SVEIN ARNE JESSEN

PROJECT LEADERSHIP – STEP BY STEP: PART I

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Project Leadership – Step by Step: Part I
A Handbook on How to Master Small- and Medium-Sized Projects – SMPs

Background

This book is *Volume I* in a series of two books on how to master Small- and Medium-Sized Projects - SMPs. These projects are those that seldom receive serious attention in the regular project literature of today. For better or worse, it is the large, costly, complicated projects that are written about, researched and discussed in the media.

But the popularity of the project approach means that many smaller, "everyday" tasks can be performed as projects. These smaller projects, whose goal and purpose are often very different from those of the bigger projects, also need a different type of approach than the large and more complex projects. Preliminary studies are typical. They are short-term investigations put in motion to pave the way for a larger project and require much less in terms of personnel for the actual project work.

It is interesting to note that this is not a new way of operating. Before mass production made its debut, all production was carried out as projects. The individual craftsman made a copy of a product that was individually adapted for the customer. Even car production worked this way until Henry Ford discovered that both mass production and routine production could save unit costs at larger volumes.

This book is written as a continuation of the Norwegian book, *Prosjektledelse Trinn for Trinn* (Jessen, S.A., 2005, 2008),[1] though it has a different format. While the Norwegian book's flyer idea is retained in this book called S*tepstones*, the traditional tools for planning and controlling projects are replaced by much simpler tools. The new book further elaborates on what a project leader should do when confronted with *everyday problems*, things that happen outside strategic plans and tactical project dispositions. The focus is on how to lead *people* as much as it is on how to lead systems.

The picture on the front of this book is a simple illustration of what a S*tepstone* is. The photo was shot in Pompeii, and shows how people 2,000 years ago had to move about to cope with flowing rainwater in the streets. They "stepped on stones" to get to their destination - in this case the other side of the street - and then they used their "Stepstones" in front of their doors to enter their houses. Project work is really much the same – finding a way to reach your destination and fulfilling the project mission.

In order to address these challenges, this book systematically reviews the "Stepstones" any project manager needs to negotiate, but primarily concentrates on the small- and medium-sized projects – the so-called *SMPs*. Every Stepstone begins with some theory before we explore the practical features. Our example project is to organize a small conference. The sections on theory include remarks on what has to be done in any project, regardless of size. Illustrations in the practical tools section refer to the conference project example.

In Volume I, the "upstream" steps in SMPs are presented, i.e. from Stepstone # 1, which identifies the SMP, until Stepstone # 8, which talks about signing the contract and agreeing on starting up the project. Volume II of the series will present the "downstream" steps in SMPs, i.e. from starting up the SMP, Stepstone # 9: The Kickoff Meeting, through executing, following up, controlling, completing and measuring the project's success, Stepstone # 15. In addition, Volume II has three Stepstones on how to plan, control and manage risk in more detail if necessary in the SMP.

The Norwegian version of the background book can be found at www.universitetsforlaget.no/smp/ (ISBN 978-82-15-01365-7) – this is the book Norwegian students and people engaged in project work in general should preferably buy, following the Norwegian *Løpesedlene* for support in their project endeavors. The copyediting was done by Maury Saslaff: m.saslaff@gmail.com

An important message to the reader:

This book is meant for continuous updating by both readers and users! The field of Project Management is developing so rapidly that what was good theory and relevant practice yesterday may well be different today. For that reason, I would very much appreciate comments and ideas from everybody interested in improving this field. Please use the e-mail address below for any comments you have!

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Slependen, April 2010

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Introduction

We frequently talk about "changing society,"[2] but society has always been changing. Today, "*change*" seems to have become an intrusive concept, possibly because change occurs at a much faster pace than before, and the consequences are much more extensive.[3] Even small changes have greater consequences than we were previously aware of. *"Chaos theory"* predicts that a butterfly flapping its wings in Australia can set off a tropical storm in the Atlantic two years later.[4,5] The global impact of human activity on the environment is another relevant example, which is why it is important to understand that even the smallest change can have a devastating effect.[6] As a result, the small projects we initiate should be treated with respect since they might be the start of larger, more important and decisive changes that affect ourselves, our organizations and our community in the long run.

Most practical books and manuals deal with large, complex projects which is not unnatural. Using projects to solve problems has never been more popular than it is today. By the end of the last century, 25% of the world's spending was managed through projects according to some reports, and many projects are clearly very large and very costly. Keeping track of them requires good management and good tools. Project planning and project organization need to be sound, and every step must be controlled down to the very last detail.[7] If a large project starts going off the track and is heading for failure, it will cost the organization dearly and have many other adverse effects as well.[8]

But most projects are not enormous. Today, the project approach is equally used for smaller and simpler tasks.[9] To run the projects that we in this book will call SMPs – Small- and Medium-Sized Projects – the tools and methods we need are much simpler. When projects are small, mistakes are often not as serious. And even if they end up doing something other than what was originally envisaged, lessons can be drawn and we can look at them as exciting experiments in new ways of thinking and acting. As the proverb says, "only those who get lost, discover new ways." One probably forgotten benefit of many SMPs is the excitement, not to mention the opportunity, of learning. Indeed, a project may have unexpected benefits for its participants, clients and users.

While rigidity can be stifling, too little formality can easily create a mess. It is easy to go from flexibility to chaos or to lose sight of things when too much change is taking place at the same time. The best way for working on both large and small projects is to always ensure a good mix of *formality* and *creativity*. It takes rules and creativity for people to work well together in an innovative and effective manner, and the same goes for respecting each other and maintaining a sense of enthusiasm in order to help support and stimulate cooperation.

Nevertheless, many projects fail regardless of their size and type, and there are as many unsuccessful as successful ones. So why does the project form remain so popular despite its many failures? Here are some of the reasons:

1. Projects *identify problems* and deal with them at the source.
2. Project work is one of the better ways of achieving *unique goals*.
3. Projects go well with the management of *scarce resources*.
4. The project's organization reduces the *risk* of working with new ways on new types of tasks.

5. Project work requires clear *responsibility* for key tasks from start to finish.
6. A project's staff experiences their own role as one of being focused and *meaningful*.
7. Projects facilitate proper *communication* within the project and with the project's environment.

These points are appealing. They are, however, primarily based on the experience of working in large projects since we have believed that when a smaller project fails, it is almost always due to bad planning, poor management and a lack of the type of discipline and rules that characterizes larger projects. Rules tell team members how to visualize the project as a whole, although you must remember to plan the operation in detail and keep a tight rein on project management. These ideas are set out in handbooks, systems and models that tell us what good project management is regardless of size and type. As argued by many modern scholars, traditional project literature has viewed projects very much as an analytical process, unable to explain the systemic character inherent in most projects.[10]

Today, we should ask whether some of these general ideas fit the bill. "*Best practice*"[5] might not be the best standard for all projects. More importantly, we also need to critically examine the standardized and elaborate project recipes[11] to see if they really work for all projects. Not all problems that can be "projectified" need to be tightly controlled and organized in order to guarantee success.[12] There are many reasons for this opinion:

First, the project approach cannot solve every problem from large financial investments and huge technical installations to groundbreaking research and exceptional innovations, in addition to smaller improvements at the company-internal level such as short-term operations in order to reduce bureaucracy or improve ad hoc training programs. As with scientific research, we have to decide whether the *objective* is simply to reproduce something ("surface approach"), achieve something ("strategic approach") or find meaning ("deep approach)." There are differences between "Academic Susan" and "Strategic Robert."[13] Similarly, for SMPs we need to start with the real objective, then look for some simple, basic criteria to define what the project approach is really all about. We then need to check and see if these basic criteria are met and then select the type of SMP that best solves the problem. If the criteria are met, there are many ways to make smaller projects successful apart from following the same procedures as you would for larger projects. In fact, brain researchers[14] have found that although knowledge is power, too much knowledge can drain one's energy. Many managers acquire a great deal of information and in-depth analyses in abundance, but may become completely paralyzed when faced with a practical problem. They run the risk of acting like a computer, performing logical calculations, but getting illogical answers in return. The best answers often come from qualified guesswork based on a combination of experience and new information which yield new insights. One should never ignore one's ability to make good decisions. It is always a good idea to test out one's gut feeling before taking action, and as talent qualification tests show, "chaos pilots" are often the best project leaders because they love to be thrown in at the deep end and are brilliant at using networking to survive. They are extremely busy, maintain a high tempo and make things happen,[15] which is the underlying recipe in many SMPs.

Second, projects can easily *dilute* an organization's leading expertise.[16] Projects tend to absorb an organization's current stockpile of expertise without renewing it. Managerial responsibility for ensuring that individual employees can learn and develop new skills risks being dissipated since it is very seldom included in the project plan. The project manager will naturally be more concerned with achieving the project's goal(s) than developing new knowledge for his/her workers. Indeed, project managers might be more engrossed in "whittling away" than maintaining work standards.[17] Unless we take care of what we learn, we risk losing many of the valuable benefits of working with projects.

Third, any model is a *simplification* of a more complicated reality.[18,19] Models, including project models, often give a better understanding of a situation, but are no guarantee of success. Many of today's leaders are rightly suspicious of models because they give overly precise answers to complex problems. For projects, this is particularly relevant since it is impossible to model the unique, and as previously mentioned, uniqueness is one of the main reasons for using the project approach to problem solving.

Fourth, it is an accepted fact that most project literature has focused on "*downstream*" activities.[20] That is, how to execute well-defined tasks and achieve well-defined goals. Investigations have unearthed compelling evidence of the value of project management when the project form of problem solving is appropriately managed.[21] So far, project management has been similarly occupied with how to run an operation so well that in the end we achieve exactly what we decided on before we started, though there are some problems with this. For example, it assumes the future can be projected with so much accuracy that what we consider to be important today, we are convinced will be important in the future as well. There are several areas where this is hardly correct. Indeed, nowadays the future is increasingly difficult to predict, so the current project focus must therefore be different. If we need to review changes to a planned project process, we should be willing to carefully go over our original plan before rejecting new ideas out of hand. The more we regard project competence as something that can be continually built up, the more we can use it rapidly and beneficially.
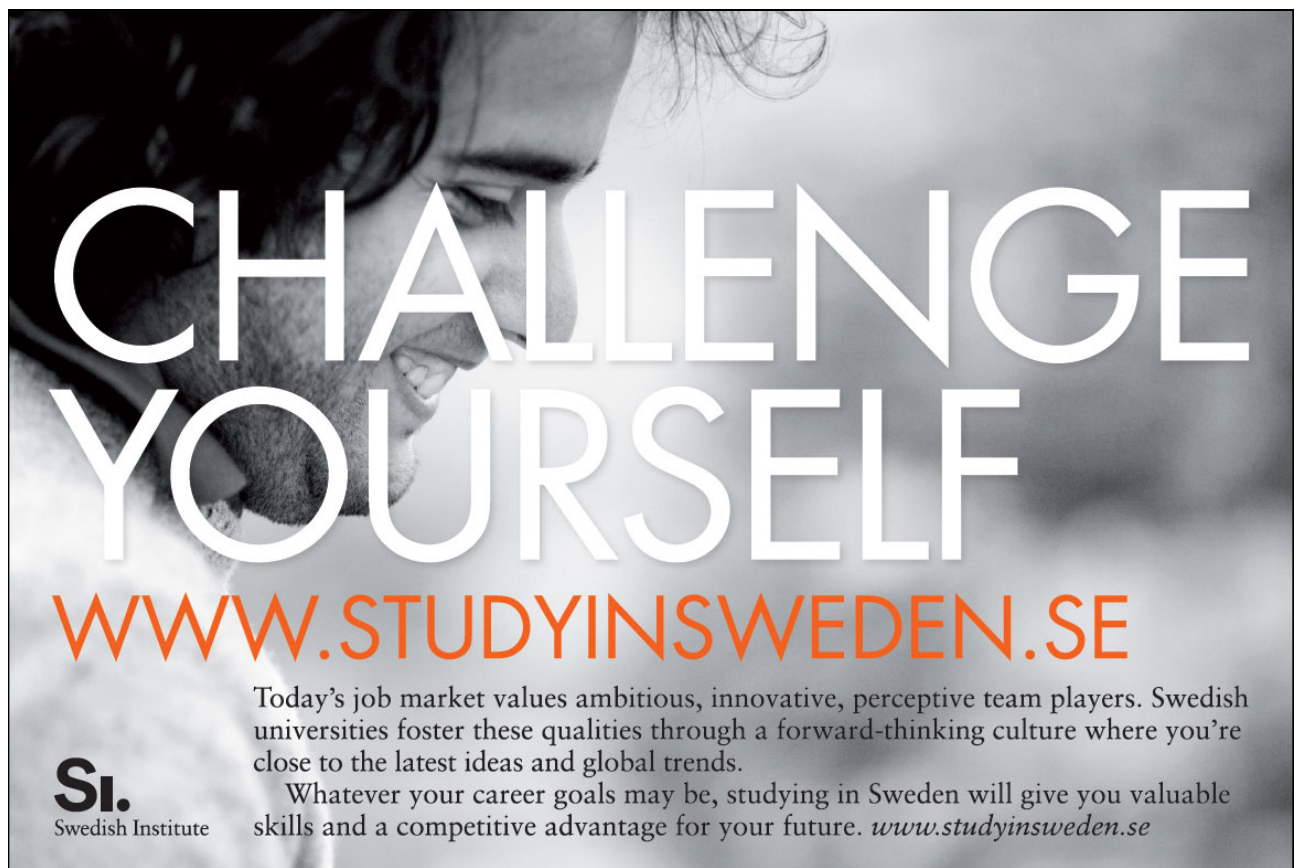
Fifth, there are *big differences* between projects. Projects today are not only large, complex and costly, as there are an increasing number of small, simple and short-term, yet very important, SMPs. But even if different projects need to be treated differently, many "large" projects could benefit from being treated as SMPs, realizing that modern projects are dynamic, iterative and often even chaotic systems. Modern projects should better be viewed as evolutionary and path-dependent systems composed of episodes displaying various dynamics, and project management recipes must reflect this.[22] In doing so, many laborious operations, which may later have been found to be unnecessary and served only to waste the time and energy of the project staff who could have been working to improve the main project, can be simplified as the aim is to reach the project's goal and support its ultimate mission. These projects, the SMPs, are the types of projects this book is concerned with.

1. Small- and Medium-Sized Projects – SMPs

1.1 Why SMPs are So Important

Understanding the importance of SMPs comes primarily from recognizing that "*upstream activities*" are as important as "downstream" activities since downstream activities are related to the delivery of the end product. Both upstream activities and upstream projects create, justify and support successful downstream activities. For this reason, we are aware of the need to spend more time on these projects, often small ones, which directly or indirectly are created for ensuring good, sustainable results downstream. Unfortunately, we are not always able to predict the success rate of a downstream project at an early stage. We may have ideas, of course, and there are recognized ways of improving our guesswork in terms of the future. Very often it is only after the project has been started, and operational reality produces new and better information, that we begin to understand a project's real value.

This double process is not necessarily easy. Large businesses, especially those in the public sector, are often very reluctant to change and experiment. Many projects are under strong pressure to start and end with uncompromising goals and strict terms of reference (TOR). Regulations, procedures and safety instructions dominate, although a high specification at the start of a project may well undermine its flexibility in the later stages. If new information is to be acted upon during a project's execution, the users, owners and other recipients of the project's results should not oppose new possibilities, but should instead come on board and support beneficial adjustments. Changes for the better must simply be seen as an opportunity, not as something wrong with the situation. Today, we need to accept that many projects are dynamic arenas where new ideas and knowledge are brought in which influence a project and its goals. Success must be seen as more than delivering an initial order. The project's benefits must be determined not only by the technical fulfillment of its initial goal, but also by the project's contribution to the realization of its mission.[23]

This is important, especially for SMPs. So where do we find SMPs and what typifies them? In fact, SMPs are typically found wherever the development of new products, services and processes requires research and innovation. The methods used are intended to integrate people as users and co-creators throughout the development process in order to recognize the needs of users and the working conditions of service providers in their actual contexts. In other words, SMPs are found everywhere. A well-planned pilot project or subproject of a larger project might be an SMP or an upstream project such as a profitability analysis, investment calculation or the development of a minor, but specific internal administrative management or control system. At the same time, SMPs are crucial parts of larger *project portfolios* and *project programs* within companies. Moreover, SMPs can be used by the public and private sector for transient planning purposes such as arranging special events, launching training programs, initiating school projects that encourage students to collaborate, undertaking minor internal reorganizations, taking simple steps to improve daily operations - or for that matter - to manage an entirely personal activity that requires some preparation and monitoring to improve its chances of success. The variety is great, as is the number of people engaged in SMPs.

In this context, it is important to realize that projects are also *social arenas,* and many people enjoy working with projects. Projects offer a break from everyday routine and often present an exhilarating challenge. Reaching the target and excelling under close supervision are important, though not the only important and stimulating things, as the way work goes on, how the actors are involved, how they work, how they communicate and the responsibility and respect they show for each other are what matters. All of this is also typical for SMPs. Research has demonstrated that the fewer the participants in a project, the closer and more rewarding the teamwork and the building of mutual respect.[24]

As must be clear at this point, we can hardly experiment too much with our own resources in large and complex projects. In large projects, we probably have to believe that "upstream understanding" will be good enough for downstream success, and the targeted results will be valid at the project's conclusion.

In SMPs, we can allow ourselves to think differently. Because the workload is less, we can go along with a greater degree of flexibility. In fact, we can take more chances, experiment more, put up with a few mistakes and enjoy exciting coincidences and stimulating creativity simply because the cost of the mistakes is less. This freedom to make mistakes is essential for motivating modern people, encouraging a greater commitment and eagerness for acquiring good project skills through learning-by-doing. People with a creative attitude tend to be more motivated to do a good job. The clue is not to be told "when" and "what" to do according to a prescription, but also "why" it has to be done in order to be open for "how" to do it, depending on our understanding of the situation and project setting.

1.2 What Separates the Large and Resource-Consuming Projects from SMPs?

It is not always easy to distinguish major projects from small projects, as large projects in a small organization may be as well regarded as small projects in a major one. Some large projects may be easy to execute, while some small ones can be very complex.

Yet there seem to be some differences between the large projects with many actors, and small and simple ones, with fewer people involved. Table 1.1 below illustrates some typical features of large, complex projects compared with small and simple projects such as SMPs.

Large and Complex Projects	SMPs
* Project manager is usually a full-time	* Project leader is usually part-time employee
* Majority of the team members are fulltime employees	* Majority of the team members are part-time employees
* Clear role descriptions for all involved	* Unclear role descriptions
* Owner is known and active	* Owner diffuse and inactive
* Budgets and project plans defined and specific	* Budgets and plans often undecided and unclear
* Experienced team members	* Often many inexperienced team members
* Well-known and well-applied planning and management tools	* Often inadequate planning and management tools
* Project managers have an established support system around them	* Project leader often alone in decision making (and tasks)
* Heavy risk controlling measures normal	*Risks and insecurity part of daily life
* Internal factors most important for the terms of references (TOR)	* External factors plays a significant role for the terms of references (TOR)

Table 1.1 – Some of the differences between the large and complex projects and the small- and medium-sized projects, the SMPs.

The first thing one notices is that large and resource-intensive projects will be the most successful. A tight control on performance, target achievement, the reduction of risk and chaos and clear roles for all involved should help to guarantee success, although this is not necessarily always the case. Many small projects actually succeed in spite of lacking many of a "professional" project's features. This is because SMPs come with their own benefits, some of which are listed in Table 1.2:

Large and Complex Projects	SMPs
*Are resource-intensive and have a great need for thorough planning	* Commit fewer resources and do not require detailed plans
* Must keep to approved plans	* Are flexible and creative, and new solutions may well be appropriate
* Often have particular rules and contracts between the project owners, the sponsors, the executors, the suppliers and the end users	* Have fewer stakeholders and thus fewer areas; less need for formal, detailed contracts
*Often required to use advanced computer technology	* Can be done without the use of heavy computer technology
* Large consequences for errors and therefore a great need for extensive consequence analyses	*Less impact of errors, and less need for detailed analyses as project progresses

Table 1.2 – Some typical advantages of SMPs compared to large and complex projects.

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Against this backdrop, it makes sense to develop some simpler procedures for projects that can be categorized as SMPs. In fact, many such procedures are just as useful for larger and more complex projects.

1.3 How to Read The Books

The books have two main purposes:

1. They are a **recipe** for showing how small- and medium-sized projects, SMPs, can be run from start to finish so that better results are achieved. But many of the book's principles are also appropriate for larger projects and are intended to be universal regardless of the size and complexity of the project.
2. They are **reference** books that point to many common pitfalls at all stages of SMP management and leadership. Many of the pitfalls are specific to SMPs, but many are also found in large and complex projects. The book should therefore be useful as a work of reference for people involved in large and complex projects as well.

The books cover the major project steps: identification, preparation, organization, implementation, management and leadership of projects:

Chapter 2: What is an SMP?
Chapter 3: How to Choose the Right SMP
Chapter 4: How to Schedule and Organize SMPs

Volume II contains the following chapters:

Chapter 5: How to Lead SMPs
Chapter 6: How to Increase the Chances of an SMP's success

In each of these chapters, the book has introduced "S*tepstones*." They are the backbone of the book and replace the traditional project "gates," formal recipes or similar, traditional forms of governance. At the same time, the Stepstone approach provides a "*model*" of how a project should be handled. This is because a model improves the coordination of human input, human reactions and the harvesting of experience. A good model breaks down barriers and reduces misunderstandings.

Before each Stepstone, two main areas of concern are discussed: the *theoretical support* behind the statements in the Stepstone and a menu of *practical suggestions and instructions* on how to improve your score at each Stepstone. This is because theory is always meant to be a wider discussion of a subject and taken out of a concrete decision-making situation, focusing on the *general aspects*, not the specifics. Unfortunately, the wide use of the project way of problem solving has not always been reflected in the academic debate because some theorists have claimed too much authority. Instead of presenting a menu of opportunities and setting up a list of relevant options, theorists often transfer their own social and political views. Instead of being analytical, they often tend to favor one set of mappings over another. The reason for this is therefore rooted in the well-known proverb that says "what is worth learning cannot necessarily be taught."[25] Competing statements are "Nothing is as practical as a *good theory*"[26], and "Nothing is as dangerous as a *bad theory*".[27]

We know that the modern project concept is a tool with multiple models. Each of them gives a different, stylized representation of some aspect of reality. Being an accomplished project leader means to pick and choose the right model for a given situation. Some writers refer to this as a fix on *positivism*.

By definition, positivism is an epistemological position that advocates the application of natural science methodology to the study of social reality.[28] This book's Stepstones are meant to be helpful in making better "positivistic" choices, particularly for SMPs.

In total, the books present *15 basic Stepstones* and three *detailed Stepstones*. The latter deals with events that may occur in some SMPs and are found in separate appendices, and are meant to be used only if needed. The 15 basic ones, however, are considered *compulsory* for any project, especially SMPs.

Except for the first two Stepstones, every Stepstone comes with *10 questions* on important matters any project leader and key stakeholder should be aware of when running a project from its early stages to its final delivery and post-evaluation.

For any project we intend to start, these important assessments of an investment's real value should be made and carried out prior to any further time- and resource-consuming project efforts. This applies not only to financial investments, but to investments of a social or human related nature as well. To misuse resources for an unhealthy project investment is something we know will be both negatively observed and may well create adverse precedents for decision makers the next time around.

To ensure that we are on the correct path, we need the total score not be less than 80% of the maximum score potential. This rule is more or less based on the Pareto principle, which advises a correctness or fulfillment rate of 80% in order to achieve further progress and development in many real-life situations.[29] If we score less than 80%, we need to either go back and re-read the relevant text for that Stepstone, re-plan the entire project or simply stop it. The purpose of each Stepstone is to create a better understanding, better decisions and better project progress. To ensure the Stepstones are working properly, they are summarized in a logical pattern as shown in Figure 1.1 below:

The Stepstones

Ways of Motivating

| Stepstone #1 | Stepstone #2 | Stepstone #3 | Stepstone #4 | Stepstone #5 | Stepstone #6 | Stepstone #7 | Stepstone #8 | Stepstone #9 | Stepstone #10 | Stepstone #... | Stepstone #... | Stepstone #... | Stepstone #... |

Ways of Communicating
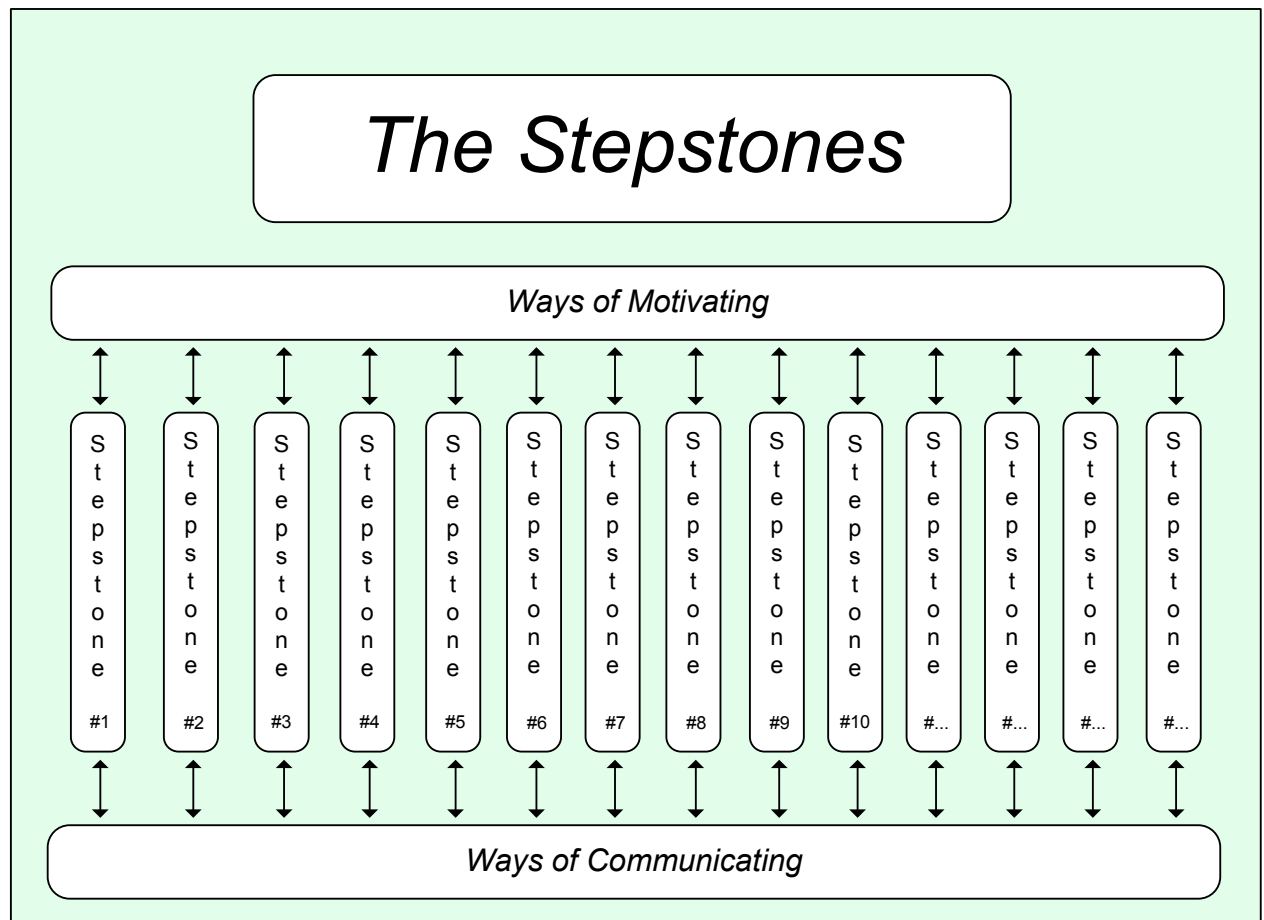
Figure 1.1 – How the Stepstones are interactively connected and
supported by different forms of communication and motivation.

This sequence of Stepstones should be followed as closely as possible. As the reader will see, the arrows point in *both directions*. Each new Stepstone is therefore either a signal to go ahead, to go back and adjust, or to stop. At the same time, the Stepstones pose questions and bring up matters that represent typical *pitfalls* in the progress of projects, again particularly for SMPs.

Each Stepstone has two additional components: *communication* and *motivation*. Good communication is vital for a project in all its phases.[30] Effective communication can be divided into a *rhetorical* situation and the *ethos* or credibility of the sender.[31] The first has to do with the problem of identification, the receiver's state or situation and the message one wants to send. The second deals with the practical significance of the message, its moral content and the benevolence felt by the sender to the receiver.[21] To achieve perfect communication is quite difficult, probably impossible. As contended above, the content and form of the communication will vary depending on when and how it takes place, as well as the identity of the senders and recipients. Additionally, the *role* of the communication must be understood. *Vertical communication* is normally used to control an organization and coordinate its activities and employees, while *horizontal communication* is used to facilitate creative processes, activate and utilize organizational knowledge assets, and coordinate and carry out actions. It is the combination of formal and informal communication that determines the efficiency of an organization, and communication skills are a basic skill for all employees.[32]

So for each Stepstone, the book only suggests whether the communication should be directed towards individuals or groups, and offers certain guidelines on how to communicate. The basic idea is that the best management in any culture takes place in a climate of rich communication. The first thing we learn in a threatening or hostile climate is to protect ourselves, which limits the richness and value of communication. It is important to be aware of the communicational aspect of *emotions*, as they represent a special case as far as the communication and determination of meaning. For that reason, one should strive to communicate in as many ways as possible when running an SMP.

The same importance rests with *motivation*. Motivation is highly significant in all project phases.[20] Motivation has to be tailor-made for each phase of a project and for each of the main actors in those phases. For every Stepstone, a list is provided about what seems, at least according to both theory and practice, to motivate as well as demotivate the most.[33]

As illustrated in Figure 1.2 below, Stepstones represent the highest level, Level 1, and deal with the complete SMP process from start to finish. *Milestones* represent Level 2 and start during the planning of the project work at Stepstone # 7. Milestones are points at which you should take stock of the progress from the time the actual project work starts, which is after Stepstone # 9, the "SMP's Kickoff Meeting." *Cooperation Charts* constitute Level 3 and indicate who is responsible for what. They are used to show the division of roles and responsibilities of the people involved in the project between milestones.
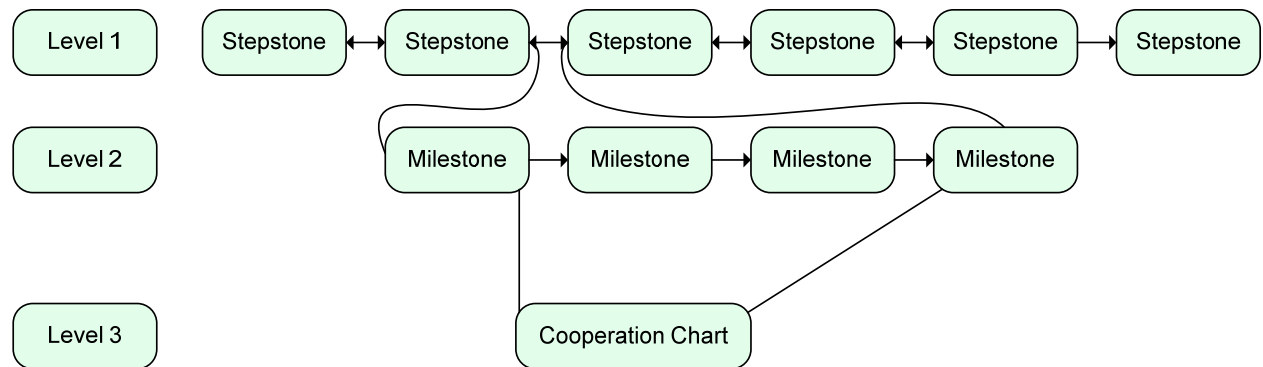
Figure 1.2 – Levels, Stepstones, Milestones and Cooperation Chart.

All projects also have a Level 4, which consists of the *operating activities*. These activities specify the work to be done by the project's participants during the project's execution.

1.4 Summary of Chapter 1

The first chapter in this book has discussed the increasing use of the project approach in modern societies, in addition to some of the reasons. The chapter also discusses why it makes sense to distinguish between the traditional, recommended recipes for mastering large and complex projects, as well as how to think, manage and lead smaller and simpler projects, the SMPs.

The chapter also offers advice on how this book can best be read and used.

1.5 The Conference Example

For each of the Stepstones in the book, a simple example of an SMP is shown in a frame and blue-colored text. The example is to plan and carry out a successful three-day conference for our company. Arranging a conference in many ways is a typical SMP since a successful conference for all involved and affected will depend on actions taken by the project leader before, during and after the conference.

While these steps are exemplified in each chapter in the book, SMP leaders do not have to slavishly follow them. They simply show how a project leader can use Stepstones and some simple, but typical tools and methods to improve the chances of a project's success.

The reader should nevertheless know that since projects by definition are always unique, in principle there is no final management for our particular project or any other for that matter. How we act completely depends on what we are aiming to achieve with the project, on the project's mission, its TOR, the type of actors involved plus the users and the wider project environment. Thus, the case presented is just one example of what can be done when working with SMPs.

2. What is an SMP

Stepstone # 1: Screening of the SMP Idea

2.1 Theoretical Reflections behind the Statements in Stepstone # 1

There are no such things as projects in nature. Projects are *created* by humans. What is interesting is that unlike many phenomena in science, there is no single, authoritative definition of creativity based on our theoretical knowledge so far. And unlike many phenomena in psychology, there is no subsequent standardized measurement technique for creative behavior and how it is evoked.

Traditionally, creativity is more or less defined as an intricate mental and social process involving the discovery of new ideas or concepts, or new associations of the creative mind between existing ideas or concepts. Thus, creativity is fueled by the process of either conscious or unconscious insight. A simpler conception of creativeness is that it is simply the act of *making something new, which* is the product of "divergent thought," and is usually considered to have both originality and appropriateness.[34]

For these reasons, creative activity fits well in the early project phases. In addition, the creative decision on which project to use money and energy on is of vital importance for the ultimate success of a project. In the past, we have not put a sufficient focus on this part of the project and often took for granted that the idea that was later converted to a full project was the result of thorough thinking and a close evaluation at the top level. Unfortunately, if this is not the case, the result could be that in later project phases one would be confronted with a reasonable amount of criticism for putting too little thought into both the idea and the problem identification phase. These early steps are therefore best justified if grounded in a mix of sound creative investigations and concrete analyses.

At this stage we already have a problem because finding really good ideas is not so easy. Based on the knowledge we have today, we may come up with many ideas since the good news is that all human beings are born with creativity and are perhaps the only creative animal on earth. Although creativity is intuitively a common phenomenon used on a daily basis, it is in fact quite complex. Creativeness has been studied from many perspectives such as behavioral psychology, social psychology, psychometrics, cognitive science, artificial intelligence, philosophy, aesthetics, history, economics, design research, business and management among others. Some have even argued that creativity contains an element of pure chance and luck.

However, the most popular view is that creativity can be identified and associated with right or frontal brain activity or specifically with "lateral thinking." If such is the case, creativity should be able to be mastered more professionally. Studies have concluded that creativity can be systemized and perhaps simplified into three types: "everyday creativity", "exceptional creativity" and "artificial creativity." If we look into the requirements of projects, it seems natural to use the two latter forms in the early phases of the project, while "everyday creativity", which we will come back to, seems to be of special importance for the execution and control of a project. It is also important to use creativeness in a slightly different way depending on which stage of development a project is currently in, as well as in ways that fit the various stages of project development.

2.2 Practical Reflections behind the Statements in Stepstone # 1

Nonetheless, even if creativity can be managed to a certain extent, it seems to be a trait that differs from person to person and is one that some are born with more than others. On the other hand, creativity can be taught with the application of some simple *creative techniques*. Although popularly associated with art and literature, it is an essential part of innovation and invention, and is important in professions such as business, economics, industrial design, graphic design, advertising, mathematics, science and engineering, teaching - and project management.

The first important message from all of this is that there are no theoretical projects, *only real ones*. Since creativity is so multifarious, it seems that the most practical way to utilize it is to come up with *many ideas* and then discard the less useful ones.[35] This coincides with another practical definition of creativity which is that it is an "assumptions-breaking process."[36] Creative ideas are in fact often generated when we discard preconceived assumptions and attempt new approaches or methods that may seem unthinkable to others.

Even so, moving from many ideas to deciding which one is the best is yet another obstacle. In the early stages, few things about a project are directly measurable. Ideas are often just interesting thoughts or underlying desires or inspirations that are difficult to express in precise terms. The good thing is that there are a number of simple, practical views that can be of great help, especially in project work. Below, some of them are discussed and related to the first project phase - the *initiation phase*. In broader terms, they constitute three major domains:

1. Creativity in *coming up* with new ideas;
2. Creativity in *ranking* new ideas;
3. Creativity in *selecting* the best idea for a new project.

2.2.1 Creating New Project Ideas

For an organization, the ability to foresee the future as being more than pure guesswork is extremely important, although the fact is that we do not know too much about the future. It is part of what makes us curious and active, and it is our ignorance that makes us struggle to find the right measures to both protect and develop ourselves.

Simplified, there are two ways to think ahead: exploratively and normatively. The difference between these two directions is illustrated in Figure 2.1. below:
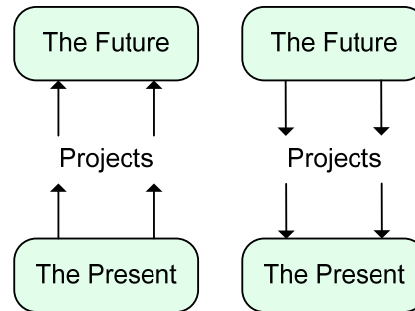
Figure 2.1 – Explorative and Normative Thinking.

When we think *exploratively,* we believe our assumptions about the future to be more or less correct, and explore or "examine" the future based on what we know up until the present moment. We can use visionary thinking, or we can use some recommended type of projection method. Whatever the result may be, we end up with various types of *forecasts*. Such forecasts, called *prognoses*, are based largely on the belief that the future will more or less follow well-known scenarios from the past. If different types of prognoses end up with the same scenarios or trends, we can expect that they will not die out immediately. If more and more of the same product are sold, we can expect that this will continue to take place, at least for the foreseeable future, which is normally the case. Based on these forecasts, we should then choose our marketing, production, control measures and sales efforts. When we use explorative thinking, we should therefore assess which measures to take in order to adjust to a development we very much believe will occur. When we do this, we make ourselves ready to master this development in the best possible way with the most relevant projects.

The alternative is to think *normatively*, which takes less into account in terms of trends and imagines instead that we are already a certain number of years into the future. As a result, we make a *dream picture* of how we want ourselves, our environment, our company or our organization to look and function like at that time. This is often referred to as the organization's or company's *mission*, in which the purpose is to create a motivating and guiding principle or overall purpose. When this is decided upon, "we turn the arrows" and ask: What should these arrows contain in order for this to happen? Such thinking is also called *scenario-thinking*. When we have agreed that this can be the reality if we prepare for it, we implement projects which contribute to making that future happen. At that point projects are not only "*operations,*" as many explorative projects are, but are also important parts of *strategy*, which is typical of the normative approach.

If we look at trends, it is obvious that some are for the benefit of both individuals and societies. Better living conditions, better health, better financial development, better purchasing power and better educational opportunities are all trends that we are grateful for and would like to further develop by the use of, among other good things, successful projects. Other trends such as increasing crime, Islamic terrorism and environmental pollution are adverse, and we should counteract and reduce these. To reverse such trends, we must find the right counteraction in the form of appropriate projects. To master such projects, we must understand the background of these trends. We must consider what we particularly need to take into account, what framework we need to create and how and where to find the proper sources of information in order for us to implement the best counteractive projects. To accomplish that we often have to go deeper and search for underlying forces that can both directly and indirectly support our effort. In fact, this is also a good recommendation for positive trends. Understanding reason is always of great benefit in our struggle to find the best solution. Some trends are for the better, and many are easily observed because they arise, dominate and force us to react in a positive way, while others are negative and force us to act, though often with delimited alternatives.

Regardless of which trends we observe, there are two ways to react to trends in principle: We can wait and see, and then act. When doing so in this manner we are "*reactive,*" which is often the case with explorative thinking and explorative trends. The other alternative is to assume an observed change as the beginning of a larger trend and then take immediate and appropriate action. When we take this position, we are "*proactive*" in relation to a possible trend. Both actions are risky. When we wait and see, we may lose ground because others have already acted and we are too late to properly counteract or be the first to harvest important benefits. However, if we act too early it means that we may have misunderstood the trend and have used time, money and effort on investments of limited value. The trick is to find the correct balance and create project ideas that support the desired changes.

2.2.2 Ranking Ideas

Whether a project is exploratively or normatively based, every project is a *deliberate investment*. A good investment is characterized by the fact that what we get back is more valuable than what we put in. This is the law of economics regardless of whether the project is large or small, but one must also be aware that receivers, such as customers and users, can be bad at explaining what they really want and what is most valuable to them. Often, they simply need some help in clarifying their desires and needs in order for the value of what they get back in the end to be good enough. A good way to check this is to make an investment calculation in the form of a feasibility study.

The principle for such benefit-cost studies is illustrated below in Figure 2.2.2:

Figure 2.2.2 – A simple Benefit-Cost ratio.

Although the formula is very simple, it carries an important message: the ratio must be greater than 1. This means that the benefits of the project must somehow be greater than the costs. The first problem is that it is not always easy to measure these two variables on the same scale. For instance, costs can be direct in simple, measurable quantities such as money. But costs can also be indirect, such as the loss of reputation or trust, or resistance and discomfort following the investment. As has been wisely said, "You cannot formulate one universal cost term, you have to establish different cost terms and measures for different purposes."[37] The benefit of course can be measured in money, though it can also be more qualitative and difficult to quantify such as social and environmental benefits, image, public opinion or social benefits. And even if we should find a common yardstick such as money, it can be difficult for costs and benefits if they come at different times. This is illustrated below in Figure 2.2.3:
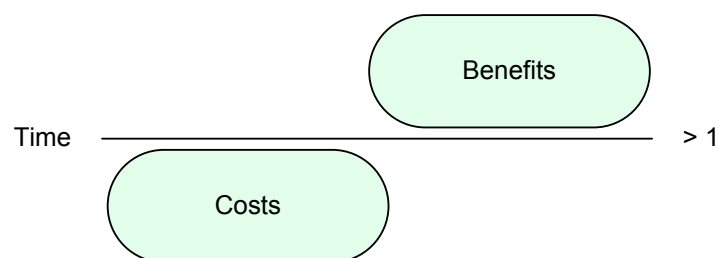
Fig 2.2.3 – Time orientation of the Benefit-Cost ratio.

For most projects, this is the reality. We first use costs to create something valuable or something we presume will be beneficial in the future. When the final product is made and the project goal has been reached, we reap the rewards, earnings, enthusiasm or other types of benefits. It is clear that when the benefits take place in the distant future, they are even more unknown than the costs, but it becomes more uncertain as to whether the benefits will really manifest themselves and be large enough to justify the costs. After all, it is the costs that we have the best chance to manage and control. The benefits are often the users and the client, as well as other stakeholders who measure and evaluate. So, instead of money, one enlarges the concept to "resources," with a more accurate diagram of how investments must be judged shown below in Figure 2.2.4:

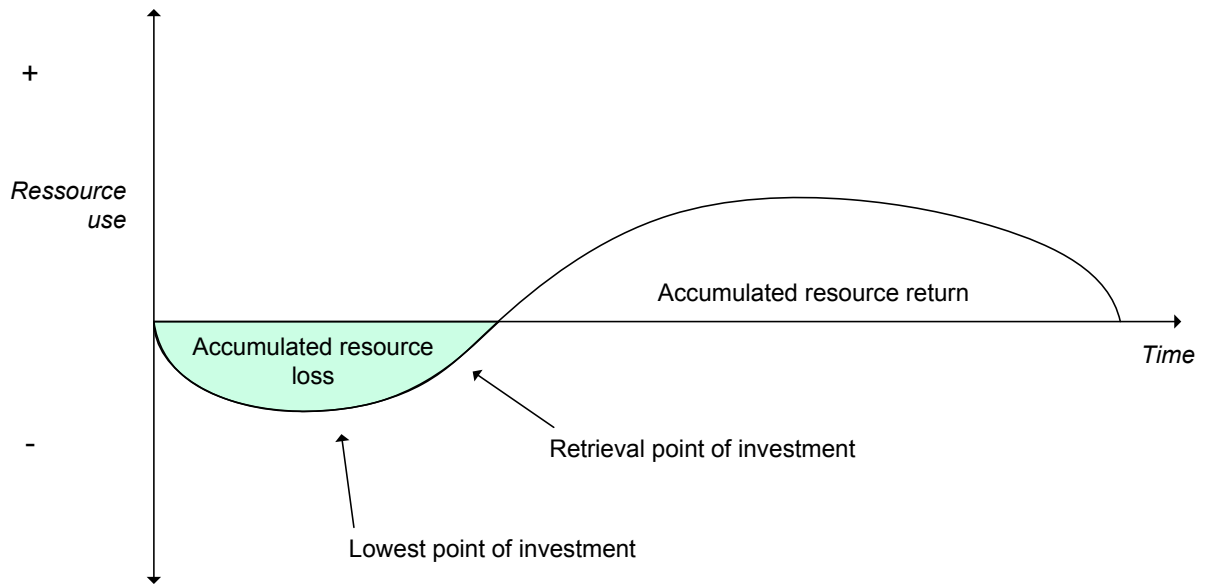**Figure 2.2.4** – Schematic diagram of investment estimates.

The curve showing the accumulated resource consumption of the investment project starts at time zero when resource consumption is also zero. In the first phase, the project is prepared, planned, implemented and terminated with the finished product. Basically, all these activities entail spending. It is only afterwards that the returns on the investment start to flow. Gradually, the accumulated curve rotates and penetrates (with any luck) the zero axis. At that juncture, the investment's resource commitment is completely reimbursed by its earnings, so at this point the project has reached its "*break even*" point. Given that returns continue to flow in, the investment will return a profit, and the height and length of the curve give a visual impression of how profitable the investment will become over time. Both visually and mathematically, this is the principle for estimating a project investment's total profitability.

The next thing to take into consideration is the fact that particularly within healthy economic societies, we always have a certain degree of inflation, i.e. that the value of money decreases over time. The reasons for inflation are manifold. The simplest way to explain why inflation is quite normal is that a country steadily prints more bank notes in order to cope with the increasing price of goods and services, and a price increase naturally follows when there is a shortage of these same commodities. If more and more people want to buy the same commodity, it will become less available. Following that line of thought, each unit of currency buys fewer goods and services, so inflation erodes the purchasing power of money. This can then be compensated for by an increase in salaries and earnings for people and companies. With low inflation, this tends to create a good, timely balance between the amount of goods bought and the amount of money available. Thus, the economy will develop in a way that everybody finds acceptable. For the same sum of money one year, a person will receive slightly less for it the next year. To some extent, these are negative effects, although there are also positive effects. Inflation supports a mitigation of economic recession and debt relief by reducing the real level of debt. As compensation, a cost one year will be a slightly smaller cost or debt the next.

In terms of projects, much of this relationship can be computed by the use of both simple and very advanced calculation tools. There are alternatives for both benefits and costs, and one can simulate different outcomes of the benefit-cost ratio. What is quite popular today is that the calculations for every year reduce both the costs and benefits with the loss in value these two variables will successively be assumed to have, thereby creating the so-called *Net Present Value (NPV)* of the investment. If the NPV > 0, the investment is positive; if it is less, we should probably spend our money or other scarce resources on something else. Another way to look at this is to assume that at the end of the investment period the benefits will be equal to the costs and then calculate at which fixed reducing rate per year this will occur, ending with the project's *Internal Rate of Return (IRR).*[38] If this rate is lower than what the other investment most probably will yield in return, i.e. the "*opportunity rate,*" we should not invest in this proposal.

For any project we intend to start, these important assessments of an investment's real value should be made and carried out prior to any further time- and resource-consuming project efforts. This applies not only to financial investments, but to investments of a social or human related nature as well. To misuse resources for an unhealthy project investment is something we know will be both negatively observed and may well create adverse precedents for decision makers the next time around.

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Projects are investments and have to be exposed to some benefit-cost evaluation, which is also a correct view for SMPs. But when a project is small, the danger is that we make such extensive and elaborate investment investigations that the total cost of the evaluation plus the later execution and control costs overrun any possible benefits. Even if the calculations show a positive benefit-cost ratio, the decision to start the project may still not be well justified enough since many SMPs suffer such evaluations from simply too many calculations. Since all ideas about the future will be speculative anyhow, costs and benefits still involve a fair amount of guesswork, and even the best calculations that are based on guesswork will conclude with guesswork as well. In addition, it seems that many estimates deprive us of the opportunity to use intuition and a "gut-feeling." We are often paralyzed by number magic and impressed by computer outputs, but the further we go into the future, the more uncertain things become. Therefore, we should use a good portion of common sense before we start extensive number crunching operations in order to try to give a precise cost and benefit ratio on small and simpler projects[39] such as SMPs.

2.2.3 Selecting the Best Idea

Even if the idea of an SMP meets our technical and financial investment requirements, the next aspect that needs to be reflected on should be whether we have or can obtain sufficient *support* to manage it. Unfortunately, "selling" is often done by laypeople perceived to be involved in intrusive marketing. How wrong can one be! Almost all good ideas have to be sold, and very few are just discovered and become successes. One basic is the seller's ability to see him or herself through the customer's eyes, i.e. from the outside looking in. After that, what remains is an analysis of the three C's: Clients, Competitors and Company. Who will benefit from our project? Who will be our "enemies"? How will the SMP support the company?

Both one's own funds and other sources must be carefully examined and confirmed as much as possible before an idea is pursued any further. It does not help that an investment calculation shows a large profit in the long run if the project "dies" because the costs become damagingly high before any revenue has materialized. In addition, SMPs must also be assessed against other investments. It is very rare in today's world that companies and organizations have only one or two projects underway at the same time. It is far more common to have multiparty projects and multi-complex projects. *Multiparty projects* are projects with multiple clients involved such as stakeholders, and *multi-complex projects* occur when many projects and programs compete for the same resources in terms of employees, physical resources and financing. In large organizations, multi-project activities have become so common that they have become more and more computerized as *project portfolio* programs calculate the overall use of resources for all projects in the company, both ongoing and those in the pipeline. The purpose here is to balance and reduce the number of projects to only the most important ones, *the key projects*. In this way, it is easier to calculate the total profitability of a company's project activity.

To elaborate calculations of this kind for SMPs can often be both cumbersome and unnecessary. Instead of risking the killing of a good idea by using meticulous mathematics and probability calculations, one can come a long way simply by using pure *instinct*. If many agree that an SMP idea is good, it is probably good enough to be attempted. As previously mentioned, we can afford to take chances with SMPs. To take chances on small investments is the degree of freedom that any organization should allow itself if they want to create something new, profitable and exciting. Some SMPs can simply only be evaluated against the situation that has created a project's needs, which can be an immediate crisis that has to be solved or a golden opportunity that has to be dealt with as quickly as possible. We must bear in mind that in principle there are two types of knowledge: tacit and explicit. *Explicit* knowledge refers to knowledge that is transmittable in a formal, systematic language, while *tacit* knowledge is personal, context-specific and hard to formalize and communicate. For this reason, it may be difficult to find a fully explainable advantage on very short notice. In fact, one should be careful in letting a long-term vision and strategy prevent us from doing SMPs that obviously need to be done!

When we invest in a project, the most important part is to reflect on the costs involved, and the costs should be better quantified to some degree. If the costs are significantly larger than what the company or we can cope with in the short term, the project proposal should of course be forgotten or at least not realized for the time-being. Benefits should similarly be discussed, but not necessarily calculated with extreme precision and justified only from a long-term perspective. Calculated benefits are extremely important to identify, but as has already been pointed out, a simple "gut feeling" for SMPs can serve as a good enough reason! As has been argued by many, entrepreneurial success is often an *iterative process.*[40] If business model A fails, then negotiate business model B with the project client or user. For SMPs to become simpler, iterative benefit-cost evaluations in cooperation with potential project stakeholders are something a project leader and his or her companions should always strive for.

But there are also other important matters to consider. Just because SMPs should not be as seriously scrutinized as larger projects in principle, there are still other precautions that must be taken. One practical observation is that some projects such as smaller, reorganizational activities, or the development of internal systems for increasing efficiency or productivity, tend to only get a high priority in the beginning. As soon as the project has started, higher level management's interest slows down and the project leader suddenly has to struggle with both poor resources and poor attention.[41] Conversely, customer and market-related projects tend to receive an increased priority over time.[42] These matters disturb the internal competition for many SMPs. Nevertheless, the project leader must not give up, as many SMPs are destined to constantly fight for their priority.

The conclusion at this point is that certain benefit-cost calculations are obviously important for all projects, including SMPs, though they must not be too comprehensive and become time- and money consuming operations. Sound and simple human judgments can mean a lot, which is also the idea behind Stepstone # 1, i.e. to first identify the person(s) who invented the idea; then move on to the next highest level as far as who really supports the idea; then both our and their opinions about the relevance of the idea, followed by a ranking between a minimum of five other ideas from which the most current is perceived as "the winner." At a very early stage, this will already create a safeguard that the idea is not the only one being evaluated, but instead is a result of competition. This also takes into account the financial standpoint in the sense that the approximate implementation costs compared to the assumed benefits at this early stage must also be an important part of our decision. The Stepstone method also helps to identify those who may be severe

opponents of the idea. A project's "enemies" will almost always exist and to reflect on who they might be is another important aspect of an early project selection.

In this way, Stepstone #1 is just a first, very brief evaluation of an idea. In reality, the Stepstone is itself a small project or "feasibility study." The purpose is to ensure that the idea is worthwhile in pursuing.[5] If the average score is "5" or better, then the first key decision point or obstacle in the project has been conquered, even though we can choose to proceed with a lower score. But we should consider the situation, or at least seriously reflect on those questions that are not satisfactorily answered, and why, if we want to continue with an idea. For example, if the project leader or main stakeholders have not responded positively to statements 4 and 6 in the Stepstone, it could be because someone may have forgotten to compare the idea with other ideas, and also that the project will have to struggle from the start with serious opponents who question the suggested benefits, the suggested costs, the benefit-cost ratio and our own involvement. These are threats that are generally not thought so much about in traditional benefit-cost calculations, but which can play a very serious role in SMPs.

Additionally, we should consider how *motivating* the project idea is after it has been scrutinized in this way. As mentioned earlier, it has been proven that the motivation within a project may vary in its development phases.[43] In the early phases of a project, it is particularly top management's support and the enthusiasm among the project's key actors that are so important. If it seems as if some of the not-so-good-answers related to low motivation are already present at this point in time, it is a first signal that the project idea might be difficult to implement, even if it has technically achieved a "5" or better score.

It must never be forgotten that we live in a modern culture in which *monetary value*, after all, is the key yardstick for success. As a result, we should always strongly draw attention to the economic dimension of the project. A first warning sign of potential trouble is when the project involves huge economic disbursements. The result may be that all financial resources are used on only one investment, which is both risky and threatening and blocks other important investments from being realized. Another warning sign is that the commitment to the project can set major precedents, which is when actions and decisions establish principles which perhaps unfairly favor similar projects in the future. A third important factor to consider is whether the project involves tying up resources in the long term such as schemes which are difficult to reduce or that prevent flexibility. Another important consideration is also irreversible interventions, i.e. actions that involve solutions which cannot be eliminated, although they are later proven to be of low value.

2.3 Conclusions about Stepstone # 1

In order to advance to the next Stepstone, one should be able to positively answer five out of the six statements listed, which is approximately 80%. If not, we better rethink the entire idea or go deeper into the statement scores to see if something can be changed, redirected, or supported differently in order to achieve a sound project idea for further development.

In conclusion, one should not forget the important role of *communication*. For most of the stated questions, it may be wise to contact relevant persons in order to check as to which degree they agree with the answers. Perhaps the idea is not really new to them and has even been tried before with questionable success? We should be very observant about such basic information and its relevance for our SMP.

Then comes the importance of *motivation*. Maybe the idea will face far more resistance than expected due to reasons the project manager and even key stakeholders do not know about? But if the project idea is still received very favorably and we feel confident that the *motivation* is both high and justified, that the idea is supported at a higher level, and that the effects of the project are satisfactorily reassured both in the short and long term, then we have received a green light to proceed with the project idea to the next Stepstone.

> The most *motivating* aspect will be the challenge of the new and the support felt from both higher level management and end user(s).

> Another very important factor is communication, in that precise data is given within the organization to higher level management and to the user(s) in a clear and easily understandable form.

2.4 Stepstone # 1 Used on the Conference SMP

> A simple method for screening the conference idea at a very early stage is to use the *NAF principle*. NAF stands for whether an idea is New, Attractive and Feasible. For the conference SMP, an early NAM analysis can be as that shown below in Figure 2.4:

	Very little					Very much
	0	1	2	3	4	5
N (How New the idea is)				X		
A (How Attractive the idea is)						X
F (How Feasible the idea is)					X	

A good rule of thumb is that an average score of less than "4" on the NAF test should make us reluctant to pursue the SMP any further. According to the marks above, holding a conference like this is not so new so we only give it a "3", but we regard it as a very attractive idea and give that idea a "5", and in our view it is definitely feasible, so we mark it with a "4". The reason why the feasibility is not given a "5" is our uncertainty about the number of skilled speakers we can get and that we are perhaps slightly optimistic about the number of participants who will attend as well. For instance, if we had given a score lower than "3" on how new the idea is we would need a score of "5" on its feasibility in order to find the idea acceptable enough for further elaboration.

When the SMP is to organize a conference, a simple benefit-cost assessment would be to reflect on the extent to which conference costs are at least offset by the expected market value, the sales potential of the product the conference is about going to market, and the potential immediate and future earnings as a result of the conference.

Stepping-stone # 1:   Screening the Project Idea

1 *Who has **launched** the idea or is eager to have it materialized?*

Name of person	Organization	Position

2 *From whom will this idea most properly get superior **support?***

Organization	Person	Position

3 *The general **opinion** about this idea from people familiar with the problem area:*

			Not really 1	2	3	4	Very much 5
N	=	The idea is New?					
A	=	The idea is Appealing?					
F	=	The problem is Feasible to manage?					

4 ***Other ideas** which this idea is already assumed to be better than:*   *Reference*

Suggestion # 1	
Suggestion # 2	
Suggestion # 3	
Suggestion # 4	
Suggestion # 5	

5 ***Approximate implementing** costs or implementing requirements*

Costs (numbers)	Requirements (verbal)

Assumed financial sources	Short verbal benefit/cost evaluation

6 *Assumed major **opponents** to the project idea?*

Name of organization or person	Position	Location

Amount of satisfactory scores from the 6 statements above in your opinion?

Stepstone # 2: Turning the Idea into an SMP

2.5 Theoretical Reflections behind the Statements in Stepstone # 2

When Stepstone #1 has justified that the idea seems to be a valuable investment, there are two questions:

1. Is the *project approach* the most suitable implementation form for realizing the idea?
2. Will it be possible to find enough *resources* to run the project?

To be able to transform an idea into a project at the outset is no guarantee of success. The project approach is demanding, and some of the requirements may simply go against the project approach being the best way. After all, there are quite a few other good ways to solve a problem. Some problems are more fitted to be solved through traditional *routine* operations, e.g. complete repetition of previous operations, which is often both cheaper and faster than creating a new project. This is especially true when the operation comes very close to a former successful operation. Obviously, it would be easier to just allocate enough skilled people, agree on the standard of the end product, agree on a well-known recipe for how to run the operation and get started. The known difficulties have to continuously defend why the project approach was chosen. These difficulties include the project's execution process and the use of scarce resources which have been used to explain why one better operate in accordance with well-known policies, common rules and established norms instead of embarking into a time- and cost-intensive project operation.

Another way to problem solve is to use the "*random approach.*"[44] By using this approach, we just start and see how it goes under the motto "the road is built as we walk on it." If both the end result and the way of working are relatively unclear, this can help to promote exciting creativity during the operation, and the end result may be surprisingly better than expected, though of course things can also become worse. We take chances; we trust our own ingenuity, skills and perhaps a little bit of luck when problems occur. Still, many masterpieces and many a good product have become great successes just by using this method of random approach.

The project approach lies in the way between a routine operation and the random approach. The more complex and restless a society is, the more we depend upon some type of formal arrangements since regularities in some dimensions of life make it easier to engage in and cope with change in other dimensions.[45] While the ruling arrangements may be more or less "satisfactory" in terms of how far they contribute to our well-being, wealth creation and happiness in society as a whole, they will never reach "optimality" as seen from the point of view of society. We therefore have to accept that even the project approach is far from perfect for any of us, but its benefits seem to outweigh its drawbacks.

Still, we have to sell our project well. A crucial factor is whether the project will receive adequate *funding*. One must distinguish between *benefits and costs,* as well as *equity* and *debt*. They who help with foreign capital often require some form of security for their investment. The main types of funding are public funding, mortgages, leasing, bank loans, venture capital and "Business Angels."[46] All funding sources have their pages. Public funds often provide favorable conditions, but one is plagued by bureaucratic processes and frequent reporting requirements. Mortgage loans are often long term and also contain favorable conditions, but full funding is rarely possible. Leasing means full funding, but the loan is limited to the lifetime of the object and often comes with a high interest rate. Bank loans are often very flexible, but require security and limit the freedom to act in one's own way. Venture capital means high expectations, good support and access to important business networks, but such capital can be difficult to find and can imply limitations in ownership. "Business Angels" normally give good terms and tend to have a rich business network, but the investor seldom involves him or herself too much in the project and also does not give too much support.

It is sometimes possible that the task is larger than a project. It can, for example, be better run as a *program*. We want something, but we are unable to concretize what we want as more than a good direction, a good purpose or a good strategy. Perhaps only certain parts of our program declaration can be designed as a project or a portfolio of projects, but we have no clear opinion about this yet. According to theory, one should then use a "stepping-stone" approach, going through five levels of investigation to see if there are opportunities for good cooperation with other projects, other units and even other companies. The levels are:[47]

Level 0   **Planning** - At this level, businesses have an understanding that project cooperation is desirable, and they have come so far that one has started a planning effort. However, a plan is no guarantee that the work will actually be done, so at this level there is still no coordination and no common value.

Level 1   **Coordination of work processes** - The businesses are able to perform projects that require participation from both parties which can be as simple as one business performs part of a project, although this requires information or participation from the other business to finish.

Level 2   **Knowledge Sharing** - The businesses share project knowledge and experience that enables learning and innovation across organizational boundaries. One creates physical or electronic meeting places, and one creates an infrastructure that enables the exchange of knowledge to be made possible. The result is better services for the end-users.

Level 3   **Common value creation** - The businesses are developing projects that create new services for their common users. Together, they create value that would not have been possible through cooperation at lower project levels.

Level 4   **Strategic coordination** - Here, businesses are capable of having a close strategic partnership toward common project goals and common benefits, and the degree of socio-economic benefit can be very large.

These steps are obviously of great importance in today's situation when many companies tend to have many ongoing projects at the same time. In this case, it may be much better to seek more in-depth information about level possibilities as described above in order to not throw oneself into an all too uncertain and unhealthy single project operation when cross- disciplinary and cross-business opportunities can be developed.

2.6 Practical Reflections behind the Statements in Stepstone # 2

A simple way to check whether a project idea is practical is to compare the stated ambition with the available competence. Obeng[48] has launched four possibilities in principle:

1. We know what we want, and we also know how to apply the project approach successfully, in which case the project is "closed."
2. We know what we want, but we are not sure whether we can master the project approach well enough to successfully proceed, in which case the project is "half closed."
3. We master the project approach well, but we are not sure what we will end with so the project is "half open."
4. We neither master the project form nor do we know what the end result will be; thus, the project is "open."

The options are illustrated in Figure 2.3 below:

	Know What	*Don't Know What*
Know How	CLOSED ("Painting by numbers")	HALF OPEN ("Making a movie")
Don't Know How	HALF CLOSED "Going on a quest")	OPEN "Walking in the fog")

Figure 2.3 – Types of change projects by Obeng.

If we more or less know exactly what we want, then the goal of the project is clear. In addition, if we master the project form we should have enough skill at the outset to run our project successfully. Traditional project work is typical for this situation. We know what we want and we are staffing the project with experienced, well-qualified people who match the project's challenge. The project is "closed" and the work follows prescriptions as minutely as possible, much in the same way as we fill in colors in a coloring book for children in which each color is codified by a number. In this way, we end up with nice, colorful pictures.

But today, we also have projects where we know the project approach well through education or experience, though we do not really know what we will end up with. In many ways, it is just like "making a movie." It is through observation and experience in the process itself that the most important end product becomes more and more clear. The way to work however is clear, much like following a "cookbook."[49] Film producers know how to make a movie, but they are not sure how the end product will be until they have cut and pasted the final movie. Thus, the project is "half open."

Then we have projects where we know what we want, but we are in doubt about how to proceed. The work process will then be a continuous "search" for how to do it. Even so, the goal, i.e. the end product, is clear all the time. A consequence may be that we are working hard but inefficiently, and if or when the goal is reached, it is not through enthusiasm and smart thinking, but rather through exhausting work and pure duty. The project is "half closed."

In projects where we do not know what we want and do not know how to handle the project approach, we simply "walk in the fog." Many artists often have this way of working. They are creative and innovative, but often have a very unsystematic approach, and the end result is not clear until the last day (if ever). Of course, some of these "open projects" may end up as a unique work of art, while at the same time the risk of failure is also very great.

Traditionally, it is only the first type which has been regarded as a "real project." Today, however, there is a growing understanding that as long as we do not know the future, we must accept that some projects will start without knowing exactly what the best end product should be. If much of what is happening throughout the project process shows that the end product will be different than originally thought, the project process should have the flexibility to change course for the better. A well-known term for this approach is "to shoot towards a moving target." Today, it is clear that many projects would benefit from such a mindset.

The other two forms of project work may also be relevant, but it is generally more dubious for them to be called "projects." If you know what you want but do not master the project principle or the way to work with a project, there is a good chance that a brilliant idea will be destroyed by bad craftsmanship. And if we do not know what we want or how to use the project form properly, it is certainly not a project and could be considered more of a "happening" or a pure random effort that will easily end in nothing other than frustration.

A good first step in order to check if the project idea is suitable for the project form is to compare your effort with the most widely known *definition* of a project:

> "A project is a temporary endeavor undertaken to create a unique product, service or result." [50]

According to theory, this definition belongs to the "*task perspective,*" i.e. that the project shall create a result, produce a product or perform a service. The following definitions illustrate the generally recognized criteria for a task to be defined as a project:[51,52]

1. A project is justified by a recognized need or *problem*.
2. A project starts out with a clear *goal* or goals.
3. A project has a certain degree of *uniqueness* which makes routine operations less suitable.
4. A project has, or should be given, clear resource *boundaries* with respect to time, money and personnel at the very least.

There are many appealing elements in this definition. Most people like to be given the opportunity to really concentrate on a task since our normal working days are usually littered with many unpleasant interruptions. Projects are for people who are *action-oriented* and *goal-oriented*. The definition is also quite simple, but despite all these advantages the definition embodies a clear conflict between *aspirations* (definitions 1-3) and *restrictions* (definition 4). This is typical of today's project challenges; namely, to master a high degree of creativity and a high degree of restrictiveness at the same time.

The next step is to find the best capital provider. If the SMP belongs to our own organization, we just have to convince our superiors that the project is worthwhile based on a positive benefit-cost evaluation and our capability to run the project successfully. If the capital provider is external to our SMP, we have to be more careful. The best way to start is to create a "*business plan,*" a working document that provides clear and concise information on all aspects of the new project that are relevant for the investor. This includes information about the project's mission, goal, market, the way the project will be led, benefit-cost analysis performed, etc. Negotiations with investors are often described as a battle between greed and caution. On the one hand, we have the fear of not getting the necessary financing, while on the other, having the desire to not give away too large a share of the project to the investor so that our personal ownership feeling of the project disappears. It can therefore be an advantage to provide capital over several steps, even if it means repeating the rounds of negotiation. Significant elements of the negotiations are reasonably based arguments, our own personal conviction about the project's success, how mature the business idea is and that the expected value corresponds to the investor's expectations.

With both a clear project definition and the funding clarified, many projects in fact end up as separate organizations, living only as long as the project lasts. For that reason, this definition can mean that projects today are seen much like an *organization* whose mission is to solve a problem for a larger, more stable organization, generally referred to as the "base organization."[53] The base organization can be both large and small. Similarly, the project definition does not make a separate distinction between large and small projects. Therefore, this definition can be regarded as being a general one for any operation that is decided to be run as a project, and will also be used in this book as a proper way of identifying project operations.

2.7 Conclusions about Stepstone # 2

The next Stepstone is about examining whether our potential project is fit to be executed as a real project. We do this by using Stepstone # 2, "Turning the idea into an SMP." Following the same principle as in the first Stepstone, at least 5 of the 6 questions should be answered positively. If not, there is reason to rethink the idea of conducting this operation as a project and going back using the arrow between Stepstone # 1 and Stepstone # 2 as illustrated in Figure 1.3. An alternative of course is to stop further project development at this point in time, meaning that the project will then be turned down, either permanently or temporarily.

In the same way as in Stepstone #1, motivation and communication will play major roles.

> What *motivates* the most is about having a good match between competences and challenges. To have the chance to do something we know we have mastered, particularly within an area that we feel is important, is very motivating.

> In terms of communication, it is essential that the project is defined in such a way that the project's objective and requirements are fully understood by those who shall perform the job. Key project personnel should be familiar with both the project's purpose and its terms of reference. This can be done in writing or in the form of verbal communication between relevant stakeholders.

2.8 Stepstone # 2 Used on the Conference SMP

> When the SMP is to organize a conference, an important first step is to reassess whether the conference has a clear purpose. What do we really want to achieve? If it shall be carried out as a project, then the conference must have some type of uniqueness and be managed within strict financial, time and quality limits. Is this really important? Perhaps the way last year's conference was done can just be repeated? If so, the conference can be run as a routine operation in a smooth and safe manner. Is it really important to make a precise quality description about the final goal? Perhaps the entire conference can be run as a creative, ad hoc operation, opening up for learning-by-doing and just deciding the purpose, as opposed to having a concrete goal that forces people to accept strict constraints? Using the Stepstone as a means of clarifying our decisions will be helpful, but if we find the best solution is a professional project approach, we should go for it!

Stepstone # 2:   Turning the Idea into an SMP

1   Can the project idea be identified as part of a **strategy** or a high level program?
     If so, give a short, verbal description of this strategy , and present it to your superior for
     evaluation:

2   Is it important that the idea, if it is agreed to be a relevant project, be finished within a certain
     time limit? If so, give a short verbal explanation why.

3   Has the idea a complexity or uniqueness that makes routine operation inappropriate and
     thus requires **unorthodox** thinking? If so, give a short explanation why.

4   Is it important that the work starts out with a clear **goal(s)** identifying a measurable end
     product within a specific TOR (Terms of Reference)?   Yes [   ]   No [   ]

5   Can the work best be executed by selecting and/or appointing a distinct **Project Leader**
     for the whole operation. If the answer is "yes", give a short explanation why?

6   Will the execution of this potential project require an **independent** leadership style?
     If so, give a short explanation why.

     Number of satisfactory scores of the 6 statements above in your opinion?   [   ]

2.9 Summary of Chapter 2

This chapter elaborates on perhaps the most complicated step in a project's development; namely, to identify the best project. There are many ways to do this, in addition to many considerations and many ways to measure "value." Even if a task is valuable in and of itself, this does not guarantee that the task is fit for the project approach. This chapter has to therefore be taken in various ways to help identify and prioritize SMPs, and concludes with a mandatory definition that applies to both large and small projects.

3. How to Prepare SMPs

Stepstone # 3: Appointing the SMP's Project Leader

3.1 Theoretical Reflections behind the Statements in Stepstone # 3

Research confirms that the project manager is the project's most important person,[54] regardless of whether he or she is called a manager or a leader.[55] The first step in the project preparation phase is to select the person who shall be in charge of the entire endeavor. This is a very important step and should be done with a keen evaluation of the candidates. It is not uncommon that the person who has come up with the idea, fought for its justification and prepared the project concept ends up being selected, regardless of whether he or she has limited or no real project leadership experience. Technically speaking, this is not necessarily the best choice because project management is a profession no matter the level and type of project, and should preferably be handled by people who not only have enthusiasm as a driving force, but also possess reasonable project management skills as their basis. In large projects, the rule is simply to select those who have already shown themselves to be capable of running projects or similarly extensive operations more or less successfully in the past.

Nonetheless, this could be a trap since the competent application of tools and techniques is not necessarily the most prominent factor for success. In small projects such as SMPs, the situation can very often be different. It may well be that those selected do not have the highest professional project competence, though a certain lack of managerial experience can be compensated for with skill in collaboration and the use of emotional intelligence, as well as the ability to motivate others and make decisions. According to Furnham,[56] the best managers are generally those who are *bright enough*! That means bright, but not too bright; skilled, but not too skilled; smart, but not too smart; social, but not too social, and so on. For SMPs, this is an especially valid view in the selection process of the project manager and leader who is the best fit.

The difference between a manager and a leader is often discussed, and the most popular distinction is that managers "follow the rules," while leaders "make the rules" or even "break the rules" when necessary. Another definition is that leaders "act", while managers "react."[57] In project operations, it seems wise to act as both a project manager and a project leader depending on the type of project, the state of the project, the people involved and the setting of the project. Their competence, decisiveness and ability to show both good management and good leadership have a direct impact on a project's success.[58] According to new research,[59] four out of five efforts to change fail because managers instinctively bristle against change. People tend to continue with what they know best and with what they know works. Human beings have three barriers in the brain that block change. The first one is a "failure to see" in the sense that a person does not see the need for innovation and change until things are about to go wrong. The second is a "failure to move," which means that it is agreed upon that something new must happen, although change is still opposed. The reason for this is that often when something new is started, one is not very good in the beginning. Thus, one prefers to continue with what one knows best. Many managers devote little attention to this phase, despite the fact that this is where the resistance is greatest. The third barrier is the "failure to finish," this being that people simply get tired or lose direction during the transformation process and fall back on old patterns, with the reason possibly being a lack of follow-up or feedback.

The question then becomes who should appoint the project leader? In large projects, it is common that project managers are appointed using the hierarchical principle: Top management or CEOs appoint officers at the next level, the next level appoints their subordinate managers, and so on. In principle at least, the selection of the project manager is the responsibility of senior management. Any superior is naturally welcome to use his/her expertise in this process, but the formal appointment is superior management's responsibility. Because the role of the project manager has become an increasingly important position, it is very important that the appointment becomes quite formal.

For SMPs, formalities are also important. In SMPs, project managers are also leaders, although the leadership role is often very difficult since it is a typical middle-management role. In these roles, we have "leaders" both above and subordinate to us; the latter in the sense that we may have to lead people who are in charge of specialist groups, special management divisions and the like. Even in very small SMPs, it is not uncommon that the few people we are leading have special roles and areas that they are in charge of. The project leader then becomes the linchpin between layers of leaders, which again easily implies pressure from both above and below, with people above us putting pressure on us for more action and progress in order to satisfy market demands, customer needs and even supporting higher levels of their own prestige. At the same time, will skilled people who are subordinate to us voice their demands, their needs and their opinions? To handle all of this, a good rule is that our coordination activity becomes as slim and transparent as possible.

3.2 Practical Reflections behind the Statements in Stepstone # 3

The best practical principle in order to cope with all the demands we will surely face is to have only *one project leader*. Both steering committees and other bodies such as advisory groups and reference boards may well have more members, but project management is a "lonely" job.[60] To follow up this quite complex responsibility implies a need for relevant, practical authority. Project leaders must be willing to often use power in ways that subordinate managers and other project staff may find uncomfortable and stressful. Yet, this is the guiding principle in all organizational activity in that the responsibility and authority are distributed so that some have a greater responsibility and authority than others and shall be allowed use it. As a result, the rule is that even in SMPs, project leaders will be given *high, formal power* in order for them to do the job in ways that match their ability and preferences. One important difference between a manager and a leader is that a manager often sees a crisis as something to be coped with, while a leader sees a crisis as an opportunity.

The typical formal authorities for project leaders of SMPs within the given Terms of References are:

- The authority to call and organize meetings and gatherings, including those that cost money;
- The authorization to purchase equipment and consultancy services when needed;
- The authorization to approve travel for staff members, including course participation and academic excursions;
- The authorization to replace and dismiss project workers;
- The authorization to order overtime; and
- The authorization to change the project's goal or goals.

In addition, a project leader must use *informal power*. However, informal power cannot be authorized - it must be earned - and is created through the attitude and behavior that project managers demonstrate to their surroundings and their employees. This is a very important factor to be aware of in today's knowledge-based societies, in which project leaders are put in charge of well-qualified people who are often more competent than themselves in specialized areas. By virtue of their knowledge and expertise, these people will then "lead" in their fields of responsibility, and through their influence they indirectly "lead" the project leader. For SMPs, this is typical. Key project people are seldom selected by some haphazard principle. They are selected because they are skilled and competent, but when they are competent they have their own opinions that can sometimes go against those of the project leader. The fewer the project staff, the more natural this becomes. Often, the only way to master these situations is to use informal authority, which is why the modern leaders of SMPs must also learn how to negotiate, convince and lead in an indirect way in order to maintain the progress of a project.[61]

3.3 Conclusions about Stepstone # 3

In Stepstone # 3, "The Choice of the Project Leader", these reflections are expressed in 10 questions or statements, of which the total score should not be less than 40, thus indicating an average score of 80% since the maximum score is 50. A basic principle of this Stepstone is that if we cannot manage ourselves, we also cannot manage others. But even if the one intended to be the project leader receives a response rate lower than 40, we can still consider him or her as being the correct project leader. We should be very careful if the project goal can be changed if this turns out to be response rate is too low since it is very important that the *right* project leader be selected as early as possible. To arrive late in the project process, e.g. when the project is selected, planned and organized by others, can make it difficult for the project manager to make the proper decisions when unexpected situations arise. In such cases, the person who has participated in the early processes often has an intuitive feeling for what will be the best decisions and actions. Particularly as it regards SMPs, it is a good rule to look for people with early initiative and enthusiasm as project leaders since they will automatically be involved in the early stages of the project.

As stated, personal enthusiasm in combination with a rich personal network are important for good communication and high motivation. But if the score is too low, the project leadership role should be left to others, be delegated or perhaps be at a higher level, i.e. adjusted in an upward direction. Project leaders who are lukewarm to the task will naturally not put as much effort into a project's implementation, and will be keener to use their network of contacts for personal benefit than for the advantage of the project. An enthusiast will see the project as a personal challenge and use their energy for both personal success as well as the project's success. A good motto is to select a project leader who feels "comfortable in an uncomfortable job."

Nevertheless, we must always consider the negative answers in a Stepstone. A low enthusiasm for a project task the way it is formulated at this early stage can be changed to a positive answer with only minor reformulations of goals and terms. Some weak academic abilities can be strengthened through training and practice, while a weak horizontal network can be improved through deliberate efforts. The question of how to motivate others can be learned by only small changes in attitude and behavior. In this way, the horizontal double-arrow back to the previous Stepstone can be an incentive to change some of the conditions in order for the SMP and its leader to achieve a better fit.

Together, motivation and communication related to Stepstone # 3 should be as follows:

> The most important *motivational* issues are a matter of good problem understanding, great will and great enthusiasm.

> The most important thing in terms of *communication* is to update and take care of one's own personal and professional network.

3.4 Stepstone # 3 Used at the Conference SMP

When our SMP is about organizing a conference, the selection of the project leader should be based on the high and relevant scores from all the questions in Stepstone # 3. The selection should also be based on his or her enthusiasm for the task, not only on previous experience with similar events. For example, the person selected at the conference SMP should be a specialist in team building, which would be a good compensation for lower scores on some of the other items. Perhaps an unconventional choice for the project leader increases the chances for a new and creative conference solution, while at the same time developing a new and skilled internal project leader for similar events in the future.

Stepstone # 3:   Appointing the SMP Leader

	The degree of agreement:	Very little 1	2	Medium 3	4	Very much 5

1   To which degree is the person selected, or to be selected as the project manager or leader, **enthusiastic** to the project endeavor?

2   To which degree is the person selected, or to be selected as the project manager or leader, **professionally skilled** within the area of the project endeavor?

3   To which degree has the person selected, or to be selected as the project manager or leader, **relevant administrative competence** within the area of the project endeavor?

4   To which degree has the person selected, or to be selected as the project manager or leader, **ability and/or experience to work "upwards",** i.e. to communicate with users, top management and other high level agencies within the area of the project endeavor?

5   To which degree has the person selected, or to be selected as the project manager or leader, **a personal, horizontal network** of people who can and are willing to help if and when problems occur?

6   To which degree has the person selected, or to be selected as the project manager or leader, exhibited good **verbal and/or written communication skills?**

7   To which degree has the person selected, or to be selected as the project manager or leader, demonstrated ability to **motivate** other people, and not only him/herself?

8   To which degree does the person selected, or to be selected as the project manager or leader, maintain a good **order of things** around him/herself, either directly or indirectly?

9   To which degree has the person selected, or to be selected as the project manager or leader, demonstrated the ability to " **make things happen** " and **concentrate** on the most important matters in turbulent situations?

10 To which degree is the person selected, or to be selected as the project manager or leader, willing to work **outside normal work hours** if rendered necessary?

Total score of the 10 questions above:

Stepstone # 4: Appointing the SMP's Core Team Members

4.1 Theoretical Reflections behind the Statements in Stepstone # 4

Although the project leader is a very important person, there are three other important roles within the project:

1. The roles of the project's Core Team members;
2. The role of the project owner or the project principal;
3. The role of the project user or project customer.

In large projects, these roles and responsibilities are carefully described and often confirmed in the form of a contract, although for small projects they should be agreed on as early as possible. A project leader must possess a good knowledge of where his/her people come from, what positions they have held or are familiar with and how they should best participate in the project endeavor.

The most important element is the people who shall be the project's *Core Team* members. They will be the driving forces in the project, and it is through their expertise and experience that they will participate in and exert an active influence on the daily work of the project. They can be experts within key areas that the project needs for shorter periods or be consultants and advisors in special situations. In society, more and more people will acquire two types of knowledge: "*explicit knowledge*" and "*tacit knowledge.*" The latter is knowledge they may not even realize themselves that they possess, but which appears when the setting is right. This will take place when the tasks they perform fit well with their accumulated knowledge or when the team is performing work and operations that stimulate them to make active use of all their knowledge.

In this context, it must be understood that a *team* is not the same as a *group*. Groups seldom work in an optimal manner. Research has confirmed that one often invests less personal effort when working in a group than when working alone, and a group does not need to have common goals or needs, to complement each other, to help each other or to have a stable membership. A team, however, has to include all these properties, but must be careful not to sub-optimize or use methods which are too special or have been put together only to satisfy the base organization. Without any follow-up, a keen use of authority and sensible delegation, a team can end up performing in a very unproductive and negative way. This can even happen to expert teams, especially the kind we tend to find in projects. The role of the project leader is to therefore build a Core Team who performs well together.

As for the project leader, the project's Core Team members should be drawn into the project's work as early as possible, despite the fact that both the purpose and objectives of the project may be slightly unclear at this point in time. But research has revealed that if management gives a project team diffuse information about its goals and objectives in the beginning, this may well speed up the team effect. A good team will be eager to start engaging in formulating sensible, creative and ambitious goals. If higher management later comes back with more precise goals and objectives, the team's efficiency can be reduced. Consequently, the project leader should be cautious in presenting the description of an exact final goal or goals at too early of a stage, as it is better to leave that to a discussion both with and among the Core Team's members.

4.2 Practical Reflections behind the Statements in Stepstone # 4

Based on our knowledge of good team composition, it is of vital importance in SMPs that the project leader be given the opportunity to voice his or her own personal preferences as to who should constitute the project's Core Team. A good practical rule to remember is that the core values of an effective leader almost always also reflect the core values of the project leader's team members. It is not necessary for the project manager to be allowed to use all the people he or she prefers the most, but rather to be given the opportunity to have some influence on the selection process. The reason for this is that people who already know each other and work well together will perform faster and more efficiently under pressure than people who must spend a long time on the usual social processes. It generally takes time to build trust and mutual understanding, and is faster and more efficient to put teams together that already have great confidence in each other, though this view can of course be controversial for some. The general consensus is that all people can learn to work well together if we use some time for team building. But because the main purpose of a project is to reach a goal within strict time constraints, a better principle for SMPs is to select people who have the greatest chance of starting as quickly as possible in order to achieve that goal together.

At the same time, the project leader must use common sense in the selection process. Only good, old acquaintances working together can create a "buddy" effect, thereby slowing down efficiency and productivity since we do not like to criticize our friends. Too much similarity among the team members may also be unfortunate because differences in important opinions may be scarce. Additionally, it seems to be a good idea to mix both gender and age. The number of social contacts and empathy increases with age, while the tendency to talk spontaneously and the willingness to take risks decreases with age. Women can often have a moderating and integrating effect on aggressive teams, but can also be too cautious. Men may be more aggressive and outgoing than woman, but have a tendency to isolate themselves, particularly under pressure. Personality is just as important as academic qualifications, especially when the work requires cooperation. According to studies, project leaders often use 85% of their time on management and only 15% on leadership. If the latter is increased to 30%, the team will perform better since the leader can then use more time on feedback, praise and individual recognition. It is also important that the project manager considers the balance between key member's expectations and their real competence, which is illustrated below in Figure 4.1:
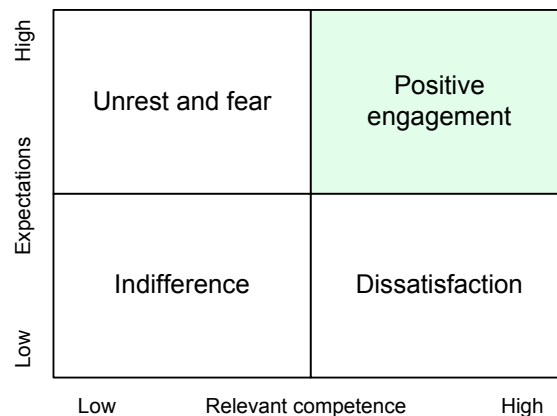
Figure 4.1 – The balance between employee challenge and employee competence.

The diagram shows what can happen if the balance is not right. It is the project leader's duty to find people belonging to the upper right corner, often called the "float zone."

Finally, it is a good rule to select team members who have a high probability that they will be available until the project's work is completed. To change team members while the project is underway tends to lead to social and academic stress. Having to break-up, intervene and regularly update new employees is time-consuming and frustrating for any project.

In principle, the project *owner* is the person or agent who says "go" for the project. Any project has at least one owner, and in small SMPs the owner and the project leader could even be the same person. The owner's primary role is to ensure that the project's purpose is valid all the way through until the project's implementation and conclusion. A natural part of this role is to allocate the project's financial terms and determine the desired quality of the end product. The owner can delegate this authority to a specially appointed *steering committee*, a project office, a project coordinator or the like.

The project's *user* or client is another important consideration. It is the customer who has to live with the end result of the project, and it is the usefulness of the end product that determines the user's opinion of success. Even so, in some projects the clear identification of the client can be diffuse. For example, in a large public project the client is "the society," and a concrete user response is difficult to measure. In other projects, the "user" is many organizations who have created common projects, some of who are subordinate to others, making the real user difficult to identify. In SMPs, however, it is very important that the customer is identified and becomes the one who is the most satisfied. If we as the project's executors are very excited about the final product, while the customer or client is dissatisfied, we have misunderstood the purpose of our project.

4.3 Conclusions about Stepstone # 4

To ensure we are doing this part of the project preparation in the best possible way, Stepstone # 4, "Appointing the SMP's Core Team Members," is recommended with the same guideline that at least a score of 40 should be achieved in order to yield a positive response from us.

The most important motivational factor with this Stepstone is that the SMP,s immediate surroundings support the project. If we are worried that the project will be dissatisfactorily received due to a blurred user or client, we very often start to use energy on self-protection instead of using it to achieve the project's goal.

The communication at this point in time must be quite extensive. All participants in the project should be fully informed about the project's purpose as well as the expectations of the project's stakeholders. Meetings, gatherings, memos and web information are all important tools in this respect.

In conclusion:

> The most motivating factor is the individual team member's confidence with regard to their own capacity in relation to the project environment.

> The most important for good communication is formal and informal communication upward, forward, beyond and within the project.

4.4 Stepstone # 4 Used for the Conference SMP

> When our SMP is a conference, we have to consider both "downstream" and "upstream" activities. For the project's Core Team members, mutual trust and respect for each other is more important than having heavy and "recognized" expertise during the project's execution. In addition, it is safe to have the right people and agencies at a high level as support agencies.

Stepstone # 4:   Selecting the SMP`s Core Team Members
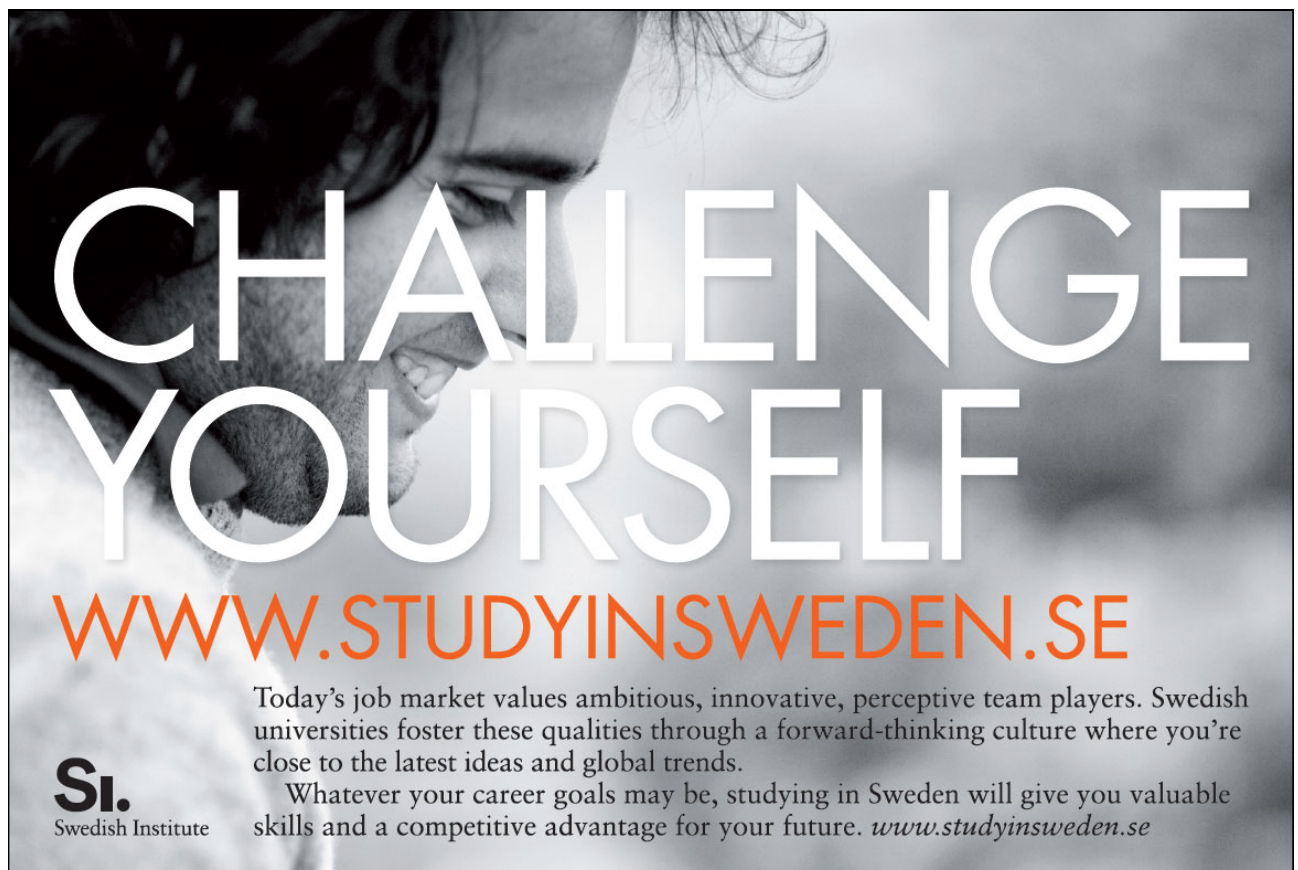
	The degree of agreement:	Very little 1	2	Medium 3	4	Very much 5
1	To which degree does the Project Leader have a good knowledge on who are the most **qualified** to be project Core Team members?					
2	To which degree has the Project Leader been given the opportunity to **influence** the selection of his or her project Core Team members?					
3	To which degree is there a good fit between the presumed **competence** of the project`s Core Team members and the **challenges** the project will face?					
4	To which degree do the project`s Core Team members know who is **behind** the original project idea?					
5	To which degree do the project`s Core Team members know the **quality requirements** requested or desired by the project sponsors					
6	To which degree do the project`s Core Team members know who has decided the project`s **Terms of Reference** ?					
7	To which degree has the Project Leader the **authority** required to master the project`s Core Team professionally in everyday operations?					
8	To which degree is there a good chance the project`s Core Team members will **work well together** , i.e. help, support, and be willing to learn from each other?					
9	To which degree does the project Core Team members know who will **support** the project if and when difficulties should arise?					
10	To which degree does the Project Leader know who among the project`s Core Team members may well **create difficulties** during the project`s execution if internal conflicts and/or external obstructions occur?					

	Total score of the 10 questions above:	

Stepstone # 5: Deciding on the Mission and Goal for the SMP

5.1 Theoretical Reflections behind the Statements in Stepstone # 5

Throughout the processing hitherto, the project's concrete content should be becoming more and more clarified. Although in principle it should be the clients or users who decide the purpose and terms, it is not uncommon for users to not have an exact picture of what they really want. Often, they only have an idea of their desires, which is common in both private and public projects. It is believed for example that they want a particular result, but it often turns out that there is recognition or prestige for the individual stakeholder underneath the surface that is attached to the result. Therefore, it will always be useful to put a desire into a larger context. This simplifies the assessment of what is both important and less important, and helps to facilitate the choice between perhaps more than one project objective and those that seemed sustainable and "obvious" in the beginning. For this reason, it is not uncommon that the project's objective or underlying purpose must first be thought through. After all, the project's goal is only a means to achieve the project's mission or the project's "effect goal." Market analysis, user analysis and quality assessments should generally be used to broaden the perspective to include the users' views. In connection with larger projects, we also know that impact assessments are society's formal instrument to enhance the social perspective, and it is essential in the early phase to measure a project's potential. Today, it is a tradition that the assessments in the early phases of a project are more of a "downstream" analysis of the consequences of a project's execution than an "upstream" assessment of alternative concepts in relation to the project's real mission.

When one turns to the project's goal(s), the target-seeking nature of the project approach has also led to great demands on precise descriptions and definitions of those goals. Differences in opinion among project stakeholders may prove to be rooted in different viewpoints and different definitions.

Below is a simple model for perhaps achieving a better conceptual clarification of the connection between the goals and missions as illustrated in Figure 5.1.
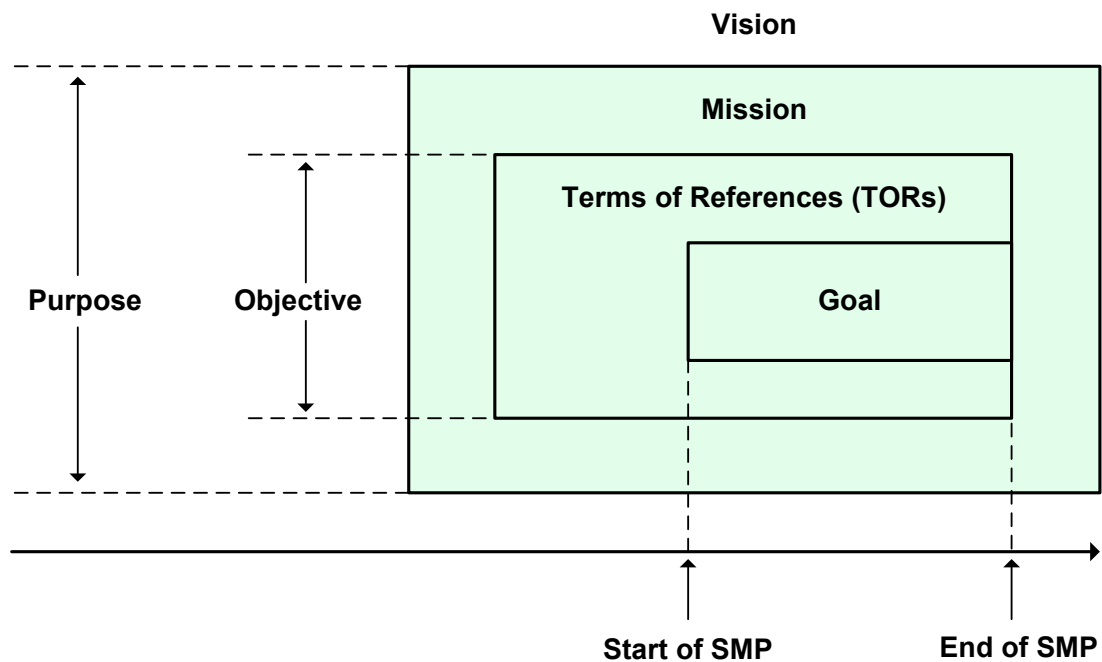
Figure 5.1 – Relationship between goal levels in SMPs.

Before the project begins, we have a *vision*, a dream or prophecy that makes it important to do something about the future. The higher up in the hierarchy of management we go, the more it is assumed and expected that they have a vision that can be communicated. On the basis of this vision, the *purpose* of the project is described, which tells us why the project is so important. The purpose is the backdrop for the project's *TOR*s, which must be set so that is possible to achieve the goal of the project within these terms. The final *goal* of the project then ultimately describes what the project result is expected to look like. Together, the TORs and goal form the *project's objective*, which is to reach the goal within the TORs. The concrete portion of the project's planning, organizing, etc. is something that starts immediately after the project's objective is determined, and the project is completed when the goal is reached within the project's TORs. This can even happen if the original project goal (s) is not achieved, e.g. if an adjusted project goal is agreed upon during a project's planning or execution. Still, the basic principle is that one should be allowed to adjust or redefine project goals that do not collide with the project's TORs.

It is natural in the initial planning process to bring together the project's Core Team members, though it may be discovered that the objective of the client and the project team differs. To develop a product that offers high economic returns may seem quite an attractive objective, but an equally important one is to raise the company's image over the longer term. It may also be that being too greedy provides short-term pleasure, while it destroys the company's reputation and survival in the long run. Similarly, some believe that the project's purpose is to create a technically more efficient control system while the real purpose is better customer service, something which may require some "time-lapses" in our service work in order for the company to be allowed to spend more time and effort on making its customers happy.

It is advice worth taking that the client seeks the support of key people in this work. Managers at higher levels can also be drawn into the process of determining project objectives since these objectives need to match corporate purposes, which again should support our vision. We should not forget that in smaller projects we often tend to be primarily occupied with performance goals and objectives which are relatively short-term perspectives. This may well be a correct standpoint, but if such is the case, this purpose must be clearly reflected in the goal formulation of the project. Larger projects and public projects will often have more strategic "effect goals," thereby making projects more justified from a long-term perspective.[62] Even if that is also important for smaller projects, the long-term perspective should not be so overriding that the value of the short-term delivery is forgotten. Simply said, the project's goal tells "what" we shall reach in the end, while the project's mission tells "why" it is so important to reach the goal. Because of this, the project goal is not a process, but instead is a *situation*. In practice, we already *have* visions and purposes, while the goal is something we *make*.

There is every reason to take the process of formulating a project's objectives seriously. Although the project goal can be changed if this turns out to be sensible as the project work progresses, the goal and mission for any project should be a thorough and serious discussion among the centrally involved stakeholders. Some good reasons for this are:

- A good project goal gives *legitimacy*, that is, it justifies why one's work should be hard and determined.
- A good goal creates *image*, that is, it proliferates the project's organization and participants.
- The goal setting process clarifies *attitudes*, that is, it reveals what we are for and who is against what.
- The goal setting process clears up possible *conflicts* - the target "cleans the air" and leads the project towards working on the right track.
- The goal prompts reward. When we achieve our goal, we find it reasonable to receive a reward that is conceived to be greater than what was required to achieve the goal in the first place.

An important problem when entering this process is that we may well discover that the participants and stakeholders not only both have multiple or compound targets, but *conflicting goals as well*. It is easy to want both high quality and low costs at the same time, but high quality normally also implies high costs. It is also easy to move into a broad democratic decision-making process, while at the same time quick decisions are of the utmost importance. But since democracy takes time, the result may well be a slow decision-making process with many discussions and hearings. This type of process is highly democratic, though very time consuming. In fact, this is the classical dilemma between equality and efficiency.

When these conflicting goals occur, various goal selection methods can be used in order to find the real, underlying goals we are aiming for. Under Heading 5.4, a practical goal selection method is shown, ending with a prioritized list of goal statements. This list will then serve as an important input for deciding a project's *success criteria*, which will be treated in more detail in Chapter 5.

After the goal or goals are set, the next important step is to decide the TOR for the project. This is a description of the *boundaries* that the project's work are not allowed to exceed, although this is not necessarily the same as the project's *budget*, schedule or the end product's quality. These dimensions can, if necessary, be determined later as a result of planning. The TOR are different since they tell us which *constraints* we have to operate within. For large projects, this is often the most important negotiation phase between a project's superiors and participants. It is these types of boundaries that we find in project *contracts*, in which mutual, often legal obligations are specified. These agreements are of vital importance for all parties to understand and agree on because they set the standard for the work and the trust between the parties; in other words, how this is formulated strongly influences both the motivation and communication in the project's execution phase.

5.2 Practical Reflections behind the Statements in Stepstone # 5

In principle, it is the client who decides the TOR for the SMP. But when it comes to execution, we allow more freedom in SMPs than in larger, more complex projects. The reason for this is that the original visionary agent can be the project leader him/herself. If both the progress and goals stay within the agreed TOR, the project leader and the project team should be given enough freedom to use creativity and flexibility in improving the project's development process. A typical TOR could be that the project work should not take more than one year. This means that any completion date that takes *less* than one year is fully acceptable and there is no reason to reduce the cost and quality for the sake of a shorter time period, though if it is easier and just as beneficial to accomplish everything in less time then of course this should be done. It is up to the project leader to make that decision, although using *more than* a year is unacceptable. Similarly, one TOR could be to not use *more* than 12,000 Euros. A *lower* cost consumption of course is welcome, but should not be a precept in much the same way that the project has a quality frame with a special ISO-specification, meaning that achieving a *better* quality than expected or planned is excellent, although the mandatory condition is only that the quality should not be *less* than the specified standard.

For many SMPs, the TOR contains enough information for leading a project towards its goal. In principle at least, that implies that the project leader is delegated the freedom to act and decide within a given framework and is not directed on how to use project resources in detail from superiors. However, if further detailed planning is requested by all parties, this should obviously be done. One example of this would be an agreement about a more accurate budget, a more precise deadline or a more precise quality description. Nevertheless, the main principle in SMPs is that detailed plans shall serve as *guidelines* and not as a prerequisite! In fact, the project leader should have the opportunity to fully re-plan the project if he or she finds this to be important, as long as the new plan does not violate the TOR.

The TOR and the project goal are closely connected, which is illustrated in Figure 5.2:
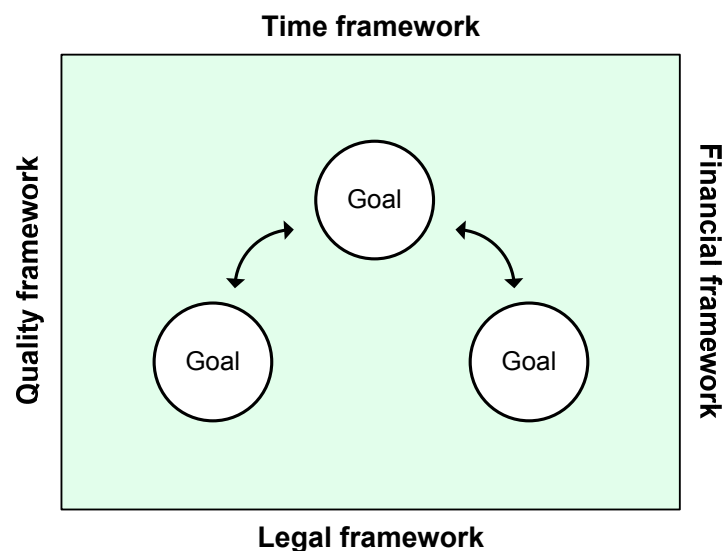
Figure 5.2 –The principle of the "Moving Target" for SMPs.

As illustrated, the TOR can only be modified by a project's principals, and the project goal can be changed within the agreed framework by the project leader based on what he or she is experiencing and recognizing in the ongoing project process. Therefore, the formulation of the project's mission and goal (s) must be decided at an early stage, and the goal must be designed so that it yields both good sense and good progress. Consequently, a goal is more than a description of an end-state. A good SMP goal should also be desired and an inspiration since everyone knows how much easier it is to work towards a desired goal than a goal that is forced upon us.

A number of recipes have been developed over time on how good project goals should be formed from the identification of the goal's "hard" features (quantifiable, result-oriented and realistic) to the "soft" or "process-oriented" features (simple, individual and motivating) characteristics, to using acronyms such as SMART[63] (Specific, Measurable, Attainable, Relevant, Time-Bound), to Stretching, Motivational, Action-oriented, Result-oriented, and Trackable). The following four criteria have been particularly stressed as prerequisites for achieving strong goals for a team: that the goals are common and create a common fate, that they are simple and concrete, that they stir passion, and that they place competition on the outside.[64]

The most important thing is that it is possible to *measure* when the goal is reached, which implies that a bad project goal could be to "earn more money," while a good project goal is "to earn 12,000 Euros," or "at least 12,000 Euros." By doing things in this way, we can check to see if the goal has been reached. Simply making "more money" is not good enough, because in principle it could be anything from 1 Euro to 1 million Euros. Close specifications are not only good for a mutual understanding of what is requested, but will also disclose possible disagreements and misunderstandings among key stakeholders, including the project staff. In doing so, we can avoid later trouble when team members discover they may have completely different opinions on what should be the goal, thus emphasizing the old adage "promise less, deliver more," perhaps encouraging an even better attitude - to deliver more than expected.

5.3 Conclusions about Stepstone # 5

By using Stepstone # 5, "Deciding on the Mission and Goal for the SMP," we examine if the objectives and TOR for the project are good enough. At least a score of 40 should be achieved in order to be good enough.

As previously stated, this is the belief and understanding of the goal and purpose of the SMP among Core Team members that guides the communication and motivation in the project. It is especially important that the participants feel that the TOR are acceptable. This means that there must be a reasonable consistency between the quality requirement of the goal, the financial limits and the allotted time within which the project's work is supposed to be completed, although this is not the same as the quality specification, the concrete project budget and the exact time the SMP will take to complete. In the future, such precise definitions and concrete planning will be taken care of if necessary. At this point, it is the outer borders we are concerned about, and it is the degree of freedom for the project leader and his or her team to act that is set.

In addition, please note that the project's objectives can be different depending on the project being an upstream or downstream project. Many SMPs are just pilot projects to larger projects, and a pilot project normally has the aim of investigating whether a later, main project should start or not. The resulting master project may then need to commit more concretely to the final product or result. In addition, the main projects can be small- and/or medium-sized and could well be treated as SMPs.

In conclusion:

The most important factor for good motivation is to believe in the purpose of the SMP and that the goal can be reached within the TOR.

The most important factor for good communication is discussing the project's goals, mission and TOR with all of the project's Core Team members.

5.4 Stepstone # 5 Used for the Conference SMP

When describing the *purpose* of the conference, we start with the *mission*. In our view, an appropriate mission is to promote our company by making it well-known, trustworthy and popular among both old and new clients and even the general public. Through this mission, we believe that our company will be better off in the future and attract more customers in order for us to have a sustainable financial development.

An appropriate TOR is that the conference should be held this year, not cost more than 12,000 Euros, attract at least 500 important visitors and be implemented with a quality that satisfies the attendees.

When it comes to the *goal* of the conference, the purpose is to design a goal (s) that supports the mission. At the same time, the goal must be attainable within the given TOR. It may well be that there are several opinions on what is the main objective for this conference: the management would probably want as many visitors as possible; the people responsible for the finances would probably prefer a conference that was as cheap as possible; the marketing people probably want the highest possible quality for the conference and the most attractive brochures; professionals want the best speakers; and the project manager wants an effective and rapid implementation and monitoring system, both before and during the conference, as well as some type of reward for arranging a conference that everybody regards as a success.

To decide which *objectives* should be given priority, there are many ways to do this. As previously discussed, we could decide which SMP to go for in terms of pure imagination and have an open discussion among our stakeholders, or we could throw the ball to top management and ask them to decide on the objectives without our intervention.

Yet another option would be to use the "Matched Pair Method," which is a handy method for many SMP-type projects. When using this method, we list all desired SMP objectives in a matrix as shown below in Figure 5.3. In Step 1, the objective "Many participants" is first compared with "Cheap conference." It is suggested in the matrix that the financial people win, as the majority of the Core Team people agree that economy must come before quantity, realizing though that many participants means a really nice income. On the other hand, will many conference participants imply more arrangement costs? In the matrix, the decision is to let the financial people win this first comparison. The winner is now compared with the next objective which is "Quality." Since the primary purpose of the conference is to promote our own organization, this objective is now agreed to be the winner as marked in the matrix. The new winner, "Quality", is now compared with next objective, "Attractive brochures." In this comparison, "Quality" wins. We assume that we can achieve a high quality for the conference without using expensive and fancy brochures. "Quality" is subsequently confronted with the next objective, "Highly skilled speakers." Of course there are some dependencies here, but if we can keep a high quality for the conference without having to bring in the most attractive, and probably most costly speakers, the winner will remain a "High-quality conference." Finally, the conference quality is compared with "Effective implementation," and "Quality" wins again, as a technically efficient implementation without a good quality for the conference is not intended. The final winner after this is, "High conference quality," or simply, "Quality."

What is the most important?

STEP 1		
A	Many participants	
B	Cheap conference	
C	High conference quality	1
D	Attractive brochures	
E	Highly skilled speakers	
F	Effective conference execution	

STEP 2		
A	Many participants	
B	Cheap conference	
D	Attractive brochures	
E	Highly skilled speakers	2
F	Effective conference execution	

STEP 3		
A	Many participants	
B	Cheap conference	3
D	Attractive brochures	
F	Effective conference execution	

STEP 4		
A	Many participants	
D	Attractive brochures	
F	Effective conference execution	4

STEP 5		
A	Many participants	5
D	Attractive brochures	

STEP 6		
D	Attractive brochures	6

Figure 5.3 – The "Matched Pair Method" used at the conference SMP.

Next, we must transfer "High quality conference" to the goal priority list in Figure 5.4 as *the main goal of this SMP*. Step 2 starts the same way as Step 1, but now with only five remaining objectives present. Again, "Many participants," is measured against "Cheap conference," and economic sobriety wins again. This type of soberness is then compared with the quality of the brochures and once again, sobriety wins, but when economic sobriety is weighed against the quality of the speakers, it is agreed that the quality of the presentations is more important. We better pay a little extra to ensure that what is presented maintains a high standard. Therefore, "Good speakers" is the next winning objective in Figure 5.4. The criteria are subsequently withdrawn from the matrix in Step 2 and this priority continues in the same way with Step 3, which now has only four objectives to prioritize among. When the process is completed, our final priority appears as our final decision. As a result, this becomes the guideline for writing the complete goal for our conference.

What is most important for the conference after this:

1. To arrange a high quality conference
2. To have very attractive speakers

In addition we should try to:

3. Keep the costs as low as possible
4. Demonstrate effective conference implementation
5. Attract at least 500 visitors
6. Make appealing information material

Figure 5.4 – Conclusion of the "The Matched Pair Method" used for the conference SMP.

The conference now has the following final *goal statement*:

"The main goal of our SMP is to arrange a unique conference, demonstrating a high implementation quality by using very attractive conference speakers. To the extent possible, the conference shall attract at least 500 visitors through the use of appealing conference brochures, which will demonstrate how we are able to effectuate good conference professionalism while maintaining low budgetary costs."

As stated, the main goal was extracted from the two objectives which were given the highest priority through the chosen selection method. The other objectives are added as desired, but not stated as imposed requirements. The objectives are naturally related in the sense that effective implementation depends on the staff's motivation, while attraction depends on appealing brochures, etc. It is important that the project's goals only be measured after the project is finished. In this case, we can only measure goal fulfillment after the conference has been held.

Stepstone # 5:   Deciding on the Mission and Goal(s) for the SMP

		Very little		Medium		Very much
		1	2	3	4	5
1	*The degree of agreement:* To which degree is the project **mission presented** in clear terms to all relevant agencies and stakeholders?					
2	To which degree is the project **mission** understood and **accepted** by all relevant agencies and stakeholders?					
3	To which degree is the project **goal(s)** stated in clear, operational terms?					
4	What degree of realism is there that the project **goal(s)** can be reached within its given **TOR** (Terms of Reference)?					
5	To which degree does the project Core Team members find the project **mission motivating?**					
6	To which degree do the majority of the Project Core Team Members find the Project **Goal(s) motivating?**					
7	To which degree does the Project Leader and his or her project Core Team members find the project mission and goal(s) **professionally challenging**?					
8	To which degree does the TOR open up for **flexibility** in goal-adjustments during project planning, execution, and control?					
9	To which degree is or can the final project goal(s) be split into stepwise, **milestone-**oriented goals during the project execution if rendered neccessary?					
10	To which degree is both the project goal and the project mission **supported** by the following agencies:					
	Top Management					
	The User(s)					
	The Project client(s)					
	The Society					
	Average score					
	Total score of the 10 questions above:					

Stepstone # 6: The Role Distribution in SMPs

6.1 Theoretical Reflections behind the Statements in Stepstone # 6

The purpose of modern organizational activities is work distribution and cooperation. Some will have to be responsibility for activities, while others will have decision-making responsibilities. In large projects, clarification of this distribution is a very important part of the project organization because there are a number of actors who are of importance when organizing them. Typically, it is steering groups or committees, advisory groups, external contacts, suppliers, political actors, competitors and other institutions and companies that have a stake in a project. In this way, it may be that many individuals and groups need to be involved in many different ways in the project endeavor. A common name for all these agents, whether inside or outside the project, are *Stakeholders*. Per definition, stakeholders are individuals or groups that directly or indirectly influence, or will be influenced by, the project's work and its results.[65]

All daily decisions are certainly the project leader's responsibility, although a project may come into an unexpected situation in which decisions have broad, strategic significance and where the project leader's knowledge and expertise are not broad enough. In order to remedy this situation, the project's superiors can appoint a special *Steering Committee*. In principle, steering committees are supposed to act on behalf of the client and have superior decision-making authority in the project. Membership follows the "top-down" principle. It is management at a higher level than the project leader who appoints the committee representatives. The Steering Committee has the same basic responsibility as the project leader for making the project a success, and like the board of directors in a company, it must intervene and take responsibility when necessary. It is important to be aware that research has shown a low correlation between success in projects and the extent of *operational* involvement of the Steering Committee. Instead, the project leader can be told to follow or confirm decisions with the Steering Committee in order to ensure that the project makes appropriate *policy* decisions.

One person who is involved in a role that is recognized as being more and more important in many projects is the Project Sponsor, who is the person that directs the staff. He or she is the manager within the base organization and is not directly involved in the operational work of the project, but can oversee a project, delegate authority and provide support as a trainer or coach to the Project Manager.[66] The Project Sponsor should have sufficient authority over the project and receive the cooperation of key stakeholders. One important duty is to ensure that the project is aligned with the organizational strategy and compliant with the policy of the project's base organization. In larger projects, there is often frequent contact with the Project Manager so as to better monitor the project's effectiveness. Depending upon the initial setup of the project, the Project Sponsor can also chair the Steering Committee, approve final deliveries and communicate about the project both inside the agency and with external stakeholders.

Another important role is the *project secretary*. In small projects, it is not uncommon that the project manager uses 50% of his or her time for administrative tasks. To charge the project leader with heavy administrative work, as well as demanding good professional leadership and management can be a heavy combination. As a result, he or she often succeeds in none of the areas, and the project fails. The solution is to then appoint a project secretary, at least on a part-time basis. Another solution may be that the base organization establishes a *project office* with a *project director,* whose responsibility it is *to* take care of the necessary administrative support. Such an office or agency is also very appropriate when an organization has many projects and programs at the same time and needs someone to take care of the coordination and prioritization of the complete *project portfolio*.

Another area that can be significant in many projects is to have good advice along the way. In large projects, such advice can be given by special *Advisory Boards, Reference Groups* or *Expert* G*roups*. But again, one should be careful of appointing too many additional bodies in connection to a project. Bureaucracy will always take its tolls, and the best way to proceed is to use the Responsibility Map described below as a good background in relation to the need for separate advisory groups. If the Cooperation Chart contains a lot of required consultations, this is a signal that the project leader better seek quite a bit of advice. To smooth out this process for the Steering Committee, project superiors must appoint representatives to such a group. But one should always reflect on the possibility of instead including some key experts in the project team in order for the project to already have the necessary expertise on board. A third possibility is to include special training sequences in the project plan, making the project team more and more self-sufficient and thus less dependent on external advice. The latter will extend the project time and cost of the project, but can be a good investment in internal skills development in the long run.

For large and complex projects, these roles for various project actors are supposed to be described in detailed organizational charts in much the same manner as for an entire company or organization. Command lines are determined, the hierarchical principle clarified for most of the decisions and the key jobs clarified as minutely as possible.[67] Extensive delegation is normal for such a large project organization to function well.

To help out this process today, one uses special project decomposition structures such as a *Work Breakdown Structure (WBS).* This is a technique that involves breaking down the project in key areas in such a way that the work can be divided into separate, important sub-disciplines such as important administrative areas, important system development areas, important Areas of Responsibility in construction projects, etc. The purpose here is to define various sub-areas, with each of them serving to make important contributions to the project's goal and objectives. In large projects, such WBS maps can be quite complicated. The maps should not only identify important areas, but also how these areas are intertwined. The maps show both horizontal and vertical dependencies, e.g. relationships to sub-contractors, users and others.[68]

When we then start to decide which organization may fit the project best, we distinguish between *line functional project organizations*, *matrix organizations* and *independent project organizations* in large projects as illustrated below in Figure 6.1:
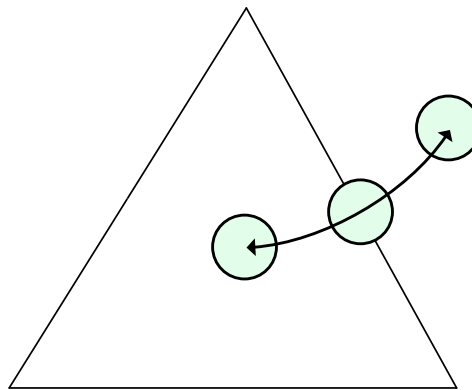
Figure 6.1 – Illustration of the three main types of project
organizations in relation to their base organization.

The triangle represents the base or line organization and the circles the three major types of project organizations. In the first case, *the line-functional organization*, the project is completely within the "line" of the base organization. The project leader and his or her team perform project work in the same way as normal line operations. The only difference is that the tasks they do are defined as a project.

In the *matrix organization,* people are equally divided between the project and the base organization, and the project staff is drawn into the project as needed. At certain times they do project operations, while at other times they do the line work, etc. The matrix can be "weak," implying that the project staff is sitting in their line functions throughout the full project and doing part-time jobs in the project at specific intervals, or "strong," meaning that the staff is pulled out of the line to a common meeting place, a common office or the like 100% of the time they are working on the project.

When the project is "*independent,*" all project staff members are pulled out of line on a full-time basis to a common meeting place or office for as long as the project lasts. They are 100% project staff, and need only report to the project leader.

Today, the matrix form is the most popular for use in modern project endeavors, though it is the hardest to master. It is popular because employees will have a more varied work schedule with both line and project duties at the same time. The form also utilizes human resources in a better way. Studies have pointed out that projects located within the line have the lowest project success, while the matrix form scores the highest. One reason for this is that the line is built by using a bureaucratic pattern, and in principle bureaucracies are built to cope with the predictable, not the unique.[69] Another reason is that there is a positive correlation between the project's success and the project leader's authority. In line functions, project leaders often have to accept that almost all authority rests with their own line bosses. Since true authority must come from below and not from above,[70] it can be difficult to exercise enough authority in demanding situations when staff knows that the real authority rests at a higher level.

In this context, the matrix form is better because the project leader's authority tends to be clearer, while at the same time the form enriches each individual's social and professional contacts. The problem of the matrix form, however, is that the workload can be more complicated than envisioned[71,72] - especially if employees participate in many projects simultaneously, i.e. becoming "*multiproject workers.*"[73] Most project plans are made for "good weather," and when the project encounters problems, it can be difficult for individual employees to simultaneously prioritize between line work and several projects. This problem can be further amplified when the project manager and his or her team have more than one boss. In theory, having several bosses is an interesting solution in "good weather." When we have many higher level people who know us, our chances of recognition and promotion increase. Although in "bad weather," the situation can be both stressful and often almost impossible for us to properly master. When several higher level managers need the same project staff member at the same time, it goes without saying that a person cannot make copies of him or herself, and the solution is impossible. Finally, it also seems that the matrix form is the easiest to fall back on when solving urgent problems. Personnel are not full time and can still handle at least one more task, although the consequence could be that an organization is fooling itself by increasing its project portfolio far beyond what it has the human resources to manage.[74]

Perhaps the most important thing for the project's organization is to clarify the relationship with their base organization. In theory, the difference between a line organization and a project organization is quite clear. The base or line organization has a responsibility to resolve ordinary, ongoing tasks. It generally performs routine tasks adapted to a hierarchical structure and has fixed communication lines.

The project organization establishes communication lines and ways of cooperating that fit the project situation.[75,76] It has a responsibility and way of working that fits the project's size and complexity, and priority is given to simple and fast decision-making processes. Still, a project must be careful not to be too "flexible." The importance of the external can easily be overestimated at the cost of internal functionality and needs, and project organizations must have rules and structure.[77]

In addition, a project can have several base organizations. A municipal project, for example, can have the municipality, county councils and private interest groups as clients. A private project can similarly be created in an alliance among several companies, as together they often have all the resources the project needs. Even so, the same rules apply and a project organization must form its own way of solving the problem and reaching the goal.

6.2 Practical Reflections behind the Statements in Stepstone #6

In SMPs, the choice of a formal project organization is less important.[78] With fewer people involved, both communication and decision-making can go faster because we do not need to follow as many formal channels. The easiest way to divide the labor is to have the project leader make all administrative decisions about the project, discussing with his/her key employees when an interdisciplinary understanding is needed and who delegates responsibility for the quality of the performance to qualified project staff. Formal delegation is rarely necessary.[79] As a rule, it is better to let the team organize itself the way members themselves prefer.[80]

But even though this may seem simple and logical, the reality can be far more complicated. When resources are limited, can line managers be confronted with the risk that it is expected that they will perform the same number of tasks as before, albeit with fewer resources? Not without reason, this can create conflicts. This is a classic problem any project organization will face when theory confronts reality.

In large and complex projects, this is solved by precisely designed contracts and agreements between the parties. Often, these projects are staffed with external people, making the line less affected, while consulting firms and individual experts are typically available on the open market.

In SMPs it is quite common that the staff is recruited for shorter or longer periods of time directly from their own line organization. In "good weather," this is not a problem. We agree on forms of cooperation, and staffing is flexible enough for both project and line tasks to be handled in a satisfactory manner.

It is in "bad weather" that the practical problems occur, so it is wise to have a few practical rules that take effect when the need arises. Some usual, practical rules for organizing SMPs are:

1. The *Cooperation Chart* is agreed on as a *guideline* for when resources from the line organization shall perform project work.
2. That a pre-appointed authority, such as a *Steering Committee* or a special high level manager, decides if and when the base organization's resources shall be given to the project if conflicts arise.
3. That the project leader has *full authority* over allocated resources for as long as he/she is the head of the project.
4. That the project leader has the opportunity to *reward* individuals for well-performed work beyond the line organization's normal remuneration.
5. That there is a "*force majeure*" clause in the agreement that specifies what the project leader can do when serious, unexpected situations arise that can potentially destroy the project's progress and value. Such an agreement must be established at the highest level, normally at the CEO or client level.

In order to master all this, it is important for SMPs to create "dashboards" that show how the various stakeholders depend on each other. This is not so much for the overview as such, but in order to maintain a good basis for the distribution of authority and responsibilities among key people in the execution phase. This must of course be balanced with the situation both within and outside the project. What is important is that the project team works so well that the goal is reached without unnecessary, time-consuming formalities. That does not mean that formalities are unnecessary in SMPs, but that it is the *informal* lines of responsibility that may need to work best. To a limited extent, SMPs are therefore concerned with minute job descriptions and formal organization charts. While traditional organizations are usually concerned more with how to manage than to renew, renewal is the main purpose for the organization of SMPs. The key word is not instruction, but cooperation.

A good way to find out how to best handle central stakeholders in SMPs is to construct a *Stakeholder Management Matrix*, as shown below in Figure 6.2:

	Those who do not have too much interest in your project	Those who have a big interest in your project
Those who have little possibility to influence your project	These stakeholders normally demand limited follow-up, but be aware of their existance.	Keep these stakeholders very well-informed!
Those who have a great ability to affect your project	Keep these stakeholders very well satisfied!	Treat these stakeholders as your closest buddies!

Figure 6.2 – Stakeholder management matrix.

The matrix is based on the principle that the most important thing is not whether the organization works well from a technical viewpoint, but rather if the *people* work well. For the knowledge worker, an important keyword in this context is *empowerment*. The ideology behind empowerment is to create social processes that increase people's ability, whether alone or together with others, to solve problems and mobilize the necessary resources so that they achieve control over *themselves* and their level of performance.[81] For such a purpose, special Cooperation Charts[82] have been developed for projects. For SMPs, these maps will replace the more elaborate WBS diagrams[83] commonly used in large and complex projects. Nonetheless, the principle is the same; namely, that the individual project participants shall cover their areas of responsibility through a reasonably clear description of their role.[84]

Many of the stakeholders above belong to the lower right-hand corner "your closest buddies." In addition to the project Core Team, here we also find line management, users and important local authorities. They have a vested interest in our SMP and can also exercise great power and influence in the project's work. In practice, one should treat them on an equal footing with the project's internal key personnel. We should cooperate with them, consult with them and inform them, so they are constantly aware of the status of the project and consider what it means for them.

Other stakeholders belong to the parts of the matrix with a "big interest" in how the SMP is doing, but who have "little possibility to influence" the project. Both friends and family can be in that category. In any case, it is important that they are kept "well-informed" about any progress so that they can better understand what the project is doing and why. Be aware that this group can suddenly acquire power, which they may use in an unpleasant way if they have felt previously mistreated.

In the group with little interest but large power, we find parties that are relatively distant from the SMP, but who have great power and can use it to both the project's favor and detriment. This is typical of distant senior management, credit institutions, banks, local and central authorities, politicians, hostile labor unions, special groups and eloquent individuals. The key words are to "keep them satisfied." Let your credit institutions be well-informed about your sound use of the money borrowed from them, tell the authorities that the rules are being followed, allow the unions to participate when important decisions are discussed, inform activists and allow active individuals to have the opportunity to voice their views.

In the matrix, we also have the group consisting of bodies that have little influence and power over the project. They may be personal acquaintances, watchers or gray-zone competitors. Although one would like to cultivate one's acquaintances, it is a good rule to use a minimum amount of effort in taking care of them. Project leaders will probably have enough to do in managing the other three stakeholder groups. The extra effort we use on this group can lead to less effort towards the more central groups, which certainly need a lot of attention.

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To master all of this in a constructive and effective way, we use *"Cooperation Maps"* as simpler versions of responsibility charts. For SMPs, these maps should have a maximum of six roles:

MD = The Main *Decision* Maker
MT = The Main Task *Executor*
MC = They who *Must be Consulted*
MI = They who *Must be Informed*
PC = They who *Perhaps* shall be Consulted
PI = They who *Perhaps* shall be Informed

The first four roles are more or less mandatory in any modern project, but it is of primary importance in SMPs to keep formal bodies to a minimum. The easiest way to find out if our SMP requires extra organizational units or not is to use a Responsibility Map for the project, later illustrated in Figure 6.3 as the reference. If the project leader (MD) in this map has the overall responsibility for decisions for the majority of the responsibility areas in the project, it is probably unnecessary to form a Steering Committee. If, however, agencies above the project leader have a lot of the main decision responsibility and the project manager has the most task executing responsibility (MT), we should consider appointing representatives from clients and users to form such a committee. Since a steering committee automatically involves one more body to administer, one should soberly consider whether the need is great enough. Perhaps it will be enough for just a support person, a "project champion" or a similar higher up in the project hierarchy to make important, overarching decisions when necessary. Or we could replace the Steering Committee with an *Advisory Board* (which we tend to find as an additional body to the Steering Committee in larger projects) that has no decision making authority over the Project Leader, but is supposed to provide insight to the team regarding stakeholder interests, technical advice and other relevant initiatives.[85]

The purpose of the last two roles, PC and PI, is to allow for the possibility that if at the start of our SMP we do not really know if expert help will be needed for specific tasks later in the project, then such expertise can be linked to the project on an *option basis*. That is, as the project progresses, we assume it will become clearer as to whether we need special expertise or not. If the answer later is that we can seem to manage without this expertise, we will contact the person who was the intended expert within a relevant time period and tell him/her that there is no need for their services, thereby exercising our option to reject this resource. Nonetheless, if we should need expert help after all, we will bring that help into the project team for the necessary amount of time. By doing so, we simply strengthen our staff as needed. Similarly, we may choose to inform or not, depending on how the project develops. Obviously, it is important that these persons or groups will be properly informed in advance and asked if they are willing to have this potential role. For that reason, one should consider pulling them in for discussions quite early in the project process.

The total number of roles normally involved in SMPs is as follows:

- Top management;
- Line management;
- The users of the project results;
- Local authorities at the place the SMP is being physically executed;

- Media, activists, owners and researchers;
- The project leader's personal network.

Top management consists of stakeholders who are particularly important. They will be able to intervene and will have great power. It should therefore always be taken into consideration as to how they should be connected to an SMP's work.[86]

Line management is the agency that initially has the work power the project needs, subsequently reducing the line's work capacity. If the reduction is extensive, or creates technical problems for line management, this can create a negative attitude from line stakeholders, often with serious consequences.

Users are obviously an important stakeholder group. They will live with the results that the project brings forth and will naturally give their reaction if this does not match their expectations. In order to satisfy them, they may need to be pulled directly into the project's work in a sensible way.

If the project work is done at a particular geographic location, *local instances* often have an impact. They may be local authorities, politicians, licensing agencies and loan agencies such as banks, landowners and neighbors.

Today, media and activists are major forces in modern society, and positive or negative attention in the media can strongly affect a project's success. It should be expected to be profiled in newspaper articles, news reports, television features and on the web, and researchers can promote controversial views, whether legitimate or only for the sake of attention.

It is best not to forget the project leader's *personal network* such as family, friends, acquaintances and business associates. Family may dislike the project leader's long working hours and ruined weekends, while friends can lose touch or competitors can use information to the detriment of a project.

Although all these agencies mean that the Cooperation Chart can be quite extensive, a good rule is to limit it to *one A4 page*. The reason for this is psychological. The A4 format has a special visual appeal. An A4 sheet is easy to handle, it goes easily into our inner pocket and it provides a quick overview and understanding.[87] The Cooperation Chart provides both a practical overall plan and a "Master Plan," and is suitable as part of the project's main contract which defines the project's scope.[88]

6.3 Conclusions about Stepstone # 6

To finally check whether your project has a reasonable distribution of responsibilities and powers, including consideration of the project's stakeholders, it is recommended to use Stepstone # 6, "Role Distribution in SMPs." As previously mentioned, the response rate should be at least be a score of 40 in order to safely proceed.

The general rule in SMPs is that the project Core Team must not only have enablers, it must also have members who are proactive, innovative and alert risk takers. According to newer literature, there must be good, creative and collaborative teams that have common goals, T-shaped managers,[89] and the ability to build nimble networks. In a project-driven matrix organization, organizational sub-systems must provide enhanced double-loop learning paradigms and the challenge of structural assumptions as inherent strategic planning in an enhanced implementation analysis to help promote visionary thinking.

The most important aspect of this Stepstone with regard to *communication* is towards the external bodies of an SMP. They decide on important matters for the operation's success, which is why steering groups, advisory groups and stakeholders in general must receive adequate information in order for them to make good decisions on behalf of the project. Well called meetings, proper meeting schedules, good reporting plans, good reports and good web-based information are all essential to produce here.

As for *motivation,* all decision makers must also feel that the project is favorable for them. To perceive themselves as contributors to successful project progress is very motivating. Thus, we better ensure that all key SMP stakeholders are receiving all the relevant information they need, which can help to inspire and justify our project.

In conclusion:

What is most important for motivation is that the distribution of authority and responsibility satisfies the SMP's Core Team members.

What is most important for good communication is going upward to higher level management, outward to clients and customers and inwards to the SMP's Core Team members.

6.4 Stepstone # 6 Used for the Conference SMP

For the conference SMP, the "Cooperation Chart" ends up as shown in Figure 6.3:

Areas of Resposibility	Top Management	Middle Management	Project Leader	Core Team	Media	Potential Experts
Physical conditions (Hotel, food, audiovisuals etc)	PI	PC	MD	MT		
Registrations (Boots, participants, etc)			MD	MT		PI
Program Speakers, presentations etc)	MD	MC	MD MT	MT		PC
Marketing (Brochures, distributions, etc)		PC	MD	MT	MI	MI

Figure 6.3 – Cooperation Chart for the conference SMP.

On the vertical axis, we find the AoR (Areas of Responsibility) in the project in a more or less logical order. These areas can both overlap and/or run parallel. The SMP's role holders are placed on the horizontal axis from left to right, more or less following their hierarchical position within the line organization. The Cooperation Chart shows how key agents for the execution of activities (MT) are involved in the physical conference preparations, the registrations, the program content and marketing, while the project leader has the decision-making responsibility (MD) within the same areas. The one exception is for the conference program, where the project leader also actively participates (MT), while the decision-making responsibility is anchored to top management (MD). Top management can also be informed (PI) at an earlier stage if it is difficult to find a satisfactory conference site, and the media and potential experts will be informed (PI) about the conference when the physical and content arrangements have been made. For potential experts, there is an option (PC) to consult someone we know if we are wondering about the attractiveness of our program brochures before we distribute them. As illustrated, there is nothing wrong with individuals or the team having several roles at the same time, e.g. being both an executor (MT) and decision maker (MD).

Stepstone # 6:   The Role Distribution in SMPs

	The degree of agreement:	Very little 1	2	Medium 3	4	Very much 5
1	To which extent has **stakeholder** analysis and/or a stakeholder matrix been done for the project?					
2	To which extent has it been discussed whether the project should have a Steering Committe, an Advisory Board , a Project Office, etc that **supports** the Project Leader and his or her team during project execution?					
3	To which degree does the project leader have a good feeling that project superiors will be **available** for the project if requested?					
4	To which degree is the role distribution **reflected** in and **agreed** on by a **Cooperation Chart** for the project?					
5	To which degree is there a good **fit** between the Responsibility Map, the stakeholder mix and the TOR for the project?					
6	To which degree is the **Project Manager satisfied** with his or her role according to the project`s Responsibility Map?					
7	To which degree are the **Project Core Team Members satisfied** with their roles according to the role distribution and the project`s Responsibility Map?					
8	To which degree does the **Project Leader** feel **professionally** fit for his or her role as a **leader** according to the role distribution and the project`s Responsibility Map?					
9	To which degree do the project`s **Core Team members** feel **professionally** fit for their roles according to the role distribution and the project`s Responsibility Map?					
10	To which degree can anybody, if necessary, take **informal contact** both horizontally and vertically within the project?					

	Total Score:	

Stepstone # 7: The SMP Master Plan

7.1 Theoretical Reflections behind the Statements in Stepstone # 7

Every project needs a plan before it can be started. Planning does not mean predicting the future, but instead is about strengthening one's ability to better master the unpredictable. In fact, planning presents a unique opportunity to experiment with resources without yet exposing them to real-life problems. Putting some extra thought into planning will help to save time in the implementation phase of a project.

For large and complicated projects, there is the plan's "constitutional law." On the basis of the plan, there is a need for technical equipment, financial resources and a determined human effort. Unless one knows in reasonable detail which tasks need to be performed, one cannot know what type of multifaceted skills one needs and in what quantity.

Although there are many people to distribute tasks to, it may well be that not everyone who participates is qualified, though the lower skills of some may be offset by the higher competence of others. Through a combination of key personnel and less experienced workers, a project can be a success when there is mutual support and assistance for each other. The plan must also be sufficiently detailed in order to show how the various stakeholders will cooperate and use the project's resources as the work progresses.

As has been pointed out by many, it is a project's Milestone Plan which is perhaps the most important tool for planning progress in modern projects.[90,91] In theoretical terms, a milestone is a combination of:

a) A confirmation that a certain *amount of work* is being done; and
b) A point for *deciding* what further tasks still need to be accomplished.

While activity plans are mainly associated with operations, milestones in a project are mostly related to strategy and tactics. A Milestone Plan is a description of the conditions that a project should be in at certain points in time during the project's progress towards its completion. Milestones describe *what* one is expected to achieve, but not necessarily *how* it should be achieved.[92] In principle, the passing of a milestone takes a zero amount of working hours, although it may take a certain amount of decision making that enraptures time. Milestones are simply control stations in order to ensure that one is on track. Milestones are supposed to form a *critical chain* of events that gives the project both its significance and meaning.[93] Comparing milestones with activities, one can say that milestones describe the more *stable* development progress of a project, while the activities are more the *unstable* help needed in order to reach the milestone.

In large projects, it is the activities that determine the milestones since the quality and accuracy of the task performance is of the utmost importance[94] for the project. It is the amount of work performed that gives the evidence of progress and success along the way to its final goal. Often, the Milestone Plan is a direct result of an activity plan, according to the "bottom-up" principle. This principle is derived from traditional accounting in which the sum of the individual costs yields the total budget of a planned operation. But milestones can also be made by using the "top-down" principle. In this case, we break down the overall purpose of the project into sub-goals formed as Milestones, which again can be designed as benchmarks with their own intermediate sub-milestones and so on.

7.2 Practical Reflections behind the Statements in Stepstone # 7

SMPs have fewer tasks, use fewer resources and have fewer participants. It is therefore the resources, both physical and human, which determine the plan and the progress. Projects also depend much more on individual rather than team competence, and it is often that all the internal project stakeholders become key personnel. Although teamwork is also typical for SMPs, it may be difficult to have a skilled reserve capacity available for such projects. If someone, for fully understandable reasons, does not have the possibility of participating in the project team, it can be difficult to find a substitute. This is what makes teamwork in smaller projects much more vulnerable than in larger projects.

It is for this reason that the recipe for success in the planning of SMPs is to think of *people first*. Who should be involved and thus be responsible for a successful SMP's progress? The plan for SMPs is to rely much more on the expertise of the people who are actually going to participate. This also directly influences the TOR of SMPs, i.e. the project's objective, the project's plan and how the project shall be followed up and led. If these guidelines are lacking, we may end up producing plans that fall short of expectations.

The best suggested planning structure is based on the information shown below in Figure 7.1:
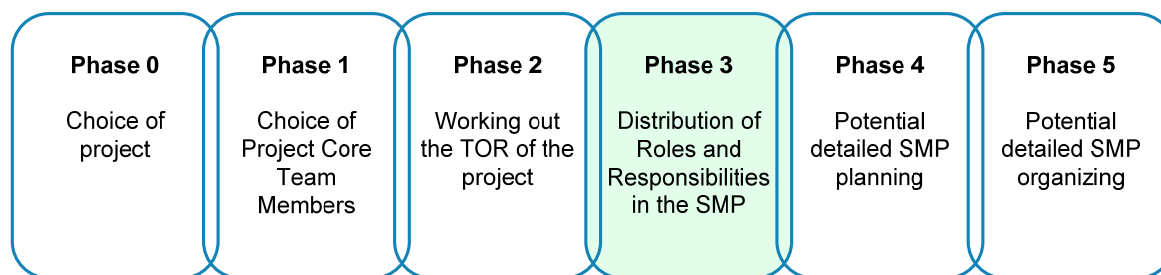
Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Choice of project	Choice of Project Core Team Members	Working out the TOR of the project	Distribution of Roles and Responsibilities in the SMP	Potential detailed SMP planning	Potential detailed SMP organizing

Figure 7.1 – The overlapping planning phases in SMPs.

Exactly how much work may be included in each planning step depends on how much is accomplished in the previous step. But since the future can be very uncertain, we do not quite know what the next step will result in. As a result, the steps *overlap,* meaning that the planning of SMPs can be far more flexible than is possible in large and more complex projects. The advantage of this is that SMPs can be far more contemporary. In this way, they become active and "dynamic" projects, which fit well in today's turbulent business environment.

The fact of the matter is that your reward will be poor if you draw up detailed plans that give instructions on what to do from start to finish. It is better to have plans that give *advice* on what could be done at certain points in time. The primary objective of an SMP's plans should be to assure the participants that the project's objectives are relevant, that the goal is both achievable and desirable and that the plan has enough flexibility to be altered if some of its preconditions should change. When assembling a plan, we must think of those who will be reading it. Does it say what we want the plan to say in the best possible manner, truthfully portraying our SMP in the best light and giving the readers the information they need? Is all the relevant information present and in an easily digestible form? Is there a logical flow? Does it support the objectives? Whenever possible, details should be in appendices (see Appendix A), so as not to detract from the key messages as well as providing clarity and ease of reading. The purpose is to create a good feeling that even "unforeseen" problems can be mastered if they occur. A practical, well-thought out plan shall be so engaging that all the stakeholders are eager to get started with its implementation!

The term "milestone" mentioned in the theory section is actually a bit incorrect, particularly in relation to SMPs. Firstly, it is not a "mile" between each "stone," and secondly it is not the execution of the task, but the good *decisions* that are very often the benchmarks for success. Nevertheless, the concept of a "milestone" is so incorporated into an SMP that the term is adopted as a convenient description of the rhythm, the pace or "the heart beat" of the project.

Milestones are laid out where they fit best, but always with such a distance in time between them that they have a good connection to the immediate previous milestone or milestones. In this way, milestones are *Result Paths* within each AoR. A good rule of thumb is that no result path should have more than 10 milestones. A bit humorously said, the psychological rationale for this is that the most important thing is not to give people "time, but rather "deadlines." To put this correctly, we must know both the total length of time to be covered "top-down," as well as how much needs to be done between the milestones from the "bottom-up" perspective.

The way to find reasonable milestones for SMPs is to use both approaches. First, we break the objective down to a level where convenient milestones can be designed. Then we describe the activities that need to be done in the periods between the milestones. The time to reach the milestone and the content is adjusted so that both the work to be done and the quality of it can be obtained within the TOR. In principle, all the important stakeholders identified in the Cooperation Charts are drawn into this process. Deciding on milestones is teamwork, especially in the planning of projects. When key project people are working together on milestones, they will naturally focus on their own areas of responsibilities, thereby ensuring that different experts attend to their special tasks in a satisfactory way. At the same time, the dependencies between them will be easily visible.

There are several ways SMP teams can draw up milestones. We can use everything from brainstorming, in which all participate in the expert proposals presented, to a smaller group, e.g. the project Core Team, who will then decide the best practical milestones according to their expert knowledge. On the other hand, all milestones could be decided by superior management as a given mandate.

In any case, the most important benefits of milestone plans are that they provide a very good overview of the project. As intermediate goals, however, the problem with milestones is that they may be difficult to concretize. In reality, how much time do we need to reach a milestone? When is a new organization functioning well? When do we know that the work environment has improved if that is what the milestone shall measure?

A good way to determine if milestones have been achieved is to tie *preconditions* to them. These preconditions are short phrases that describe the person, the activities or the milestones that are just in front of the milestone. For the sake of readability, we then describe these preconditions in brackets just after the milestone description. If the preconditions are satisfactorily fulfilled and the decision or event describing the milestone is fulfilled, this is a confirmation that the milestone has been attained. An additional insurance is that people other than us confirm that the milestone has been reached, thus preventing us from any bit of "fooling ourselves" in the confirmation process.

It is also wise for SMPs not to plan detailed milestones too far into the future. Descriptions of details over six months ahead will probably be a waste of time, regardless of the project. For SMPs, it is far better to add milestones with very short intervals even as close as next week! Under time pressure and turbulence, this provides for great reassurance in knowing that even short-term tasks are completed satisfactorily. But the number of milestones for each result path in an SMP should preferably not exceed six to eight. If there is more than that, it may become harder to put the complete Milestone Plan on a sheet of A4 paper. This is always beneficial for obtaining a good overall picture of our SMP, thus helping us to avoid many results paths ending up in confusing "arrow spaghetti."

Finally, milestone plans should not be made at the last minute. When time is short, the alternatives are fewer, and it could be difficult to change course if something is wrong. The more extra time we set aside for planning, the greater the chance to discover pitfalls and realize that we may need more help than originally thought. Projects always tend to cost more when planning is done at the last minute.

The purpose of the Milestone Plan is to arrive at a clearly identified Result Paths for each individual or team portrayed in the former Cooperation Chart. The Result Paths show how milestones are related in order to reach the project's goal. When several Result Paths have the same milestone, these become common nodes or *synchronization points*.

7.3 Conclusions about Stepstone # 7

To reassure that all milestones are selected and well described, follow Stepstone # 7, "The SMP Master Plan." You still need minimum 40 as the total score for the situation to be good enough to continue to the next Stepstone. Otherwise, one should go back and consider whether adjustments can be made.

The most important thing to remember is that a plan is of no use unless it is used! The plan is our tool for transforming theoretical thinking into tangible action. As stated earlier, it is important that all key personnel participate in the planning endeavor and that our SMP now has a master plan that in a simple and clear manner shows how the project will develop. In principle, project leaders should always carry the Master Plan with them - no matter how simple and unpretentious it may be. At home, it should be by our bedside. As the project leader, if we get a good idea or wonder if something is done or not, we can just check the plan to see if it has been marked. As long as the project leader and the Master Plan are inseparable, the project leader is in full control.[95] Whether you are a typical "list maker" or not, there is a great psychological support in having everything written down. It makes things easier when something is written down since then we do not need to try and commit everything to memory any longer. A continuously updated Master Plan gives the project leader a continual sense of mastery.

Good communication at milestone passages is very important. Therefore, the descriptions of milestones must be made with great care. Good formulations will coordinate our minds, while at the same time giving the project a good "flow" towards its final goal. For this reason, milestone formulations must be discussed and communicated with all parties involved. It is not enough that the wording is correct. It is also important to state how milestones are connected in an interdisciplinary way in order for their mutual responsibility to be clarified. Delays in the achievement of a milestone within an AoR not only hurt this area, but all other areas as well that depend on the milestone being reached.

Lastly, since milestones are benchmarks of progress, it is obvious that they can have a huge incentive effect. Achieving goals we have set for ourselves, in addition to sub-goals, is one of the strongest motivating effects for human beings. To succeed with one's ambitions in order to demonstrate that we are good is a fundamental human need.[96] Achieving significant milestones in SMPs should therefore be celebrated!

In conclusion:

> The most motivating thing is that milestones are highlights that create understanding and enthusiasm.

> Good communication relies on a mutual interpretation of milestones and a mutual exchange of knowledge.

7.4 Stepstone # 7 Used for the Conference SMP

The Milestone Plan for our conference SMP can be designed as shown below in Figure 7.2:

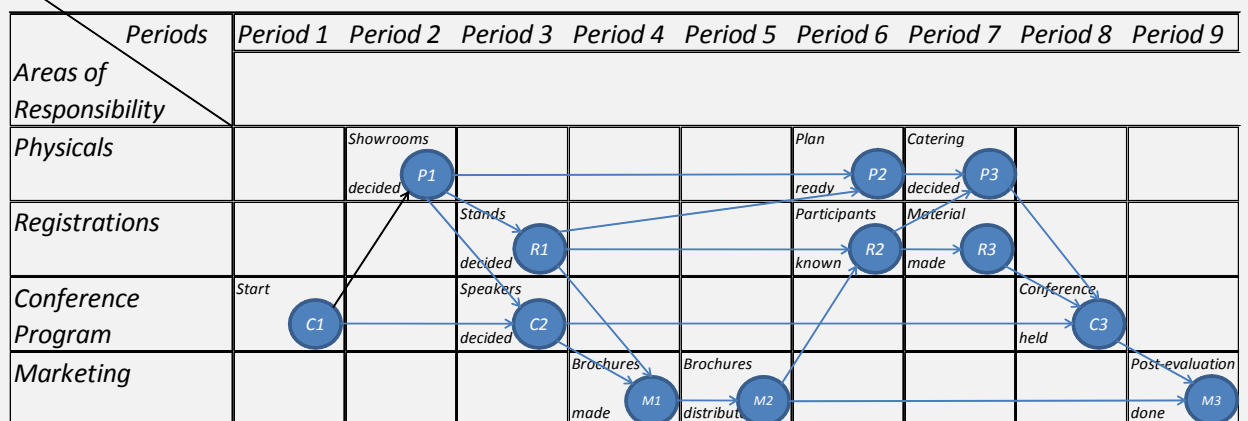| Periods / Areas of Responsibility	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9
Physicals		Showrooms decided — P1				Plan ready — P2	Catering decided — P3		
Registrations			Stands decided — R1			Participants known — R2	Material made — R3		
Conference Program	Start — C1		Speakers decided — C2					Conference held — C3	
Marketing				Brochures made — M1	Brochures distributed — M2				Post-evaluation done — M3

Figure 7.2 – A possible Milestone Plan for the conference SMP.

As can be seen, the four AoRs are rendered vertically on the left side of the Milestone Plan. For each of these areas, the Result Paths of the individual milestones are marked with horizontal arrows. At the same time, all cross-connected milestones are marked with non-horizontal arrows. Using this method, it is very easy to spot where the responsible persons have to create logic within their own area and where they are depending on other AoRs to deliver according to plan.

The first milestone belongs to the AoR "Conference Program." The content of the first milestone is that Top Management has given a clear signal that the project is approved and can start: Milestone C1. This authority is already described in the Cooperation Chart in Figure 6.3. Next, it is time to look for a suitable physical site for the conference which belongs in the AoR marked "Physicals." This decision could be made later, when we know how many participants are coming. But we have assumed here that finding a suitable premise is the most critical resource, as there is great demand for good conference facilities. In our case, the number of participants later becomes a decision based on the place where we decide to present the conference. As can be seen, the plan is tailor-made to the known reality, not only to what is theoretically "correct."

When "Showrooms decided" is selected under "Physicals", the first Milestone, P1, has been reached. Our SMP then continues towards the next Milestone, R1, "Stands decided," which is under "Registrations" and is also a precondition for the "Plan ready", which is Milestone P2.

We continue this way with the Milestone Chart until we reach "Conference held," which is Milestone C3 and then we finally reach the last Milestone, M3, which is when the post-evaluation of our SMP is conducted. At that point in time, all the results paths have been completed, and the various AoRs have been involved both individually and as collaborative teams.

To be sure everyone knows their duties and how they shall work, we end up writing a list of all the milestones and their nearest preconditions sorted by AoR:

"Physicals"
Milestone P1:   "Showrooms and site are decided (based on a thorough evaluation with a minimum of three alternative sites in relation to cost, quality and location)"
Milestone P2:   "Site plan is completed (after the size and type of stands are agreed on)"
Milestone P3:   "Catering is decided (after the site plan, number and type of participants and the quality of treatment is agreed on)"

"Registrations"
Milestone R1:   "Type and number of stands is decided (after the site location is agreed on)"
Milestone R2:   "The number of participants is known (after the brochures and stand information are distributed and responses have been received)"
Milestone R3:   "All information material is made available (after the number and type of participants are known)"

"Conference Program"
Milestone C1:   "The project is started (following a decision by Top Management)"
Milestone C2:   "The number and types of speakers are decided on (after all the invited speakers have responded)"
Milestone C3:   "The conference has ended (after all the planned conference activity has been concluded)"

"Marketing"
Milestone M1:   "All brochures are printed (after all the speakers presentations and relevant supporting material has been gathered)"
Milestone M2:   "All brochures are distributed (after the printing office has delivered them according to the agreement)"
Milestone M3:   "A post-evaluation of the conference is completed (after an agreement on what to evaluate)"

Stepstone # 7:   The SMP Master Plan

		Very little	Medium	Very much
	The degree of agreement:	1 2	3	4 5

1	Based on the project mission, the goal (s), the TOR, and the role distribution, has the Project Leader and his or her Core Team made an overall **Master Plan** for the entire project?	☐☐☐☐☐
2	To which degree does the Master Plan for the project have an **agreed number** of clearly defined milestones that reflects the pace or "rhythm" of the project`s development from beginning to end?	☐☐☐☐☐
3	To which degree is each milestone in the project a point of **observation, control, and recognition** of work done?	☐☐☐☐☐
4	Does every milestone in the project have a well described **precondition** (expressed in parantheses) that is a prerequisite for accepting its complete achievement?	☐☐☐☐☐
5	To which degree is each milestone both a point of **decison,** and a point of celebration of **intermediate success?**	☐☐☐☐☐
6	To which degree has Top Management, users, clients or other key stakeholders been given the opportunity to express their **views** on the final Milestone Plan?	☐☐☐☐☐
7	To which degree is each **Critical Chain** in each **AoR** limited to less than **10 Milestones** ?	☐☐☐☐☐
8	To which degree can milestones be **changed** both in respect to number, content and point of time depending on project progress?	☐☐☐☐☐

9	Can the overall Milestone Plan be presented on a maximum of one **A4 page** ?
	Yes: ☐ No ☐

10	Based on the overall Milestone Plan, write a short **statement** of the Project`s **purpose** using a maximum of 17 words:
	☐

|	*Total Score:*	☐

Stepstone # 8: Agreements and Obligations in SMPs

8.1 Theoretical Reflections behind the Statements in Stepstone # 8

Every project has two main actors, the contractor and the customer. What is often a problem is that the two parties receive different information and have different needs. While the customer or client wants the project done as cheaply as possible, the contractor would like a budget to allow things to be as spacious as possible. Such a budget would provide opportunities for experimentation and failure, while at the same time the contract is providing revenue. This can create distrust because the parties are holding so-called *asymmetric information*. In theory, this situation is called *opportunistic*. The contractor is closer to the daily work and will always receive the most updated information. In extreme situations, this can make the contractor purposely operate the project in an ineffective manner if it means being able to bill the client for more money.

Because of this, the determination of and negotiations about the project's economic conditions are often very demanding.[97] To handle these extensive challenges and regulations may not be easy, and the best thing to do is to follow the agreed upon rules. Following the rules saves time, creates stability, simplifies delegation, makes control easier and makes difficult decisions less subject to criticism. The disadvantages of rules are also obvious, as rules very often create over simplifications, are mostly oriented towards the past and often give too much priority to quantifiable factors.

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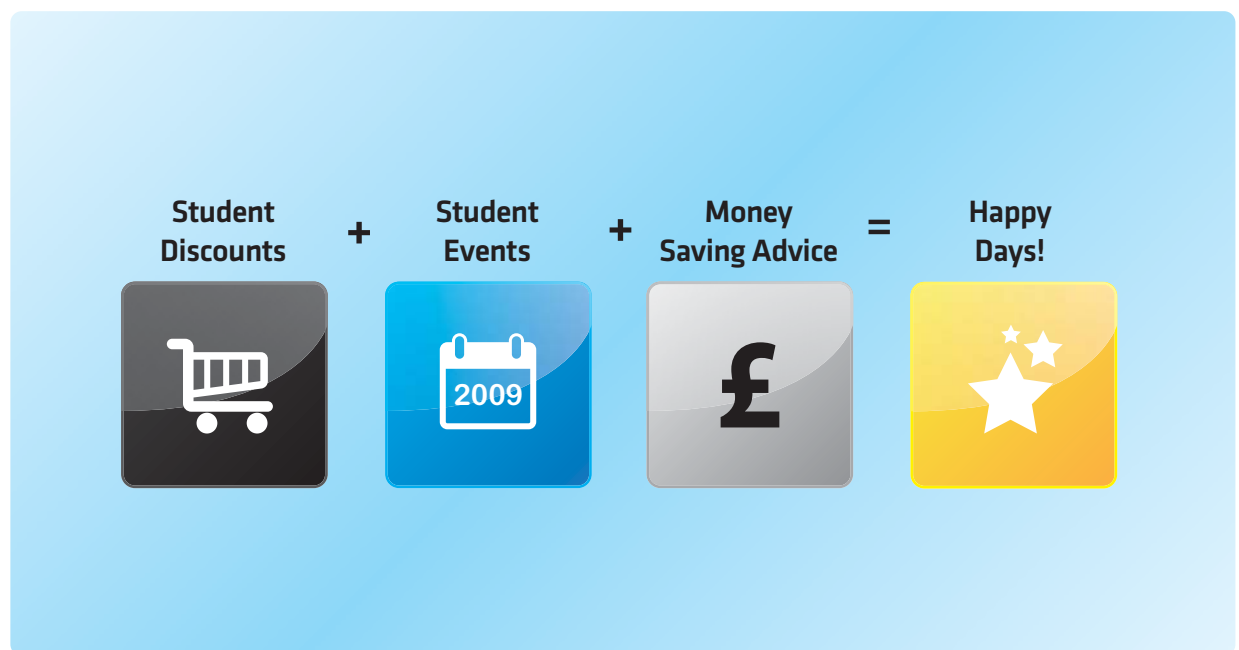
A project contract contains normally seven items:

1. Contract Terms
2. Job Description
3. Price Format
4. Forward Plan
5. Specifications
6. Drawings
7. Material List

The contract includes all the general requirements for completing the project. The project owner normally ensures the right to participate in the management of the project, access to cost data upon request, etc. The work description is a brief technical description, with details shown in the drawings and specifications. The price format is a detailed list of the prices agreed on. It is conceivable that one uses different price formats for different parts of the work so that the actual construction work is executed based on a fixed price, the change work on a unit price and any detailed design work as current billings. The forward plan contains all the milestones and specifies any fines for delays. The material list is an overview of the materials that the builder makes which is at the provider's disposal.

In large projects, one often appoints a special contract manager. This person or body sets up a contractual plan on the basis of information from engineering, procurement and project management. The plan specifies the work to be contracted and when the contract should be drawn according to the agreed schedule. The decision about guidelines for the choice of the contract terms and pricing policies is included, and the administrative functions are specified such as registration, filing, correspondence, insurance and payment.

8.2 Practical Reflections behind the Statements in Stepstone # 8

Detailed, formal contracts are less necessary for SMPs. Simple documents confirming what the parties have agreed on is normally good enough. What is even simpler is that the parties sign the agreed Cooperation Charts, thereby confirming that they accept both the task they each have responsibility for, as well as the authority they shall exercise. But it is important to be aware that the SMP contract, although ostensibly negotiated, can be harder to manage than routine and standard contracts. Because projects are unique, they often require new solutions, and both the work content and the working methods may change over time. For SMPs in particular, contracts should be designed to give project managers room for flexibility within the project framework, the TOR. Finding the right balance is a challenge. The accepted old negotiation rule about using one-third of your time to think about what is good for us and two-thirds to think about what the other side finds good, applies in full here. And if a good offer comes up, you better take it!

Since any project either directly or indirectly means the consumption of money, every project, including SMPs, should have a *budget*. But a budget after all is only an *assumption* of future economic benefits and costs. We can hardly predict the future perfectly, though we can force budgets to be held within a precise monetary consumption through tight control. The larger the project, the more crucial this principle is because in large projects even small percentage deviations often imply alienating sums in absolute numbers.

In SMPs, it would be more natural to use the financial TOR as a prerequisite not to exceed and the budget as a proposal for the consumption of money all the way to the final goal, which can be adjusted at milestones if necessary. For many SMPs, costs are actually less important than time and functionality. It does not help to maintain a budget if the end result is failure!

The easiest way to create budgets for SMPs is to let those responsible for each AoR come in with their own budget suggestions within a framework conveyed to them by the project leader. This means that the first SMP budget should be formulated by the project leader as a rough budget estimation which is then discussed with the project's Core Team. With that as a starting point, the Core Team members are asked to present their own, localized budgets. Their proposals are then coordinated and united in a final budget meeting. The project leader is responsible for the total of the individual budgets not to exceed the agreed upon total SMP budget. In this process, it will always be sensible to add a mark-up for "administrative expenses." This covers everything from non-planned lunches, non-planned travel and other transport expenses, as well as smaller procurements and unforeseen expenses not thought of when the project was started. In SMPs, a 15-20% mark-up is not unreasonable. This also allows for the opportunity to complete the project in a decent manner even if the client should begin to pinch on extra spending.

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8.3 Conclusions about Stepstone # 8

Stepstone # 8 is recommended for assisting with the creation of a "*project charter*" to help ensure that the project has a satisfactory budget and agreements. A total score of 40 is a pretty good confirmation that the project can be carried out. Here too, it is important to know which queastions have received a negative response, although the 80% requirement is good enough in principle. But if no form of contract or agreement exists, we should conduct a closer investigation as to the reason why. A half promise from some SMP supporters can create a false sense of security. To continue working further with a project without any clear commitment from the client, customer, sponsor or superior management can eventually end in great frustration for all of the project's participants.

This applies directly to the motivation as well, which in a short time can change from a high motivation to a destructive demotivation. Important obligations should therefore be communicated to all of the project's Core Team members so they know what they are dealing with.

In conclusion:

> A high motivation on this Stepstone presupposes clear agreements on external resource commitments.

> Good communication results from important agreements being known to all the project's Core Team members.

8.4 Stepstone # 8 Used on the Conference SMP

> The simplest way to budget our SMP will be to base it on the Milestone Plan.
>
> Within their AoR, all stakeholders shall make an estimate of how much the work will cost to reach each milestone in their Result Path without exceeding their budgetary framework and also when direct payment is supposed to occur. This is a cost estimate designed as a liquidity budget. The reason for this in a SMP is that it is very important to keep track of when pay-offs will take place in relation to grants or income.
>
> When the conference premises are decided, it is assumed that "physicals" will cost a total of approximately 3,300 Euros. Out of this, 800 Euros is for renting the facilities, and the rest is for catering. It is further assumed that only 200 Euros will be prepaid upon ordering the conference facilities, and the remaining 3,100 Euros will be paid after the premises is used and the food consumed. Similarly, lags in payment are assumed to apply to the other areas of responsibility as well.[98]
>
> This setup for SMPs will often be different from budgeting for larger projects, in which the detailed splitting of payment schedules is unnecessary since order and payment come quite close to each other in the overall perspective. The reason for this is that weekly or even monthly payment displacements mean little in terms of the overall accounting and follow-up procedures in SMPs. For large projects, this is normally recorded at the point of order. An exception to this is for signed commitments, which will be discussed later.
>
> For SMPs, it is important that payments are recorded when they are made. This makes the follow-up easier

and also ensures that the project leader manages the project's current cash flow intelligently. Cash flow is vital to a business, and anyone looking to lend, invest or extend credit will wish to see that the business or project is able to master its outgoings sufficiently. Even when we know from the start what grants we will have in a SMP, the project leader must check how much money is spent at milestones or other points in time. If, however, grants come in portions, it is very important that the project leader follows up the liquid development and not just the costs development of the SMP. An accurate cash flow will enable the project leader to predict financing needs, thereby allowing the establishment of facilities in advance rather than afterwards. Producing a cash flow forecast will demonstrate that we have thought through both the bills and other types of outgoings. Stakeholders can challenge our assumptions, but responding with good answers will produce confidence that our SMP forecasts are robust.

The result of all this can be a liquidity development for our conference SMP as shown in Figure 8.1:

Periods / Areas of Responsibility	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Sums
Physicals		200				600	2,500			3,300
Registrations			500			300	1,000			1,800
The conference						1,500		2,000		3,500
Marketing				500	700				200	1,300
Sums per period	0	200	500	500	700	2,400	3,500	2,000	200	10,000
Accumulated	0	200	700	1,200	1,900	4,300	7,800	9,800	10,000	10,000

Figure 8.1 – The liquidity budget with cash flow figures (sums per period) for the conference SMP in Euros.

As shown, the total sum of the costs is assumed to be 10,000 Euros, which is well within the financial TOR of our SMP of 12,000 Euros. Our budget is fully acceptable because it also gives us a degree of freedom of 2,000 Euros, or approximately 16% for "unexpected" costs.

A simple overview of the payment profile for our conference SMP can now be made for the *cumulative costs* of the project. The cumulative costs per time interval are based on our Milestone Plan and are shown in the axis chart in Figure 8.2.
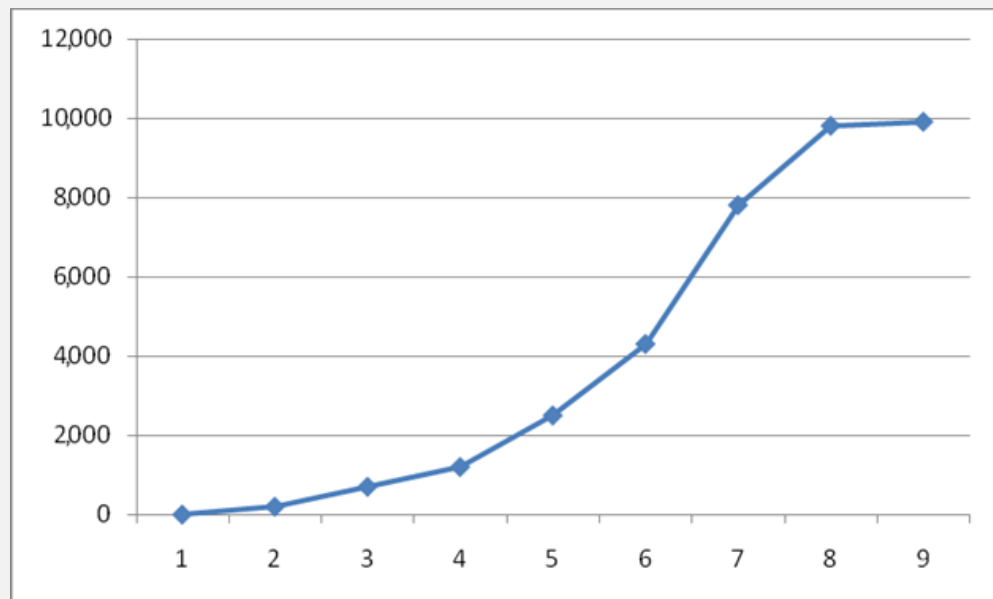
Figure 8.2 – The S-curve for the conference SMP.

The curve is called a project "S-curve." The curve shows the SMP's cumulative cost development over time.[99] In the first periods, there are few incurred direct costs and the curve is rather flat. Once we start paying our larger bills, the curve becomes steeper. Towards the end the curve flattens again, as the summary and final evaluation are intended to be of little cost.

The usefulness of the S-curve for the project leader is that it makes it easier to conduct the economic follow-up of the project. This is particularly relevant for SMPs because it makes it unnecessary to maintain frequent expense controls in the first periods of the project. In those periods, the costs are small. Starting from Periods 5 and 6, frequent follow-ups will obviously be required since the cost per unit of time is high. Again, the costs for large projects may be high from the early stages in absolute figures, and close cost controls must start early. In SMPs, we often find a different development such as the S-curve for the conference SMP shown in Figure 8.2.

Another factor previously mentioned is cost *commitments*. For almost all projects this is a very important factor in the sense that before the real payout, we have already promised to pay. Some of these promises are legally binding, while others are personal guarantees. We also make commitments for our conference SMP. In the budget calculations above, including the S-curve, it was the timing of the actual costs which were the project leader's responsibility to follow up, but it can be just as important to keep track of what we have committed to pay out at any given time. The payment for the conference premises only implies a direct cost of 200 Euros to be paid out immediately. It could be at Milestone R1 or C2 that we discover that nobody wants to have a stand at the proposed conference, or we cannot find the appropriate speakers. Because of this, the conference is suddenly in jeopardy and should not be held. It may well be that the entire sum for the premises of 800 Euros must still be paid because we have signed a formal contract. We could perhaps negotiate about how much we have to pay, although we will probably have to make more than just the first payment. The same could apply to the printing of brochures, payment for stands, etc.

All this could be expressed in a special *Commitment Curve*. In fact, even SMPs should draw this curve based on the real commitments we make as the project progresses.

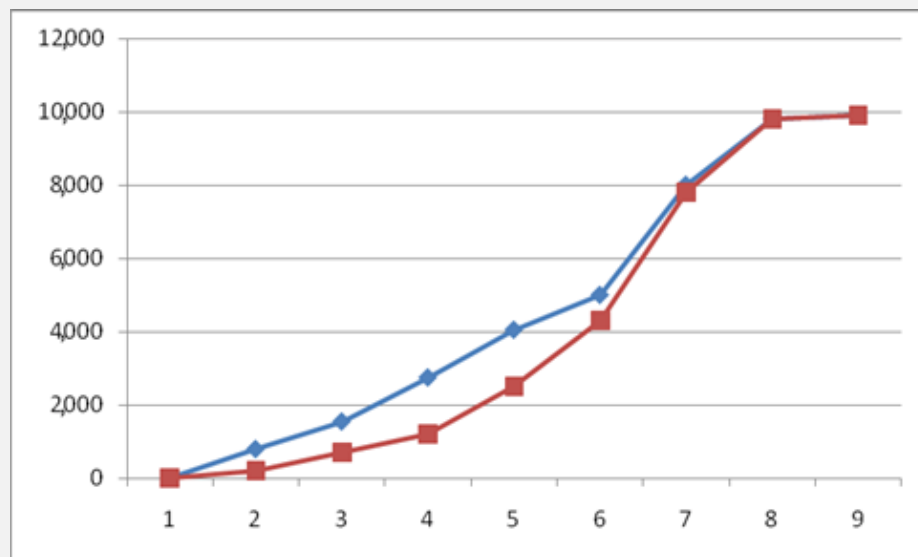The curve is plotted below in Figure 8.3:

Figure 8.3 – The commitment curve for the conference SMP.

Both curves end at 10,000 Euros, although the profiles are different. It is clear that even if the carrying costs at Period 4 are only 1,200 Euros, the commitments are already 2,400 Euros. If we should decide to stop the conference SMP at this point, we still have to pay for the premises, stands and perhaps also the travel expenses for some of the speakers already engaged, even if none of the events take place. This is important information and a central part of what the project leader is responsible for keeping track of.

An important factor for SMPs is that the pure economic disbursements often do not match the factual commitments made. In large projects, all is consumed hours and costs booked compared to the project's budget and its financial TOR. In many SMPs, it is not unusual that we may accrue a lot of extra work that is not booked. Both the project leader and staff must often accept long working hours, missed weekends and even holidays, etc. in order to reach the milestones without these efforts being booked. The accounts will therefore not reflect the actual resource usage, and it is for that reason that a detailed cost follow-up is less relevant for SMPs. Often, it is enough to register directly incurred costs at milestones and not use unnecessary force on frequent and comprehensive accounting routines and reports. As long as the project reaches its goals within the financial framework, it should be good enough. Narrow-minded nitpickers in far away line functions can kill both the progress and enthusiasm of many SMPs. The point is to reach the goal and succeed, not to make prejudiced accounting bureaucrats happy.

Even if Stepstone # 8 is satisfactorily completed, there will always be questions about the necessity of going into further detail about activities and responsibilities. It is clear that it is between the milestones where the actual work takes place. If projects are small, such as SMPs, the detailed performance descriptions of work should be left to the key persons' own ways of doing it. For many simple SMPs, further details are unnecessary extra work that takes time and money, which may make the project's work more stressful and demotivating. Nevertheless, the project leader can ask for simple bar diagrams or Gantt graphs from the personnel that show how they prefer individual activities to work within their AoR. That does not necessarily mean the physical time it takes to do this work, but rather the timely order they must stick to.

This is the basic logic in all so-called *network planning* and in Appendix A: Stepstone # 16 "Detailed SMP

Planning," this is demonstrated. For most, the use of computers with such detailed planning systems is recommended. Highly sophisticated planning software is available today, and the interested reader may very well look further into the many software packages now in existence such as Microsoft Project (MS Project), Primavera, Artemis, Super Project, WebProject and others.

In many SMPs it is unnecessary to use network diagrams and computers. If the number of work operations within each AoR is less than 7-10, then simple, hand drawn diagrams are preferable. By making such diagrams by hand, the drawing becomes become more personal and individual, thus making it is easier to obtain a good overview when the number of activities is limited. For most SMPs, it is therefore recommended to only use Milestone Maps as implementing tools and go directly to the next chapter, which reviews how to successfully *lead* SMPs.

Stepstone # 8:   Agreements and Obligations in SMP`s

		Very little	Medium			Very much
	The degree of agreement:	1	2	3	4	5

1 To which degree is there a clear, written contract or **written agreement** between the Project Principal and the Project Leader as the project agent ?

2 To which degree is the Project Leader aware of the financial and economical **terms** and **oligations** on which the project`s execution and fulfillment is based?

3 To which degree has each **AoR** person been given the opportunity to suggest a financial framework or budget within their individual AoR areas?

4 To which degree is there a clear **accordance** between the individual WBS budgets and the total financial framework of the project?

5 To which degree has the financial frame of the project included **unexpected expenditures** ?

6 To which degree is the Project Leader comfortable with the planned **Cash Flow** of the project?

7 To which degree will the Project Leader, if requested, be given fast and easy access to the complete **cost accounts** of the project?

8 To which degree is there a good **balance** between book-kept data and non-booked data (e.g. extra "free" work) done by project participants?

9 To which degeree is there expected to be a good **tone** between the Project Leader and the Project Principal concerning the **financial development** and the economic **commitments** resulting from today`s often **agile** project execution?

10 To which degree does the Project Leader know what to do in case of a " **force majeur** "?

Total Score:

8.5 Summary of Chapter 3

Every project should have a plan. A plan is our best assumption on how to cope with the future so that we increase our chances of achieving what we want. Often, it is not just the final plan that is important, but *how* the plan is made, i.e. *the planning process*.

In this chapter we have recommended an incremental planning process, in which the first step is to choose the proper project leader for an SMP. As discussed, it is not necessarily so that the person who had the idea and sold it well is automatically the best project leader. The selection of the correct project leader is one of the most important decisions in a project's course, and this book devotes an entire Stepstone to doing just that.

When the SMP's project leader is selected, he or she shall lead the rest of the planning process. It is important that at the start of this process, the project leader gets the opportunity to influence the selection of his or her closest project workers, the "Core Team" members.

Together, this group defines the SMP's specific goal or goals as a team. The goal must be both a clear instrument for fulfilling the project's purpose and still be within the project's framework, its TOR. Both the purpose and TOR are often set by the client, and it is important that there is a mutual agreement on a project's goals and that they are both realistic and appealing within the agreed or given TOR.

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The next step is to allocate responsibility and authority among the actors. In large projects this may be determined according to a specific, detailed plan of progress. In SMPs, it is often smarter that those who will have the primary responsibility for the project's progress start by creating a plan that suits them. The simplest approach is for the SMP to be divided into different areas and be delegated to Core Team members. They shall then make brief Cooperation Charts which show their individual key areas of authority and responsibility. Based on this, we discuss what other agencies, individuals and stakeholders it would be natural to bring in or take into account of in the project's work.

The next step in the planning process is to prepare a concrete *plan of progress*. Here, the use of milestones plays a central role. It is the milestones that decide how the SMP's Core Team members shall create individual Result Paths and how the milestones are mutually dependent on each other in order to show how the team must work together to succeed with the SMP.

Finally, the chapter reveals how SMP's commitments and budget should be designed. What is important is that the budget is within the agreed TOR, while allowing enough room to give the project leader the flexibility to "move the target" if necessary. This is because we still do not know the future, and for SMPs in particular, there is a tendency for new information and new insights to come in and alter the initial ideas. To have this flexibility is fundamental for most SMPs.

At this stage, the groundwork for executing your SMP should be reasonably well taken care of. Although good SMP execution is paramount for real project success, good preparation is the key for professional performance. If you have been able to satisfactorily answer all the Stepstones in Volume I, you should be well equipped for answering the next nine Stepstones in Volume II.

Good luck!

Endnotes

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1. Only phenomena and hence knowledge confirmed by the senses can genuinely be warranted as knowledge (the principle of *phenomenalism*).
2. The purpose of theory is to generate hypotheses that can be tested and that will thereby allow explanations of laws to be assessed (the principle of *deduction*).
3. Knowledge is arrived at through the gathering of facts that provide the basis for laws (the principle of *inductivism*).
4. Science must (and presumably can) be conducted in a way that is value free (i.e. *objective*).
5. There is a clear distinction between scientific statements and normative statements, as well as a belief that the former are the true domain of the scientist.

[29] Pareto was an 18th-century economist, who found that 80% of the wealth in Milan was held by 20% of the people. The 80/20 rule often occurs in the sense that many companies find that 80% of their profits are generated by 20% of their products or services. Today, one finds it interesting to apply the Pareto idea to problem solving in general in order to have the effort of problem-solvers focused on establishing solutions to the major factors.

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[65] Karlsen, J.T., 2001. "Handling of the project stakeholders: a study of the challenges and problems with project meetings," the Norwegian Center for Project Management, NSP,Trondheim.

[66] Passenheim, O., 2009. "Project Management," www.bookboon.com.

[67] In classic organizational theory, six principles are identified: only one superior, vertical authority, delegation of routine decisions, a control span never greater than six, specialized labor and the maximization of goals.

[68] Often, WBS is portrayed as a tree diagram or hierarchical diagrams, visualizing responsibilities and dependencies.

[69] Cohen, S.G. and Bailey, S., Sr.,1997. "What Makes Teamwork Work. Effectiveness Research from the Floor Shop to the Executive Suite," Journal of Management, vol. 3, no. 3, showed that 80% of U.S. companies with more than 100 employees used teamwork as a tool for better knowledge and increased competitive competence.

[70] Barnard, C., 1968. The Function of the Executive, Harvard University Press, Cambridge, MA, USA.

[71] Andersen, S. and Sæther, 0., 2004. "From scientific management to academic "gossip." "Working Paper," BI.

[72] Newspaper article in Dagens Næringsliv (Oslo) by Professor Johan From, January 2005.

[73] Through research, human "simultaneous capacity" has been found to be limited. For most people, more than three demanding simultaneous tasks are enough. Increasing the number of tasks at the same time tends to increase negative stress, while decreasing our ability to concentrate and master.

[74] This relationship is generally referred to as "the law of pressure," N + 1 = N, or "you can always do one thing more." This law often hits the most competent people, resulting in "burnout" and a complete inability to work.

[75] In 1988, Peter Drucker wrote his famous article, "The Coming of the New Generation," in which he pointed to the change fast information files would have on the traditional organizational structure. In his view, middle-management's role would disappear when the information went horizontally rather than vertically. At that point, cooperation would be necessary rather than giving orders. In SMPs, Drucker's prediction has become a natural reality.

[76] Drucker, P., 1988. The Coming of the New Organization, Harvard Business Review, January/February.

[77] Andersen, S. and Sæther, E., 2003. op. cit.

[78] The *matrix organization* was first described by Gulick in 1937 and is consequently an old way to organize human behavior. Many still recognize this way as being almost synonymous with the way projects should be organized as well, but they are wrong. All three of the main forms described here are fully useful for the way modern projects can be organized, including SMPs.

[79] So-called "situation-oriented" leadership, in contrast to "bureaucratic" or "mechanical" leadership, which is preferred in organizations that want large and uniform stability in order to function well.

[80] Shaw, J.B. and Barrera-Power, E., 2004. "The Effects of Diversity with Small Group Processes and Performance," Human Relations, vol. 51, issue 10.

[81] In management literature this is referred to as "coaching," which implies that the manager and employee jointly clarify needs, formulate goals, agree on the solution form, make a plan, follow up the plan and evaluate the final result together. Although the idea is good, there is always a risk that the focus on the results is lost along the way, that the parties are too emotionally involved, that poor performance is accepted or that both parties promise too much.

[82] Andersen, E.S., Grude, K.V. and Haug, T., 2004. op. cit. (Chapter 2).

[83] According to a general definition, a work breakdown structure (WBS) in project management and systems is an engineering tool used to define and group a project's discrete work elements (or tasks) in a way that helps organize and define the total work scope of the project. A work breakdown structure element may be a product, data, service or any combination therein. A WBS also provides the necessary framework for detailed cost estimating and control, along with providing guidance for schedule development and control in large and complicated projects. Additionally, the WBS is a dynamic tool that can be revised and updated as needed by the project manager.

[84] This is in line with modern organizational theory that points to the way organizations are working as having changed considerably from the earlier "machine-bureaucratic" organizations of 100 years ago to today's *"network organizations."* There have been many stages in this development to regard organizations as: working arenas, decision-making arenas, open systems, dynamic systems, political arenas, cultural arenas and alliance organizations. Still, we find leaders who only believe in the very old-fashioned bureaucratic structure. But for the project organizations of today, network organizations seems to be the most valuable and enriching for modern people.

[85] Passenheim, O., 2009, op. cit.

[86] Kerzner, H., 2002. Project Management for Executives, Van Nostrand Reinholt, NY.

[87] The A4 format is close to the geometric "Golden Ratio", which has been known since Antiquity, and the dimension is suitable to our eyes. Matchboxes, playing cards and regular paper sheets often have the same balance between width and length.

[88] For large and complicated projects, the scope is normally a comprehensive project contract description. In SMPs, the scope can be simplified as the sum of the TOR and the project's mission and goal.

[89] According to Professor M. Hansen (op.cit.) of the Harvard Business School, T-shaped managers are people who are active in two dimensions: their own performance in their designated function or area and their contribution to other company activities.

[90] Kerzner, H., 1998. Project Management. A Systems Approach to Planning, Scheduling, and Controlling, 6th ed., John Wiley & Sons, NY.

[91] Andersen, E.S., Grude, K.V., Haug, T., 2004, op. Cit.

[92] Hartman, E.T., 1999. "Do not Park Your Brain Outside," Project Management Institute, Pennsylvania, USA.

[93] Goldratt, E., 1997. "Critical Chain," North River Press, Boston, MA, USA.

[94] According to Weick ("Sense Making in Organizations," Sage, 1995), humans have an inherent desire for action and large projects are typically designed for action and activity.

[95] Jay, R., 2001. Fast Thinking Projects, Pearson Education Ltd., Boston.

[96] Porter, L.W., Bigley, G.A. and Steers, R.M., 2003. "Motivation and Work Behavior," McGraw-Hill, NY.

[97] In reality, economy is the science of mastering scarce resources. The more that resources are delimited, the more the fight about them will be difficult to handle.

[98] Kertzner, H., 1998. (Project Management: A Systems Approach, Wiley) proposes a 50-50 budgeting for each AoR where budgeted costs are allocated as follows: 50% when a new milestone period is started and 50% when it is finished. That would provide a more balanced overview of the cost development in projects.

[99] The curve is the integral function of the costs. In reality, full integral functions do not exist because nothing in the world is continuous, but rather it is discrete. If one imagines every discrete step to be so small that we cannot really distinguish the individual parts, we can imagine continuity.

List of Key Words and Expressions

About the Author

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PhD from Brunel University, Henley Management School, UK, and USC,
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Main current position: Professor emeritus at the Norwegian School of
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Work Experience

Born in Tana in Finnmark, North-Norway, in 1937, grew up in Tromsø, and after a short military career as leftenant from the Officer School of Infantry, he completed his MSc studies at University of Oslo in 1961. He then took the position as programmer at the French-Norwegian computer company Honeywell-BULL. When he left 4 years later as Head of Systems, this was due to an offer being researcher at The Norwegian Institute of Transport Economy (TØI). 5 years later he left this position to join the shipping company Data-Ship as Director of Research, a position he held for 3 years before he joined the staff of Hartmark-IRAS , later part of PA-International, as business advisor. For some years he was involved in a great variety of business projects, until he was headhunted to be the CEO of NORPLAN as, a consulting company concisting of 18 Norwegain enterprises working worldwide in technical and financial consulting. After 4 years he was offered the position as Vice President for Extended Education at The Norwegian School of Management (BI). 5 years later, after completing his PhD in Project Management at Brunel University in UK (Henley School of Management in cooperation with USC – University of Southern California – in the USA) he was asked to apply for the chair as Professor of Project Management and Leadership at the Norwegian School of Management, a position he has held until he retired from the school May 2007.