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FINAL THESIS REPORT

**The Role of Problem Analysis and Risk Management in a successful
Project**

Guidelines for preparing for Risks

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ABSTRACT

The idea for writing this thesis was born as the writer was one of the team members in a project that was challenged several times during its life span.

With the help of reference books, course material, the writer's personal experience and own examples this work presents guidelines and tools which help a project to successfully reach its objectives. The main objective of this thesis is to present the connection between problem analysis, planning and risk management and to show why problem analysis and risk management steps should be utilized in a project. This thesis also explains why these tools should have been used in the example project.

In accordance with this thesis Problem Analysis should be performed in the beginning of a project. This way it is possible to make sure that current problems will not impede the later development of the project. If Problem Analysis is performed poorly or neglected completely the influence of current problems will most probably negatively affect the execution of the project.

Another important element of a successful project is well-performed planning. Therefore planning phase is an important phase of a project. The effort and time spent for planning purposes in the beginning of a project will pay off later and benefit the project in several ways.

This thesis also shows why Risk Management is an important element of a successful project. Because risk management steps help the project team to prepare alternative solutions for risk events, its value should be appreciated in every project.

Keywords: project problem analysis risk management planning

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1. Introduction

1.1 Background

Starting up a project has in many companies become a common way of working and completing assignments. Small scale projects are being started up quickly and without very deep planning but several assignments are also covered up as projects when they should be seen as something else.

The idea for writing this thesis was born last year as I was involved in a small scale project. That project struggled with problems from the outset of its implementation because planning was not done correctly. Also problems that were present in the beginning of the project were for the most part ignored and the project team did not have any action plans or contingencies made for risk scenarios. In my opinion most of the troubles could have been avoided with the help of the tools which I present in this thesis.

With this work I want to present methods that could be used in order to manage project risk. I will first explain why problem analysis should be done in the beginning of a project. Thereafter I will justify the role of adequate project planning and introduce the process of risk management. My objective is to present the connection between these three elements and show why problem analysis and risk management steps should be utilized in a project and why these are helpful tools for successfully taking a project a project to its end.

1.2 Progress of this work

The example project of this work is called Hot One Group –project. The project was started in order to merge Hot One Group –affiliates Musiikkijakelu and Levypiste into GNT Group. The project was challenged several times during its life span. I started working with the project in its execution phase and got a detailed look at the problems that were present, particularly from that phase.

Since I was part of the actual project team I will use my knowledge and personal experience in most of the examples that I give. I have also interviewed project managers in order to become familiar with the history and what was decided in the very beginning of this project. Therefore, I now know how the project idea was born and how it was planned to be accomplished. I will compare my own experience with examples and theory found in reference books and articles relating to this topic. In my second year of studies I participated in a Project Management –course and I will also use the course material, hand-outs and my own notes as references in this work.

I will start my work by giving background information about the companies that were involved in Hot One Group –project and provide the time line that was given for their merger. After that I will explain the different phases of a project life cycle and describe how these phases proceeded in Hot One Group –project. In that same chapter I will categorize project related problems and give examples of problems that existed in the initiation phase of Hot One Group -project. In chapter four the focus will shift to risk management. I will explain different types of risks and present risk management steps. I will show how thorough risk identification, analysis and preparation for risks will prevent them from becoming problems. As I do this, it will become apparent why the problems that existed at the beginning of Hot One Group –project caused risk events and had an influence on the entire project life cycle.

2. Presentation of companies involved in the merger

2.1 GNT Group

GNT Finland is part of GNT Group, the leading wholesale distributor of IT, entertainment and consumer electronic goods and services in Finland and Baltic countries. The company operates in Finland, Estonia, Latvia, Lithuania, Sweden, Norway and Poland. GNT Group was founded in 1995 and the group headquarters and main logistics centre has always been located in Tampere, Finland.

GNT defines world-class logistic services, customer oriented and friendly customer service and electronic services as its main focus areas.

In 2006 GNT was acquired by Swiss ALSO Group. The ALSO Group is a wholesale and logistics company in information and communications technology and consumer electronics sector.

2.2 Hot One Group

Before Hot One Group was acquired by GNT Group it was the market leader in the Finnish music retail industry. The company had two subsidiaries; Musiikkijakelu and Levypiste. Their services included management of music and DVD film sections in department stores, service stations and supermarkets.

2.3 Merger

There are two main reasons which led to starting up negotiations for the GNT and Hot One Group merger. These companies' customer bases had similarities that would be beneficial for the other party. The other reason was that Hot One Group was starting to run out of storage space and needed larger warehouse facilities. At

this time Musiikkijakelu had its warehouse in Turku and Levypiste had its storage facilities in Helsinki.

In 2005 GNT Group and Hot One Group started negotiations about the latter transferring its operations under GNT. The merger was decided to be accomplished as a project. Initiation began in the end of year 2005 and planning followed directly after. Implementation of the project started with storing some of Hot One Group goods in GNT warehouse in Tampere and transferring data from the Hot One Group customer base into the GNT Group customer base. All data transfer was planned to be completed by the end of August 2006. After that operations were expected to run rather smoothly and with just some fine tuning required. Monitoring and controlling took place until the end of the year 2006, which is when the project was to reach its closure.

Along the acquisition Hot One Group employees were transferred to GNT. GNT and Hot One Group decided to maintain the sales strategies for their product lines as they were before the merger. Therefore Hot One Group sales personnel would continue servicing their customers the same way they did before. In other words the purpose was to merge operations, but do it in a way that would not affect or even be visible for the customers.

3. Project life cycle

“The project life cycle comprises the stages of a project from beginning to the end.” (Newell; The Project Management Question and Answer book, 2004:6)

In a similar way the project life cycle can be defined as everything that happens between starting up and closing of a project. In other words the life cycle begins as the project first comes into existence and ends by completion of all the deliverables and essential details of the project.

Instead of talking about project life cycle some researchers are more willing to talk about project life history. Dennis Lock does so in his book Project management by saying that “the total life of a typical project is rarely a true cycle, because there is often no return to the start or regeneration. So strictly, we should talk about project life history.”

Despite the difference in opinions on whether one should talk about project life cycle or project life history, it is generally approved that the life span of a project consists of different phases. These phases can overlap to some extent but generally take place in chronological order. Each project phase is marked with completion of one or more deliverables, either material or immaterial.

Deliverables from the preceding phase are usually analyzed and approved before work starts on the next phase. The most general way of defining these phases is to name them as initiation, planning, execution, control and closure. The generic description of phases can also differ in different industries since it is rational for every industry to choose the name that best describes the processes taken place in that industry. (A Guide to the Project Management Body of Knowledge, 2004:22)

Projects are divided into phases in order to improve management control. Therefore project management processes take place in each project phase. These processes mean a series of actions that bring about a result. Each phase must use all of the project management processes. This means that each phase must be initiated, planned, executed, controlled and closed out. (Newell; The Project Management Question and Answer Book, 2004:6-7)

3.1 Initiation

A need for starting up a project can arise from a development idea or a vision. In some cases, a willingness to reform an outdated system or a procedure leads into a project start-up. However, the reason does not need to be internal to a company; sometimes external causes like legislative changes or modifications require reforms that result in a project being started. Kai Ruuska gives a good example of an external cause that resulted in many projects in his book *Pidä Projekti Hallinnassa*. He reminds the reader about the numerous changes that had had to be done because of the new Euro currency. Many of these reforms and changes were accomplished as projects.

Initiation phase of a project includes collecting information that is relevant for the project, preparing a SWOT-analysis and making a problem analysis. All the work that is done and the material that is collected and analyzed in the initiation phase should result in a Project Charter. The Project Charter is a brief statement which represents answers for “who, what, where, when, why and how” for the project. This statement is used as basis for planning documents. (Cleland; Field Guide to Project Management 2004:44)

3.1.1 Collecting information

The initiation phase of a project includes a lot of preparatory work. Collecting background information for the project is an important part of that work.

Generally, the more information that is gathered in this phase, the better the project team will do in the following phases. Background information can be general information, for example information on effective laws and legislations. Gathering of any regional information may for its part reveal if another company in the same area is dealing with a similar project. All project related information such as material, financial and technical information should also be collected in this phase. When all relevant background information is available it will be much easier to evaluate whether or not that information is in favor or against starting of the actual project planning. (Handouts, notes; 2003)

3.1.2 SWOT-Analysis

SWOT-analysis is also a beneficial tool for testing project idea feasibility. The abbreviation SWOT comes from the initials of the words strengths, weaknesses, opportunities and threats. As the name implies, with a SWOT-analysis it is possible to become familiar with the foreseeable strengths, weaknesses, opportunities and threats of the project. Strengths and weaknesses of an idea are the characteristics, which are known and exist right now. Opportunities and threats are possible variables that may arise at some point in the future.

3.1.3 Problem analysis

Probably the most important deliverable of the initiation phase is problem analysis. Problem analysis is deeper than a SWOT-analysis and is done in order to become aware of the possible problems with the project. One of the benefits of problem analysis is that it enables to reveal reasons for current problems. It can also reveal factors that may impede success of the project. If problem analysis is done properly it will allow the project team to come up with and create alternative solutions, which will not hinder the project. (Course handouts, 2003)

Problem analysis that is done in the initiation phase is an important tool for risk analysis, which is completed in the planning phase. If problem analysis is not

properly done in this phase, planning phase will lack an important input and planning can become more difficult. There is one significant difference between a problem and a risk. Risk is a possible negative deviation from the project objective. Therefore a deviation that has already occurred is not a risk, but it is a problem. Additionally risk deals with uncertainty as problem can be seen as certain, since it is already present or known to occur. (Pelin; Projektihallinnan käsikirja, 2004:199)

When preparing a problem analysis, difficulties can be categorized in different ways. One way of categorizing is to separate them by the nature of problem. Applying this method of categorization, problems can be technical, financial, institutional, social or environmental.

The examples that I give from Hot One Group –project in this chapter are examples of problems that were present and should have been analyzed in the initiation phase of this project.

3.1.3.1 Technical problems

According to Kai Ruuska and his book *Pidä Projekti Hallinnassa* problems that appear in projects are seldom technical or a result of the use of poor tools and technical devices. According to him technical problems usually have their origin in inadequate management or insufficient processes.

However some problems have to be seen as purely technical. Quality and quantity of materials, equipment and machinery is one type of technical problem. If an operating system keeps on shutting down or crashing, the problem is without a doubt a technical one. If the machinery that is supposed to be used in the project is very old-fashioned the problem is technical. The quality of infrastructure; roads, buildings and so on brings about another type of technical problem. One example

problem that deals with infrastructure was presented in a project that included shipping products from Finland to Russia by rail; the rails in these two countries are of different width.

In Hot One Group -project one significant technical problem was the difference in the companies' enterprise resource planning systems. The software that was used in GNT was far more advanced and required more detailed input than the one used in Musiikkijakelu and Levypiste. GNT uses software called DBM in its operations and Musiikkijakelu and Levypiste used a system called Navi. The challenge of combining and transferring data between the two systems, DBM and Navi, was a problem that was known at the beginning of the project. There was also another technical problem that was known in the initiation phase of Hot One Group – project. Some of the Hot One Group customers did not have Internet access whereas an average GNT customer uses the Internet and a computer daily.

3.1.3.2 Financial problems

Everything that happens in a company requires money and that money should be spent wisely. In a similar way a project is always an investment and its cost and benefits should be determined from more than just one point of view in an early stage of the project initiation. (Ruuska; Pidä projekti hallinnassa; 2005:38)

Availability of financial resources can be a financial problem and it is probably the most common type of financial problem. If financing is available at the moment, the continuity of that financing can still be a risk, even though not yet a problem. Cost-effectiveness is another kind of financial problem. This problem deals with two questions; do we get good value for the money that we are spending and is the money we have being used effectively.

3.1.3.3 Institutional problems

Institutional problems is the widest category of problems. Collaboration between participating organizations can sometimes be problematic. Cooperation can be difficult because organizations may have different level of knowledge and experience in being a part of a project. When it comes to working in projects, organizations can generally be seen either as a project-based organization or as a non-project based organization. The latter type of organization is not accustomed to being a part of a project. Therefore its management system is not always suited to the needs and requirements that a project may have. Management and leadership related problems are another example of institutional problems. (A Guide to the Project Management Body of Knowledge; 2004)

Since projects are always carried out by people the project team members can also be a source of problems. Project team members usually have different levels of knowledge of work related matters and experience in their work. Skills and abilities of the personnel working in a project can vary to great extend. Finding the most suitable members and building an active and effective project team can be challenging. Other type of institutional problem is division of roles and responsibilities of various units within the organization. Sometimes information flow and the quality of it can also be deficient and cause problems.

In the example project, personnel related issues were a problem. There was a need to recruit more people to perform some of the project tasks. This problem was directly connected to training and work experience related problems. Also, it was not clear who would execute what in the project and how different tasks should be divided among the people involved in the project.

One of the GNT project managers mentioned that the way the merging companies were accustomed to running their operations differed greatly from the way GNT operates. The difference in the way operations were run as well as lack of information was a problem at this stage.

3.1.3.4 Social problems

In international projects, linguistic and cultural differences can cause problems. In some cases the level of understanding the language of the project can vary into a great detail. Also values, norms and expectations of each project member can differ and cause conflicts. In my opinion social problems are closely connected to institutional problems. If there is a difference in values of two team members it may affect their ability to work together and even decrease the level or quality of contribution to their work.

3.1.3.5 Environmental problems

Environmental problems can arise from different environmental views and values or from negative environmental impact.

3.1.4 Initiation phase in Hot One Group –project

The idea of Hot One Group –project was born when Hot One Group affiliates Musiikkijakelu and Levypiste started negotiations for merging into GNT Group. Both parties; the receiving company GNT and transferring party Hot One Group took part in discussions on how to merge these two into one. Some background information was collected, but as the interviews I made revealed, there were plenty of facts and details which parties were not aware of. As implied in the problem definitions, there were problems and differences that should have been solved before the project went on. Because these problems were not dealt with in this phase and the fact that these issues remained unchanged, affected the later phases of this project. Because none of the problems was so great that the project

idea would have to be abandoned, the project survived the deficiencies created in this phase. However it would have been beneficial for the project to put more time into problem analysis. The same should also be done in any future projects that the company may start working with.

3.2 Planning

Once the initiation phase of a project has been completed it is time for the first stop and go assessment. This assessment decides whether to go further with the project or not. In other words the output from the initiation phase is reviewed and approved before work starts on the planning phase. If problem analysis has presented problems that are considered too big or unsolvable, it may however, be wiser not to allow the project to continue. (A Guide to Project Management Body of knowledge, 2004:22)

Field Guide to Project Management by David I. Cleland defines the project planning phase as “the time period when the project charter and associated project documents are converted into detailed guidance for the execution, control and closure of the project”.

Project planning phase involves processes that improve possibilities for the endeavor to succeed. Planning includes division of tasks, risk analysis and preparing the actual project plan, which may be the most time-consuming part of this phase. Planning is also an ongoing effort throughout the life of the project. Changes to the initial project plan are usual and even mandatory since the project and reality should go hand in hand.

3.2.1 Division of task

Planning as well as the whole project has to be organized. Organizing should begin with division of tasks to the project manager and others involved in the project. It is important that the most suitable persons have and will be selected for performing each of the project tasks. Sometimes the division of tasks is not clear. This usually is the situation within a newly formed project team where some of the team members end up teaching the ones with less experience. (Kerzner; Project Management a systems approach to planning, scheduling and controlling, 2006:214)

3.2.2 Risk Analysis

“In the context of a project, risk is defined as the possibility that an undesired outcome-or the absence of a desired outcome- disrupts your project.” (Cleland; Field Guide to Project Management, 2004:202)

Making a list of events and situations, which may have negative impact on the project, can start risk analysis. At this stage it is possible to prepare for the risk and for the influence it may have in other parts of the project. By doing this the project team will have a planned response strategy and action plan in case the risk realizes. (Horine; Absolute Beginners Guide to Project Management, 2005:43)

Risk analysis will be discussed in more detail in chapter four along with Risk Management.

3.2.3 Project plan

Project plan is the key document in project management and a primary condition for any successful project. As already noted, planning is an ongoing effort and

therefore the project plan is subject to revision. The plan must always be kept updated and any changes should be updated without hesitations.

Building a project plan starts by validating the elements of the project charter, which was prepared in the initiation phase. If project charter is seen as a preparatory blueprint for the project, the project plan is a document that is far more detailed. One of the main criteria for a project plan is that it should accurately and consistently state the objectives for the project. Project plan has to define how the project objectives will be achieved and who will do what in the project. Setting a time frame or a schedule for the project is also an essential part of the project plan. This schedule should be as realistic as possible and therefore it should contain some flexibility. Project plan should also state how much money, personnel and other resources the project has available. (Ruuska; Pidä projekti hallinnassa, 2005:21, Horine; Absolute Beginners Guide to Project Management, 2005:52-53)

The content of a project plan is usually the same regardless of what type of a project is in question. The contents of a project plan can for example be divided into five chapters, which can be named as definitions, organization, execution plan, budget and control plan.

According to this kind of division the first chapter of a project plan is definitions. This part should include an executive summary of a project plan, which is a short sum up of the overall objective, purposes, activities and timeframe of the project. It gives the reader a first review of the project. The definitions chapter should also include background information and justification part, which gives a brief explanation of the current situation. It is usually a description of the problem or development need that should be solved. The purpose of this part is to explain why the project is necessary for solving the current situation. Project objectives and measurement as well as deliverables of the project are also discussed in the definitions chapter. As mentioned earlier the project objectives should be stated

clearly and accurately. All the objectives listed and mentioned should also be measurable. It is simply unnecessary to set objectives, which are impossible to measure. Short-term or other minor objectives can also be defined, but even these objectives should support the achievement of the overall objective or objectives of the project. Along with the project objectives all deliverables or outcomes of the project should be stated in the project plan. Another important part of the definitions chapter is to concentrate on the project scope. In other words, address the work that is part of the project and also assign the work that is not included in the project. (Pelín; Projektihallinnan käsikirja, 2004:88, Cleland; Field Guide to Project Management, 2004:48-50)

Second chapter of the project plan should contain relevant information about the project organization, project team, steering group and contact persons. In a small-scale project, a list of persons involved is enough, but in a bigger project this information should be more detailed and specified with an organization chart. Areas of responsibility of each key person can also be defined in this chapter. (Pelín; Projektihallinnan käsikirja, 2004:86-90)

Third chapter of the project plan is the execution plan. This part states project activities and work plan for the project. Activities mean the actual work processes, which will deliver the project outcome. Work plan is a detailed description of activities and actions that will be performed in the implementation phase of the project. Planned work elements can then be laid out over time and a schedule can be formed. (Cleland; Field Guide to Project Management, 2004:48-50) In general this chapter focuses on resources that are available for the project. Therefore it explains how much human, equipment and material resources are required for completing the project. Risk management matters and risk analysis should also be included in the third chapter of the project plan. This is mainly because every project that is set has possible risks in its execution. As mentioned earlier in the risk analysis section, by preparing a risk analysis, the project team will have a planned response strategy and action plan in case the risk materializes.

Budget is the fourth chapter of the project plan. This chapter should be divided into two parts; the project budget and estimates of project expenditure. There is a significant difference between these two. Estimates of project expenditures can be presented as a list of the expenses that arise from the processes and work that is needed for the project whereas project budget has to be linked to the timeframe of the project. The Project Management Question and answer book defines project budget as “the time-phased cost of all the work in the project schedule.” (Pelin; Projektihallinnan käsikirja, 2004:162-168)

The fifth chapter of the project plan contains information about how monitoring, reporting, evaluating and quality control are planned to be organized and carried out in the project. This chapter also includes scheduled meetings for the project team and an overall communications plan.

Project plan should be a result of collaborative planning, where every important stakeholder takes part in the planning process. By stakeholder we mean “persons or organizations that are actively involved in the project, or whose interests may be positively or negatively affected by the execution or completion of the project.”(A Guide to the Project Management Body of Knowledge, 2004:376) It is important to actively participate in the planning processes since a non-participating stakeholder may be a major risk for example in the sense of inadequate commitment or misunderstanding of the project expectations. (Lock; Project Management, 2003:164, 465)

3.2.4 Planning phase in Hot One Group-Project

As I mentioned earlier, the planning phase should include steps and measures, which will make it easier to successfully take the project to its end. In Hot One Group –project many of the planning phase activities were unfortunately neglected or performed poorly. We can start by discussing the problems that were already

known in the initiation phase of the project. These problems should have been closely inspected in the planning phase at the latest. It would have been rather easy to plan and prepare alternative solutions for each of these issues.

Some planning was made in order to solve the problem of different operative systems but we can take it as our example of inadequate planning. According to a plan that would solve this problem, data transmission between DBM and Navi would be performed automatically. Additionally some of the former Hot One Group –customers would fill in a basic GNT dealer application and send that form to GNT. The idea was that the data that was automatically transferred would be updated according to the filled in application. And in case the data transmission would fail, the customer would still become active in DBM when the customer was created in the system using the information in the application form. However, the plan that was made failed to be functional for two reasons. Firstly, it was decided that automatic data transmission would not concern all Hot One Group –customers. Meaning that for some customers, sending in the application was a prerequisite for existing in DBM. Secondly, the data that was transferred from Navi did not qualify for DBM. All DBM customers have to have a business ID, but some Navi customers did not have that.

A simple but accurate approach to risk analysis would have been beneficial for the Hot One Group –project. It could have been relatively easy to come up with possible risk scenarios being familiar with the problems that existed in the initiation of the project. I will proof later that the project team identified and to some extent analyzed and prepared for risk scenarios. However flaws can be found in planning for these risks and in the choosing of the response strategies for the identified risks.

3.3 Execution and control

When the project plan is ready all relevant information is on paper and available for the start of implementation of the project. However, the second stop-and-go assessment has to be made at this point. This is the final decision on whether to proceed or abandon the project. If the project plan is approved for execution the actual work of the project will start. (Handouts, notes; 2003)

Execution and control phase of the project refers to the time period when the project plan is implemented and actions are taken in order to develop and deliver the project's products and services. (Cleland; Field Guide to Project Management, 2004:44)

Executing comprises directing, managing, performing and accomplishing the project work and providing the planned deliverables. (A Guide to the Project Management Body of Knowledge, 2004:360) Coordinating the people and resources which are involved in the project means the same as executing or implementing the project.

Projects demand follow-ups to ensure that the project objectives are met according to the set criteria throughout the entire project execution phase. Follow-ups are performed by controlling and monitoring. Controlling can be seen as successful when any deviations are noticed in an early stage and corrective actions can still be taken in such a way that will not jeopardize the entire project

3.3.1 Execution phase in Hot One Group –project

The execution phase of my example project started as GNT allowed Hot One Group –companies to use its warehouse facilities for storage and as their goods started to fill in parts of GNT warehouse. Movement of goods proceeded well, but

mistakes were done in other parts of the execution. New personnel were recruited for the project in the early execution phase. New employees were not familiar with the software that was used for the project and they even had very limited knowledge of what was planned to be accomplished with the project. So, even if it is possible to include training activities in to the project this should be a planned activity so that there is enough time to perform training before the actual work starts. Another thing that went wrong in Hot One Group –project was the data transmission. Firstly the transmission was delayed and ones it was done the outcome was faulty and inaccurate. Even the backup plan did not fulfill its purpose since all customers did not return applications that were sent out. Many of the applications that were returned actually missed some of the relevant data input.

As we can see here negligence in the planning phase caused problems in the execution phase of the project. If the project team had spent more time planning the project and focused on preparing a project plan, it would have been easier to complete the execution phase of the project.

3.4 Closure

The definition of a project explains that a project is a temporary endeavor undertaken to create a unique product, service or result. (A Guide to the Project Management Body of Knowledge, 2004:368) The important word in this definition is temporary, which means that a project is completed in a limited time-frame; it has a start and an end.

In some cases the project will reach its end earlier than actually planned. This can happen for example in case of technical failure or if there has been a significant miscalculation in estimating the project profitability and expenses. (Pelín; Projektihallinnan käsikirja, 2004:341-342)

It is possible that the closing up of a project leads to an establishment of a new project. Sometimes projects just continue because development needs appear in the execution phase of the project and these needs are included in the ongoing project without further thoughts. Instead of just combining these development needs in to the on-hand project, these needs should be carefully considered and then maybe launched as a new project. (Ruuska; Pidä projekti hallinnassa, 2005:37)

Closing up a project starts with evaluating the outcome of the project. Collecting relevant project documents, records and files together and preparing an end report of the project happens before the project outcome or results are accepted by project client. Once the project results are transferred to its client, it is time to reassign the project team into other tasks. The project manager will as well end his work on this project. (Pelin; Projektihallinnan käsikirja, 2005:342-343, Cleland; Field Guide to Project Management, 2004:44)

3.4.1 Closure phase in Hot One Group –project

According to one of the Hot One Group –project managers who I interview in April 2007, the Hot One Group –project can be seen as completed. The project objective was to merge Hot One Group affiliates, Musiikkijakelu and Levypiste into GNT and that objective is achieved. However there are still aspects that have to be taken care of and changes that have to be done in order to make operations run smoothly.

4. Risk management

Risk management is the core element of a successful project.” It is a set of techniques that are used for controlling uncertainty in a project. “(Cleland; Field Guide to Project Management, 2004:202) Successful risk management leads to the project team being on top of risk instead of being afraid of risk. Therefore “the goal of managing project risks is to identify and prepare for any potential threat to the project’s critical success factors before it actually occurs.” (Horine; Absolute Beginners Guide to Project Management, 2005:173)

Risk management should be done in a similar way as planning; throughout the whole project. It has to be done in the beginning when we still do not know everything about the project and in the middle where we have more experience in the project. Along the progress of the project some risks disappear and new risks become worth analyzing. Even in the end of the project risk management is still important. (Newell; the Project Management Question and Answer Book; 2004:175)

In this chapter I will first present different sources of risk which I have divided into seven categories. Thereafter I will explain the basic steps in risk management. I will also explain what risk management steps were taken in Hot One Group – project and give my suggestions how these activities could have been done in a more adequate and beneficial way.

4.1 Categories of risk

Risks are always present in projects, but they usually lie hidden in different sources or parts of the project. However, in most projects risk originates from the same source. This fact makes it easier to start looking for the risks in the project in hand. (Absolute Beginners Guide to Project Management; 2005:178-181) The

amount of risks tends to be higher within projects that are not planned and defined in a proper way. Therefore the actions and work done in the early phases of the project life cycle should always be a priority in a project.

As noted earlier, there is a difference in risk compared to a problem. Risk deals with uncertainty; it is a possible unplanned event in the future. A problem may have been a risk earlier, but actually it is a deviation from the desired outcome that has already occurred and needs to be handled without delays.

4.1.1 Service or Product and Demand related risk

Economic events and market conditions may change the demand for a product or service. Therefore demand for a product or service can fluctuate within a certain period of time. In the worst case scenario the development need, which was the starting point for the project, has somehow expired. More common phenomenon however is that the demand changes during the project or those involved in the project do not share the same understanding of the project demand or requirements.

Sometimes new technology becomes available during the project and calls for modifications in the project product or service.

4.1.2 Technical risk

Technology can be a source of risk. Use of unproven or non-standard technology may be a risk factor. In some cases the complexity of technical devices or systems causes unwanted situations. Combining data between two different kinds of software can also be risky.

4.1.3 Schedule related risk

Probably the most common schedule related risk is delays. If the estimations of time required for each task within the project do not hold or are inadequate in some way, delays are likely to occur. If for example one mandatory task is missing from the project schedule and that task must still be completed, the project team has to fit the task somewhere into the existing schedule. This kind of mistake could have been eliminated and therefore the risk may be seen as an outcome of inadequate planning.

Unfortunately schedule related risks may add up and surprises can make the situation even worse.

4.1.4 Financial risk

Reduction on available capital and cash flow issues are examples of risk that relates to financing the project. Project planning may also create risk. This happens when planning is not performed in enough detail. Cost estimates may prove to be inadequate and cost sources may even be missing from the project budget. For example these risks are self-inflicted. Especially in international projects, exchange rate changes are a risk.

4.1.5 Project organization and project participant risk

Risk may also lie in the project organization. The project management may lack support from the team or from the surrounding organization, within which the project organization is operating. There may also be changes in the organization or the organization can even be sold. Information flow within the project organization can sometimes be challenging to organize, especially if the decision-makers are busy and therefore difficult to get in touch with.

However the risk that relates to the project team is more real or possible to occur than risk which lies in the project organization. Team members may quit their job or new members may be recruited. A direct effect of this possibility is that the team members lack experience in working together and they may not even get along with each other. Risk can also arise from lack of skills, experience and business knowledge of the team members.

4.1.6 External/Subcontractor/Competitor risk

External factors that expose a project to risk are difficult to control. Weather and other environmental phenomenon are examples of this kind of risk. Government agencies and their bureaucracy can also be a source of risk. Decision makers at that level may be difficult to reach or their decision making takes time. In some cases changes in laws and legislations is the cause of risk.

Subcontractors may also be the source of risk. Dealing with a new subcontractor or trusting a new supplier may be risky. Cooperation with a new supplier may cause trouble in form of late deliveries and poor quality of work. Sometimes these two risks even appear in one package, compounded together as products of poor quality coupled with late delivery.

Competitors may come up with a better or similar project and make our project look unworthy of finishing.

4.1.7 Customer related risk

There are many things that can happen with the project customer. Is the customer paying for the project? What happens if the customer goes bankrupt? Customer expectations may not be the same as expectations of the project teams. The project client may even decide not to approve the project outcome and asks for further measures to take place.

On top of the risks presented in these categories there are risks which are possible in certain type of projects. In international projects, when for example project deals with export activities, political problems or uncertain conditions in the destination country may create surprises.

4.2 Risk Management steps

Risk management should be proactive. Being proactive in this context means that the project team seeks to identify and prepare for the risk before it occurs and becomes a problem. When the project team uses the steps of risk management the team will be ready and prepared for risks and that is why risk management is such an important tool for any project. When risk management is proactive it is both more effective and more economical for the project since response options usually become fewer and more expensive the closer the risk gets to realization. (Cleland; Field Guide to Project Management, 2004:204)

4.2.1 Risk Identification

First step of risk management is to identify risk. This process should be started in the planning phase of a project. However, risk identification should not be the first thing to do in planning, because at that point the results will not be accurate. The best way is to start risk identification after the initial part of planning.

There are different approaches for identifying risk. The easiest way to start the identification process is to look for the most common risk in projects and recognize and concentrate on the critical areas of your project. Project schedule and work plan as well as budget tend to be some of the critical areas in many projects. Information available from other projects such as lesson-learned

examples will help in assessing risk that has occurred before and may hide in this project as well. Risk checklists may even in some cases be available for this purpose.

Another way to start the risk identification process is to organize a brainstorming session, where participants can name any risk they can think of that could occur in the project. If a brainstorming session is organized it should have participant from both inside and outside the project team. Especially in bigger projects; experts, consultants and project managers from other projects may have insights and opinions, which may prove to be invaluable. Even brainstorming has its pros and cons. Several ideas of risk can be generated when ideas of one person start a chain reaction within the group. But this is not always the case. Some of the participants may feel uncomfortable or inferior to others and will not participate in the way they are expected to. Delphi technique is another way to use group dynamics for risk identification and because it is done anonymously it excludes the negative aspects of brainstorming. However Delphi technique is more time-consuming and more difficult to organize.

In risk identification it is important to separate risk and its impact. Risk event is the situation which occurs and impact is the effect which risk occurrence has on the project.

Once risk identification is done the results should be organized. Duplicate risks ideas can be eliminated and similar risk ideas can be combined. When recording the risks, it is important to list both the risk and its impact.

4.2.1.1 Hot One Group Risk identification

I explained earlier that in Hot One Group –project there was a problem of different kind of operative systems DBM and Navi. The project team managed in

identifying risk scenarios relating to that problem since they saw it possible that the automatic data transmission that would be performed could fail. However risk identification was not done in a method that would benefit the project in the best possible way.

In Hot One Group –project risk identification could have been done in a brainstorming session. This could have been possible because the project was a rather small scale one and it would not have been difficult to gather participants from both outside and inside the project team at the same table. The problems that were present in the initiation phase of the project were still current and present in the planning phase of the project. Just discussing and referring to these problems would have most probably triggered several ideas of risk and risk management among the participants.

4.2.2 Risk analysis

After the risk is identified it is possible to start analyzing it. Evaluating risk includes determining the probability for the risk to occur and the significance of its impact in case it occurs

The objective of risk analysis according to David I. Cleland is to place facts, drivers, under each risk to support it. By this he means that risk should be based on something real, something that makes one to believe that the risk event could occur and have impact on the project. Specifying drivers for each risk makes it easier to estimate how serious the risk is.

In order to decide which risk is important, we can use quantification. This process establishes a way of arranging the risk in order of importance. (Newell; the Project Management Question and Answer Book; 2004: 181) Order of importance depends on the severity the risk, which we define as the combination of risk

probability and risk impact. For establishing the order of importance for risks we can use qualitative and quantitative risk analysis.

Qualitative risk analysis is a rather simple way to prioritize risk and helps in deciding what risk should be planned and prepared for. It lays the basis for quantitative risk analysis. In a simple form of qualitative analysis risk probability and impact can be ranked as high, medium or low. In the example in the picture 2 you can see the different combinations the impact and probability values constitute. High probability combined with low impact results in low severity,

Newell; the Project Management Question and Answer Book:

		Impact		
		HIGH	MEDIUM	LOW
Probability	HIGH	High	High	Low
	MEDIUM	High	Medium	Low
	LOW	Medium	Medium	Low

Picture 2. Risk Qualitative Evaluation Table

and implies that even if this risk should occur, its impact will not harm the project. Therefore this risk should not be at the top of the priority list. (Newell; the Project Management Question and Answer Book; 2004:181-183)

Even if qualitative analysis does not give the precise value for the risk, its results are usually good enough to indicate the overall risk. It is also a less expensive and faster way to identify high-priority risk and start planning for them. Therefore qualitative risk analysis is rational tool for small projects and should even be used when there is not much time to evaluate the risk before it actually happens.

(Newell; the Project Management Question and Answer Book; 2004:181-183)

It is also possible to give numeric values for impact and probability and then multiply the values and get the risk rate. Even when the numeric values are not exact it may be somewhat easier to analyze the numeric results. However the purpose of quantitative risk analysis is to attach specific numerical values to the risk. This makes quantitative risk analysis a lot more difficult and expensive to perform than qualitative risk analysis. The data that is used in quantitative analysis has to be accurate and the technique used for data processing has to be chosen carefully. Some techniques often used for quantitative risk analysis are Monte Carlo analysis, PERT and decision tree analysis. (Newell; the Project Management Question and Answer Book; 2004:181-185)

4.2.2.1 Hot One Group Risk analysis

In Hot One Group –project all identified risks could have been analyzed with qualitative risk analysis. This would have been an easy and adequate way to become familiar with what risk the project team should focus on. As we can see in my next example, some risk was analyzed in Hot One Group –project. The project team identified a risk scenario where automatic data transmission fails. Possible drivers, which made someone to believe that the risk could occur, may have been these; the actual transmission would be done by a third party and DBM has lately had problems with crashing down. The probability could have been estimated to be medium; because there had been similar problems earlier with data transmission and the third party assign to perform data transmission is limited in time and personnel. Impact could have been considered to be high. This is because failure would delay the project and customer would not be active in DBM, meaning it would not be possible to sell anything to that customer.

We can then take a look at picture 2 and see that if we combine medium probability and high impact we are dealing with high severity risk. That is a risk

that should be high in our priority list and therefore we should start planning how to proceed if this risk occurs.

This type of risk analysis could have been applied to all risk scenarios if these had been identified at some point.

4.2.3 Risk response

Once risk is identified and analyzed and the risk priority order is known, it is possible to start dealing with risk response strategies. Risk response strategy depends on our company's or projects risk tolerance. It means the willingness to accept or avoid risk and basically depends on how much we are willing to lose if the risk occurs. We can think of risk tolerance as a level of severity. Risk that is above this level is not acceptable and risk that falls under this level is acceptable. Different risk response strategies should be used for risk in each side of the risk tolerance level. The possible approaches are acceptance, transference, mitigation and avoidance. (Newell; the Project Management Question and Answer Book; 2004: 191-195)

Risk acceptance means that the severity of the risk is lower than the risk tolerance level. Acceptance may be the right way to approach for example when the measures for preparing for the risk would cost more than simply letting the risk happen. Also response to weather related risk often falls into this response strategy since there is nothing you can do to prevent it. Basically accepting risk means that the project plan is not changed to deal with the risk and actions will only be taken if the risk occurs.

If the risk severity level is higher than the risk tolerance level, there are three possible ways to approach the risk. Risk transference is the first possibility of these three approaches. This approach means "shifting the consequence of a risk

and the ownership of the response to a third party”. (Horine; Absolute Beginners Guide to Project Management; 2005:177) Transferring can be done in many ways. The most common way to transfer risk is to buy insurance. Risk can also be transferred by outsourcing the work that carries risk to a more experienced company. In general in risk transfer you pay for not having to carry the risk whether the risk occurs or not. (Newell; the Project Management Question and Answer Book; 2004: 195-196)

According to the Absolute Beginners Guide to Project Management some people confuse risk management with mitigation, which is one of the risk response options. Mitigation means that we reduce either the probability or the impact of a risk so that the risk severity level then falls below the risk tolerance level. At this level it is possible to copy with the risk and it will not jeopardize the whole project. Reducing the probability of a risk to occur can be done by measures that include double-checking, security, testing or inspection activities. Mitigation provides the project team and managers with several alternatives which will reduce the likelihood of a risk to occur. Therefore mitigation can even be seen as the most important part of risk management. (Lock; Project Management; 2003: 582-583)

Risk avoidance is the last risk response approach. Risk avoidance means taking actions which will completely eliminate the possible risk. This elimination can be done in two ways. The first and simplest way to get rid of risk is to remove it from project deliverables. This means changing the project scope. In some cases it may be necessary to decide not to proceed with the project at all. Another way to avoid risk is to change the design of project product so that the detail that causes risk disappears. (Newell; the Project Management Question and Answer Book; 2004: 196-197)

4.2.3.1 Hot One Group Risk response

Using the same example of data transmission we can see that the project team made a backup plan that would be useful in case the data transmission would fail. The team chose mitigation as their risk response strategy, because they wanted to reduce the impact of the risk. As GNT dealer applications were sent to some Hot One Group customers, the team wanted to make sure that they would eventually receive the filled in applications including all relevant information from Hot One Group –customers and then be able to active each of these customers. However this response strategy was not successful. This response required customer activity, which is difficult to control. A wise response strategy would have been one where the project team itself would have been in charge of taking corrective actions. Even phoning the customers, and that way getting their information could have been a better and more customer-friendly strategy in this case.

4.2.4 Risk Control

Many things in the project environment change during the projects existence. Attitudes towards risk and ability to recognize risk may change because the people involved in the project gain more knowledge and become more experienced with the project and its risks. Therefore it is important to keep an eye on the risk factors and changes that happen. Risk control is the process of monitoring, controlling and keeping track of risk. Effective risk control seeks to find risks that should no longer be considered as threat and risks that will soon be due. One very important aim of risk control is to find new risks and prepare for them. Ensuring that risk plans are carried out properly is part of risk control as well as choosing alternative strategies, executing a fallback plan and taking corrective actions. Even the risk tolerance level should be monitored and updated if needed. (Newell; the Project Management Question and Answer Book; 2004: 199, A Guide to the Project Management Body of Knowledge; 2004: 65)

5. Conclusion

As the examples presented in this work assure, there are three important factors that improve the chances of a project to successfully reach its objectives. Proper use and utilization of these three factors would also have made the Hot One Group –project a successful one.

Problem analysis has to be done at the beginning of a project because one of its purposes is to force the project team to evaluate existing problems that may cause risk events to occur in the progress of the project. If problem analysis would have been adequate in Hot One Group –project, the project would have saved itself from many challenging situations. Even this example proves that problem analysis should be included in every project that is started.

A well planned project has good chances to succeed. Preparing a project plan will ensure that none of the necessary parts of the project are forgotten or being undervalued. The examples which I have presented make it clear that the time spent in the planning phase of a project will pay off later on in the project.

Adequate risk management activities make up the third important element that improves the chances for a project to successfully reach its objectives. When project team seeks to actively utilize risk management steps the team should find itself on top of risk. The team should then have alternative solutions and strategies ready in case a risk realizes.

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