a result, one of the first conclusions from this study is that *the 10 critical success factors and the 4 external factors were shown to each be predictive of project success.* Further, the table indicates that the most significant relationships (most important
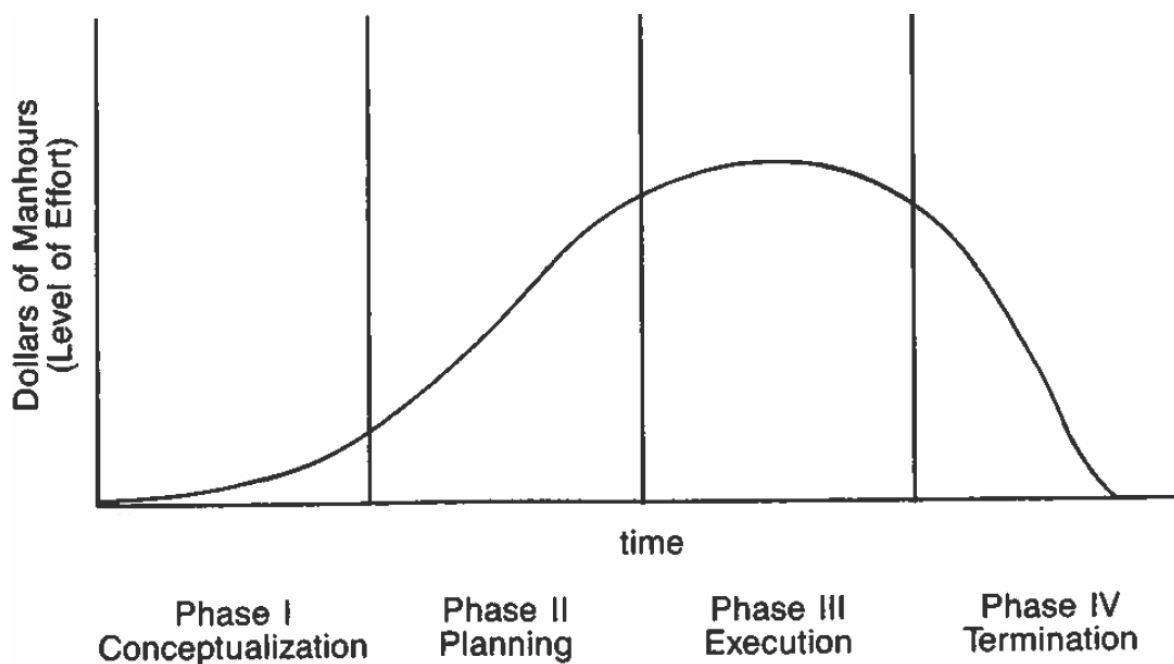
[47] cp. J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 71

individual factors) among the variables were between Success and Project Mission, Characteristics of the Project Team Leader, Technical Tasks, Client Consultation, and Client Acceptance."[48]


## 2.4.2.2. Project critical success factors across the project life cycle

The second key purpose of this study by Pinto and Slevin was to test the relative stability of the validated success factors across the project life cycle.

For this study, a four phase life cycle had been employed with the initial conceptualization phase, the planning phase, the execution phase and the termination phase:[49]



Phases in the Project Life Cycle; in: J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 69
Figure 8

In Phase I, preliminary goals and alternatives for projects are established. This often involves an initial feasibility decision. In Phase II, the top management gives the "go ahead" to launch the project and the known planning activities are performed. Phase III is the phase where the

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[48] J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 72
[49] cp. J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 69

actual "work" of the project is performed. In the final phase IV the project has been completed, the personnel are reassigned to other duties and the project is transferred to its intended users.[50]

To get to the results, Pinto and Slevin tested the 14 factors simultaneously at each of the four project life cycle phases to determine which of them were most important at each project phase.[51] The following figure gives an overview of the results:
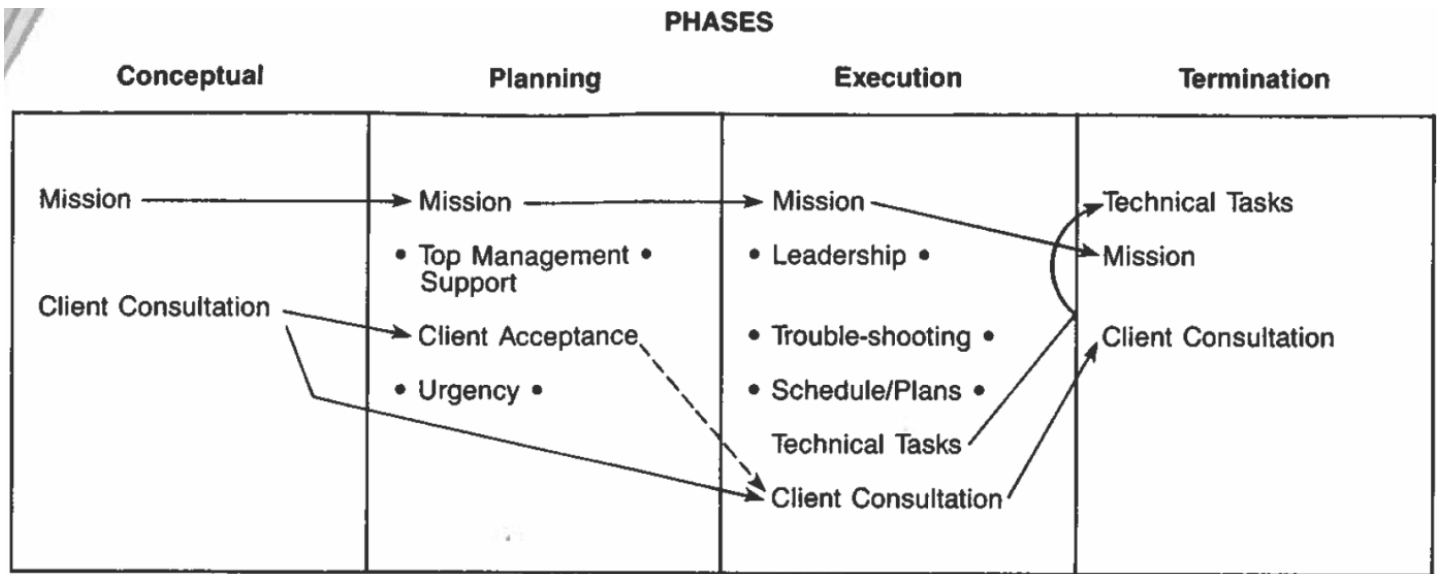


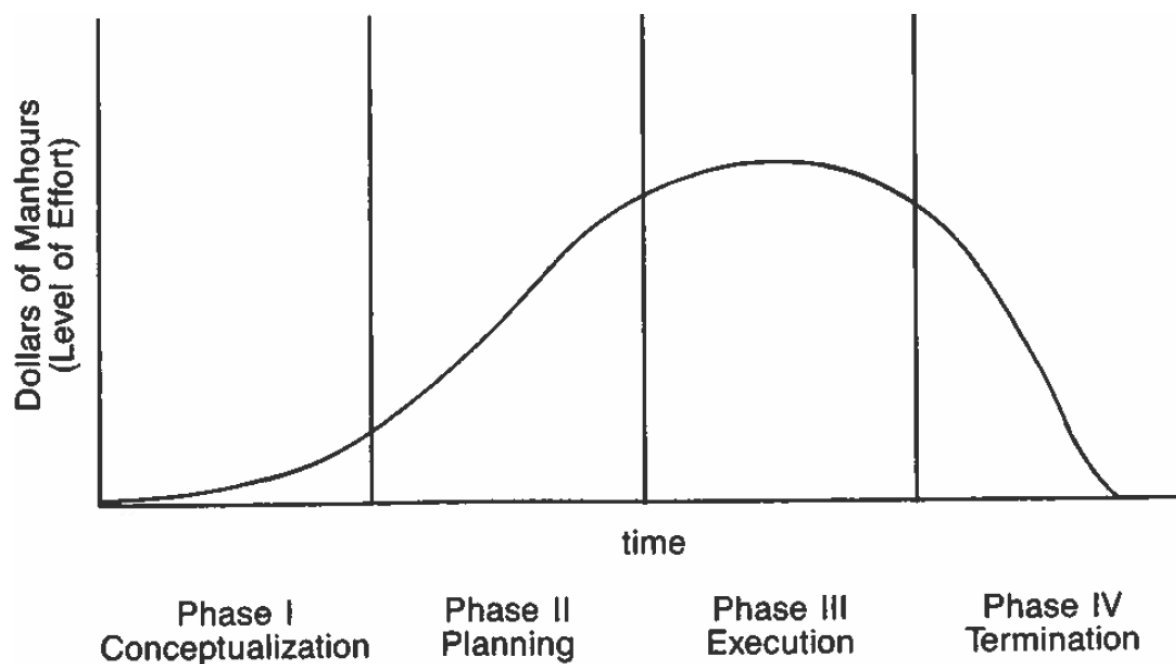Summary of Study Results: Critical Factors at Each Project Phase; in J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 4
Figure 9

For Phase I (Conceptualization), Project Mission and Client Consultation are most important. For Phase II (Planning), Project Mission, top management support, client acceptance and urgency are to be considered most. In phase III (Execution), Project Mission, characteristics of project team leader, trouble-shooting, project schedule/plans, technical tasks and client consultation are of highest relevance. At phase IV (Termination) the results of the study say that technical tasks, project mission and client consultation matter most.[52]

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[50] cp. J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 69
[51] cp. J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 72
[52] cp. J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 72f

## 2.4.3. List of success factors in literature

As already noted in previous chapters of this master thesis, there is still a lack of consensus in what the most important project success factors may be. This does not hinder different researchers to claim having discovered the "real" of "generalizable" success factors for project success.

Two different approaches and findings of a set of success factors were described somewhat into detail in this master thesis. To make obvious how many other established findings there are in technical literature, a list of observed critical success factors shall be given without further explanation:[53]

| | |
|---|---|
| Martin (1976) | Define goals, Select project organizational philosophy, General management support, Organize and delegate authority, Select project team, Allocate sufficient resources, Provide for control and information mechanisms, Require planning and review |
| Lock (1984) | Make project commitments known, Project authority from the top, Appoint competent project manager, Set up communications and procedures, Set up control mechanisms (schedules, etc.), Progress meetings |
| Cleland and King (1983) | Project summary, Operational concept, Top management support, Financial support, Logistic requirements, Facility support, Market intelligence (who is the client), Project schedule, Executive development and training, Manpower and organization, Acquisition, Information and communication channels, Project review |
| Sayles and Chandler (1971) | Project manager's competence, Scheduling, Control systems and responsibilities, Monitoring and feedback, continuing involvement in the project |

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[53] cp. Prabhakar, Guru Prakash: What is Project Success: A Literature Review, in: International Jorunal of Business and Management, September 2008; p5 f

| Baker, Murphy and Fisher (1983) | Clear goals, Goal commitment of project team, On-site project manager, Adequate funding to completion, Adequate project team capability, Accurate initial cost estimates, Minimum start-up difficulties, Planning and control techniques, Task (vs. social orientation), Absence of bureaucracy |
| --- | --- |
| Morris and Hough (1987) | Project objectives, Technical uncertainty innovation, Politics, Community involvement, Schedule duration urgency, Financial contract legal problems, Implement problems |

Before finishing this chapter, it has to mentioned, that there is one additional factor that was not yet described: the business case and its relation to project success. Even if the author is not intending to deepen this aspect here, it has to be touched on due to scientific correctness.

Especially the PM approach "PRINCE2" puts a strong focus on the business case as part of a project. The delivery of the agreed "business case" of a project is a crucial part for project success.[54]

A special focus on the "business case" is also stated in the PM approach of Roland Gareis:

> "The term `business case´ is a relatively new term for an investment. The `business case analysis´ is thus an analysis of the investment."[55]
> "A fundamental objective of the assigning process […] is the distinction between investment decision and organization decision. It is only once the decision for an investment has been taken that the precondition for the performance of a successful project is created!"[56]

Another aspect that shall be mentioned shortly is the dimension of sustainability that gains more and more attention for example in the PM approach of Roland Gareis. This aspect opens again a new dimension of discussion about project success and project success factors.

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[54] Cp. official PRINCE 2 publication: "An Introduction to PRINCE2: Managing and Directing successful Projects"; 2009
[55] Gareis (2005): Happy Projects, p 453
[56] Gareis (2005): Happy Projects, p 449

## 2.4.4. Resume

The starting point of this literature research was the first hypothesis of this master thesis with the two objectives to clarify:

1. if there are critical success factors for projects which can be found in corresponding project management literature and if yes
2. what are these success factors?

In the investigated literature used during the last chapters, the author identified different approaches and several different sets of factors that are said to be crucial for project success. Therefore, the first hypothesis of his master thesis is verified.

# 3. Special requirements for Project Management in Public Service

The second hypothesis of this master thesis was:

Special requirements for project management in public sector call for different project success factors than in private business!

Three objectives for this master thesis were identified out of this hypothesis:
1. are there special requirements to PM in the government services and
2. how professionally is PM performed in the Austrian government services, taking the example of BMF and BRZ,
3. do these special demands lead to critical project success factors that differ from those found?

In a first step, corresponding technical literature shall be investigated to identify the special conditions under which public services are acting and to answer the first objective of hypothesis two: are there special requirements to PM in the government services?

So what are the big differences to private business? Does the application of professional project management make sense under these special conditions and if yes, is there a need of PM and what are the special requirements?

As this master thesis wants to identify specific success factors of projects carried out by project management in *the Austrian* government services, the author only used literature that was concerned with the Austrian administration.

## 3.1 The need of Project Management in public service

Public service is confronted with a steady growing pressure for reforms. It shall become more efficient, service oriented, more flexible and slimmer. This development is a huge challenge as it demands for structural, cultural and often personal changes and insights as well, whereas the latter often go along with a shift of paradigms in the administrative system. The President of the Austrian audit court said that the Austrian administration has to adapt itself to these new challenges. It has to optimize costs and services, question the structures and has to carry on with the reformation process under use of all possible resources.[57]

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[57] cp. Hagen, Stefan (2009): Projektmanagement in der öffentlichen Verwaltung; p144

By introducing project management, many duties of public service can be performed more efficiently. PM can lead to positive as well as to negative changes, but both possibilities should be seen as a chance.[58]

On the one hand, the application of PM allows a more successful performance of new and complex duties, but on the other hand, PM can be a useful organizational extension. It must be taken into account that the organization of the administration was designed for stable structures. Therefore, they are less and less able to react quickly and efficient to environmental changes which come across more often in a globalized society.[59]

Project management is a relatively new working and organizational form in public service. The efficient implementation and application of PM demands for a considerable behavioural change of all persons involved. Traditionally, duties and responsibilities in the administrative system are clearly defined which leads to a relatively low level of accountability. Project management needs a high amount of flexibility and liability of the personnel involved.[60]

## 3.2. Specific challenges in Public Service

The complexity of interdependence between public service, politics, society and economy is growing steadily. The following figure shows the public administration as an open system and tries to give an overview of the relevant environmental factors which were sized down to the six most relevant. The arrows show the interaction between the different factors which shall be explained in this chapter:[61]

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[58]cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p97
[59] cp. Hagen, Stefan (2009): Projektmanagement in der öffentlichen Verwaltung; pX
[60] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p104
[61] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p107
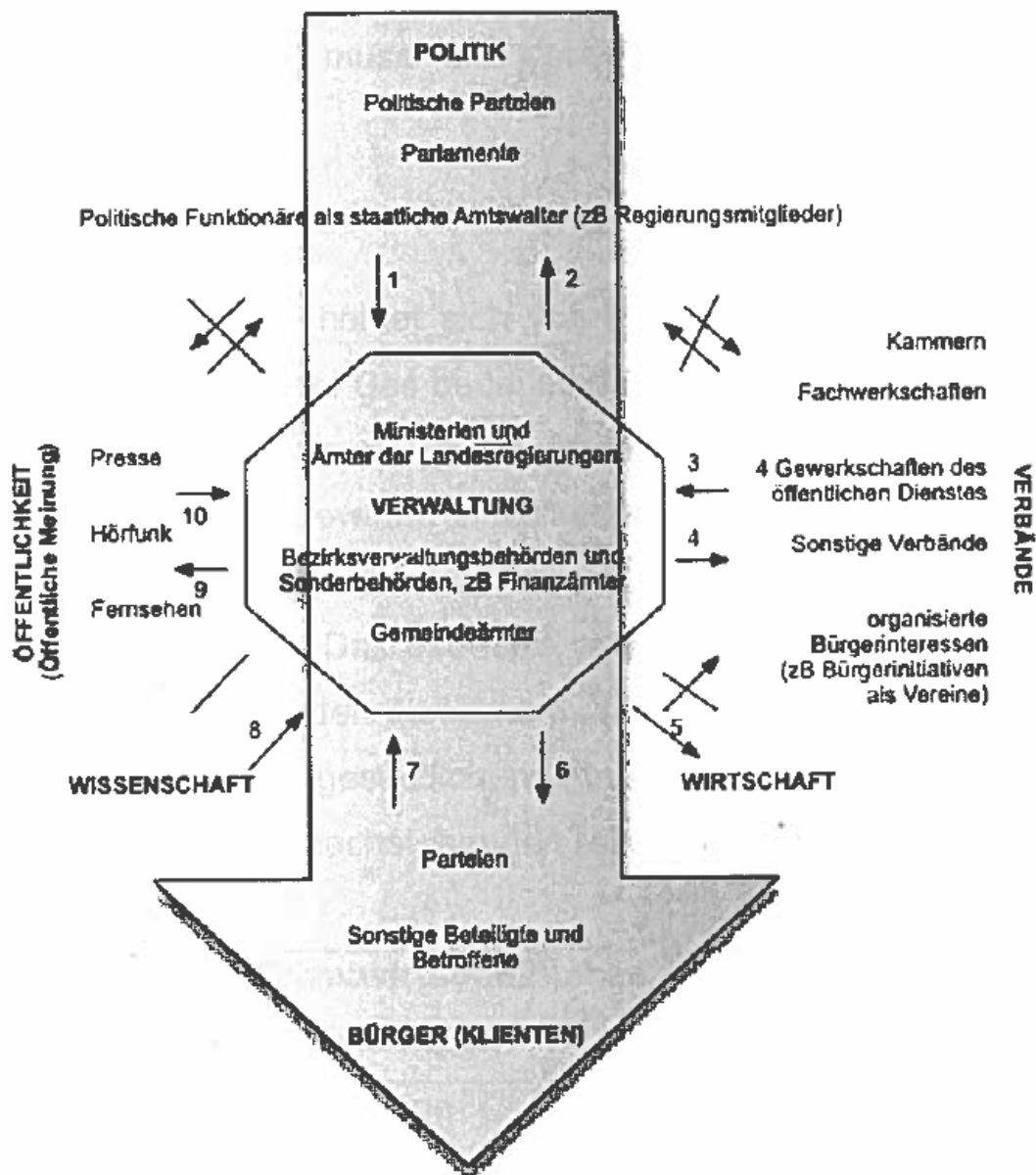
Verwaltung der Gesellschaft, in: Holzinger, Oberndorfer, Raschauer; 2006)
Figure 10

To interpret this environmental analysis with regard to project management, the results of a qualitative study will be used additionally. For this study, seven people with PM background in private economy or public service were interviewed and their answers were analyzed.[62]

- **Politics**

Politics is influencing the administration by legislation or directions. Furthermore, politicians, especially ministers, have the power of ultimate decisions as well as personal power over public service stuff. But the administration also influences politics by writing proposals for

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[62] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p114

laws or by consulting politicians during the decision making process. Politicians and administrative stuff are to a large extent interdependent.[63] While politicians are changing regularly, civil servants often stay in the same position for decades, which has effects on expertise as well as to resistance on change.

The result of the study shows that the questioned people were well aware of the interdependence of administration and politics. In projects performed by public services, it was mentioned that the results that are not in line with the political ideologies of the relevant political party, were in some parts not taken seriously enough. But the results of the study also show that the administration exercises a considerable power over politics via better information and technical knowledge.[64]

- **NGOs (Verbände)**

NGOs are participating in the administration processes via commissions or project groups and can therefore exert their influence on administration. They are organized via their technical knowledge or via the interests they represent. On the one hand, the administration obtains additional inputs by NGOs, on the other hand it has to permit the foundation of such NGOs.[65]

- **Economy**

Public service has different goals and interests than private economy. The most important difference is the monetary benefit orientation of private economy while public service has goals like satisfied inhabitants, security for inhabitants or intact ecological environment. Furthermore, the fulfillment of legal requirements is a much more important aspect for administration than for private economy. Public service may act only in areas that are foreseen by laws.[66]

The results of the mentioned qualitative study validate those theoretical differences. The strict rules and laws have been seen by all volunteers as most relevant for the work in public services. Another difference lies in the necessity of a formal call for bids for projects performed by the administration. An additional disparity lies in the financial background of projects of the administration. According to the interviewed people, public projects mostly

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[63] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p156
[64] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p121
[65] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p108
[66] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p108

have more financial resources which leads to a tendency of lower risk awareness and higher detail orientation. The worst consequence for a civil servant when a project fails would be relocation. Time pressure for projects is perceived to be higher in private economy. The main differences are seen in financial resources and legal obligations.[67]

- **Public interest (Öffentlichkeit)**

On the one hand, the administration can use public media to influence public interest, on the other hand public interest and public media can influence the administration via publication of possible grievances. It was observed that public media tend to generalize grievances in administration and to point them out. This might be because of several reasons: non-disclosure obligations, monopolization of communication via press departments, wrong announcement policy of administrative reform projects via politicians, etc. Nevertheless it is an important duty of public administration to explain decisions and measures via media to the public.[68]

In the quoted survey, the people were asked which kind of influence mass media has on projects performed by public service. The answers go in different directions. Some said that there is no direct influence on the projects because bad press would mainly hit political decision makers and not the administrative stuff. On the other hand, it was mentioned that the higher the direct relevance of the project for the people, the higher the influence of mass media on the project. Additionally it was noted that due to bad press new projects can be launched (investigation of an accident leads to public consensus that something has to be changed).[69]

- **Citizens/Clients (Bürger)**

Projects of public services often demand for the cooperation of citizens and institutions to ensure the appreciation of the result by all stakeholders. One problem is that the expected behavior of administrative stuff and clients and vice versa does not match. While clients expect the administration to fulfill their personal needs, civil servants often implicitly point out to represent the authority of the state. Nevertheless service orientation as well as close cooperation is necessary to gain acceptance on both sides.[70]

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[67] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p126f
[68] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p110f
[69] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p123
[70] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p111f

- **Bureaucracy, hierarchy and personnel**

A bureaucratically administrated organization has a special structure. The head of the organizational unit obtains his position via different ways, often because of election. The civil servant is an employee under contract. He is chosen because of qualification, has no property of business assets and a fixed career path as well as strict disciplinary rules. Furthermore, below a certain hierarchical level the employees are no longer part of the decision making process. The introduction of project management can help to ease this strict setting.[71]

Nearly all interviewed testimonials characterized the administrative organization by having a clear chain of commands, responsibilities and many decision makers. This culture is also affecting the performance of projects, sometimes positively, sometimes negatively. For example, some employees tend to leave decision taking to their line managers, even though they are not in the project team. This is not only due to the organizational character but often part of the behavioral culture of civil servants. On the other side, when it comes to performance of smaller projects or processes, this organizational form can lead to faster results and more transparency.[72]

## 3.3. Special requirements for Project Managers in public services

Summing up the findings of the literature research as well as from the quoted survey, a project manager in public services should have the following qualifications:[73]

- knowledge about administrative system and culture
    - o juristically informed
    - o knowing areas of responsibilities competences
    - o awareness of interdependence of politics and administration
- social competence to know when to breach out of given structures and when this is not possible or suitable
- good motivation skills for project team members especially because of possible decision delays and waiting time

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[71] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p112f
[72] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p129f
[73] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p132ff

## 3.4. Resume

With the findings from technical literature which were analyzed in chapter 3, objective one from hypothesis two (are there special requirements to PM in the government services?) can be answered. Due to the environmental circumstances in which public services act, there are special requirements to the work in the administration that might also have an impact on project management performance.

# 4. Project Management performed by the Austrian government Services

Up to this point, this master thesis tried to give an overview about what professional project management means, which factors are considered to lead to project success and which requirements evolve from the special circumstances in government services with regard to project management. All these findings are based on corresponding technical literature. With these findings, hypothesis one with its objectives could be verified and objective one from hypothesis two could be answered.

In the following chapters the author tries to verify the second and third objective of hypothesis two:

How professionally is PM performed in the Austrian government services, taking the example of BMF and BRZ, and do the special demands in government services lead to critical project success factors that differ from those found?

This shall be done by analyzing PM work in the Ministry of Finance and the Federal Computing Center.

The factors for project success which were found in technical literature were developed during the last 30 years by analyzing PM work in different industries. They all had in common that project management was performed there for at least some time. Otherwise it would not have made sense to start specific investigations to find success factors.

For public services, project management is a relatively new working and organizational form.[74] The author of this master thesis can verify this finding, as he is working in the Austrian Ministry for European and international affairs, where still no project management is applied. Therefore it seemed suitable to first asses the level of project management for the two identified cases to make sure that analysis has enough potential for a further investigation of specific success factors. Another reason for benchmarking the level of PM for the Ministry of Finance and the Federal Computing Center is the assumption that the more professional PM is performed, the more the projects are a success and the easier it is to identify specific success factors for public services.

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[74] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p104

To assess the PM level, the "company mature" model is applied to the identified cases. Afterwards, an analysis of project management specifics of the two cases is performed and interpreted.

## 4.1. The "company mature" model applied to Austrian government Services

Before showing and interpreting the results of the applied "company mature" model, the concept of maturity models shall briefly be explained.

In organizational theory, the term "maturity" is understood as a stage of development that an organization has reached or its ability to perform processes.[75]

The origins of maturity models lie in quality management. The objective of these models is to stabilize the quality of processes, to make them predictable, controllable and manageable. One of the first maturity models for project management was the "project Management Maturity Model" developed by Fincher and Levin.[76]

Together with the enormous increase in project management practices in many organizations worldwide, the rise of project maturity models for project management organizations is a recent phenomenon.[77]

> "Project management maturity Models are used to allow organizations to benchmark the best practices of successful project management firms. Project management maturity models recognize that different organizations are currently at different levels of sophistication in their best practices for managing projects."[78]

The reason for benchmarking is to systematically manage the process improvements of project delivery. Maturity models provide the necessary framework to analyze and evaluate current practices, compare those against those of competitors and define a systematic route for improvement of these practices.[79]

For the analysis of the maturity level of BMF and BRZ the "company mature" model, developed by Roland Gareis, was used. As benchmark, we take the results of a current

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[75]cp. Gareis R, Stummer M, (2008): Processes & Projects; p251
[76] cp. Gareis R, Stummer M, (2008): Processes & Projects; p251
[77] cp. Pinto JK (2007): Project Management; p17
[78] Pinto JK (2007): Project Management; p17
[79] cp. Pinto JK (2007): Project Management; p17

study which applied this model to several companies in different industries. By doing so, we get a good overview of the maturity level of BMF and BRZ.

The Project Management group of Vienna University for Economics (WU Wien) assessed 182 Project Oriented Companies (POCs) with the questionnaire of the "company mature" model. The following figure shows the average maturity ratios of the 182 POCs as well as their diversification in different industries:

| | Ø 14 NPO & Public Services | Ø 4 Banking & Insurance | Ø 8 Services | Ø 4 Transport & Logistics | Ø 16 Consulting | Ø 15 Manufacturing | Ø 182 POC | Ø 31 Engineering Construction | Ø 24 Building & Civil Construction | Ø 39 ICT | Ø 11 Education & Research | Ø 7 Pharma & Biotechnology | Ø 9 Engergy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *mature* ratio | 2,45 | 2,50 | 2,55 | 2,57 | 2,74 | 2,74 | 2,75 | 2,75 | 2,80 | 2,82 | 2,86 | 2,90 | 2,97 |
| PROJECT MANAGEMENT | 3,02 | 3,23 | 3,24 | 2,96 | 3,33 | 3,33 | 3,27 | 3,05 | 3,49 | 3,28 | 3,30 | 3,39 | 3,49 |
| PROGRAMME MANAGEMENT | 1,91 | 1,73 | 1,00 | 2,52 | 1,74 | 1,91 | 1,88 | 1,69 | 1,98 | 1,92 | 2,60 | 2,08 | 1,85 |
| ASSURANCE OF MANAGEMENT QUALITY IN PROJECTS OR | 2,08 | 1,67 | 1,93 | 2,11 | 2,28 | 1,89 | 2,21 | 2,28 | 2,26 | 2,32 | 2,23 | 2,05 | 2,60 |
| ASSIGNMENT OF A PROJECT OR PROGRAMME | 2,91 | 2,79 | 2,99 | 2,56 | 2,75 | 3,24 | 3,09 | 3,13 | 3,19 | 3,09 | 3,05 | 3,67 | 3,45 |
| PROJECT PORTFOLIO COORDINATION AND NETWORKING BETWEEN | 2,20 | 2,11 | 1,97 | 2,54 | 2,48 | 2,52 | 2,56 | 2,66 | 2,38 | 2,72 | 2,82 | 2,92 | 2,95 |
| ORGANISATIONAL DESIGN | 2,46 | 2,72 | 2,82 | 2,68 | 3,11 | 2,78 | 2,89 | 2,88 | 2,86 | 3,00 | 2,91 | 3,19 | 3,03 |
| PERSONNEL MANAGEMENT | 2,25 | 2,10 | 2,53 | 2,28 | 2,88 | 2,43 | 2,63 | 2,65 | 2,77 | 2,73 | 2,75 | 2,57 | 2,64 |
| PROCESS MANAGEMENT | 1,99 | 2,69 | 2,85 | 2,43 | 2,60 | 2,94 | 2,73 | 3,07 | 2,58 | 2,85 | 2,62 | 2,33 | 2,96 |

182 assessed Project Oriented Companies, diversified by industries; out of: PMBA Module Process- and Project Management, WU Executive Academy, May 10 2011, held by Prof. Roland Gareis;
Figure 11

In this chart we see the maturity ratios for the "company mature" model by the eight dimensions of the "company mature" model and industry as well as an overall ratio (182 POCs).

In the following, two case studies will be shown and discussed. All relevant original data that cannot be found in public libraries (questioner, handbooks, etc.) will be listed in the appendix.

## 4.2. Case study 1: Maturity analysis of Sektion V, BMF

The author wants to state that the main source of information about the analyzed company department was DI Michael Plachy, head of the staff department for software engineering, which is located in department V/2 (see Figure 13). His department is responsible for a number of big projects and has a coordinative function in regard to project management in Sektion V. The author had a longer meeting with Mr. Plachy at the end of January, where he

provided the official and necessary information about the company department. He agreed to fill out the "company mature" questionnaire and sent it to the author two weeks later.

## 4.2.1. Description of project-oriented company analyzed

The analyzed project-oriented company is the "Sektion V", in the following referred to as "company A", a company department of the Austrian Ministry of Finance (BMF). In the following, a brief overview of Sektion V shall be given, including responsibilities, activities, goals and statistical data.

Sektion V is, within the Ministry of Finance, responsible for IT, communications and public relations, whereupon the IT part plays the biggest role and is also the most interesting part to look at as a project-oriented company. Sektion V is the central interface between the different specialist divisions of the Ministry of Finance on their way to a common e-government solution. The development and implementation of tailor made and modern IT-solutions are two of the core competences of this company department. This enables the ministry to furnish the Austrian people and domestic business companies with innovative communication and IT-tools. The development of useful tools for the whole Austrian government (all the different ministries) is also a goal of Sektion V, for example the solution for personal management or "Finanz Online". During the last years these efforts have been highly recognized. They have led to a number of international awards. The developed tools show a high efficiency. Since 2003, "Finanz Online" has led to a cost reduction of 230 million Euros. Furthermore, Sektion V is responsible for all governmental payment transactions.[80]

Figure 12 shows the overall organization chart for the Ministry of Finance and Figure y the org chart for Sektion V:

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[80] Cp. www.bmf.gv.at; February 2012

# BMF

Tel: ++43/1/51433/DW

Stand: 19. Jänner 2012

**BMF**
**BUNDESMINISTERIUM FÜR FINANZEN**

| | |
|---|---|
| **Bundesministerin für Finanzen** | |
| Mag. Dr. Maria Fekter | |

| | |
|---|---|
| **Staatssekretär im Bundesministerium für Finanzen** | **Berater der Frau BM f. Finanzen für Fragen der Kapitalmarktentwicklung und Corporate Governance** |
| Mag. Andreas Schieder /DW 500050 | Dr. Richard Schenz /DW 501480 |

| | |
|---|---|
| **Generalsekretär** | **Interne Revision** |
| Hans-Georg Kramer, CFP /DW 507000 | Dr. Hannes Schuh, MBA /DW 501260 |

| SEKTION I | SEKTION II | SEKTION III | SEKTION IV | SEKTION V | SEKTION VI |
|---|---|---|---|---|---|
| Präsidialsektion | Budget | Wirtschaftspolitik und Finanzmärkte | Zölle und internationale sowie organisatorische Steuerangelegenheiten | IT, Öffentlichkeitsarbeit und Kommunikation | Steuerpolitik und materielles Steuerrecht |
| Hans-Georg Kramer, CFP /DW 501000 | Univ. Doz. Dr. Gerhard Steger /DW 502000 | Mag. Thomas Wieser /DW 503000 | Dr. Wolfgang Nolz /DW 504000 | Dr. Gerhard Popp /DW 505000 | Univ.-Prof. DDr. Gunter Mayr /DW 506140 |

Organization Chart BMF; source: www.bmf.gv.at; February 2012

Figure 12

# Sektion V

Tel: ++43/1/51433/DW

Stand: 19. Jänner 2012

**BMF**
**BUNDESMINISTERIUM FÜR FINANZEN**

| |
|---|
| **SEKTION V** |
| IT, Öffentlichkeitsarbeit und Kommunikation |
| Dr. Gerhard Popp /DW 505000 |

| |
|---|
| **IT-Prüf-und Kontrollstelle** |
| Leitung derzeit unbesetzt |

| V/1 | V/3 | V/5 | V/7 |
|---|---|---|---|
| IT- Grundsatzangelegenheiten und Büroautomation | IT und Organisation des Rechnungswesens und Zahlungsverkehrs | IT - Recht und -Datenschutz, IT und Rechnungswesen der Zollämter, Prüf-, Kontroll- und Informationssysteme | Öffentlichkeitsarbeit und Kommunikation |
| Dr. Gottfried Tiwald /DW 505020 | Christian Ihle, CMC /DW 505200 | Dr. Wilhelm Schachel /DW 505400 | Mag. Johannes Pasquali /DW 501028 |

| V/2 | V/4 | V/6 |
|---|---|---|
| IT und Rechnungswesen der Finanzämter und Großbetriebsprüfungen | IT für BKA, Justiz-, Sozial- und Wirtschaftsressort | IT - Personalmanagment |
| Mag. Erich Waldecker /DW 505100 | DI Franz Kropatschek /DW 505300 | Erich Albrechtowitz /DW 505500 |

Organization Chart "Sektion V" BMF; source: www.bmf.gv.at; February 2012
Figure 13

The most important activities of Sektion V are:[81]

- Strategically issues of IT within BMF
- Organization of IT-processes for the financial administration as well as for budgetary issues and personal management for the whole government
- Accounting issues for the Republic of Austria
- IT-issues for BMF
- IT-support for other Ministries
- Matters of European integration in IT-issues

Some strategically goals of Sektion V:[82]
- To become one of the most modern administration of finances within the EU by application of e-government
- Simplification of administrative processes
- Reduction of costs
- Creating synergies by common IT-solutions for the whole government (all ministries)

Some relevant statistical data:[83]

Sektion V is clustered in 7 divisions plus one control unit. About 230 employees are working there. Out of these 230 people, about 40 can work as project managers. The annual budget for IT-projects is about 140 million Euros. The total number of projects in 2011 was 789. These projects are differentiated in a total of 392 small projects and 397 big projects. They perform 265 internal projects (159 small ones plus 106 big ones) and 524 external projects (233 small ones plus 291 big ones).

### 4.2.2. Result analysis and interpretation

In the following, all eight dimensions of the "company mature" model shall be analysed, taking Sektion V of the Ministry of Finance as example, using the information of Mr. Plachy. In all result figures of the questionnaire "company mature", Sektion V is referred to as "company A".

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[81] Cp. www.bmf.gv.at; February 2012
[82] Cp. www.bmf.gv.at; February 2012
[83] RGC Questionnaire: company mature; filled out by DI Michael Plachy, Sektion V, BMF, 28.1.2012

The eight dimensions are:

- Project management maturity,
- Programme management maturity,
- Maturity for the assurance of the management quality in projects and programmes,
- Maturity for the assignment of a project or programme,
- Maturity for project portfolio coordination and networking between projects,
- Maturity regarding the organisational design of the project-oriented company,
- Maturity regarding the personnel management in the project-oriented company, and
- Maturity regarding process management

**Project management maturity**

The project management maturity of Sektion V lies at a ratio of 3.04. The ratios of the most important sub groups are:[84]

- Project start maturity with a ratio of 3.15,
- Project coordination maturity with a very high ratio of 4.00,
- Project controlling maturity with 3.18 and the
- Project close-down maturity with a maturity ratio of 2.24

It can be seen, that the highest maturity within this groups has been reached in the area of project coordination, the lowest at project close-down maturity with a difference of 1.76 points.

Compared to the according ratio of 182 POCs (3.27) and the referring industry (NPOs and Public Services, with 3.02), Sektion V has a higher maturity ratio than the average of the other assessed NPOs and Public Services as well as a slightly lower ratio than the overall average of 182 POCs in this dimension.

**Programme management maturity**

The programme management maturity ratio lies at a ratio of 3.38. The ratios of the most important sub groups are:[85]

- Programme start maturity with a ratio of 3.82,
- Other programme management processes at a ratio of 3.08,

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[84] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[85] Cp. Company Mature; Analyse 9. Februar 2012; Appendix

- Maturity for the design of the programme management process with a ratio of 3.23

The ratios of all these sub groups are relatively homogenous.

Compared to the according industry (1.91) and the ratio of 182 POCs (1.88), Sektion V has a far higher level of maturity!

**Maturity for the assurance of the management quality in projects and programmes**

The ratio of the maturity for the assurance of management quality in projects and programmes lies at 1.29. The most important sub groups of the questionnaire are:[86]

- Maturity for management consulting of projects and programmes with a ratio of 2.58, and
- Maturity for management auditing of projects and programmes (or peer view) with absolutely no maturity (0.0).

It is obvious that the total lack of management auditing lowers the ratio of the maturity for the assurance of management quality in projects and programmes considerably.

In this dimension, the according industry has a ratio of 2.08 and the 182 POCs average is 2.21. Due to the lack of auditing, Sektion V has a lower maturity then both of the referred averages.

**Maturity for the assignment of a project or programme**

The maturity ratio for the assignment of a project or programme lies at 3.67;[87]

This dimension has a maturity of 2.91 in NPOs and Public Services, and of 3.09 in all 182 POCs. Sektion V has a vastly higher maturity in assignment of projects or programmes than the examples referred to.

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[86] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[87] Cp. Company Mature; Analyse 9. Februar 2012; Appendix

**Maturity for project portfolio coordination and networking between projects**

The ratio for the maturity for project portfolio coordination and networking between projects lies at 2.85.[88]

Assessed NPOs and public services have a maturity ratio of 2.2 and all 182 POCs of 2.56 in this dimension. Again, Sektion V is above-average.

**Maturity regarding the organisational design of the project-oriented company**

Maturity ratio of the organisational design of Sektion V is 3.09.[89]

With this ratio, Sektion V is more mature than assessed NPOs and Public Services (2.46) or the average of 182 POCs (2.89).

**Maturity regarding the personnel management in the project-oriented company**

This maturity ratio for Sektion V lies at 2.56.[90]
This maturity is again higher than the two numbers referred to with 2.25 in NPOs and Public Services and 2.63 of 182 POCs.

**Maturity regarding process management**

The maturity ratio regarding process management lies at 1.96. The most important process sub groups of this dimension are:[91]

- Macro-process management maturity with a ratio of 3.04,
- Micro-process management maturity with a ratio of 3.09,
- Quality of processes with no maturity (0.0),
- Maturity regarding the organisation of process management with 2.62, and
- Maturity regarding the personnel management for process management with a ratio of 1.02;

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[88] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[89] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[90] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[91] Cp. Company Mature; Analyse 9. Februar 2012; Appendix

Due to lacking quality measurement of different process groups, the ratio drops down to 1.96. Due to the lack of quality measurement of processes, this result is lower than for the two other groups with 1.99 and 2.72 (182 POCs). But especially here it must be noted that companies in Public Services obviously lie far behind the average of 182 POCs in this dimension of "company mature".

## Overall result for Sektion V (company A)

For a better overview, the following figure shows the maturity ratios of company A (Sektion V) and the ratios of 182 POCs:

| | Company A | Company B | Average 2 companies | Ø 182 POC |
|---|---|---|---|---|
| **mature ratio** | 2,70 | 3,17 | 2,93 | 2,75 |
| **Project management maturity** | 3,04 | 3,51 | 3,27 | 3,27 |
| **Programme management maturity** | 3,38 | 3,48 | 3,43 | 1,88 |
| **Maturity for the assurance of the management quality in projects and programmes** | 1,29 | 2,73 | 2,01 | 2,21 |
| **Maturity for the assignment of a project or programme** | 3,67 | 3,75 | 3,71 | 3,09 |
| **Maturity for project portfolio coordination and networking between projects** | 2,85 | 3,96 | 3,41 | 2,56 |
| **Maturity regarding the organisational design of the project-oriented company** | 3,09 | 3,79 | 3,44 | 2,89 |
| **Maturity regarding the personnel management in the project-oriented company** | 2,56 | 3,76 | 3,16 | 2,63 |
| **Maturity regarding process management** | 1,96 | 0,00 | 0,98 | 2,73 |

Company A + B + average of 182 Project oriented companies; Produced by the Project Management group Vienna; Analysis performed 9th February 2012; www.wu.ac.at/pmg
Figure 14

As can be seen, the maturity ratio of Sektion V lies only 0.05 points below the average of 182 assessed POCs and is 0.25 points better than assessed NPOs and companies in Public Services.

A good overview of strengths and weaknesses of the level of maturity of Sektion V gives the spider web analysis:
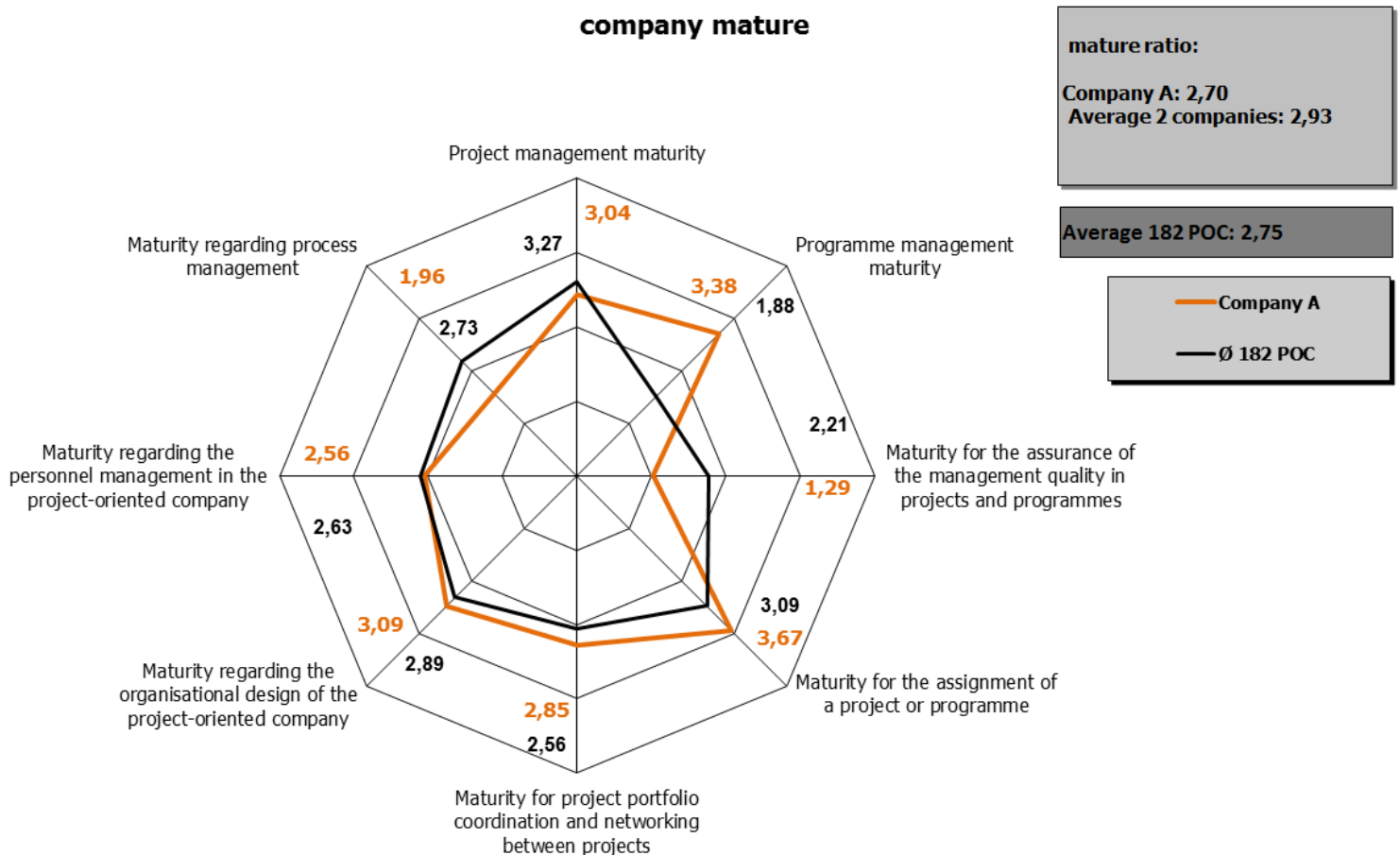


Spider web analysis; company mature of company A; Produced by the Project Management group Vienna; Analysis performed 9<sup>th</sup> February 2012; www.wu.ac.at/pmg
Figure 15

**Possible improvements**

As the spider web analysis clearly shows, there is room for improvement in the dimension of "maturity for the assurance of the management quality in projects and programmes". But, as mentioned in the analysis above and according to the assessments, it seems that this counts for the whole public sector.

### 4.2.3. Project Management specifics of Sektion V, BMF

To remember, the second hypothesis of this master thesis was:

Special requirements for project management in public sector call for different project success factors than in private business!

Three objectives for this master thesis were identified out of this hypothesis:
1. are there special requirements to PM in the government services and
2. how professionally is PM performed in the Austrian government services, taking the example of BMF and BRZ?
3. do these special demands lead to critical project success factors that differ from those found?

In this chapter, it shall be tried to answer objective 3. Therefore, in the following, the specifics of PM performed by the Ministry of Finance, Sektion V, shall be analysed with regard to special success factors.

### 4.2.3.1. Method of analysis and data collection

A qualitative analysis of PM work in Sektion V was performed, using the following method:

Based on the relevant findings of the verification of hypothesis 1 (there are specific factors that are crucial for project success!) and the findings of the investigation of objective one of hypothesis 2 in this master thesis (are there special requirements to PM in the government services?), a questionnaire was elaborated to detect, how the main PM responsible for the analyzed company (DI Michael Plachy) considers the specifics of PM work in his competence area.

The questionnaire included five questions with reference to two Annexes (see Appendix). Annex I contained the findings of chapter 3.2. "Specific challenges in Public Service", and Annex II contained the main findings of chapter 2.4. "Project Success Factors". The five questions were:

1: In *Annex I* specific challenges of public services compared to private businesses are listed and explained. How do you care about these specific challenges in project management

performance in your company? Please comment on each of the six identified specific challenges separately.

2: Can you identify any directives, advices or standards in the project management handbooks of your company that relate to the specific challenges explained in *Annex I*?

3: Which are the main differences in project management performance (techniques, standards) of your current company compared to other PM oriented companies you worked for or you know? Why do these differences occur?

4: Which answers/findings of question one to three would you characterize as specific success factor of projects carried out by project management in your company? Why are they so important?

5: Leaving away question one to four, can you identify other specific success factors of projects carried out by project management in public services that are different from those listed in Annex II?

The respondent answered the questionnaire in written form and in German language. In the following, the author translated the most relevant answers of the respondent into English language and wrote it down in italic type. The interpretation of the author is written in normal type.

## 4.2.3.2. Results and interpretation

**Question one and two (the respondent answered both questions in one):**

**Politics**
*For a better coordination of IT-Projects between politics and administration, the following measures in the Ministry of Finance were taken:*

*In the ministry, a top-down MBO process (management by objectives) exists to map the annual goals of the different sections. During the annual budgeting and project portfolio planning, the huge number of proposed projects has to be reduced to about 450 due to budgetary feasibility. Additionally, a cost-benefit-analysis exists and if necessary a concept of priorities is applied. Explicit political orders are taken out of prioritizing.*

*During the year, repetitive reports of defined important projects are submitted to the minister's office.*

*Furthermore, a steering committee is created for A-level projects and programs. In this steering committee, high representatives of the Section or the head of Section himself is present. Those persons are the link between the minister and the administration.*

*For quick questions from the minister's office, efficient workflow processes were organized.*

*To enable successful implementation of projects, the administration is usually consulted before legislation.*

Special rules of procedure are implemented in the administration of the ministry to ensure sufficient involvement of the political level. Explicit political orders are treated specially and not in the usual processes. The political personnel at the minister's office are regularly informed via project reports. On the other side, the administration has huge influence on the legislative process.

It is interesting to note that the most important and biggest projects, in the BMF so called "A-projects", are led by a steering committee to ensure sufficient and balanced involvement of the different steak holders.

**NGOs (Verbände)**

*To increase acceptance, time schedules and goals of IT-Projects are communicated to NGOs. In some cases, NGOs are even involved in the project organization to ensure short time feedback. This includes, of course, the willingness of NGOs to participate in an active and constructive way.*

The administration actively tries to involve NGOs into sensible projects.

**Economy**

*Many IT-solutions of the financial administration fully automatically work together with IT-applications of private businesses (customs and logistic companies, for example). To enable this fully automatic cooperation, special interfaces were developed and tested with selected companies of private business.*

*It is also a principal of a developed democratic state to care about needs of minorities. Therefore, the administration is obliged to create specially designed barrier-free internet applications that fulfil WAI (Web Accessibility Initiative) criteria. Due to these obligations, many software producers have adapted their products according to these needs.*

There is a strong interdependency of the BMF administration and private business. Both public services as well as private businesses have to adapt their products and procedures to cooperate efficiently.

**Public interest (Öffentlichkeit)**

*In the PM-guidelines of the Ministry of Finance, something like a marketing process is foreseen, but mass media and public interest are not specifically mentioned. Within politically important projects, mass media are used as information channels. In general, communication with mass media is performed via the public affairs department and the political office of the minister.*

The cooperation with mass media concerning sensible projects to a large extent remains the responsibility of the political staff.

*Citizens/Clients (Bürger)*

The goal of IT-projects of the financial administration is that citizens can use these applications in the most efficient way. For example "FinanzOnline" for citizens is one of the most successful e-government tools. The application "Unternehmensservice-Protal" sums up all tools and services of the different administrative levels and thus serves to offer them the citizens in a more efficient and suitable way. This project requires a complex organization. The citizens or clients are normally not involved in the project organization. To ensure their appreciation of the results, surveys and feedbacks are performed.

The involvement of clients in the project organization is only performed via feedback sheets or surveys. Nevertheless, some applications are a real success.

**Bureaucracy, hierarchy and personnel**

*The structure of public administration is a big challenge for a project organization. An external project manager, for example, is not entitled to give orders to a civil servant. This is not even possible within the administration itself (between different ministries). Additionally, the role description of a "project manager" does not yet exist in project management of public services. It is also difficult to temporarily recruit staff out of the line organization. Because of these circumstances, the Ministry of Finance applies a "project management team" principal. This means that a project is not managed by a single project manager but – if necessary – by a team of responsible persons with different responsibilities.*

*As projects of public services can be audited by the court of audit even years after their termination, an increased effort has to be made in terms of documentation and reporting.*

The inflexible bureaucracy of public services calls for creative solutions. For example, a project can be led by a team of project managers if different areas of responsibilities are involved. Transparency and documentation are of high importance for public projects.

**Question three:**

*In fact, there is no big difference in a methodological sense regarding PM. The few differences are due to the circumstances and the duty that developed IT-systems have to be supported and applied by the line organization after project termination. This is the reason why PM directive within the company includes interfaces to the processes of line organization, information security management and real estate (architectural) management. Also due to the environmental circumstances, there is an increased demand for transparency and documentation. Instead of one project manager for a project, the "project manager team" approach is performed.*

*In contrary to decision making in private business, decisions in public administration are mainly taken unanimously.*

Again, the need for increased documentation and transparency is pointed out as well as the "project management team" approach for leading a project. It is also interesting that within administration unanimous decision making seems to be the rule.

**Question four and five:**

*"Dual project management": the project management team approach is a success factor. It helps to coordinate and perform decisions.*

*"Integrative project management": This means the recognition of other business processes in the line organization to perform projects in an efficient way (procurement, information security management, operations management, …).*

*"Involvement of economy and NGOs": for suitable project marketing and higher acceptance.*

*"Taylor made PM Guidelines" within the company: minimal adjusting of PM methodology for the internal project categories A, B, C.*

The "project management team"-approach is the most highlighted specific success factor of this questionnaire. A second frequently stressed aspect is a holistic approach of PM, "integrative project management", where the main environmental circumstances are recognized.

## 4.3. Case study 2: Maturity analysis of BRZ

In the following, all eight dimensions of the "company mature" model shall be analysed again by taking the federal computing center (BRZ) as example and using the information of Mag. Markus Koch, who is the head of the division for sales, management consulting and project management. He provided the information for the questionnaire at the beginning of February 2012, after a personal meeting at the end of January. In all result figures of the questionnaire "company mature", the BRZ is referred to as "company B".

### 4.3.1. Description of project-oriented company analyzed

The BRZ was created in 1997 as an out-sourced LLC of the Ministry of Finance (BMF), owned by the Austrian government, represented by the Ministry of Finance BMF. The goal was to utilize the synergies by consolidation, standardization and gathering of IT-resources

and services for the Austrian government. It was a step of modernization and new structuring of IT solutions for the government.[92]

Its mission is to deliver IT-solutions to public services with agreed quality at the best price – efficient, secure, reliable, competent and cost optimized.[93]

The federal computing center (BRZ) is the leading company providing the Austrian administration with IT-services (60% market share of all IT-services used by public administration). The BRZ understands itself as integrative interface between the processes in public services, the services of IT-businesses and the needs of the users (see Figure 16, "E-government Cycle"). It runs one of the biggest computing centers in Austria and develops, implements and runs E-government solutions.[94]



E-Government Cycle; from: www.brz.gv.at; February 2012
Figure 16

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[92] Cp. www.brz.gv.at; February 2012

[93] Cp. www.brz.gv.at; February 2012

[94] CP. www.brz.gv.at; February 2012

Since its founding in 1997, the turnover has increased from 92 million Euros to nearly 220 million Euros in 2010. According to this development, the number of employees has also grown from 416 in 1997 to nearly 1200 in 2010 (see Figure 17):

|  | 1997 | 2010 |
|---|---|---|
| Umsatz in Mio. € | 92 | 214,4 |
| MitarbeiterInnen in VBA | 416 | 1176 |

Development of turnover and number of employees from 1997 to 2010; from: www.brz.gv.at; February 2012
Figure 17

By increasing productivity and efficiency, the BRZ could also lower the pricing for their services and products, which is a remarkable development (see Figure 18):

|  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|
| Durchschnittliche Preisänderung in % | + 1,4 | + 0,5 | - 5,1 | - 2,7 | - 5,2 | -6,0 |
| Änderung in Mio. Euro | + 2,9 | + 1,0 | - 10,3 | - 5,3 | - 10,6 | -12,0 |

Development of prices of services and products of BRZ from 2009 to 2010; from: www.brz.gv.at; February 2012
Figure 18

In 2010, the federal computing center offered infrastructure services at 1200 different locations in Austria as well as 30000 serviced workplaces, and held a market share of about 60% of the federal government order. Its clients are different parts of the Austrian administration, led by their main client and owner, the Ministry of Finance (see Figure 19):[95]

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[95] Cp. www.brz.gv.at; February 2012

# Kundenanteile 2010
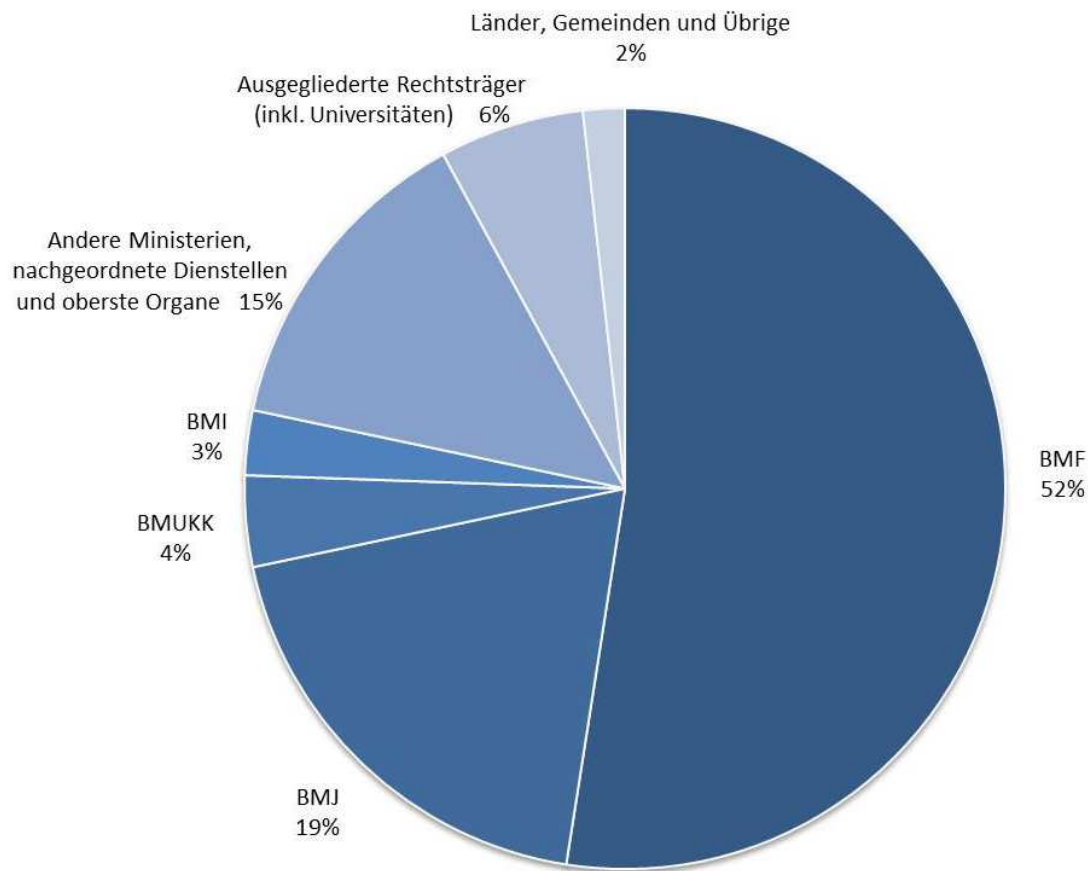


Client portfolio of BRZ in 2010; from: www.brz.gv.at; February 2012
Figure 19

For further development of the company, some strategic target markets are:[96]

- Ministries and outsourced business units
- Supreme authorities (courts, auditing institution, parliament)
- Universities
- Social insurance carriers

## 4.3.2. Interpretation of analysis results

Before beginning the analysis of the gained data, it has to be mentioned that the BRZ regards itself belonging to the industry of ICT (Information and Communication Technologies), which makes sense, of course. But as it is 100% owned by the government, the results shall also be compared by the benchmarking numbers of NPOs and Public Services.

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[96] Cp. www.brz.gv.at; February 2012

**Project management maturity**

The maturity ratio for "Project Management Maturity" for the BRZ lies at 3.51. The most important sub groups of the questionnaire were:[97]

- Project start maturity with a ratio of 3.24,
- Project coordination maturity with a very high ratio of 4.00,
- Project controlling maturity with 3.96, and the
- Project close-down maturity with a maturity ratio of 3.27.

Like in the case of Sektion V, BMF, the BRZ also has the highest maturity of all subgroups in the field of project coordination.

For "Project Management Maturity" the benchmarking number for NPOs and Public Services lies at 3.02 and for ICT at 3.28. The total of all 182 assessed POCs has a maturity ratio of 3.27. The maturity of BRZ is therefore higher than all other referential numbers!

**Programme Management maturity**

The ratio for "Program Management maturity" lies at 3.48. The ratios of the most important sub groups are:[98]

- Programme start maturity with a ratio of 3.30,
- Other programme management processes at a ratio of 3.46,
- Maturity for the design of the programme management process with a ratio of 3.68,

The maturity for the design of the programme management process shows the highest rate within this sub group. Compared to the benchmark of ICT (1.92), NPOs and Public Services (1.91) as well as to the average of 182 POCs (1.88), the federal computing centre shows an enormous maturity in this dimension (4.48)

**Maturity for the assurance of the management quality in projects and programmes**

The maturity for this dimension lies at 2.73. The most important sub groups of the questionnaire are:[99]

- Maturity for management consulting of projects and programmes with a ratio of 2.42, and
- Maturity for management auditing of projects and programmes (or peer view) with a ratio of 3.04.

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[97] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[98] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[99] Cp. Company Mature; Analyse 9. Februar 2012; Appendix

The ratios for the benchmarked areas are: 2.08 for NPOs and Public Services, 2.23 for ICT and 2.21 for 182 POCs. The federal computing centre is far more mature than all other numbers referred to!

**Maturity for the assignment of a project or programme**

The maturity ratio for the assignment of a project or programme lies at 3.75.[100]

For the same dimension, NPOs and Public Services show a ratio of 2.91, ICT of 3.09 and 182 POCs of 3.09. Again, in this dimension the BRZ is more mature than all other assessed areas.

**Maturity for project portfolio coordination and networking between projects**

The ratio for the maturity for project portfolio coordination and networking between projects lies at 3.96.[101]

Assessed NPOs and Public Services have a ratio of 2.20, ICT of 2.72 and 182 POCs of 2.56. Once again, the maturity of the federal computing centre is much higher.

**Maturity regarding the organisational design of the project-oriented company**

The maturity ratio for organisational design lies at 3.79.[102]

The benchmarking numbers are: 2.46 for NPOs and Public Services, 3.00 for ICT and 2.89 for 182 POCs. Once more, in this dimension the BRZ is shows outstanding numbers.

**Maturity regarding the personnel management in the project-oriented company**

This maturity ratio lies at 3.76.[103]

The referential numbers are: 2.25 for NPOs and Public Services, 2.73 for ICT and 2.63 for 182 POCs. Again, the BRZ delivers fantastic results.

**Maturity regarding process management**

The maturity regarding process management could not be assessed for the federal computing centre due to inner company directions, as Mr. Koch explained.

**Overall result for Sektion V (company B)**

For a better overview, the following figure shows the maturity ratios of company B (BRZ) and the ratios of 182 POCs:

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[100] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[101] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[102] Cp. Company Mature; Analyse 9. Februar 2012; Appendix
[103] Cp. Company Mature; Analyse 9. Februar 2012; Appendix

| | Company A | Company B | Average 2 companies | Ø 182 POC |
|---|---|---|---|---|
| mature ratio | 2,70 | 3,17 | 2,93 | 2,75 |
| Project management maturity | 3,04 | 3,51 | 3,27 | 3,27 |
| Programme management maturity | 3,38 | 3,48 | 3,43 | 1,88 |
| Maturity for the assurance of the management quality in projects and programmes | 1,29 | 2,73 | 2,01 | 2,21 |
| Maturity for the assignment of a project or programme | 3,67 | 3,75 | 3,71 | 3,09 |
| Maturity for project portfolio coordination and networking between projects | 2,85 | 3,96 | 3,41 | 2,56 |
| Maturity regarding the organisational design of the project-oriented company | 3,09 | 3,79 | 3,44 | 2,89 |
| Maturity regarding the personnel management in the project-oriented company | 2,56 | 3,76 | 3,16 | 2,63 |
| Maturity regarding process management | 1,96 | 0,00 | 0,98 | 2,73 |

Company A + B + average of 182 Project oriented companies; Produced by the Project Management group Vienna; Analysis performed 9th February 2012; www.wu.ac.at/pmg
Figure 20

Except for the last dimension of the "company mature" model, which is the maturity regarding the process management, company B is always and sometimes even far above-average. This also counts for the assessed NPOs and Public Services (mature ratio of 2.45) as well as for ICT (mature ratio of 2.82).

A good overview of strengths and weaknesses of the level of maturity of company B gives the spider web analysis:
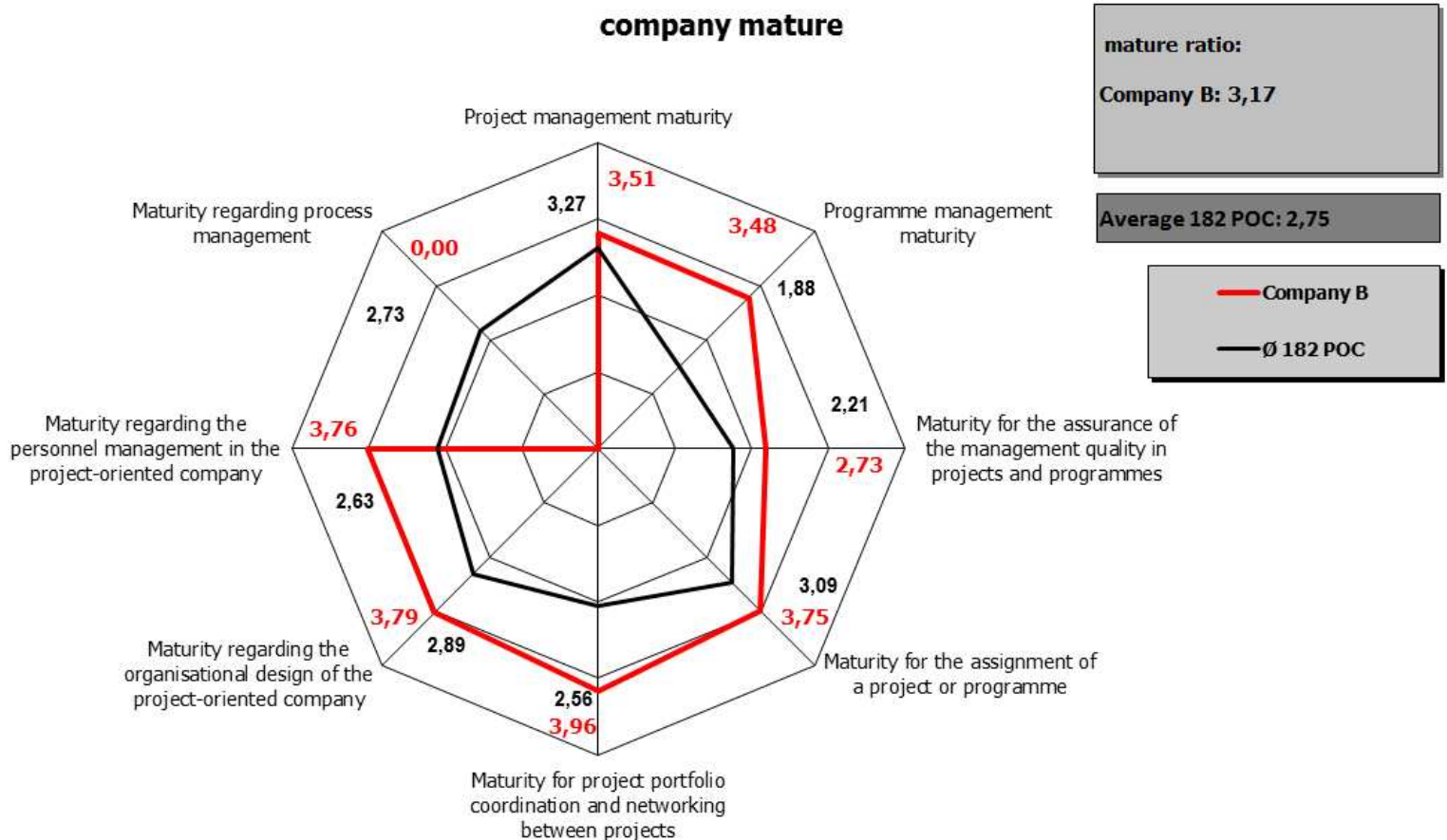
## company mature



Spider web analysis; company mature of company B; Produced by the Project Management group Vienna; Analysis performed 9th February 2012; www.wu.ac.at/pmg
Figure 21

**Possible improvements**

Due to this analysis, the only area where it is not clear if the BRZ has a high maturity is the dimension of "maturity regarding process management". As this cannot be observed because of internal company directions, no further suggestions can be given because in all other dimensions, company B lies far above-average!

### 4.3.3. Project Management specifics of BRZ

In this chapter, it shall again be tried to answer objective 3 of hypothesis 2 (do these special demands lead to critical project success factors that differ from those found?). Therefore, in the following, the specifics of PM performed by the federal computing center (BRZ) shall be analyzed and explained.

### 4.3.3.1. Method of analysis and data collection

The method of analysis and data collection for this case study is the same like for case study one in chapter 5.3.1. Therefore it will not be explained separately again. The only difference, of course, is that the respondent was the head of project management of the BRZ (Mag. Markus Koch).

For a better overview, the original questions will be mentioned this time. Again the main answers have been translated and written in italic type, whereas the interpretation of the author is written in normal letters.

### 4.3.3.2. Results analysis and interpretation

**1: In *Annex I* specific challenges of public services compared to private businesses are listed and explained. How do you care about these specific challenges in Project Management performance in your company? Please comment each of the six identified specific challenges separately.**

**Politics:**

*There is an indirect influence via facts from the political level, such as schedule (because of legislation) and budget. Normally these directions are not directly addressed to the BRZ, but as they are part of the project donations, they are also communicated as fixed and strict. As a consequence, only the quality and quantity can vary in case of project discontinuities. In such a case, it is discussed where the compromise is to be made.*

*A considerable difference arises in the planning phase of a project: Due to mostly narrow time frames, projects are not planned ahead, but backwards from the legally set end date. A consequence is that such projects run on a critical path from the beginning onwards.*

*Furthermore, the orders from the political level have to be accepted due to the BRZ-law. The BRZ is forced to accept project orders from the political level which is a considerable difference to private business.*

The special situation of the BRZ as a service agency for the government brings along special working conditions. Frequent time pressure and critical project schedules are a result of this. Compromises and deviations from the initial order are the rule, not the exception. Therefore, a special procedure for compromising with the buyer is installed.

**NGOs:**

*Projects are growing more and more complex due to involvement of NGOs (like the WKO for example). Due to formal and informal interdependences a complex and multidimensional project organization is created. This is influencing the decision making processes (longer duration) and the processing time. As contractor, the BRZ always aims for a clear buyer – seller relationship with the government administration. By including NGOs, this relationship gets less clear and more complex because different needs want to be fulfilled.*

*NGOs (WKO, IV) often represent industry and private businesses, which work profit-oriented. Public services and service agencies for the government, like the BRZ, don't have this profit orientation as the first priority. Therefore, the BRZ can offer a lower price than companies represented by these NGOs. That is the reason why they often put pressure on us.*

On the one hand, the BRZ is a public owned institution with civil servants working there. On the other hand, they offer products and compete with private businesses. This results in a difficult relationship to NGOs that represent industry or private businesses.

**Economy:**

*The allocation law regulates the possibilities for public allocation. As the BRZ is owned by the government, it is possible to use the so called "in-house privilege": if the bigger part (about 95%) of sales volume is made by in-house projects, the government can contract with the BRZ without official bid invitation.*

*As the BRZ does not have to act with priority on profits, the prices are calculated mostly with regard to cost neutrality.*

The BRZ offers a wide range of advantages to the government concerning price and bidding invitations. Therefore, it has a competitive relationship to private businesses and increases competition.

**Public interest (Öffentlichkeit)**

*As contractor for public services, the BRZ is not that visible in public. Nevertheless it can occur that when a public project fails, the BRZ is held accountable in public (punching bag).*

*But politically sensible projects like for example the "Transparenzdatenbank" can lead to a higher public involvement of the contractor. This can motivate groups, like for example "Anonymous", to attack the contractor. As a consequence, new priorities arise in the planning phase of a project like higher security concerns which can lead to higher duration and costs.*

Politically sensible projects have an influence on the planning phase due to higher public awareness. This leads to higher costs and longer duration.

**Citizens/Clients (Bürger):**

*There is a new approach developed for public processes and developments: the involvement of the end user in project planning under the aspect of client usability.*

The BRZ is starting to involve the citizens to increase usability and client acceptance.

**Bureaucracy/Hierarchy and personnel**

*See answers above. The BRZ is a contractor that prioritizes a clear buyer – seller relationship.*

**2: Can you identify any directives, advices or standards in the project management handbooks of your company that relate to the specific challenges explained in *Annex I*?**

- *Offering process: specific standard procedures/modules in offering templates depending of project circumstances (legal, in-house, standard offer,…).*
- *Priority definitions: different standards for different projects*
- *Concerning project management processes: no differences!*

According to the special environment and circumstances, the BRZ has developed specific procedures for the pre-project phase, especially concerning the clarity of the buyer – seller relationship. With regard to professional project management tools, there are no differences to private businesses.

**3: Which are the main differences in project management performance (techniques, standards) of your current company compared to other PM oriented companies you worked for or you know? Why do these differences occur?**

*Operational procedures in public services are oriented on the "downfall" model: the fear of internal revision and the auditing court. The sequential elaboration of the objects of delivery (technical concept, book of duties …) enables a transparent and auditable documentation.*

*This procedure model is therefore heavily demanded by the government as buyer. Therefore, flexible models like Scrum are not appreciated.*

*The project budget of the buyer is mostly oriented at the annual budget of the administration. Therefore, projects start at the first of January and end on the 31st of December.*

The main difference is the strict procedure model. Flexibility and creativity are not demanded due to the absolute need for transparency and documentation.

**4: Which answers/findings of question one to three would you characterize as specific success factor of projects carried out by project management in your company? Why are they so important?**

- *Clear project goals, defined objects of delivery via a clear buyer – seller relationship. There is also an "offering process" so that all stakeholders can control and track each step of the order and the definition of objects.*
- *Quality of project management staff*
- *Involvement of end users*

The three mentioned criteria clearly show which specific success factors are regarded as important in the federal computing center.

**5: Leaving away question one to four, can you identify other specific success factors of projects carried out by project management in public services that are different from those listed in Annex II?**

The respondent did not see any deviating success factors apart from the previous questions.

# 5. Reflection of hypotheses and resume

At the beginning of this master thesis, two hypotheses were postulated. After a detailed analysis with the topic and the hypotheses, the following chapter shall reflect and summarize the basic results of this master thesis.

## 5.1. Hypothesis one

The first hypothesis was: There are specific factors that are crucial for project success!

For the nearer specification of this hypothesis, two objectives were defined to be analyzed:

1.  to clarify if there are critical success factors for projects which can be found in corresponding project management literature and if yes
2.  what are these success factors?

First, an analysis of technical literature was done to identify if specific factors can be found that are meant to be crucial for project success. This analysis brought two major findings: on the one hand, the author found enough literature covering project success factors, on the other hand, it was discovered that there is no real consensus of what these success factors are. Furthermore, it was necessary to clarify the difference between the concept of "project success" and "project management success" as it was found out that in technical literature they are also not sufficiently distinguished against each other. After clarification of these terms, the concepts of two different research concepts of project success factors were looked at more closely: the concept of Terry Cooke-Davies, who postulates the finding of the "real" project success factors in his work, and the concept of Pinto and Slevin, who examined critical success factors across the project life cycle. Both concepts clearly showed that there are different but well-argued approaches when it comes to the investigation of success factors. Additionally, a more general and basic literature review was used to list the most common findings of success factors to give a better overview.

To put it in a nutshell, hypothesis one of this master thesis could clearly be verified.

## 5.2. Hypothesis two

The second hypothesis of this master thesis was: Special requirements for project management in public sector call for different project success factors than in private business!

Hypothesis two was examined in three steps, with the following three objectives:

1. are there special requirements to PM in the government services and
2. how professionally is PM performed in the Austrian government services taking the example of BMF and BRZ?
3. do these special demands lead to critical project success factors that differ from those found?

The first objective was answered by doing a literature analysis. A major problem was to focus on literature concerning only the Austrian public services and not the administration of other countries. This focus was done to ensure consistency with the two case studies, as they are both institutions of the Austrian government. Fortunately, enough material could be found to identify some specific requirements.

The second step was to conduct an analysis of the project management maturity level of the two selected institutions of the government. Surprisingly, the results showed that the PM maturity level of the Ministry of Finance and the federal computing center were above-average for their sector.

The third objective was to find specific success factors for projects of project management performed by these two institutions. To ensure consistency, the same respondents who already answered the questionnaire for the "company mature" analyses were asked to answer another questionnaire. This time, the project management experience of the respondents was challenged by the findings of objective one, the special requirements to PM in government services. As a result, some specific success factors could be identified, such as "dual project management", "integrative project management approach" or a clearly defined buyer – seller relationship.

As a result, hypothesis two can also be seen as verified by the findings in this master thesis.

## List of abbreviations

| | |
|---|---|
| APM | Association of Project Managers |
| BMF | Bundesministerium für Finanzen/federal ministry of finance |
| BRZ | Bundesrechenzentrum/federal computing center |
| Company A | Sektion V, BMF |
| Company B | BRZ |
| CPM | Critical Path Method |
| ICB | IPMA Competence Baseline |
| PPM | Project- and Process management |
| PM | Project Management |
| PMI | Project Management Institute |
| POC | Project Oriented Company |
| WBS | Work Breakdown Structure |

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## Figures

Figure1:  Eye of competence, ICB 3.0

Figure 2: Project Management Process, PMI BMBOK (2008)

Figure 3: The business process "Project Management" , Roland Gareis Project and Programme Management, in "Happy Projects" p 58

Figure 4: Van Der Westhuizen, Danie and Fitzgerald, Edmond P. (2005) Common dimensions in project management success and project product success; in: *Defining and measuring project success.* In: European Conference on IS Management, Leadership and Governance, 07-08 Jul 2005, Reading, United Kingdom

Figure 5: The importance of project management and operations management working together to deliver beneficial change from projects; in:Cooke-Davies, Terry: The "real" success factors on projects; in: International Journal of Project Management; 20 (2002), P 187

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Figure 7: Results of ability of CSF to predict project success; in:J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 71

Figure 8: Phases in the Project Life Cycle; in:J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 69

Figure 9: Summary of Study Results: Critical Factors at Each Project Phase; in J.K. Pinto and D.P. Slevin; Critical success factors across the project life cycle; in: Project Management Journal (1988); Volume 19; p 4

Figure 10: Verwaltung der Gesellschaft, in: Holzinger, Oberndorfer, Raschauer; 2006), p 35

Figure 11: 182 assessed Project Oriented Companies, diversified by industries;  out of: PMBA Module Process- and Project Management, WU Executive Academy, May 10 2011, held by Prof. Roland Gareis;

Figure 12: Organization chart BMF; source: www.bmf.gv.at; February 2012

Figure 13: Organization Chart Sektion V BMF; source: www.bmf.gv.at; February 2012

Figure 14: Company A + B + average of 182 Project oriented companies; Produced by the Project Management group Vienna; Analysis performed 9th February 2012;

www.wu.ac.at/pmg

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Figure 16: E-Government Cycle; from: www.brz.gv.at; February 2012

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Figure 19: Client portfolio of BRZ in 2010; from: www.brz.gv.at; February 2012

Figure 20: Company A + B + average of 182 Project oriented companies; Produced by the Project Management group Vienna; Analysis performed 9th February 2012; www.wu.ac.at/pmg

Figure 21: Spider web analysis; company mature of company B; Produced by the Project Management group Vienna; Analysis performed 9th February 2012; www.wu.ac.at/pmg

## Appendix

Ouestionnaire

Company Mature; Analyse 9. Februar 2012

## Questionnaire

1: In *Annex I* specific challenges of public services compared to private businesses are listed and explained. How do you care about these specific challenges in project management performance in your company? Please comment on each of the six identified specific challenges separately.

2: Can you identify any directives, advices or standards in the project management handbooks of your company that relate to the specific challenges explained in *Annex I*?

3: Which are the main differences in project management performance (techniques, standards) of your current company compared to other PM oriented companies you worked for or you know? Why do these differences occur?

4: Which answers/findings of question one to three would you characterize as specific success factor of projects carried out by project management in your company? Why are they so important?

5: Leaving away question one to four, can you identify other specific success factors of projects carried out by project management in public services that are different from those listed in Annex II?

**Annex I**

**Specific challenges in Public Service**

The complexity of interdependence between public service, politics, society and economy is steadily growing. The following figure shows the public administration as an open system and tries to give an overview of the relevant environmental factors which were sized down to the six most relevant. The arrows show the interaction between the different factors which shall be explained in the following:[104]

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[104] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p107
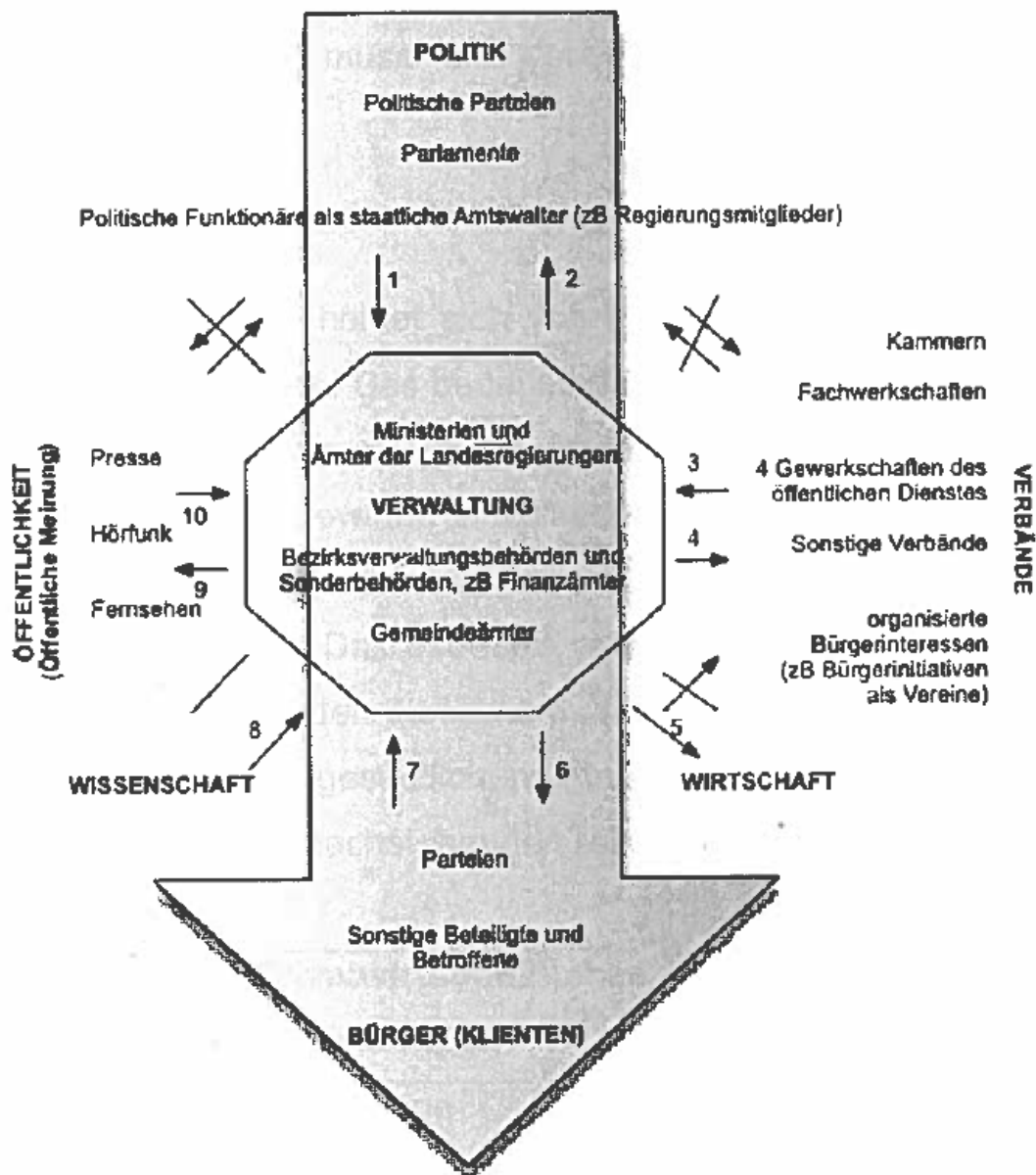
Verwaltung der Gesellschaft, in: Holzinger, Oberndorfer, Raschauer; 2006)

To interpret this environmental analysis with regard to project management, the results of a qualitative study will be used additionally. For this study, seven people with PM background in private economy or public service were interviewed and their answers were analyzed.[105]

- **Politics**

Politics is influencing the administration by legislation or directions. Furthermore, politicians, especially ministers, have the power of ultimate decisions as well as personal power over public service stuff. But the administration also influences politics by writing proposals for

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[105] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p114

laws or by consulting politicians during the decision making process. Politicians and administrative stuff are to a large extent interdependent.[106] While politicians are changing regularly, civil servants often stay in the same position for decades, which has effects on expertise as well as on resistance to change.

The result of the study shows that the questioned people were well aware of the interdependence of administration and politics. In projects performed by public services, it was mentioned that the results that are not in line with the political ideologies of the relevant political party, were in some parts not taken seriously enough. But the results of the study also show that the administration exercises a considerable power over politics via better information and technical knowledge.[107]

- **NGOs (Verbände)**

NGOs are participating in the administration processes via commissions or project groups and can therefore exert their influence on administration. They are organized via their technical knowledge or via the interests they represent. On the one hand, the administration obtains additional inputs by NGOs, but on the other hand it has to permit the foundation of such NGOs.[108]

- **Economy**

Public service has different goals and interests than private economy. The most important difference is the monetary benefit orientation of private economy while public service has goals like satisfied inhabitants, security for inhabitants or intact ecological environment. Furthermore, the fulfillment of legal requirements is a much more important aspect for administration than for private economy. Public service may act only in areas that are foreseen by laws.[109]

The results of the mentioned qualitative study validate those theoretical differences. The strict rules and laws have been seen by all volunteers as most relevant for the work in public services. Another difference lies in the necessity of a formal call for bids for projects performed by the administration. An additional disparity lies in the financial background of projects of the administration. According to the interviewed people, public projects mostly

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[106] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p156

[107] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p121

[108] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p108

[109] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p108

have more financial resources which leads to a tendency of lower risk awareness and higher detail orientation. The worst consequence for a civil servant when a project fails would be relocation. Time pressure for projects is perceived to be higher in private economy. The main differences are seen in financial resources and legal obligations.[110]

- **Public interest (Öffentlichkeit)**

On the one hand, the administration can use public media to influence public interest, on the other hand public interest and public media can influence the administration via publication of possible grievances. It was observed that public media tend to generalize grievances in administration and to point them out. This might be because of several reasons: non-disclosure obligations, monopolization of communication via press departments, wrong announcement policy of administrative reform projects via politicians, etc. Nevertheless it is an important duty of public administration to explain decisions and measures via media to the public.[111]

In the quoted survey, the people were asked which kind of influence mass media has on projects performed by public service. The answers go in different directions. Some said that there is no direct influence on the projects because bad press would mainly hit political decision makers and not the administrative stuff. On the other hand, it was mentioned that the higher the direct relevance of the project for the people, the higher the influence of mass media on the project. Additionally it was noted that due to bad press new projects can be launched (investigation of an accident leads to public consensus that something has to be changed).[112]

- **Citizens/Clients (Bürger)**

Projects of public services often demand for the cooperation of citizens and institutions to ensure the appreciation of the result by all stakeholders. One problem is that the expected behavior of administrative stuff and clients and vice versa does not match. While clients expect the administration to fulfill their personal needs, civil servants often implicitly point out to represent the authority of the state. Nevertheless service orientation as well as close cooperation is necessary to gain acceptance on both sides.[113]

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[110] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p126f
[111] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p110f
[112] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p123
[113] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p111f

- **Bureaucracy, hierarchy and personnel**

A bureaucratically administrated organization has a special structure. The head of the organizational unit obtains his position via different ways, often because of election. The civil servant is an employee under contract. He is chosen because of qualification, has no property of business assets and a fixed career path as well as strict disciplinary rules. Furthermore, below a certain hierarchical level the employees are no longer part of the decision making process. The introduction of project management can help to ease this strict setting.[114]

Nearly all interviewed testimonials characterized the administrative organization by having a clear chain of commands, responsibilities and many decision makers. This culture is also affecting the performance of projects, sometimes positively, sometimes negatively. For example, some employees tend to leave decision taking to their line managers, even though they are not in the project team. This is not only due to the organizational character but often part of the behavioral culture of civil servants. On the other side, when it comes to performance of smaller projects or processes, this organizational form can lead to faster results and more transparency.[115]

**Appendix II**

**List of project success factors in literature**

| | |
|---|---|
| Martin (1976) | Define goals, Select project organizational philosophy, General management support, Organize and delegate authority, Select project team, Allocate sufficient resources, Provide for control and information mechanisms, Require planning and review |
| Lock (1984) | Make project commitments known, Project authority from the top, Appoint competent project manager, Set up communications and procedures, Set up control mechanisms (schedules, etc.), Progress meetings |

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[114] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p112f
[115] cp. Klockner, Cornelia (2007): Projekt- und Prozessmanagement in der öffentlichen Verwaltung; p129f

| | |
|---|---|
| Cleland and King (1983) | Project summary, Operational concept, Top management support, Financial support, Logistic requirements, Facility support, Market intelligence (who is the client), Project schedule, Executive development and training, Manpower and organization, Acquisition, Information and communication channels, Project review |
| Sayles and Chandler (1971) | Project manager's competence, Scheduling, Control systems and responsibilities, Monitoring and feedback, Continuing involvement in the project |
| Baker, Murphy and Fisher (1983) | Clear goals, Goal commitment of project team, On-site project manager, Adequate funding to completion, Adequate project team capability, Accurate initial cost estimates, Minimum start-up difficulties, Planning and control techniques, Task (vs. social orientation), Absence of bureaucracy |
| Pinto and Slevin (1989) | Top management support, Client consultation, Personnel recruitment, Technical tasks, Client acceptance, Monitoring and feedback, Communication, Trouble-shooting, Characteristics of the project team leader, Power and politics, Environment events, Urgency |
| Morris and Hough (1987) | Project objectives, Technical uncertainty innovation, Politics, Community involvement, Schedule duration urgency, Financial contract legal problems, Implement problems |

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| | Company A | Company B | Average 2 companies |
|---|---|---|---|
| mature ratio | 2,70 | 3,17 | 2,93 |
| Project management maturity | 3,04 | 3,51 | 3,27 |
| Programme management maturity | 3,38 | 3,48 | 3,43 |
| Maturity for the assurance of the management quality in projects and programmes | 1,29 | 2,73 | 2,01 |
| Maturity for the assignment of a project or programme | 3,67 | 3,75 | 3,71 |
| Maturity for project portfolio coordination and networking between projects | 2,85 | 3,96 | 3,41 |
| Maturity regarding the organisational design of the project-oriented company | 3,09 | 3,79 | 3,44 |
| Maturity regarding the personnel management in the project-oriented company | 2,56 | 3,76 | 3,16 |
| Maturity regarding process management | 1,96 | 0,00 | 0,98 |

| Part A: Project management maturity | 3,04 | 3,51 | 3,27 |
|---|---|---|---|
| A 1. Project start maturity | 3,15 | 3,24 | 3,20 |
| A 1.1. Project planning in the project start process I | 3,67 | 3,42 | 3,54 |
| Internalprojects | 3,67 | 3,17 | 3,42 |
| Project objectives plan | 5 | 3 | 4 |
| Work break-down structure | 4 | 4 | 4 |
| Work package specifications (if required) | 3 | 3 | 3 |
| Project milestone plan | 5 | 5 | 5 |
| Project bar chart | 3 | 4 | 4 |
| CPM schedule (if required) | 2 | 0 | 1 |
| Externalprojects | 3,67 | 3,67 | 3,67 |
| Project objectives plan | 5 | 4 | 5 |
| Work break-down structure | 4 | 5 | 5 |
| Work package specifications (if required) | 3 | 4 | 4 |
| Project milestone plan | 5 | 5 | 5 |
| Project bar chart | 3 | 4 | 4 |
| CPM schedule (if required) | 2 | 0 | 1 |
| A 1.2. Project planning in the project start process II | 3,33 | 3,42 | 3,37 |
| Internalprojects | 3,33 | 3,17 | 3,25 |
| Project resource plan | 4 | 4 | 4 |
| Project cash flow plan (if required) | 5 | 2 | 4 |
| Project cost plan | 5 | 4 | 5 |
| Project income plan (if required) | 2 | 3 | 3 |
| Project risk analysis | 2 | 4 | 3 |
| Project scenario analysis (if required) | 2 | 2 | 2 |

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| | | | |
|---|---|---|---|
| *Externalprojects* | 3,33 | 3,67 | 3,50 |
| Project resource plan | 4 | 5 | 5 |
| Project cash flow plan (if required) | 5 | 2 | 4 |
| Project cost plan | 5 | 5 | 5 |
| Project income plan (if required) | 2 | 3 | 3 |
| Project risk analysis | 2 | 4 | 3 |
| Project scenario analysis (if required) | 2 | 3 | 3 |
| A 1.3. Design of the project context relationships in the project start process | 3,00 | 3,83 | 3,42 |
| *Internalprojects* | 3,00 | 4,00 | 3,50 |
| Project environment analysis | 4 | 3 | 4 |
| Analysis of pre-project and post-project phase, company strategy, other projects | 2 | 4 | 3 |
| Business case analysis or cost-benefit-analysis | 3 | 5 | 4 |
| *Externalprojects* | 3,00 | 3,67 | 3,33 |
| Project environment analysis | 4 | 4 | 4 |
| Analysis of pre-project and post-project phase, company strategy, other projects | 2 | 4 | 3 |
| Business case analysis or cost-benefit - analysis | 3 | 3 | 3 |
| A 1.4. Design of the project organisation in the project start process | 3,67 | 4,00 | 3,83 |
| *Internalprojects* | 3,67 | 3,83 | 3,75 |
| Project assignment | 5 | 5 | 5 |
| Project organisation chart / list of project roles | 5 | 4 | 5 |
| Project role descriptions | 3 | 5 | 4 |
| Project responsibility chart | 3 | 3 | 3 |
| Project communication plan | 3 | 3 | 3 |
| Project rules | 3 | 3 | 3 |
| *Externalprojects* | 3,67 | 4,17 | 3,92 |
| Project assignment | 5 | 5 | 5 |
| Project organisation chart / list of project roles | 5 | 5 | 5 |

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| | | | |
|---|---|---|---|
| Project role descriptions | 3 | 4 | 4 |
| Project responsibility chart | 3 | 3 | 3 |
| Project communication plan | 3 | 4 | 4 |
| Project rules | 3 | 4 | 4 |
| A 1.5. Developing a project culture in the project start process | 2,75 | 2,87 | 2,81 |
| Internalprojects | 2,75 | 2,75 | 2,75 |
| Project name | 5 | 5 | 5 |
| Project logo and/or slogan | 2 | 2 | 2 |
| Project mission statement and/or project values (if required) | 2 | 2 | 2 |
| Social' project start event | 2 | 2 | 2 |
| Externalprojects | 2,75 | 3,00 | 2,87 |
| Project name | 5 | 4 | 5 |
| Project logo and/or slogan | 2 | 3 | 3 |
| Project mission statement and/or project values (if required) | 2 | 3 | 3 |
| Social' project start event | 2 | 2 | 2 |
| A 1.6. Management of the project personnel in the project start process | 2,67 | 2,33 | 2,50 |
| Internalprojects | 2,67 | 2,00 | 2,33 |
| Selection of project personnel (based on formal criteria) | 3 | 3 | 3 |
| Project specific training | 3 | 2 | 3 |
| Project specific incentives | 2 | 1 | 2 |
| Externalprojects | 2,67 | 2,67 | 2,67 |
| Selection of project personnel (based on formal criteria) | 3 | 4 | 4 |
| Project specific training | 3 | 2 | 3 |
| Project specific incentives | 2 | 2 | 2 |
| A 1.7. Project marketing in the project start process | 3,00 | 2,83 | 2,92 |
| Internalprojects | 3,00 | 2,33 | 2,67 |
| Informal information abou the project | 3 | 2 | 3 |

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| | | | |
|---|---|---|---|
| Project presentations | 4 | 2 | 3 |
| Project newsletters and/or project folder and/or project homepage (if required) | 2 | 3 | 3 |
| *Externalprojects* | 3,00 | 3,33 | 3,17 |
| Informal information abou the project | 3 | 3 | 3 |
| Project presentations | 4 | 4 | 4 |
| Project newsletters and/or project folder and/or project homepage (if required) | 2 | 3 | 3 |
| A 2. Project coordination maturity | 4,00 | 4,00 | 4,00 |
| A 2.1. Methods for the project coordination process | 3,75 | 3,75 | 3,75 |
| *Internalprojects* | 3,75 | 3,50 | 3,62 |
| Minutes of meetings | 4 | 4 | 4 |
| To Do-List | 4 | 4 | 4 |
| Acceptance certificates for work packages (if required) | 5 | 3 | 4 |
| Continous project marketing | 2 | 3 | 3 |
| *Externalprojects* | 3,75 | 4,00 | 3,87 |
| Minutes of meetings | 4 | 5 | 5 |
| To Do-List | 4 | 4 | 4 |
| Acceptance certificates for work packages (if required) | 5 | 4 | 5 |
| Continous project marketing | 2 | 3 | 3 |
| A 2.2. Organization of the project coordination process | 4,25 | 4,25 | 4,25 |
| *Internalprojects* | 4,25 | 4,25 | 4,25 |
| Meetings between project manager and project owner | 4 | 5 | 5 |
| Meetings between project manager and project team members | 5 | 5 | 5 |
| Meetings between project manager and representatives of relevant project environments | 4 | 3 | 4 |
| Use of project plans as communication instruments | 4 | 4 | 4 |
| *Externalprojects* | 4,25 | 4,25 | 4,25 |
| Meetings between project manager and project owner | 4 | 5 | 5 |
| Meetings between project manager and project team members | 5 | 5 | 5 |

| | | | |
|---|---|---|---|
| Meetings between project manager and representatives of relevant project environments | 4 | 3 | 4 |
| Use of project plans as communication instruments | 4 | 4 | 4 |
| A 3. Project controlling maturity | 3,18 | 3,96 | 3,57 |
| A 3.1. Adapting the following documents during project controlling I[1] | 3,00 | 4,25 | 3,62 |
| Internalprojects | 3,00 | 4,00 | 3,50 |
| Documents for the management of the project objectives, the project progress, the project schedule and the project budget (if adaptation is required) | 4 | 5 | 5 |
| Documents for the risk and discontinuity management (if adaptation is required) | 2 | 3 | 3 |
| Externalprojects | 3,00 | 4,50 | 3,75 |
| Documents for the management of the project objectives, the project progress, the project schedule and the project budget (if adaptation is required) | 4 | 5 | 5 |
| Documents for the risk and discontinuity management (if adaptation is required) | 2 | 4 | 3 |
| A 3.2. Adapting the following documents during project controlling II[2] | 2,50 | 3,62 | 3,06 |
| Internalprojects | 2,50 | 3,25 | 2,87 |
| Documents to manage the project context relationships (if adaptation is required) | 1 | 3 | 2 |
| Documents to design the project organisation (if adaptation is required) | 3 | 3 | 3 |
| Documents for the management of the project personnel (if adaptation is required) | 4 | 4 | 4 |
| Documents of the project culture (if adaptation is required) | 2 | 3 | 3 |
| Externalprojects | 2,50 | 4,00 | 3,25 |
| Documents to manage the project context relationships (if adaptation is required) | 1 | 3 | 2 |
| Documents to design the project organisation (if adaptation is required) | 3 | 5 | 4 |
| Documents of the project culture (if adaptation is required) | 4 | 5 | 5 |
| Documents of the project culture (if adaptation is required) | 2 | 3 | 3 |
| A 3.3. Project progress analysis | 3,40 | 3,70 | 3,55 |
| Internalprojects | 3,40 | 3,60 | 3,50 |
| Analysis of the progress of the project phases and for the project overall | 4 | 4 | 4 |
| Progress deviation trend analysis | 3 | 4 | 4 |
| Costs deviation trend analysis | 4 | 4 | 4 |

| | | | |
|---|---|---|---|
| Schedule deviation trend analysis | 4 | 4 | 4 |
| Earned value analysis (if required) | 2 | 2 | 2 |
| *Externalprojects* | 3,40 | 3,80 | 3,60 |
| Analysis of the progress of the project phases and for the project overall | 4 | 5 | 5 |
| Progress deviation trend analysis | 3 | 4 | 4 |
| Costs deviation trend analysis | 4 | 4 | 4 |
| Schedule deviation trend analysis | 4 | 4 | 4 |
| Earned value analysis (if required) | 2 | 2 | 2 |
| A 3.4. Project controlling reports | 3,83 | 4,25 | 4,04 |
| *Internalprojects* | 3,83 | 3,67 | 3,75 |
| Project score card | 1 | 5 | 3 |
| Project progress report | 4 | 5 | 5 |
| Specific project progress report for clients (if required) | 5 | 0 | 3 |
| Minutes of the project team meetings | 3 | 4 | 4 |
| Minutes of the project owner meetings | 5 | 4 | 5 |
| Adaptation of the To Do-list | 5 | 4 | 5 |
| *Externalprojects* | 3,83 | 4,83 | 4,33 |
| Project score card | 1 | 5 | 3 |
| Project progress report | 4 | 5 | 5 |
| Specific project progress report for clients (if required) | 5 | 4 | 5 |
| Minutes of the project team meetings | 3 | 5 | 4 |
| Minutes of the project owner meetings | 5 | 5 | 5 |
| Adaptation of the To Do-list | 5 | 5 | 5 |
| A 4. Project close-down maturity | 2,42 | 3,27 | 2,84 |
| A 4.1. Methods for the close-down process | 2,33 | 3,67 | 3,00 |
| *Internalprojects* | 2,33 | 3,33 | 2,83 |
| Planning and controlling of remaining tasks | 3 | 3 | 3 |

| | | | |
|---|---|---|---|
| Agreements for the post-project phase | 2 | 3 | 3 |
| Dissolving the project environment relationships (e.g. by thank-you letters, presents) | 2 | 4 | 3 |
| *External projects* | 2,33 | 4,00 | 3,17 |
| Planning and controlling of remaining tasks | 3 | 4 | 4 |
| Agreements for the post-project phase | 2 | 4 | 3 |
| Dissolving the project environment relationships (e.g. by thank-you letters, presents) | 2 | 4 | 3 |
| A 4.2. Tools for the knowledge management | 2,33 | 3,83 | 3,08 |
| *Internal projects* | 2,33 | 3,33 | 2,83 |
| Adaptation of business case analysis (if adaptation is required) | 3 | 4 | 4 |
| Final project report | 3 | 3 | 3 |
| Exchange of experience-meetings (if required) | 1 | 3 | 2 |
| *External projects* | 2,33 | 4,33 | 3,33 |
| Adaptation of business case analysis (if adaptation is required) | 3 | 5 | 4 |
| Final project report | 3 | 5 | 4 |
| Exchange of experience-meetings (if required) | 1 | 3 | 2 |
| A 4.3. Evaluations | 2,00 | 2,25 | 2,12 |
| *Internal projects* | 2,00 | 2,25 | 2,12 |
| Evaluation of the project | 3 | 3 | 3 |
| Evaluation of the project team members | 2 | 2 | 2 |
| Evaluation of the project manager | 2 | 3 | 3 |
| Evaluation of the project owner | 1 | 1 | 1 |
| *External projects* | 2,00 | 2,25 | 2,12 |
| Evaluation of the project | 3 | 3 | 3 |
| Evaluation of the project team members | 2 | 2 | 2 |
| Evaluation of the project manager | 2 | 3 | 3 |
| Evaluation of the project owner | 1 | 1 | 1 |

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| A 4.4. Project close-down documentation | 3,00 | 3,33 | 3,17 |
|---|---|---|---|
| *Internalprojects* | 3,00 | 3,33 | 3,17 |
| "As-is"or "as-built" documentation | 3 | 4 | 4 |
| Final project reports | 4 | 4 | 4 |
| Special final reports | 2 | 2 | 2 |
| *Externalprojects* | 3,00 | 3,33 | 3,17 |
| "As-is"or "as-built" documentation | 3 | 4 | 4 |
| Final project reports | 4 | 4 | 4 |
| Special final reports | 2 | 2 | 2 |
| A 5. Maturity for resolving a project discontinuity | 1,94 | 3,00 | 2,47 |
| A 5.1. Defining project discontinuities | 2,00 | 3,17 | 2,58 |
| *Internalprojects* | 2,00 | 2,67 | 2,33 |
| Defining of project crises | 2 | 2 | 2 |
| Defining of project chances | 2 | 3 | 3 |
| Defining of structually determined project discontinuities | 2 | 3 | 3 |
| *Externalprojects* | 2,00 | 3,67 | 2,83 |
| Defining of project crises | 2 | 3 | 3 |
| Defining of project chances | 2 | 5 | 4 |
| Defining of structually determined project discontinuities | 2 | 3 | 3 |
| A 5.2. Methods for resolving a project discontinuity | 2,17 | 2,83 | 2,50 |
| *Internalprojects* | 2,33 | 2,67 | 2,50 |
| Ad hoc analysis and measures | 2 | 3 | 3 |
| Detailed analysis and development of coping strategies | 2 | 2 | 2 |
| controlling measures | 3 | 3 | 3 |
| *Externalprojects* | 2,00 | 3,00 | 2,50 |
| Ad hoc analysis and measures | 2 | 3 | 3 |
| Detailed analysis and development of coping strategies | 2 | 3 | 3 |

| | | | |
|---|---|---|---|
| controlling measures | 2 | 3 | 3 |
| A 5.3. Organisation for resolving a project discontinuity | 1,67 | 3,00 | 2,33 |
| *Internalprojects* | 1,67 | 2,67 | 2,17 |
| Explicit definition and conclusion of the project discontinuity | 1 | 2 | 2 |
| Involvement of additional experts to cope with the discontinuity | 2 | 4 | 3 |
| Application of new communication structures to cope with the discontinuity | 2 | 2 | 2 |
| *Externalprojects* | 1,67 | 3,33 | 2,50 |
| Explicit definition and conclusion of the project discontinuity | 1 | 4 | 3 |
| Involvement of additional experts to cope with the discontinuity | 2 | 4 | 3 |
| Application of new communication structures to cope with the discontinuity | 2 | 2 | 2 |
| A 6. Maturity for the design of the project management process | 3,20 | 3,51 | 3,35 |
| A 6.1. Project communication structures and use of coaches/consultants | 3,00 | 4,21 | 3,61 |
| *Internalprojects* | 3,00 | 4,14 | 3,57 |
| Individual meetings | 3 | 5 | 4 |
| Project owner meetings | 3 | 4 | 4 |
| Project team meetings (start, controlling, close-down) | 3 | 5 | 4 |
| Project sub-team meetings (if required) | 3 | 5 | 4 |
| Project workshops (start, controlling, close-down) | 3 | 5 | 4 |
| Use of coaches for the project managers | 3 | 3 | 3 |
| Use of project management consultants for projects (if required) | 3 | 2 | 3 |
| *Externalprojects* | 3,00 | 4,29 | 3,64 |
| Individual meetings | 3 | 5 | 4 |
| Project owner meetings | 3 | 5 | 4 |
| Project team meetings (start, controlling, close-down) | 3 | 5 | 4 |
| Project sub-team meetings (if required) | 3 | 5 | 4 |
| Project workshops (start, controlling, close-down) | 3 | 5 | 4 |
| Use of coaches for the project managers | 3 | 3 | 3 |

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|---|---|---|---|
| Use of project management consultants for projects (if required) | 3 | 2 | 3 |
| A 6.2. Infrastructure and tools for the project management process | 3,00 | 2,40 | 2,70 |
| *Internalprojects* | 3,00 | 2,20 | 2,60 |
| Project management software | 4 | 4 | 4 |
| Project specific internet and intranet-portals (if required) | 4 | 2 | 3 |
| Telephone conferences (if required) | 2 | 2 | 2 |
| Video conferences (if required) | 1 | 1 | 1 |
| Project rooms (if required) | 4 | 2 | 3 |
| *Externalprojects* | 3,00 | 2,60 | 2,80 |
| Project management software | 4 | 4 | 4 |
| Project specific internet and intranet-portals (if required) | 4 | 2 | 3 |
| Telephone conferences (if required) | 2 | 2 | 2 |
| Video conferences (if required) | 1 | 2 | 2 |
| Project rooms (if required) | 4 | 3 | 4 |
| A 6.3. Management of small projects | 4,00 | 4,30 | 4,15 |
| *Internalprojects* | 4,00 | 4,40 | 4,20 |
| Less comprehensive application of project management methods than in projects | 5 | 5 | 5 |
| Lower level of detail in the project plans than in projects | 5 | 5 | 5 |
| Project owner role performed by persons of lower hierarchical levels than in projects | 4 | 4 | 4 |
| Less project marketing than in projects | 4 | 5 | 5 |
| Duration of the project start process: maximum 1 week | 2 | 3 | 3 |
| *Externalprojects* | 4,00 | 4,20 | 4,10 |
| Less comprehensive application of project management methods than in projects | 5 | 4 | 5 |
| Lower level of detail in the project plans than in projects | 5 | 5 | 5 |
| Project owner role performed by persons of lower hierarchical levels than in projects | 4 | 4 | 4 |
| Less project marketing than in projects | 4 | 5 | 5 |
| Duration of the project start process: maximum 1 week | 2 | 3 | 3 |

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|---|---|---|---|
| A 7. Quality of the project management process and of the project results | 3,35 | 3,58 | 3,47 |
| A 7.1. Duration and frequency of the project management sub-processes | 3,75 | 4,00 | 3,87 |
| *Internalprojects* | 3,75 | 4,00 | 3,87 |
| Duration of the project start process: max. 2 weeks | 3 | 3 | 3 |
| Duration of the project controlling process: max. 1 week | 4 | 4 | 4 |
| Duration of the project close-down process: max. 2 weeks | 4 | 4 | 4 |
| Frequency of project controlling: min. every 4 weeks | 4 | 5 | 5 |
| *Externalprojects* | 3,75 | 4,00 | 3,87 |
| Duration of the project start process: max. 2 weeks | 3 | 3 | 3 |
| Duration of the project controlling process: max. 1 week | 4 | 4 | 4 |
| Duration of the project close-down process: max. 2 weeks | 4 | 4 | 4 |
| Frequency of project controlling: min. every 4 weeks | 4 | 5 | 5 |
| A 7.2. Performance of project roles | 3,00 | 3,80 | 3,40 |
| *Internalprojects* | 3,00 | 3,60 | 3,30 |
| Design of the project management process by the project managers | 3 | 4 | 4 |
| Role performances by the project managers | 3 | 4 | 4 |
| Role performances by the project owners | 3 | 4 | 4 |
| Appropriate role performances by the project team members | 3 | 3 | 3 |
| Decisions and agreements within the project team | 3 | 3 | 3 |
| *Externalprojects* | 3,00 | 4,00 | 3,50 |
| Design of the project management process by the project managers | 3 | 4 | 4 |
| Role performances by the project managers | 3 | 4 | 4 |
| Role performances by the project owners | 3 | 4 | 4 |
| Appropriate role performances by the project team members | 3 | 4 | 4 |
| Decisions and agreements within the project team | 3 | 4 | 4 |

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| | | | |
|---|---|---|---|
| A 7.3. Quality of the project environment relationships | 4,00 | 4,17 | 4,08 |
| *Internalprojects* | 4,00 | 4,33 | 4,17 |
| Relationships with customers/user of the project results | 4 | 5 | 5 |
| Relationships with partners and suppliers, who contribute to the project | 4 | 4 | 4 |
| Relationships with other relevant project environments | 4 | 4 | 4 |
| *Externalprojects* | 4,00 | 4,00 | 4,00 |
| Relationships with customers/user of the project results | 4 | 4 | 4 |
| Relationships with partners and suppliers, who contribute to the project | 4 | 4 | 4 |
| Relationships with other relevant project environments | 4 | 4 | 4 |
| A 7.4. Quality of the project results [3] | 2,80 | 2,50 | 2,65 |
| *Internalprojects* | 2,80 | 2,40 | 2,60 |
| Meeting project objectives | 3 | 3 | 3 |
| Meeting project schedules | 4 | 4 | 4 |
| Meeting project costs | 4 | 5 | 5 |
| Meeting project incomes (if required) | 1 | 0 | 1 |
| Optimization of the business case (if required) | 2 | 0 | 1 |
| *Externalprojects* | 2,80 | 2,60 | 2,70 |
| Meeting project objectives | 3 | 4 | 4 |
| Meeting project schedules | 4 | 4 | 4 |
| Meeting project costs | 4 | 5 | 5 |
| Meeting project incomes (if required) | 1 | 0 | 1 |
| Optimization of the business case (if required) | 2 | 0 | 1 |
| **Part B: Programme management maturity** | **3,38** | **3,48** | **3,43** |
| B 1. Programme start maturity | 3,82 | 3,30 | 3,56 |
| B 1.1. Programme planning, design of the programme context relations and of the programme organization | 4,67 | 3,67 | 4,17 |
| Programme planning (according to the questions A 1.1. and A 1.2.) | 5 | 4 | 5 |
| Design of the programme context relationships (according to the question A 1.3.) | 4 | 3 | 4 |

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| | | | |
|---|---|---|---|
| Design of the programme organisation (according to the question A 1.4.) | 5 | 4 | 5 |
| B 1.2. Roles in the programme organisation | 4,67 | 4,17 | 4,42 |
| Programme owner team | 5 | 5 | 5 |
| Programme manager | 5 | 5 | 5 |
| Programme office | 5 | 3 | 4 |
| Programme team | 5 | 5 | 5 |
| Process expert (if required for programme specific processes) | 4 | 3 | 4 |
| Different project owners for different projects of the programme | 4 | 4 | 4 |
| B 1.3. Developing the programme culture | 2,75 | 2,75 | 2,75 |
| Programme name | 5 | 5 | 5 |
| Programme logo | 2 | 2 | 2 |
| Programme value, programme mission statement | 2 | 2 | 2 |
| Programme slogans (if required) | 2 | 2 | 2 |
| B 1.4. Programme marketing | 3,20 | 2,60 | 2,90 |
| Informal information about the programme | 4 | 3 | 4 |
| Programme presentations | 3 | 3 | 3 |
| Programme exhibitions (if required) | 3 | 2 | 3 |
| Programme newsletters and/or programme folder and/or programme homepage (if required) | 3 | 3 | 3 |
| Social' programme events | 3 | 2 | 3 |
| B 2. Other Programme management processes | 3,08 | 3,46 | 3,27 |
| B 2.1. Programme coordination | 4,00 | 4,33 | 4,17 |
| Meetings between programme manager and programme owner | 4 | 5 | 5 |
| Meetings between programme manager and project manager of each project of the programme | 4 | 5 | 5 |
| Meetings between programme manager and representatives of relevant environments | 4 | 3 | 4 |
| Use of programme plans as communication instruments | 4 | 4 | 4 |
| Acceptance certificates of project and programme work packages (if required) | 4 | 4 | 4 |
| To Do-List | 4 | 5 | 5 |

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| **B 2.2. Programme controlling process** | **3,29** | **3,86** | **3,57** |
| Adapted programme plans (of the programme start process) | 4 | 5 | 5 |
| Earned-value analysis (if required) | 2 | 0 | 1 |
| Programme score card | 1 | 2 | 2 |
| Programme progress report | 4 | 5 | 5 |
| Minutes of the programme team meetings | 4 | 5 | 5 |
| Minutes of the programme owner meetings | 4 | 5 | 5 |
| Adaptation of the To Do-List | 4 | 5 | 5 |
| **B 2.3. Programme close-down** | **2,86** | **3,00** | **2,93** |
| Planning and controlling of remaining tasks | 2 | 4 | 3 |
| Agreements for post-programme phase | 3 | 4 | 4 |
| Dissolving the environment relationships by means of thank-you letters, presents (if required), etc. | 3 | 3 | 3 |
| Adaptation of the business case analysis (if adaptation is required) | 2 | 0 | 1 |
| Final programme report | 4 | 4 | 4 |
| Know-how transfer through meetings and workshops (if required) | 3 | 4 | 4 |
| "Social" programme close-down events | 3 | 2 | 3 |
| **B 2.4. Methods for resolving a programme discontinuity** | **2,17** | **2,67** | **2,42** |
| Explicit definition of the programme discontinuity | 2 | 4 | 3 |
| Lists with ad hoc measures | 3 | 4 | 4 |
| Cause analysis | 3 | 3 | 3 |
| Planning of coping strategies | 3 | 5 | 4 |
| Lists with additional measures | 1 | 0 | 1 |
| Explicit conclusion of the programme discontinuity | 1 | 0 | 1 |
| **B 3. Maturity for the design of the programme management process** | **3,23** | **3,68** | **3,45** |
| **B 3.1. Duration and frequency of the programme management sub-processes** | **3,50** | **4,25** | **3,87** |
| Duration of the programme start process: maximum 4 weeks | 3 | 4 | 4 |
| Duration of a programme controlling process: maximum 2 weeks | 2 | 4 | 3 |

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| Duration of the programme close-down process: maximum 4 weeks | 4 | 4 | 4 |
| Frequency of the programme controlling process: minimum every 8 weeks | 5 | 5 | 5 |
| B 3.2. Performance of programme roles | 3,00 | 4,00 | 3,50 |
| Design of the programme management process by programme managers | 3 | 4 | 4 |
| Role performances by the programme managers | 3 | 4 | 4 |
| Role performances by programme owners | 3 | 4 | 4 |
| Support of the programme management by the programme offices | 3 | 4 | 4 |
| Role performances by programme team members | 3 | 4 | 4 |
| Decisions and arrangements within the programme teams | 3 | 4 | 4 |
| B 3.3. Quality of the programme environment relationships [5] | 3,33 | 4,00 | 3,67 |
| Relationships with customers/user of the programme results | 4 | 4 | 4 |
| Relationships with partners and suppliers who contribute in the programme | 4 | 4 | 4 |
| Relationships with other relevant programme environments | 2 | 4 | 3 |
| B 3.4. Quality of the programme results [6] | 3,17 | 2,67 | 2,92 |
| Meeting programme objectives | 4 | 4 | 4 |
| Meeting the programme schedules | 3 | 4 | 4 |
| Meeting the programme costs | 4 | 4 | 4 |
| Meeting the programme incomes (if required) | 2 | 0 | 1 |
| Optimization of the business case (if required) | 3 | 0 | 2 |
| Programme team work | 3 | 4 | 4 |
| Part C: Maturity for the assurance of the management quality in projects and programmes | 1,29 | 2,73 | 2,01 |
| C 1. Maturity for management consulting of projects and programmes | 2,58 | 2,42 | 2,50 |
| C 1.1. Objects of consideration for management consulting of projects or programmes | 3,00 | 2,25 | 2,62 |
| Start and/or controlling and/or close-down of a project/programme | 3 | 3 | 3 |
| Discontinuity of projects/programmes | 3 | 2 | 3 |
| Objectives, progress, schedules, costs, incomes, resources of a project/programme | 3 | 2 | 3 |
| Organization, culture, context of a project/programme | 3 | 2 | 3 |

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| C 1.2. Methods for the management consulting of projects or programmes | 2,40 | 3,00 | 2,70 |
| Analysis of project/programme management documents | 3 | 3 | 3 |
| Interviews with representatives of the project/programme organisation and of relevant environments | 3 | 3 | 3 |
| Observations of project/programme team meetings | 3 | 2 | 3 |
| Benchmarking with other projects/programmes (if required) | 3 | 3 | 3 |
| Consulting meetings and workshops | 0 | 4 | 2 |
| C 1.3. Design of the management consulting of projects or programmes | 2,33 | 2,00 | 2,17 |
| Assignment of the management consulting by the project/programme owner | 3 | 2 | 3 |
| Execution of the management consulting by an project/programme consultant or a consulting team (if required) | 2 | 2 | 2 |
| Informing the project portfolio group (or similar organisational units) about the management consulting | 2 | 2 | 2 |
| C 2. Maturity for management auditing of projects and programmes (or 'peer view') | 0,00 | 3,04 | 1,52 |
| C 2.1. Objects of consideration for the management auditing of projects or programmes | 0,00 | 3,00 | 1,50 |
| Start and/or controlling of project/programme | 0 | 3 | 2 |
| Discontinuity of projects/programmes | 0 | 3 | 2 |
| Objectives, progress, schedules, costs, incomes, resources of projects/programmes | 0 | 3 | 2 |
| Organisation, culture, context of a project/programme | 0 | 3 | 2 |
| C 2.2. Methods for the management auditing of projects or programmes | 0,00 | 2,80 | 1,40 |
| Analysis of project/programme management documentation | 0 | 3 | 2 |
| Interviews with representatives of the project/programme organisation and of relevant environments | 0 | 3 | 2 |
| Observations of project/programme team meetings | 0 | 3 | 2 |
| Benchmarking with other projects/programmes (if required) | 0 | 2 | 1 |
| Auditing report and presentation | 0 | 3 | 2 |
| C 2.3. Design of the management auditing for projects or programmes | 0,00 | 3,33 | 1,67 |
| Assignment of the management auditing by the project/programme owner | 0 | 2 | 1 |
| Execution of the management auditing by an auditor or auditor team | 0 | 4 | 2 |
| Informing the project portfolio group (or similar organisational units) about the management auditing | 0 | 4 | 2 |

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| Part D: Maturity for the assignment of a project or programme | 3,67 | 3,75 | 3,71 |
|---|---|---|---|
| D 1. Methods for assigning a project or a programme I | 3,67 | 3,67 | 3,67 |
| Investment proposal | 5 | 4 | 5 |
| Investment portfolio score card | 2 | 3 | 3 |
| Business case analysis for the investment | 4 | 4 | 4 |
| D 2. Methods for assigning a project or a programme II | 3,33 | 4,33 | 3,83 |
| Project or programme proposal | 4 | 5 | 5 |
| Analysis of alternative project portfolios | 2 | 3 | 3 |
| Project or programme assignment | 4 | 5 | 5 |
| D 3. Design of a assigned project process I | 3,67 | 3,67 | 3,67 |
| Preparation of an investment proposal by an investment proposal team | 4 | 2 | 3 |
| Agreement about the required resources with expert pool managers (or similar roles) | 3 | 5 | 4 |
| Decision about an investment by an investment committee (or similar role) | 4 | 4 | 4 |
| D 4. Design of a assigned project process II | 4,00 | 3,33 | 3,67 |
| Decision about the appropriate organisational form for the initialisation of the investment by the project portfolio group (or similar organisational units) | 3 | 4 | 4 |
| Nomination of the project or programme owner by the project portfolio group (or similar organisational units) | 4 | 2 | 3 |
| Assignment of the project/programme manager by the project/programme owner | 5 | 4 | 5 |
| Part E: Maturity for project portfolio coordination and networking between projects | 2,85 | 3,96 | 3,41 |
| E 1. Methods for project portfolio coordination and networking between projects | 3,50 | 4,17 | 3,83 |
| Project portfolio database | 5 | 5 | 5 |
| Project portfolio reports | 5 | 5 | 5 |
| Project portfolio score card | 2 | 4 | 3 |
| Project/programme progress reports (if required) | 4 | 5 | 5 |
| Chart of network of projects | 2 | 3 | 3 |
| To Do-Lists to ensure synergies between the projects | 3 | 3 | 3 |

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| **E 2. Management of chains of projects** | 3,25 | 3,00 | 3,12 |
| Structuring chains of projects | 4 | 3 | 4 |
| Planning of the following project as content of the considered project | 4 | 4 | 4 |
| Design of the organisational relationship within a chain of projects | 2 | 3 | 3 |
| Design of the relationships of environments within a chain of projects | 3 | 2 | 3 |
| **E 3. Design of the project portfolio coordination** | 3,67 | 4,67 | 4,17 |
| Providing project/programme progress reports by the project/programme manager | 4 | 5 | 5 |
| Preparation of data, reports, assignments and analyses by the PM Office (or similar organisational units) | 4 | 5 | 5 |
| Decisions by project portfolio group (or similar organisational units) | 3 | 4 | 4 |
| **E 4. Design of networking between projects** | 1,00 | 4,00 | 2,50 |
| Promotion of networking between projects by the PM Office (or similar organisational units) | 1 | 4 | 3 |
| Performance of the networking between projects by project managers, project team members and possibly the project owners | 1 | 4 | 3 |
| Informing the project/project portfolio group (or similar organisational units) about results of the networking between projects | 1 | 4 | 3 |
| **Part F: Maturity regarding the organisational design of the project-oriented company** | 3,09 | 3,79 | 3,44 |
| **F 1. Organisational structure of the project-oriented company** | 2,50 | 4,50 | 3,50 |
| Expert pools (from which project team members are recruited) | 1 | 4 | 3 |
| Expert pool of project managers | 1 | 5 | 3 |
| Expert pools of project management consultants, project management auditors | 3 | 5 | 4 |
| Expert pools of project management trainers, project management coaches | 2 | 5 | 4 |
| PM Office (or similar organisational units) | 4 | 4 | 4 |
| Project portfolio group (or similar organisational units) | 4 | 4 | 4 |
| **F 2. Organisational processes of the project-oriented company I** | 3,75 | 4,50 | 4,12 |
| Mentioning 'project orientation' in the mission statement of the project-oriented company | 1 | 4 | 3 |
| Formal description of the processes 'project management' and 'programme management' | 5 | 5 | 5 |
| Formal description of the process 'assignment of a project or programme' | 5 | 5 | 5 |
| Formal description of the processes 'project portfolio coordination' and 'networking of projects' | 4 | 4 | 4 |

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| F 3. Organisational processes of the project-oriented company II | 3,00 | 3,75 | 3,37 |
| Project and programme management templates | 5 | 5 | 5 |
| Project portfolio coordination templates | 4 | 3 | 4 |
| Standard project plans for different project types | 2 | 3 | 3 |
| Project and programme management marketing instruments (project management brochure, PM office homepage) | 1 | 4 | 3 |
| F 4. Infrastructure of the project-oriented company | 2,60 | 2,80 | 2,70 |
| Project management software | 5 | 4 | 5 |
| Projectspecific internet or intranet-portals (if required) | 2 | 3 | 3 |
| Telephone conferences (if required) | 1 | 2 | 2 |
| Video conferences (if required) | 1 | 2 | 2 |
| Project rooms (if required) | 4 | 3 | 4 |
| F 5. Culture of the project-oriented company | 3,67 | 4,17 | 3,92 |
| 'Management by projects' as organisational strategy | 3 | 4 | 4 |
| Empowerment (of project, project team, project team members) | 2 | 3 | 3 |
| Process orientation | 5 | 4 | 5 |
| Team work | 4 | 4 | 4 |
| Customer orientation | 3 | 5 | 4 |
| Project management as a core competence | 5 | 5 | 5 |
| F 6. Further development of the project-oriented company | 3,00 | 3,00 | 3,00 |
| Analysis of the management maturity of the project-oriented company | 3 | 3 | 3 |
| Benchmarking of the management maturity of the project-oriented company | 3 | 3 | 3 |
| Part G: Maturity regarding the personnel management in the project-oriented company | 2,56 | 3,76 | 3,16 |
| G 1. The 'project manager' as a profession | 2,75 | 5,00 | 3,87 |
| Role descriptions for the roles in the project-oriented company | 5 | 5 | 5 |
| Career path in project management | 1 | 5 | 3 |
| Competence profiles for different roles within the project management career path | 2 | 5 | 4 |
| Project management certification programmes (if required) | 3 | 5 | 4 |

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| G 2. Recruiting project and programme managers | 3,00 | 4,60 | 3,80 |
| Requirement plan for project and programme managers | 4 | 4 | 4 |
| Analyses of individual project management competences | 2 | 5 | 4 |
| Temporary and permanent contractual relationships with project and programme managers | 4 | 5 | 5 |
| Assessment centres for project and programme managers (if required) | 1 | 5 | 3 |
| Networking with project management freelancers (if required) | 4 | 4 | 4 |
| G 3. Leading project and programme management personnel | 3,67 | 3,33 | 3,50 |
| Allocating several roles to persons in various projects/programmes | 4 | 3 | 4 |
| Performing temporary leadership tasks in projects/programmes | 4 | 4 | 4 |
| Performing permanent leadership tasks in expert pools | 3 | 3 | 3 |
| G 4. Incentive systems in the project-oriented company | 1,25 | 1,25 | 1,25 |
| Project premiums (if required) | 1 | 1 | 1 |
| Further project incentives: praise, small presents | 2 | 2 | 2 |
| Use of incentives for project roles performed by individuals | 1 | 1 | 1 |
| Use of project team incentives | 1 | 1 | 1 |
| G 5. Development of project and programme management personnel | 2,83 | 4,17 | 3,50 |
| Plan on the personnel development for the project and programme management personnel | 3 | 5 | 4 |
| Project management training for project and programme owners | 3 | 4 | 4 |
| Project management training for project and programme managers | 3 | 5 | 4 |
| Project management training for project team members | 3 | 5 | 4 |
| Coaching of persons trained in project management | 3 | 3 | 3 |
| Exchange of experiences in a network of project managers (if required) | 2 | 3 | 3 |
| G 6. Project management competences (knowledge and experience) of the project and programme management personnel ( in comparison with IPMA or PMI standards) | 2,75 | 4,00 | 3,37 |
| Project management competences of project and programme owners | 2 | 3 | 3 |
| Project management competences of programme managers | 4 | 5 | 5 |
| Project management competences of project managers | 3 | 4 | 4 |

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| Project management competences of project team members | 2 | 4 | 3 |
| G 7. Project management competences of executives of the project-oriented company | 2,25 | 4,25 | 3,25 |
| Project management competences of top managers | 1 | 4 | 3 |
| Project management competences of members of the project portfolio group | 3 | 5 | 4 |
| Project management competences of members of the PM Office | 5 | 5 | 5 |
| Project management competences of expert pool managers | 0 | 3 | 2 |
| G 8. Design of the personnel management processes | 2,00 | 3,50 | 2,75 |
| Project management training and coaching as job enlargement for executives | 1 | 3 | 2 |
| Marketing of the 'project manager' as a profession, support in the recruiting and personnel development by the PM Office | 2 | 5 | 4 |
| Career planning, recruiting by expert pool manager | 2 | 4 | 3 |
| Training on the Project' for project managers by project owners | 3 | 2 | 3 |
| Part H: Maturity regarding process management | 1,96 | 0,00 | 0,98 |
| H 1. Macro-process management maturity | 3,04 | 0,00 | 1,52 |
| H 1.1. Process definitions and process types | 4,50 | 0,00 | 2,25 |
| Consideration of cross-department processes | 5 | 0 | 3 |
| Consideration of cross-company processes | 5 | 0 | 3 |
| Differentiation between various process types (e.g. primary, secondary, tertiary processes or core, support, management processes) | 3 | 0 | 2 |
| Application of different organisations for different processes (department, workgroup, project, programme) | 5 | 0 | 3 |
| H 1.2. Methods of macro-process management | 3,67 | 0,00 | 1,83 |
| Process list | 5 | 0 | 3 |
| Process map (overview of all relevant processes) | 5 | 0 | 3 |
| Graphs of chains of processes | 4 | 0 | 2 |
| Graphs of networks of processes (interdependencies between several processes) | 4 | 0 | 2 |
| Process managers list | 4 | 0 | 2 |
| Definition of standards for micro-process management (for example display format) | 0 | 0 | 0 |
| H 1.3. Optimisation of process portfolio | 2,00 | 0,00 | 1,00 |
| Analysis of process portfolio | 1 | 0 | 1 |

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| Definition of measures for the optimisation of the process portfolio | 3 | 0 | 2 |
| H 1.4. Macro-process management reports | 2,00 | 0,00 | 1,00 |
| Process portfolio reports | 3 | 0 | 2 |
| Process portfolio scorecard | 1 | 0 | 1 |
| H 2. Micro-process management maturity | 3,09 | 0,00 | 1,54 |
| H 2.1. Process boundaries definitions | 4,25 | 0,00 | 2,12 |
| Definition of the start and end event of the process | 5 | 0 | 3 |
| Definition of process objectives and non-objectives | 5 | 0 | 3 |
| Definition of process results | 5 | 0 | 3 |
| Definition of key performance indicators | 2 | 0 | 1 |
| H 2.2. Methods for process planning | 3,40 | 0,00 | 1,70 |
| Processes break-down structure (hierarchical structuring in sub-processes and tasks) | 5 | 0 | 3 |
| Process flow chart (or similar method, e.g. ePK) | 5 | 0 | 3 |
| Responsibility chart | 3 | 0 | 2 |
| Definition of process risks | 3 | 0 | 2 |
| Simulations of processes | 1 | 0 | 1 |
| H 2.3 Optimization of processes | 3,20 | 0,00 | 1,60 |
| Analyses of processes (strengths, weaknesses) | 4 | 0 | 2 |
| Benchmarking of processes | 3 | 0 | 2 |
| Optimisation of processes by IT workflows | 4 | 0 | 2 |
| Optimisation of processes by organisational measures | 2 | 0 | 1 |
| Auditing of processes | 3 | 0 | 2 |
| H 2.4. Micro-process management reports | 1,50 | 0,00 | 0,75 |
| Process controlling reports | 2 | 0 | 1 |
| Process scorecard | 1 | 0 | 1 |

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| H 3.  Quality of the processes | 0,00 | 0,00 | 0,00 |
| H 3.1. Quality of primary processes (2-5 processes or process groups) | 0,00 | 0,00 | 0,00 |
| ProcessProcess group 1 | 0,00 | 0,00 | 0,00 |
| Customer satisfaction | 0 | 0 | 0 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 2 | 0,00 | 0,00 | 0,00 |
| Customer satisfaction | 0 | 0 | 0 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 3 | 0,00 | 0,00 | 0,00 |
| Customer satisfaction | 0 | 0 | 0 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 4 | 0,00 | 0,00 | 0,00 |
| Customer satisfaction | 0 | 0 | 0 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 5 | 0,00 | 0,00 | 0,00 |

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|---|---|---|---|
| Customer satisfaction | 0 | 0 | 0 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| H 3.2. Quality of secondary processes (2-5 processes or process groups) | 0,00 | 0,00 | 0,00 |
| ProcessProcess group 1 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 2 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 3 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 4 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 5 | 0,00 | 0,00 | 0,00 |

| | | | |
|---|---|---|---|
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| H 3.3. Quality of tertiary processes (2-5 processes or process groups) | 0,00 | 0,00 | 0,00 |
| ProcessProcess group 1 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 2 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 3 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 4 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| ProcessProcess group 5 | 0,00 | 0,00 | 0,00 |
| Process results | 0 | 0 | 0 |

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|---|---|---|---|
| Process costs | 0 | 0 | 0 |
| Process duration | 0 | 0 | 0 |
| Overall quality | 0 | 0 | 0 |
| H 4. Maturity regarding the organization for process management | 2,62 | 0,00 | 1,31 |
| H 4.1. Culture of the process-oriented company | 2,00 | 0,00 | 1,00 |
| Process orientation is defined as a value | 2 | 0 | 1 |
| Process management terms are integrated in the corporate communication | 2 | 0 | 1 |
| H 4.2. Roles for process management | 4,00 | 0,00 | 2,00 |
| Process management office | 4 | 0 | 2 |
| Process manager | 4 | 0 | 2 |
| Process management teams | 4 | 0 | 2 |
| Presentation of processes management roles in the organisation chart of the company | 4 | 0 | 2 |
| Role descriptions for the roles of process management | 4 | 0 | 2 |
| H 4.3. IT-infrastructure for process management | 3,25 | 0,00 | 1,62 |
| Software to graphically present processes and/or process simulation (e.g. Adonis, Aris, Visio) | 4 | 0 | 2 |
| Software for workflow management (e.g. SAP R/3, Oracle eBusiness Suite) | 5 | 0 | 3 |
| Homepage, information on the intranet, process descriptions, etc. defining process standards | 4 | 0 | 2 |
| Centralised database where process management documents are available for all employees | 0 | 0 | 0 |
| H 4.4. Methods for the development of process management | 2,50 | 0,00 | 1,25 |
| Exchange of process management experiences with other companies | 3 | 0 | 2 |
| Analysis and optimisation of process management standards | 3 | 0 | 2 |
| Process certifications | 3 | 0 | 2 |
| Process awards | 1 | 0 | 1 |
| H 4.5. Communication structures for process management | 1,33 | 0,00 | 0,67 |
| Process portfolio meeting | 4 | 0 | 2 |
| Process management meeting | 0 | 0 | 0 |
| Process management presentations | 0 | 0 | 0 |

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| H 5. Maturity regarding the personnel management for process management | 1,03 | 0,00 | 0,52 |
| H 5.1. Selection of the process management personnel | 1,33 | 0,00 | 0,67 |
| Job description/selection criteria (e.g. for process managers) defined | 2 | 0 | 1 |
| Process of personnel selection described | 1 | 0 | 1 |
| Incentive system for process management | 1 | 0 | 1 |
| H 5.2. Management of process management personnel | 2,00 | 0,00 | 1,00 |
| Analysing the competency of process management personnel | 2 | 0 | 1 |
| Planning of the development of process management personnel | 2 | 0 | 1 |
| Career path in process management | 2 | 0 | 1 |
| Certification of process management personnel | 2 | 0 | 1 |
| H 5.3. Personnel development for process management | 0,80 | 0,00 | 0,40 |
| Process management training for process managers | 4 | 0 | 2 |
| Process management training for members of process management teams | 0 | 0 | 0 |
| Process management training for executives | 0 | 0 | 0 |
| Coaching of the trained process management personnel | 0 | 0 | 0 |
| Exchange of experiences between process management personnel | 0 | 0 | 0 |
| H 5.4. Process management competences | 0,00 | 0,00 | 0,00 |
| Process management competence of members of the process management office | 0 | 0 | 0 |
| Process management competence of process managers | 0 | 0 | 0 |
| Process management competence of members of the process management teams | 0 | 0 | 0 |

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| Scale | |
|---|---|
| never | 1 |
| seldom | 2 |
| sometimes | 3 |
| often | 4 |
| always | 5 |

| Scale | |
|---|---|
| very poor | 1 |
| poor | 2 |
| ok | 3 |
| good | 4 |
| very good | 5 |

| Scale | |
|---|---|
| very low | 1 |
| low | 2 |
| average | 3 |
| high | 4 |
| very high | 5 |

| Scale | |
|---|---|
| not existing | 1 |
| existing informally | 2 |
| existing - limited relevance | 3 |
| existing - very relevant | 4 |
| continually optimised | 5 |