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Kirsi Aaltonen, Mervi Murtonen & Sampo Tukiainen

Three perspectives to global projects

Managing risks in multicultural project networks

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Abstract

Global projects represent an extremely challenging form of project work, especially in the sense that despite the best efforts for planning and prediction, the complexity of the project network and the fact that the operations usually take place on foreign soil with foreign partners are likely to cause many unpredictable and unexpected events and deviations from project plans, having a significant impact on the project progress. The purpose of this study is to identify and analyse interactions between cultural processes, network connections and risk management practices in global delivery projects. During the research, data has been collected from 21 case projects delivered to 17 countries world-wide. The studied projects varied in size, the degree of success and cultural diversity. The data consists of 92 interviews with the project managers and other project specific key personnel from four project-based companies as well as project documentation. The interviews have been conducted both in Finland and in various project host countries. The examination of the case projects is implemented both as project specific and comparative case studies. By the project specific historical studies, the project trajectories and critical incidents have been described as well as explanations for the project specific outcomes in general have been sought for. In addition, the comparative research designs have been built according to the planned and emergent outcomes of the projects as well as according to their cultural diversity and institutional characteristics. By the comparisons, novel ways to unravel the risks and difficulties of the project management due to the cultural differences have been sought for. The results of this study inevitably present the significant impact of the various project stakeholders and the emerging cultural diversity on the project risk management processes required for answering the specific needs and challenges of global projects.

Contents

1. Introduction

This report summarizes the results of the GPSII research project. GPSII (Global Project Strategies II) was a multidisciplinary research collaboration aiming at creating and developing new knowledge on risk management processes in global projects. GPS II was a continuation for research co-operation between Finnish -based international companies, researchers from VTT Technical Research Centre of Finland (later VTT), Helsinki University of Technology (HUT), and Helsinki School of Economics (HSE). Collaboration grounds back to 2003 when The Collaboratory for Research on Global Projects (CRGP) was launched at Stanford University. VTT was CRGP's first affiliate and conducted a pilot research project in Finland together with HSE during 2003-2004. At the beginning of year 2005 HUT joined the research group and GPS I was launched. In GPS I the focus was on institutional complexities and cultural dynamics in global projects. During GPS I, it was widely recognized that risk management in global projects is an area that would benefit from high quality academic research. Both the researchers and the industry partners of GPS I identified project risk management as an important area for development. The basic idea of GPSII emerged.

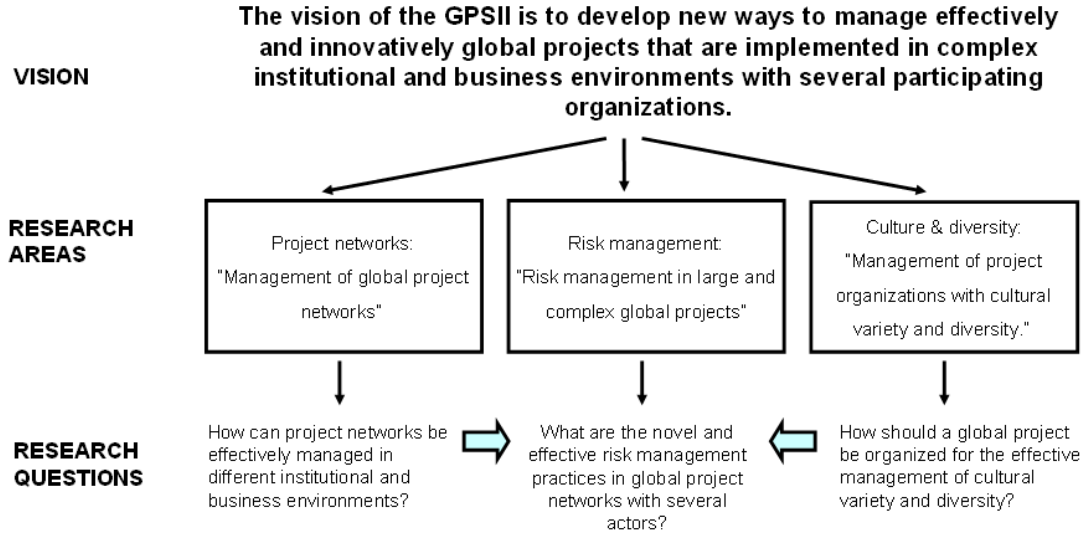

Figure 1. GPS II vision, research areas and research questions.

The mission of GPS II research project was to improve Finnish industry and service sector's competitiveness through high quality academic research. GPS II project aimed at fulfilling this mission by developing new, effective and innovative ways to manage global projects that are implemented in complex and challenging institutional and business environments with several participating organizations. Risk management in global projects was an overarching theme in GPS II.

The research work in GPSII was jointly conducted by HUT, HSE and VTT and the project was executed during 1.4.2007-31.3.2009. The main financier of the research is TEKES. In addition, the following organizations have participated and financed the project:

- Nokia Siemens Networks
- Wärtsilä Finland Oy
- Foster Wheeler Energia Oy
- Outotec Oyj
- Ramboll Finland
- Synocus Oy.

The project was divided into three subprojects (Figure 1). The key results of the three subprojects are presented in Chapter 2. The three subprojects were as follows:

Project risk management (VTT): This subproject has focused on risk management practices in global projects. General practices and organizational guidelines for risk management in projects have been analyzed based on the current literature. Detailed analysis of project-specific risk management practices has been conducted in case-projects. As a result of these analyses, several discontinuity points and generic development areas in project risk management were identified and presented to case companies. New applications for quantitative risk analysis in complex and dynamic project environments, using interactive graphics technologies, have been developed and tested. Other key research areas in this subproject have been informal risk management practices, especially during project execution, ambiguities in risk communication in projects, risk management reviews and handling the risk information in post-project lessons learned practices. This subproject includes two master's theses related to the management of risk information knowledge and the quality of project schedules.

Project networks (HUT): Research and development work in this subproject has been conducted on a variety of themes all related to risk management practices in networked global projects and project business. The examined areas in this subproject have been network participants and stakeholders as risk sources, efficient and effective stakeholder management practices, project typologies and categories, efficient adaptation of risk management approaches to different project contingency factors, joint project risk management practices and strategies in a networked project setting and efficient practices of risk management lessons learned sessions. Research areas have been studied in a variety of selected case projects. Related to the researched areas several development ideas and areas have been identified and presented to case companies. The subproject includes one licentiate's thesis and three master's theses related to risk management practices in global project business, quality of project schedules and success criteria framework for a competence development project.

Cultural diversity (HSE): In this subproject cultural diversity, cross cultural interaction, and their relation to risk management of global projects have been examined. This subproject especially focused on the significance of cultures and cultural differences present in the project organization and network,

as well as on the cross cultural social processes such cultural diversity creates during the progress of a global project. These focus areas have been studied both in single project settings as well as in comparative analyses between multiple projects. The integrative and fragmenting force of cultural diversity among project partners, its development during the project, and the mechanisms to learn to understand and cope with cultural differences were recognized and specified based on the case analyses.

2. Research methodology

In GPSII, project risk management practices have been empirically explored and analyzed focusing especially on the effects of network structure and cultural diversity in the context of global projects. The research and development activities in the participating organizations have focused on exploring, evaluating and developing the current risk management processes and practices, as well as, on evaluating selected project cases from the viewpoint of risk sources, risk management practices, cultural diversity and stakeholder management.

Project's research data was collected by studying altogether 21 different project cases that varied in the degree of success, network structures and cultural diversity. Both turnkey and system delivery projects were studied. The studied project cases were geographically distributed and involved projects e.g. in former Soviet Union countries, China and South America (Figure 2).

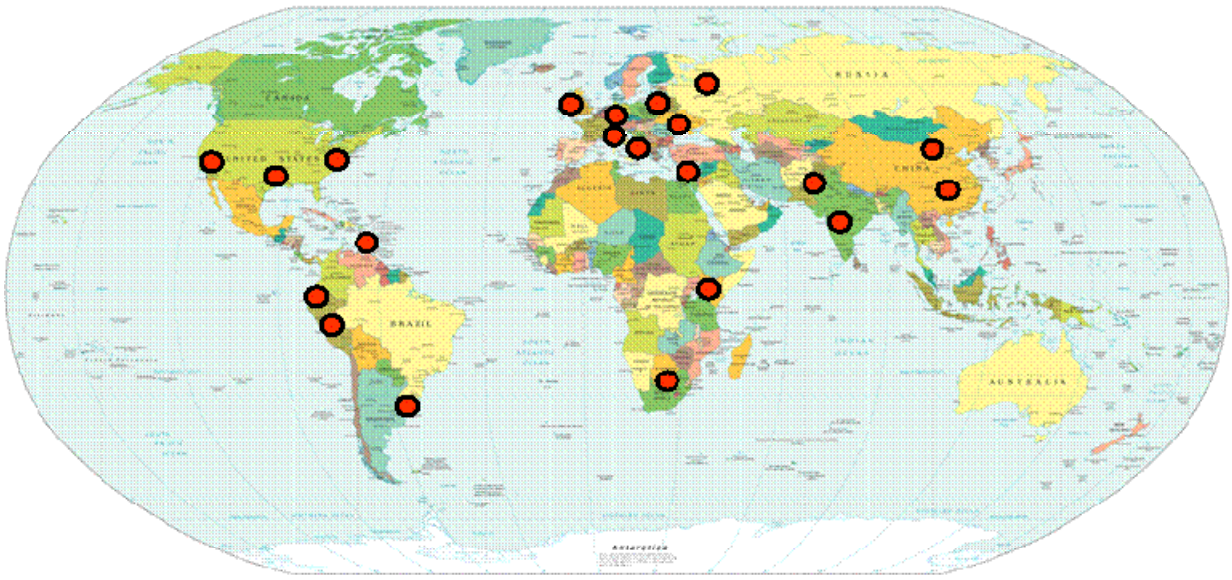

Figure 2. Global distribution of the studied delivery projects.

As the purpose of the GPS II research was to create and develop new knowledge on risk management processes in global projects, the data collection followed the principles of "systematic combining" (Dubois and Gadde, 2002). This approach is based on a principle of continuous back-and-forth move-

ment between theory and practice, between theoretical frameworks and empirical observations, each informing the other as the research process evolves. In other words, systematic combining is a research process where the utilization of existing theoretical frameworks, empirical case analysis, and novel theorizing coevolve, each area giving constant input to the other. This kind of research approach has been found particularly useful for development of new theory based on empirical experience and observations (Dubois and Gadde, 2002). As such, systematic combining also distinguishes from deductive reasoning based on testing preconceived hypotheses derived from existing theories, as well as from inductive reasoning based on building theories solely from empirical observations from case analyses. In fact, the logic behind systemic combining can be said to combine both deductive and inductive reasoning processes.

In the GPS II research, the systemic combining approach meant that data collection and analysis became an intertwined process spanning the entire project life-cycle. Therefore, instead of dividing the research into a process where literature review, data collection, analysis, and theory development are singular, distinct phases following each other in a consequtive, linear fashion, in GPS II these phases where multiple, overlapping, and intertwined. Hence, data collection was started early on in the research and was coupled with initial literature review and framing of the research focus. Also the analyses of the data began at once when some data had been collected. These analyses were then compared and reflected with existing theories, which served to further focus and sharpen literature review, utilized theories, and the ongoing data collection both in a methodological sense and in terms of case study focus. New theory development was also constantly carried out by producing academic case study reports and by discussing the results of the case analyses and theory development in international conferences and in GPS II workshops together with company representatives. This also contributed to further focusing data collection, analysis, and the emphasis made in the case studies. Such hermeneutic, iterative data collection, analysis, and theorizing process continued for the entire duration of the GPS II research.

The collected data consists mainly of interviews (92 interviews) with the project managers and other project specific key personnel, as well as of project related documentation (e.g. process descriptions, project plans, risk analyses, lessons learned reports). The interviews have been conducted both in Finland and in various project host countries. In addition to project specific interviews, thematic interviews focusing on each participating company's risk sources, risk management practices and processes in general have been conducted. All the interviews were conducted by at least two researchers, and they were recorded, transcribed verbatim, and content analyzed. In addition to collecting research data by interviews, researchers participated in case companies' lessons learned sessions in order to analyze the practices of efficient risk knowledge transfer and utilization within and across projects.

In the project specific interviews, the interview technique built on the main principles of both ethnographic interviewing (Spradley, 1979) and narrative interviewing (e.g. Søderberg and Holden, 2002; Vaara, 2002). These techniques have been found epecially useful in data collection in multiorganizational and multinational settings (cf. Søderberg and Holden, 2002; Vaara, 2002), and hence, were also considered highly suitable for the GPS II research. The main principle in both of these techniques is that they are characterized by initially asking the interviewees highly open questions that are designed to encourage the interviewees to tell in their own words stories about their experiences and memories related to a certain theme (e.g. the progress of the project or cricital events during a particular project). Another conspicuous feature of these interviewing techniques is that many of the later-stage questions

posed by the interviewer are born out of the stories that unfold during the interviews. Hence, the questions presented by the interviewer during a particular interview are not guided by preconceived hypotheses made by the researcher, but instead by the themes and emphasis that unfold as the interviewee is allowed to freely describe his or her experiences. The rationale behind such an interview technique is to allow the interviewee to describe and define in his or her own words what is most relevant and critical in his or her experiences, without being excessively guided by the interviewer. Hence, the idea for utilizing this technique in GPS II was to tap into the personal and highly diverse properties of the interviewees' experiences of project management in such a multiorganizational and multinational setting that global projects represent. Finally, the third highly salient feature of the utilized interview technique was that every interview, upon completion, were subjected to analyses and theory development in the "systemic combining" sense described above, serving as springboards for subsequent, thematically more focused interviews and data collection in the case study projects.

The following table (Table 1) summarizes the data collection activities in GPS II during years 2007–2009.

Table 1. Data collection in GPSII.

Data collection method	#
Studied project cases	21
Case organizations	8
Interviews	92
Observation sessions	4

The examination of the case study projects was implemented both as project specific and comparative, historical case studies. By project specific historical studies, the project trajectories and critical incidents have been described as well as explanations for the project specific outcomes in general have been sought for. In addition, the comparative research designs have been built according to the planned and emergent outcomes of the projects as well as according to their project network, cultural diversity, and institutional characteristics. By comparisons, novel ways to unravel the risks and difficulties of the project management due to the project networks and cultural differences have been sought for.

3. Three perspectives to global projects

3.1 Risk management practices

3.1.1 Background

Risk management in projects is widely covered in extant literature, and the formal risk management process forms a central core to the whole risk management in projects (Turner, 1999; Chapman and Ward, 2003). The formal and coordinated process describes the set of practices and actions that are taken to identify, evaluate and control the risks in a project. The level of formality is also seen as one of the central concepts of the risk management maturity models (Hillson, 2002).

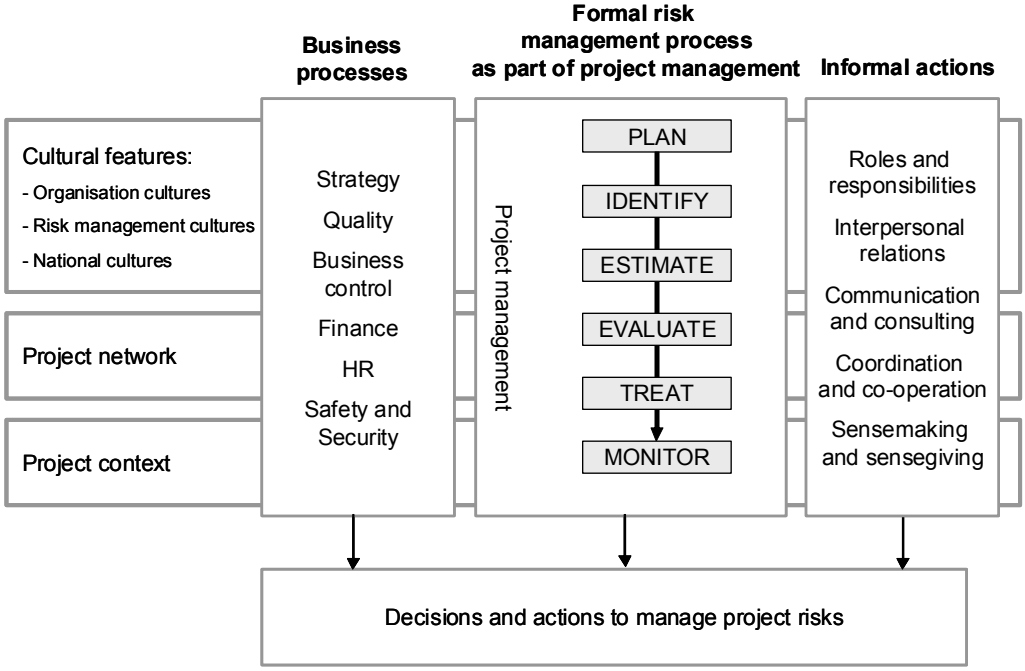

Figure 3. The risk management framework.

Broadening the view, Ward (1999) indicated a need to consider several factors related to project context and the project parties for the risk management process to be effective. In addition to actual risk management process, also adequate supporting administrative procedures and business process are desirable to ensure that risk management procedures operate effectively. On the other hand, the efficiency of the risk management is dependent on project manager's motivation to work towards more risk-aware project management: project manager's interest to search information about previous risks, his/her intuitive to percept possible risk events and his/her responses to the early marks and weak signals. Risk management procedures need also to be adapted to a project environment and specific project characteristics. Drawing from the contingency perspective on projects (Shenhar and Dvir, 1996) it can be argued that no universal risk management process and one supporting set of tools and techniques would be applicable to all types of projects. For different types of projects we need a different kind of risk management approach. Especially, for the global projects, we need more flexible and agile approaches to risk management that take account of the complex project networks, cultural diversities and high level of uncertainties. The general framework describing the wide approach to risk management in global projects is described in Figure 3.

3.1.2 Conceptions of risk

Conceptions of risks vary considerably among different positions in project organizations but the conceptual differences are well in accordance with the different positions.

- Sales organization views (negative) risks as factors that restrain sales.
- Project organization views risks as an aversive event that may cause harm to the project and therefore the risk analysis is seen as an essential tool of project management.
- For business control risk is a possibility of financial loss and therefore it aims at financial predictability.

Among project managers a risk is mainly seen as some kind of uncertain event that can harm the project. At corporate level risks are seen as events that hinder the meeting of the objectives set by customers or top management. This is in line with Hillson's (2002) definition, where risk is any uncertainty that, if it occurs, would affect one or more project objectives. Management's current ambition is to emphasize the opportunities, or positive risks, as well.

> *"Risks are not only adverse events, we want the project personnel to see the upside as well, but this is rather challenging."*

> *"We are in the market because we want to take risks."*

Most project managers are well aware that risks may also have a positive side, but the conception of positive risk is not in everyday use and the positive risks are not mentioned as examples. Project management may even have mixed feelings in terms of seeing opportunities as risks as well:

"After we get the project baseline, we won't seek for new opportunities or bigger profit. In project execution our main task is to minimize the risks."

"I can't consider it as a risk if we get more money than was planned." (strong view of risk as an negative event)

"The uncertain events may also have some kind of positive effects but we don't use a word risk for that."

Varying conceptions of risks among different positions in project organizations may hinder the development of shared risk management practices in projects. Notifying and understanding these varieties is a key to more subtle and shared risk management culture in project business.

3.1.3 Uncertainty management and unexpected events in projects

Recent project management literature has emphasized the importance of making a distinction between risks and uncertainties and their management in projects (Ward and Chapman, 2003; Perminova et al, 2008). Project uncertainties can not be categorized and handled as risks (Atkinson et al. 2006), and the current risk management practices do not adequately address many particular features of project uncertainties (Ward and Chapman, 2003; Chapman, 2006; Pender, 2001). Uncertainty refers to the unpredictability of environmental, or organizational variables that have an impact on corporate performance or the inadequacy of information about these variables (Miller 1992), or simply "the lack of certainty that matters".

Unforeseen and unanticipated influences from project's environment (Floricel and Miller, 2001; Söderholm, 2008) and especially from project stakeholders (Ward and Chapman, 2008) have been identified as the major sources of uncertainty during the project implementation. Unexpected events, events that have not been planned for to emerge during the project lifecycle, have recently drawn increasing research attention in the project management research (Floricel and Miller, 2001; Miller and Lessard, 2001; Hällgren, 2007; Söderholm, 2008; Orr and Scott, 2008). Understanding the unexpected events, their occurrence, and management within projects, is seen to contribute to our understanding of uncertainty management in projects.

The importance of project – environment interaction as a source of the unexpected events has also been highlighted in earlier research on the unexpected events (Miller and Lessard, 2001; Floricel and Miller, 2001; Hällgren and Maaninen-Olsson, 2005; Hällgren, 2007; Söderholm, 2008). The various sources of uncertainty in projects are widely discussed in literature (Ward and Chapman, 2003; Atkinson et al., 2006). Especially in the international projects that are conducted in institutionally challenging environments, project's uncertain interactions with its environment pose unplanned challenges for project management. Furthermore, research evidence has also shown that the amount of unforeseen events or exceptions is higher in the context of multinational projects, than in completely domestic projects (Orr and Scott, 2008). The insightful research by Floricel and Miller (2001) on large engineering projects has highlighted the association of complex project systems with the amount of emergent unexpected events.

Also the common responses and project management practices to tackle the uncertainties are widely discussed in literature (Söderholm, 2008; Floricel and Miller, 2001). There, indeed, are differences in how project managers cope with and response to uncertain events (Floricel and Miller, 2001; Söderholm, 2008). Since the uncertainty refers to the future occurrences with incomplete knowledge, where the probability distributions can not be constructed (Knight, 1921), the formal risk management procedures alone are not adequate to effectively and extensively manage both the known risks and unknown uncertainties in complex projects. It is widely acknowledged that the traditional risk management practices, such as formal risk management processes, are not sufficient in constantly changing and ever-toughening project environments. Therefore, these formal methods are oftentimes abandoned in the instances of unexpected events (Hällgren and Maaninen-Olsson, 2005; Hällgren, 2007; Söderholm, 2008; Tukiainen et al., 2009). Instead, the unexpected events are handled in more rapid and flexible ways, such as continuous interaction, communication and reflection, (Hällgren and Maaninen-Olsson, 2005; Perminova et al., 2008) together with other more informal mechanisms and governance structures. Currently, the majority of studies on unexpected events and their management in projects tend to focus on informal actions that take place in projects instead of formal project management procedures and processes.

3.1.4 Risk management practices in projects

The formal risk management process typically consists of a generic framework or a process description (a list of tasks to be completed) and the supporting tools and techniques (check lists, risk grids, risk reviews etc). Within the current view of project management as a life-cycle process, project risk management is seen as an encompassing process, starting at project definition, continuing through planning, execution and control phases, up to completion and closure (Raz et al., 2002). Several risk management processes for projects described in standards (PMI, 2004; APM, 2006) and in literature (Chapman and Ward, 2003; Meredith and Mantel, 1989; Kliem and Ludin, 1997) are synthesized in three core processes of project risk management: 1) risk identification, 2) risk evaluation and 3) risk response planning and execution (Kähkönen et al., 2008).

From all knowledge areas of project management, the risk management is the most diverse (White and Fortune, 2002; Raz et al., 2002). The formal risk management procedures and techniques for projects are defined and available, but they are not widely used in projects, especially not in project execution phase and not even in high-risk projects. The risk management activities are usually described in a process applicable to the respective function, e.g. sales and marketing plan, business process, and technical process. The function should then be linked to the project risk management process in such a way that the information is interlinked, transparent and useful (Olsson, 2006).

A project manager is the main responsible to carry out risk analysis and to follow the risk management plan. A risk management policy is typically in a written form, and all the projects are expected to carry out the formal identify – analyse – mitigate process for risk management (Figure 4). However, in most of the companies, there were many different practices for carrying out risk management in projects and many different tools were used. Several tailored applications, risk analysis methods and reporting systems had been developed and were used organization-wide, but we also found more fragmented practices, where project managers had their own personal ways to handle risk information in their projects. These differences were dependent on the project manager's own interest, the way the

risk management was organized, the extent of the internal risk management expertise, i.e. risk managers and risk management process developers, the uniformity of organization's management practices and contingency factors of the project.

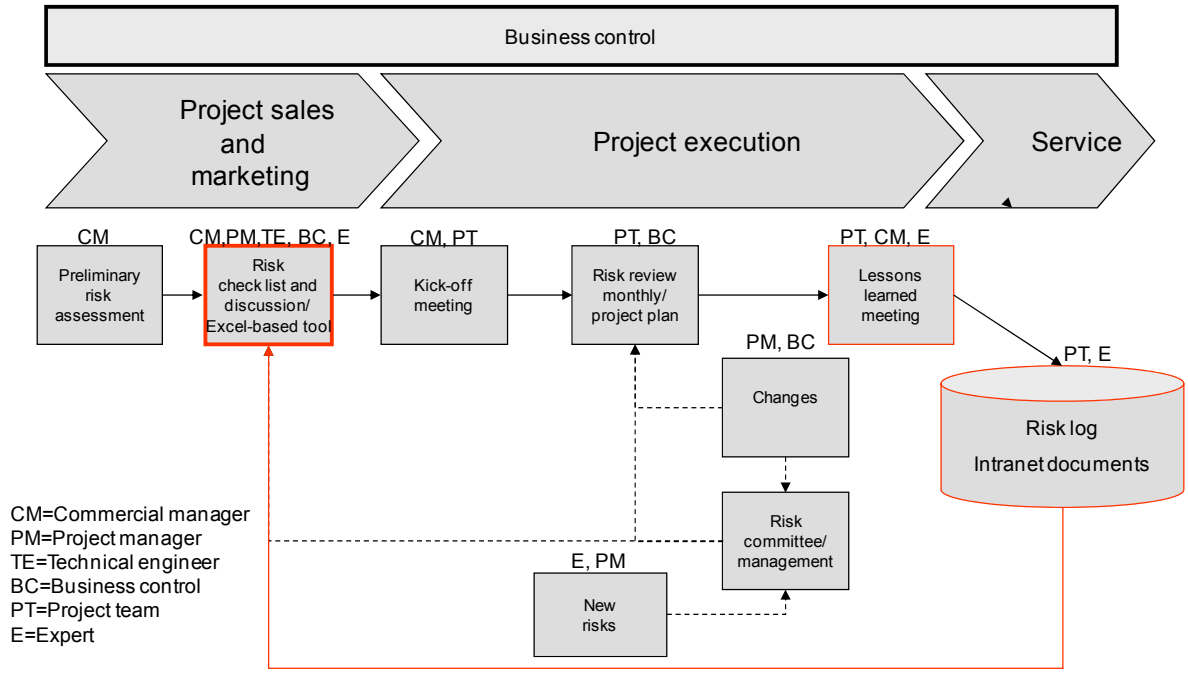

Figure 4. Risk management actions and actors during the project life-cycle.

Several development areas were identified in risk management: First, more uniform and systematic risk management processes were needed. Especially, the continuous development of the risk management tools (worksheets, SWOT, risk charts etc.) was emphasised, both in those companies that already had used such a tool for years and in those companies that had only begun using a systematic risk list. Second, we revealed two discontinuity points (Figure 5) in the formal risk management practices with regard to risk knowledge transfer and learning and roles and responsibilities: The first discontinuity point is in the project start-up and handover from the sales to the project team. This is the phase where the main decisions affecting the risks in the project have already been made and where the risk knowledge should be transferred from the sales team to the project team. The other discontinuity point is at the end of the project where the risk information from each project should be gathered and utilized in other projects.

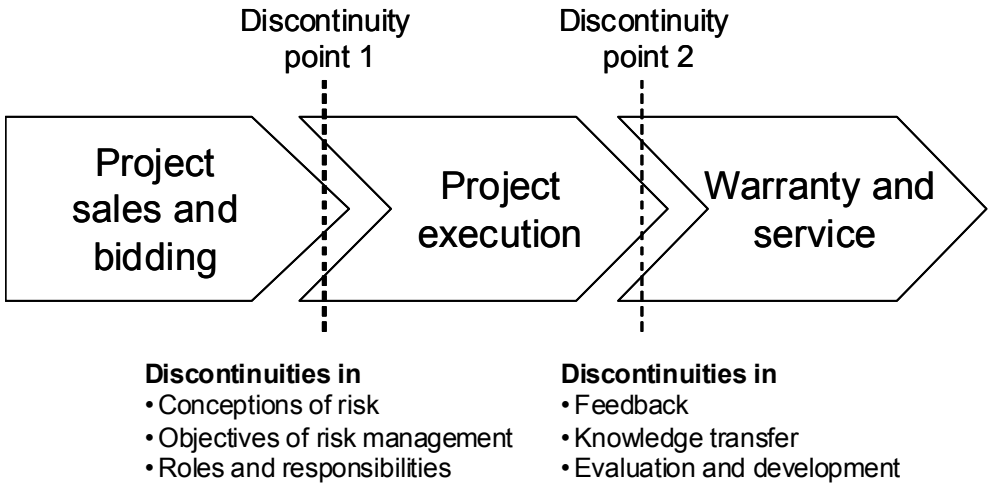

Figure 5. Two discontinuity points in project risk management.

Even though there were discontinuities in the formal risk management processes within the projects, the risks were successfully managed in the case companies. This could imply that other processes and mechanisms are used parallel to the formal risk management process. These informal actions are used to cover the discontinuity points and the areas where the formal risk management lacks the flexibility and agility required. The informal processes and mechanisms are often hidden and their significance both to the project risk management process and to the risk level of the project is not well understood. We think that the efficiency in project risk management arises from developing both the formal risk management processes and the informal activities parallel to developing new flexible and more interactive risk management tools.

3.1.5 Formal and informal risk management practices in projects

As mentioned above, the formal approach to project risk management is seen desirable in project risk management literature and standards. Formal procedures have become a symbol for an efficient information use, rational decision-making and willingness to act (Langley, 1989), which also facilitates efficient risk management. Formal procedures form a routine that helps to focus attention and decrease uncertainty in decision-making. The formal controls (specific rules and procedures to be followed and specific outcomes to be produced) are dominant at project planning and initiation, but become less dominant over the project duration (Susilo et al., 2007). Instead, the project managers rely on more informal control elements (unwritten practice codes, social values, common beliefs and traditions) as the project progresses, and use the informal controls to keep track of the project progress within the project team, to train new people using informal training and mentoring and to face unstructured problems.

Some researchers state that the awareness of the risk management grows with the risk, which promotes the use of the formal risk management practices in high risk projects (Raz et al., 2002), or that the formal procedures are more applicable, and therefore more widely used, in larger projects (Besner and Hobbs, 2008). However, some researchers (Zwikael and Sadeh, 2007) have challenged this view

by arguing that the risk management tools are actually not used more actively in high-risk projects. Instead, in high-risk projects, project managers conduct other control actions, i.e. take additional steps in the planning phase, put more effort on quality plans or define roles and responsibilities more clearly. In addition, Söderholm (2008) suggests that in large and complex projects, project managers use more informal approach (innovative actions, extensive meeting schedules, short term coordination and their own negotiating skills) to keep up with the constantly changing project environment.

In order to be able to analyse risk management formality and informality we need to differentiate formal risk management practices from the informal ones. According to Li (2007) the distinguishing elements of formality and informality are: 1) codification, 2) formation, 3) enforcement, 4) power and 5) personalization (Table 2). Formality refers to an objective, cognitive, task-oriented and instrumental process, whereas informality refers to more subjective affective, people-oriented and sentimental processes (Li, 2007).

Table 2. Formality – informality dimensions (Li, 2007).

Dimensions	**Formal**	**Informal**
Codification	Explicit	Implicit
Formation	Exogenous	Endogenous
Enforcement	Tight	Loose
Power	Hierarchial	Horizontal
Personalization	Depersonalized	Personalized

Formal analysis may have several different purposes (Langley, 1989): First, it may be conducted for informational purposes, to produce new knowledge and to gain a better understanding of issues. Second, the formal analyses are used to communicate the confidence or to bring other people over their point of view. Third, formal analysis may serve the simple purpose of solving a particular problem or detailing and implementing a specific decision. Here, analysis is used to direct and focus the attention on issues and to ensure that actions are taken. Fourth, analyses may also be used for symbolic reasons only: to impress others or to hide other motives. When many people are involved in the analysis process, it may also symbolize participation and concern with other people's views. So, the fact that the formal analysis is carried out does not guarantee that information will be used, that rational arguments influence the decisions, that action will be taken or that anyone's opinions will be listened to. (Langley, 1989.)

In project risk management, the continuity of predetermined actions through the project life-cycle is one of the key features of formal process. Formal risk analyses are based on risk lists and assessment of pre-specified, generic risk factors, which are considered as anticipated risks for all the projects in the company. During the project execution, risks are monitored usually as part of regular project reviews. The formal controls (specific rules and procedures to be followed and specific outcomes to be produced) are dominant at project planning and initiation, but become less dominant over the project duration. Instead, the project managers rely on more informal control elements (unwritten practice codes, social values, common beliefs and traditions) as the project progresses, and use the informal

controls to keep track of the project progress. In addition, all formal risk management procedures require also the informal knowledge about risks as their input.

Informal risk management refers to all informal and intuitive actions that are taken to mitigate risks in order to reduce uncertainties in a project, intentionally or not. Low formality level in risk assessment means less explicit structure, no separate phases in timely order, informal documentation and less clearly defined objectives and deliverables for the process (Ward, 2006). Prior research in the field of project risk management has also noted that more informal, intuitive approach can be more suitable, especially in low-risk projects. In this research, the informal risk management practices appeared in three different types of actions: First, risk management may be tightly incorporated into other project management practices, such as quality management, subcontractor management or scope management. In this group, the approach can also be semi-formal, where the risk analysis is conducted in a formal manner, but the results, the identified risks, are handled in other project management processes to which risk analysis only provides the input. These actions are considered to be informal, since the actions were taken outside the risk management process and the formal practices for identifying, analysing, documenting and monitoring risks were not conducted as such. Second, project managers use their personal contacts and relationships actively in risk management. Here, the risk management know-how is in the people, not in the processes. Using personal relationships between project parties and customer is an effective way of getting first-hand information about anticipated risks but also one way to prevent risks from realizing in a very informal manner. Third, the risk management actions may be intuitive responses to emerging risks or ad hoc decisions related to a specific risky situation, where there only seldom exist any specific guidelines how to handle the situation.

3.1.6 Reactive and proactive approach towards project risks

By definition, a proactive approach – risk anticipation and risk prevention – is one of the fundamental features of good risk management, and most risk management techniques and organizational tools aim at early risk detection. However, in practice, most project managers focus their efforts on fixing problems after they have had an impact on performance (Thamhain, 2005). They try to manage problems and contingencies only after they have already affected project performance. Project managers even find it hard to trace the problems back to specific events or contingencies that happened earlier in the project. They also feel that they couldn't have foreseen or influenced the adverse events in an earlier stage of the project. In addition, the current software tools in project management monitor mainly past data, which enforces the reactive approach (Barber and Warn, 2005). If the risk management process is seen as causing more bureaucracy for projects, it will unlikely be fully effective in producing proactive management of project risk (Ward and Chapman, 2004).

In proactive risk management, the project managers perceive the forthcoming problems and are proactive in preventing problems from occurring. Innovative actions, extensive meeting schedules and continuous negotiating are some examples of the practices proposed to the project manages to be able to predict the unexpected events in projects (Barber and Warn, 2005). Risks from project environment are taken into account more actively than in reactive risk management approach. In proactive risk management the scope is beyond the project itself, and even the time-span is different: the most proactive project managers are well aware of the fact that their actions affect the customer relationship, business opportunities and organizational image long after the project itself has been completed.

Proactive project managers actively seek for risk information from previous projects and from other sources and use the information actively to prevent risks from happening in their own project. For these purposes, in most companies, there are risk databases or other project documentation management systems, where all the risk documentation is available to all project managers. However, the databases did not appear as effective sources of risk information for project managers, who prefer personal information from other project managers and face-to-face discussions with persons who they personally know. Documented risk data usually lacks the stories from the project site and the descriptions of the local conditions that would actually satisfy the project managers' need for more context-specific risk information. During project execution, the proactiveness is seen as an ability to quickly foresee the possible risks and to be able to respond to those risks in a right way. In this sense, the project manager's attendance on site and with customer is important.

Firefighting is a typical metaphor used to describe the reactive approach in project risk management. There, the actions are taken only to react to mistakes or deviations or, at worst, only when the situation has become critical. The project managers, who possess more reactive approach towards risks, have a much more narrow view on project's risk than the proactive risk managers do. For them the risk analysis is usually restricted to the project plan and to adverse events within a project. The project environment does not play an important role in project manager's approach to risk management. Some project characteristics may also lead to more reactive approach: for example, in an extension project it is usual that many details and specifications are copied from previous similar projects. There, a project manager is tempted to copy also the risk analysis without truly evaluating its appropriateness. Reactive approach is also very typical for a breakthrough project to new markets, in which the bidding needs to be won almost at any prize. There is no time, nor true motivation to thoroughly analyse possible risks from the project's point of view, since the biggest risk is the lost deal. We also found reactive features from apparently proactive risk management processes. There were cases, where risk analysis had been made according to the organization's risk management guidelines, but the results of the analysis were not utilized in any way. Therefore, the analysis had no real effect on the project and not more than a symbolic purpose for the organization.

3.1.7 Typology of risk management approaches in projects

By analyzing two main dimensions of risk management – proactiveness and formality – we have developed a fourfold typology of risk management approaches in projects (Figure 6).

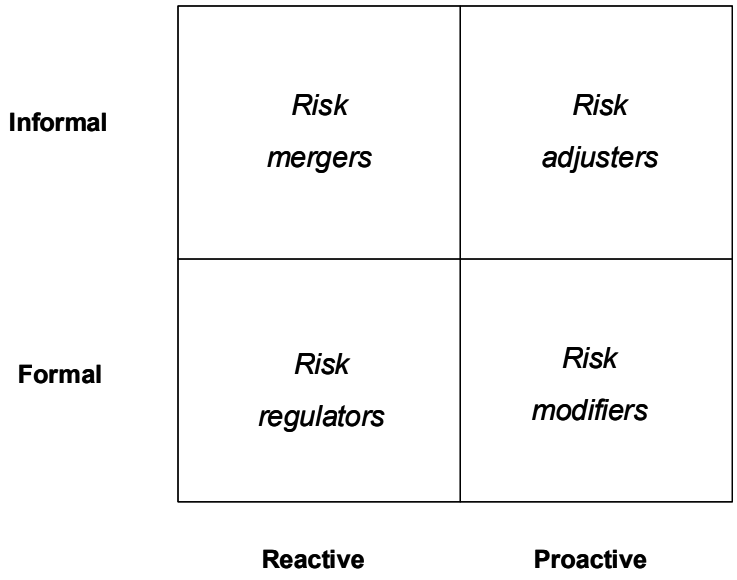

Figure 6. Four different approaches towards project risks.

Risk regulators (formal, reactive): Risk regulators conduct the risk management by the book. They prefer an analytical approach to risk management and select a formal risk analysis over more informal one. They follow the traditional, normative risk management process: risk analysis is conducted at the beginning of the project, necessary risk-related documentation is delivered during the project and risks are summarized at the end on the project. The main goal of the risk regulators is to use risk management process to prevent undesired losses in a project. For them, it is important to be able to demonstrate to the supervisors that the required analyses have been made and the required actions have been taken. Risk monitoring during the project is limited to the project manager updating the list of already identified risks prior to the project meeting. The focus is rather on analysis than management. Risk regulators gather information from others mainly to increase the reliability of the risk identification and estimation. Therefore risk regulators use risk analysis mainly for controlling purposes.

Risk modifiers (formal, proactive): Risk modifiers use the formal risk management process actively to develop project management practices and processes to be more suitable for the project-specific needs. In addition, various analyses, experts, workshops and other measures are actively utilized to create a shared understanding of the project specific risks. As a basis of the risk analyses, the main risk drivers are searched to find the root causes for the risks. Risk modifiers continuously scan the project progress and environment. Instead of taking the identified risks as such, they continuously search for new ways to prevent risks and actively respond to the perceived threats. The risk monitoring continues throughout the project and consists of various activities, some observable, some not. Risk modifiers have abilities to use emerging possibilities for new business opportunities. They use cooperation and gather information mainly to find new practical solutions for emerging problems. They are active in arranging meetings to discuss a problem at hand. For them, risk analysis truly gives additional value to the project management. Risk modifiers are more selective in analysing the results of the risk analysis

than risk controllers. Risk prioritizing is more important, and they emphasise the need to separate the most significant risks among tens or hundreds of identified risks. For risk modifiers, the systematic risk analysis and formal risk lists serve mainly as a basis for good project management. Therefore, risk modifiers use risk analysis mainly for informational purposes.

Risk mergers (informal, reactive): Risk mergers possess a strong personal insight into the project risks. They have integrated the risk management deeply into the project management or in the project manager's daily tasks, almost to an unrecognizable level. They have a diversified risk management portfolio, which spreads out the risk management tasks in different project management functions. Project contracts and client relationships play an important role in their risk management. For the risk mergers, risk management is not separately present in the project, although the project manager handles the risky events and risk drivers throughout the project as part of his job. It is important for them to actually have enough power to make decisions about risks. In the projects managed by the risk mergers, the risk management is highly dependent on one people, the project manager, because of the lacking documentation. During the project, the decisions about the responding actions are usually made very quickly and they are hardly ever documented in detail. These actions could include rescheduling, arranging a crisis meeting, and replacing a critical technical component. Risk mergers possess the most flexible and agile risk management style. For them, formal risk analysis takes too much time and money.

Risk adjusters (informal, proactive): Risk adjusters are strong leaders of the project risk management, and typically very experienced project managers. They are either active in making risk preventing decisions and actions themselves or they are continuously helping others in predicting and overcoming risky events in projects. For risk adjusters, it is important to create an appropriate social climate in the project team. It could mean either building a shared understanding of the critical issues, unifying the practices used in the project or creating appropriate behaviour models for the team (e.g. keeping the project team focused in difficult situations). Cooperation and teamwork in risk management is important. Rather than formal risk management frameworks, risk adjusters use other systematic methods more suitable to their own management style. They are so competent project managers that they rely more on their own expertise than on a single risk analysis. The risk analysis is used mainly for communicative purposes, to transfer risk knowledge to others.

In addition, we found that project managers, who possess different approaches to risk management, used communication for risk management purposes in different ways: for *Risk regulators* risk reporting is one phase of the formal process. The results of the risk analysis are discussed within a project team and the requested risk reports are produced. *Risk modifiers* used cooperation and active information gathering to find new practical solutions for emerged problems. They also were most active in arranging meetings to discuss a problem at hand. For *Risk mergers,* the cooperation and knowledge transfer within their own organization is least important of these four types. Instead, they emphasize the close relationships with customers and other main stakeholders to keep updated with all the ciritical events that may affect the project. *Risk adjusters* use both formal and informal risk management methods to transfer risk knowledge to more unexperienced project team members.

3.2 Project networks

3.2.1 Background

Projects are increasingly being developed and executed by coalitions of organizations, grouping a number of firms and non-business organizations. The multiple firms and other organizations participating in a single project form an inter-organizational project network within which each organization's subproject is embedded. A multi-firm network is a typical organizational arrangement in global projects that are complex and implemented in highly turbulent and demanding institutional settings. This wider socio-political environment generates a wide variety of institutional influences and demands exerted on projects.

Project network is considered as a network including several firms and other organizations from different business and institutional environments. The project network is considered to have an intentionally constructed core of actors that are involved in the execution of the project, but the concept of project network also includes other actors in the project's environment, such as external project stakeholders. Internal stakeholders are stakeholders who are formally members of the project coalition. External stakeholders are not formal members of the project coalition, but may affect or be affected by the project. Such groups are often referred to as non-business stakeholders and are considered as part of the project's environment. External project stakeholders, such as local community groups or regional and national authorities can be considered as carriers of institutional pressures, to which organizations, involved in the execution of global projects, need to respond.

Projects are not isolated entities, but embedded in multiple systemic contexts and in constant interaction with their stakeholder environments. Global projects involve various actors with different interests and claims. In this context effective stakeholder management is crucial for the success of the project. The importance of project stakeholder management is recognized in the definition of project management as well: "Managing a project includes adapting the specifications, plans and approaches to the different concerns and expectations of the various stakeholders." (PMI, 2004.) Despite the established standards of systematic project stakeholder management, global projects many times face unexpected challenges and interferences that rise from their unfamiliar stakeholder environment. Such interferences affect the project progress and achievement of the set project goals significantly. Unexpected stakeholder related challenges may be 1) due to the incapability or impossibility to identify relevant stakeholders to which the project has dependencies (e.g. local residents who oppose the project), 2) incapability to evaluate the interests and objectives of stakeholders (e.g. permission procedures or rise from local entities) or 3) failures in predicting the evolution and progress that takes place among stakeholder relationships in the environment and their capabilities to affect the project's decision making and practices.

The studied GPS II case projects have been analyzed from various viewpoints related to project network structures and project stakeholders. The focus of the analyses has primarily been on external stakeholder management (e.g. authorities, local groups, regulatory agencies etc.):

- analysis of the anatomy of stakeholder related incidents in global projects – stakeholders as risk sources
- analysis of different stakeholder influence strategies and their emergence during the project life-cycle
- analysis of enacted response strategies to stakeholder pressures in selected global project cases
- analysis of the effects of the project network structure and position of the focal organization (turnkey or system supplier) on the enacted response strategy to stakeholder pressures
- analysis of project network complexity and its association with unexpected events and realized risks
- analysis of effective stakeholder management practices in different case projects.

3.2.2 Analysis of the anatomy of stakeholder related events

The analysis of the collected data reveals that the unexpected events that are not taken into account in traditional project risk analyses, relate typically to stakeholders and to the unforeseen developments in project stakeholder relationships. Consequently, unexpected events are mainly exogenous and due to project system interdependencies and unpredictable interaction with the project's environment. The direct implication of this observation is that if we cannot cover everything in our project risk analyses, attention should be directed to the effective response approaches to unexpected and emergent events.

In the analyzed projecs tens of unexpected events related to project stakeholders (either to internal stakeholders, such as customers or local subcontractors, or to external stakeholders, such as local community groups or authorities) were identified. In the detailed analysis of the identified stakeholder related events the following observations were made:

Stakeholder related risk information and stakeholder identification

- External stakeholder related risks (e.g. risks related to authorities, local groups) do not draw enough attention in the project risk analyses conducted in the preparatory phases of the project. Project risk logs entail restricted information about stakeholder related risks and stakeholder relationships. Separate stakeholder network analyses are not typically conducted as part of normal project management routines. Stakeholder maps are also rarely drawn. Consequently, in many studied cases external stakeholder related events, such as opposition from local groups, appeared to have emerged as a surprise during the project execution phase. In this phase the management of the conflict is much more challenging. Early engagement schemes, dialogues with various external stakeholders in the investment preparation phase reduce the potential for conflicts during the project execution phase.

3. Three perspectives to global projects

Project manager's attitudes and implications for stakeholder management approaches

- It appeared that project managers oftentimes experience stakeholder related risks as uncertain, ambiguous and challenging to make sense of and understand. Therefore, such risks are easily dismissed and ignored in the risk analyses. Instead, project managers tend to focus and favor technical risks - such risks they can quantify and, hence, feel that they can control. Project managers experience their role as a "political risk analysts" as a controversial and challenging one. However, there existed clear differences among project managers in their directed attention towards stakeholder related risks. Some project managers are clearly more proactive and environment-oriented than other project managers that are more passive and internally oriented. Internally oriented project managers have a tendency to view the project as an isolated entity with regard to its environment. More proactive project managers and project teams view their project as a natural part of its host country environment and e.g. utilize cultural hybrids, such individuals that can act as intermediaries between the local stakeholders and the project team.

- It is important to try to understand the true underlying motives and interests of different project stakeholders and their interests in the project. However, in the analyzed project cases it became evident that even within one organization, the interpretations of stakeholders' motives may differ significantly, which poses challenges to the formulation of appropriate stakeholder management strategies. This observation resembles the confusion that often is the first reaction of project managers to stakeholder conflicts.

Project stakeholders and their management in a networked setting

- Project stakeholders are not only stakeholders in the direct sphere of influence of the focal project organization. For example, subcontractor's stakeholders are also stakeholders of the focal organization in case a stakeholder risk related to the subcontractor realizes. In networked projects it is important to understand that stakeholder management is not only management of direct stakeholder relationships, but interdependencies between organizations and in-direct links to diverse stakeholders need to be taken into account. Consequently, stakeholder management is not management of single and separate dyadic stakeholder relationships, but management of a network of stakeholders that may have interdependencies with each other. In addition, different actors in the project network may respond differently to the pressures and demands posed by different stakeholders. This may cause turbulence among the organizations in the project coalition. In none of the analyzed projects was there a network-wide stakeholder management strategy in place, but diverse project organizations tried to manage the different stakeholders with their own approaches.

The dynamism of stakeholders' positions during the project life-cycle

- The position and salience of different project stakeholders is dynamic through the project life-cycle. In other words, drastic changes in stakeholders' power, urgency and legitimacy during the project may occur. Therefore, stakeholder analysis should be a continuous process throughout the project. For example, some of the most influential and salient stakeholders may actually emerge during the project execution, or stakeholders may form influential coalitions through which they can influence the decision making of an organization in a later stage of a project. The dynamicity of stakeholder salience makes it challenging to identify all impor-

tant stakeholders in the early phases of the project and emphasizes the need for continuous stakeholder management process.

Implications of stakeholder conflicts

- The effects of stakeholder related conflicts may be drastic. Analyzed examples of these were significant delays in schedule (typically several months), brand losses, financial losses in terms of legal expenses, penalties due to delays, extra flights and extra consultant fees.

3.2.3 Stakeholder influence strategies

Through the study of different project cases, different stakeholder influence strategies, strategies that stakeholders use to affect the outcomes of the project, were identified. The identification of different stakeholder influence strategies enhances managers' understanding on the diverse ways stakeholders may act, and also supports the conduction of the stakeholder analysis.

One of the studied project cases was the pulp mill project of Metsä-Botnia in Uruguay. The project has been subject to rather wide media attention due to its stakeholder related challenges. The plant, built on the banks of the border river between Uruguay and Argentina, has been strongly opposed by different local stakeholders in Argentina. Various stakeholder influence strategies were enacted and the conflict escalated rapidly due to the opponent voices. The interest was in finding out the different influence strategies that stakeholders have used to affect their perceived power and legitimacy and this way the project implementation. The identified different influence strategies are presented in Table 3.

Table 3. Identified stakeholders' influence strategies.

Type of stakeholder strategy	Description
Direct withholding strategy	Stakeholders restrict project's access to critical resources which are controlled by the stakeholder to increase their perceived power.
Indirect withholding strategy	Stakeholders influence project's access to resources that are not directly controlled by the specific stakeholder to increase their perceived power.
Resource building strategy	Stakeholders acquire and recruit critical and capable resources to their group to increase their perceived power.
Coalition building strategy	Stakeholders build alliances with other project stakeholders to increase their perceived power or legitimacy.
Conflict escalation strategy	Stakeholders attempt to escalate the conflict beyond initial project related causes (e.g. political). Through this process the project may become an arena for non project-related battles. This may introduce a new institutional environment in which stakeholders' claims are perceived as more legitimate.
Credibility building strategy	Stakeholders increase their perceived legitimacy by acquiring credible and capable resources, for example, capable individuals with good reputation or networks.
Communication strategy	Stakeholders use different types of media to communicate and increase the perceived legitimacy and urgency of their claims.
Direct action strategy	Stakeholders organize protests, road blockades, etc. to increase the perceived urgency of stakeholder claims.

3.2.4 Strategic responses to stakeholder pressures

In addition to understanding different stakeholder influence strategies, it is also important to understand the response strategies that companies, taking part in a project, enact as a response to the claims and pressures presented from their stakeholder environment. Companies' response strategies to stakeholder pressures were studied in different case projects. The findings indicate that some project actors use clearly more active response strategies than others. Explanatory factors for this finding were also analyzed. The identified response strategies are presented in Table 4.

Table 4. Identified response strategies.

Type of response strategy	Description
Adaptation strategy	Obeying the demands and rules that are presented by stakeholders. It is considered that in order to cope with the demands and to achieve the objectives of the project it is better to adjust to the external stakeholder pressures.
Compromising strategy	Negotiating with the stakeholders, listening to their claims related to the project and offering possibilities and arenas for dialogues. Making reconciliations and offering compensation. Opening the project to the stakeholders.
Avoidance strategy	Loosening attachments to stakeholders and their claims in order to guard and shield oneself against the claims. Transferring the responsibility of responding to the claims to another actor in the project network. This kind of strategy resembles avoidance.
Dismissal strategy	Ignoring the presented demands of stakeholders. Not taking into account the stakeholder related pressures and their requirements in the project execution.
Influence strategy	Shaping proactively the values and demands of stakeholders. Sharing actively information and building relationship with stakeholders. Utilizing experiences from previous projects.

The analysis of different response strategies brought up interesting viewpoints on the role of the whole project network in responding to stakeholder pressures: some organizations tended to utilize other actors in the project network in responding to the claims of the stakeholders. Figure 7 illustrates the network aspect to project stakeholder pressures. Figure 7 is based on one of the case projects that was conducted in China.

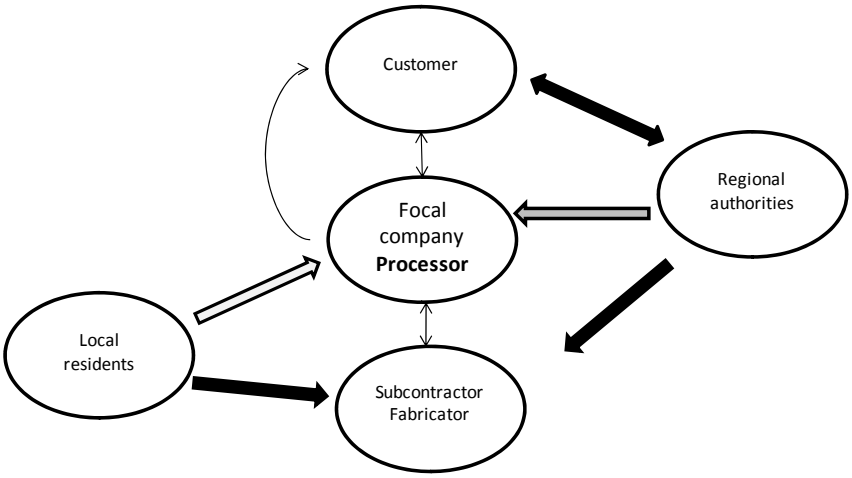

Figure 7. A network perspective to response strategies (the strength of the arrows depicts the salience of stakeholder claims).

3.2.5 Network structure as a determinant of enacted response strategies to stakeholder pressures

After the analysis of different response strategies, it was realized that a network perspective provides a useful standpoint for examining how the patterns of relationships affect, facilitate and constrain a focal organization's behaviour towards external stakeholder pressures. This perspective further increases our understanding on project management in a networked context.

Project networks and their patterns can be analyzed and understood through various attributes related to network actors and the relationships between them. Existing research suggests that the properties of project network structure, project network density and network centrality, influence the ability of a focal organization to resist stakeholder pressures.

The extant research in the field of project stakeholder management is built on the assumption of an individual project interacting with an individual stakeholder in a dyadic relationship (single project-single stakeholder setting). However, a perspective that takes into account the impact of the network structure of organizations on the enacted response strategy to stakeholder pressures should be employed. Therefore, it is suggested that a focal organization's responses to external stakeholder pressures and their management and reconciliation process, is formulated through the interaction of different project network participants, not merely through the decision-making and actions of one single organization.

Following this line of thought in unique global project context, project network density is assumed to impact a focal organization's ability to constrain the actions of external stakeholders, and a focal firm's centrality is assumed to impact its ability to resist external stakeholder pressures. *Density* is a characteristic of the whole network. It measures the relative number of ties in the network that link actors together and is calculated as a ratio of the number of relationships that exist in the network, compared with the total number of possible ties if each network member were tied to every other member. Density can also be interpreted as a measure of communication across the network: when

density increases, communication across the network becomes more efficient. Consequently, as the number of linkages between the organizations in the project network increases, information spreads more efficiently within the project network. *Network centrality* relates to an organization's position and power gained through its network relationship structures in relation to other network actors. Degree centrality (one measure of network centrality) measures an actor's number of direct ties to other actors in a network and is the project network centrality measure used in this study. In project contexts, turnkey contractors normally have a high degree centrality generated by their coordinating functional position in a network. This position also brings relational power due to the contractual structure of the project network: turnkey contractors usually control and facilitate information exchanges among different project network actors and coordinate relationships to local authorities and governments.

The effects of network structure on enacted response strategies were studied in selected four case projects. The four cases differed in terms of the interaction of the two network determinants, density of the project network and centrality of the focal organization in the project network. This in turn produces different types of network configurations. Moreover, the analysis of four project cases revealed differences in the approaches that the focal organizations had enacted as their response strategy towards external stakeholder pressures. Consequently, the two chosen structural project network determinants can be argued to explain the enacted response strategy of a focal organization: the structural attributes of project network can constrain or facilitate the behaviors of a focal organization in terms of external stakeholders.

Figure 8 illustrates the four different project network configuration situations on the scales of high or low degrees of network density and the centrality of the focal organization. In addition, the recognized enacted response strategies in the cases are presented in the framework.

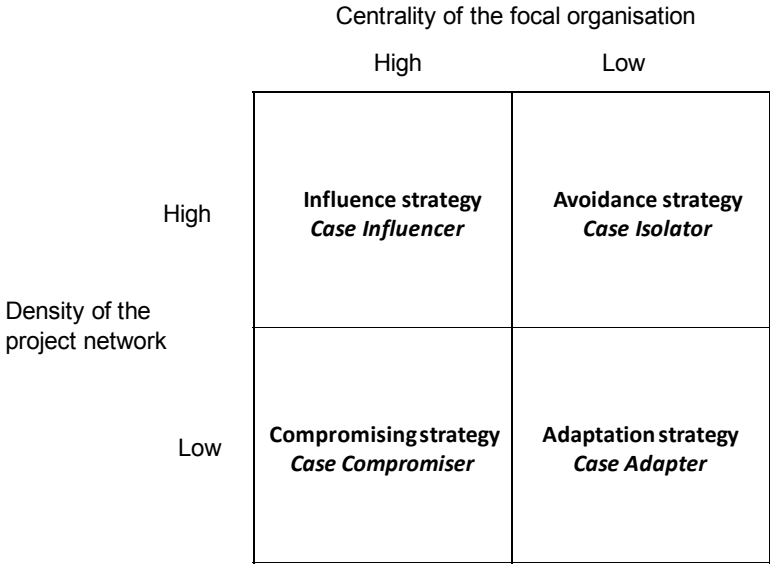

Figure 8. Project network structure and enacted response strategies to external stakeholder pressures.

In case Influencer, the project network had high density, the focal organization was in a position of high centrality and the adopted response strategy was an active influence strategy. In case Compromiser, the project network had low density, the focal organization had high centrality and the response strategy was compromising strategy. In case Isolator, the network density was high, the centrality of Isolator was low and the adopted strategy was avoidance strategy. In case Adapter, the network density was low, the focal organization had low centrality, and the enacted strategy was passive adaptation strategy.

3.2.6 Stakeholder network complexity and its association with unexpected events and deviations

Different project cases were examined in terms of their stakeholder network complexity according to the complexity dimensions: 1) number of stakeholder relationships 2) number of local relationships 3) diversity of stakeholders' interests and 4) inter-dependencies between stakeholders in the network. The analysis revealed significant differences in the degree of stakeholder network complexity between the different cases. In average, the network complexity of turnkey contractors is significantly higher than that of system suppliers. Turnkey contractors have a high number of stakeholder relationships, they are typically highly embedded locally with various local relationships and they face a variety of diverse stakeholder demands and interests. Consequently, turnkey contractors face more unexpected events and deviations with regard to their plans during the project execution phase than system suppliers. In case system suppliers are locally embedded i.e. they have a lot of local relationships (e.g. local subcontractors, authorities, trade associations) they face more unexpected events and institutional exceptions compared to such system contractors that are not deeply locally embedded. Therefore, the complexity of the network structure is directly related to the number of deviations, realized risks and unforeseen events during the project: the higher the complexity of the stakeholder network, the higher the number of deviations during the project. The Figure 9 presents two network configurations of system suppliers. In the left-hand-side network, the number of local relationships is low, while on the right-hand-side figure the number of local relationships is higher and there exist interdependencies between different stakeholders in the network. Therefore, in the right-hand-side network project uncertainty and ambiguity are higher due to the more complex network structure. Consequently, the number of deviations, unforeseen events, realized risks and exceptions, during the project, is higher. Furthermore, there is a greater need for the adaptation of project management practices due to diverse relationships. On the other hand, the local relationships were found useful in many ways: they provided local knowledge that could be utilized, supported in reacting to unexpected local events and promoted the legitimacy of the project in its host country environment. Additionally, local relationships oftentimes also supported the project team in dealing with its local customer interface. As a conclusion, project organizations need to realize the controversial influences and impacts of local relationships: on the one hand, they generate unexpected events to projects and reduce the integration of the project network. On the other hand, they support the legitimacy and anchoring of the project organization in the host country environment.

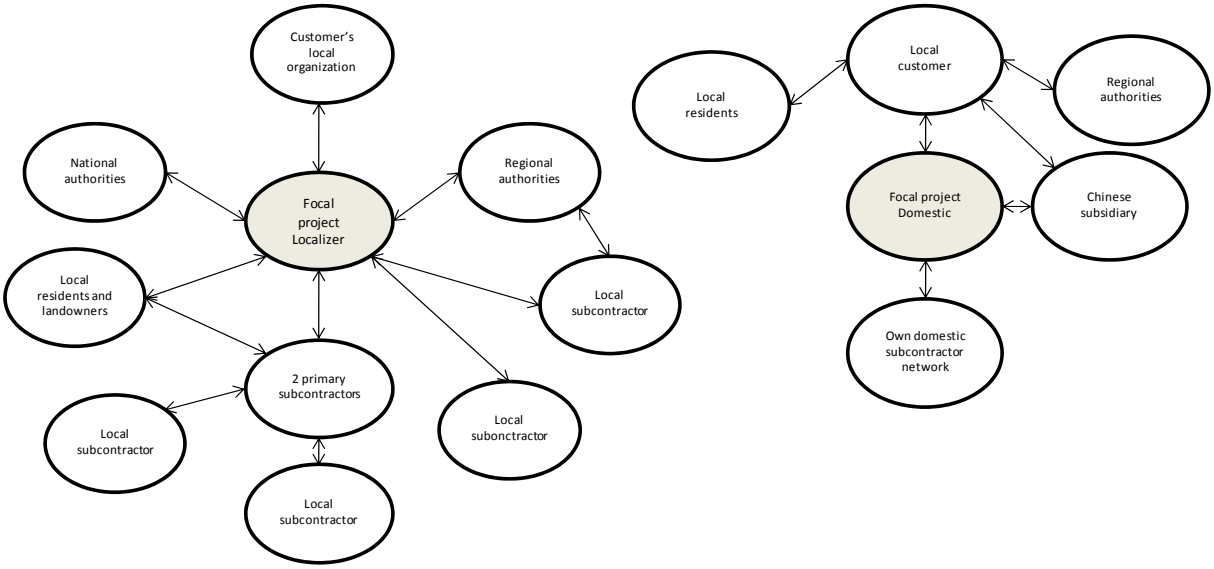

Figure 9. Examples of network complexity.

3.2.7 Stakeholder management practices in analyzed case projects

The practices of stakeholder management were analyzed in different GPS II project cases. Specifically, the examination was concerned with the environmental interpretation process in projects i.e. in the processes through which projects come to know their complex stakeholder environments. The study brought up the association of environmental interpretation processes that take place within projects with the emergence of diverse project stakeholder management practices.

Uncertainty of project's stakeholder environment is typical of projects conducted in challenging and unfamiliar institutional environments. The aspirations to understand and read the project's stakeholder environment relate closely to the basic requirement of all organizations: to build up interpretations about the environment and this way reduce uncertainty. The purpose of project's conscious stakeholder analysis including activities towards the stakeholder environment is then to build up an interpretation of a project's stakeholder environment and this way reduce uncertainty. Based on this interpretation, the organizational action is to be determined. Despite the established stakeholder management standards, we only have limited knowledge, on how projects, in practice, interpret their stakeholder environment and act based on their environmental interpretation. In this study the stakeholder management practices of different case projects were examined in detail. Clear differences between the approaches of organizations were found. Interestingly, the emergence of different stakeholder analysis and management practices was found to be associated with how analyzable and controllable the project managers assumed their project environment to be. While some project managers assumed that the stakeholder environment is analyzable, events and actions are concrete and measurable, others maintained that it was impossible to model or anticipate something that is so uncertain, uncontrollable and unmanageable. Additionally, in some project cases the approach to project's environment was highly active, while in some project cases the approach was rather passive. Therefore, beliefs about the project environment and activity towards the project's environment were seen to explain the emer-

gence of different practices related to stakeholder analysis and practices. Figure 10 illustrates the identified approaches:

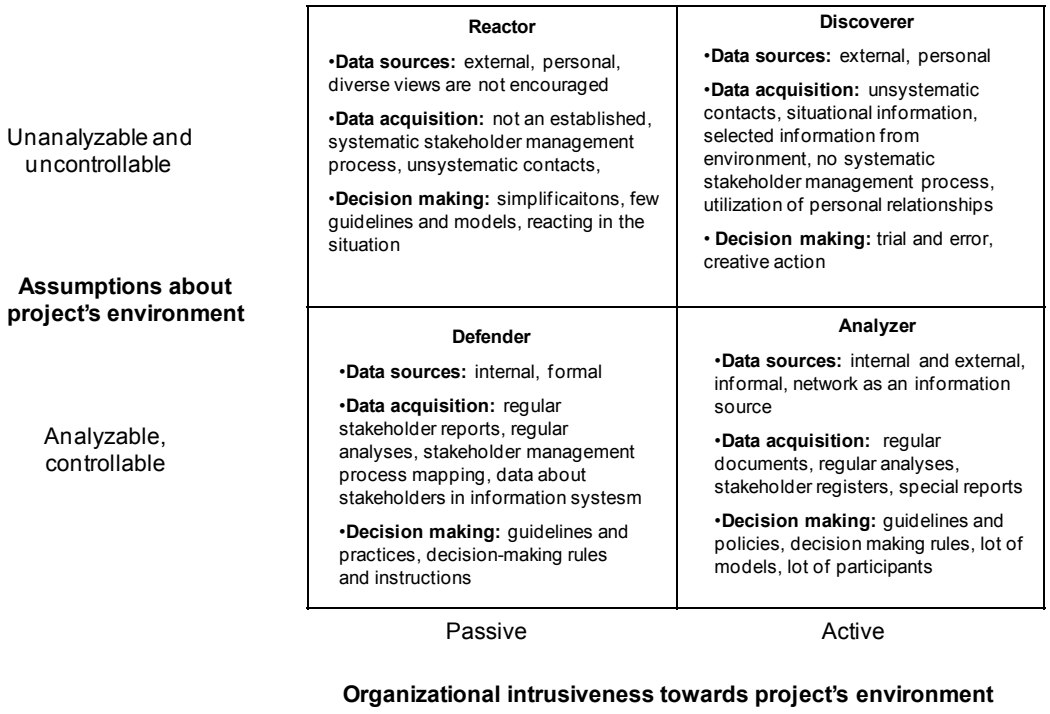

Figure 10. Interpretation processes and stakeholder management practices.

3.3 Culture and diversity: Management of project organizations with cultural variety and diversity

3.3.1 Significance of cultural diversity in global projects

In global projects, Finnish project managers and teams encounter simultaneously multiple cultures, both close and familiar as well as distant and exotic, in temporary, rapidly changing networks of organizations with various participants having often divergent objectives. Hence, global projects can be considered culturally highly complex and exhibit highly intensive cross cultural interaction.

In the studied projects, it became evident that the Finnish project managers recognize the significance of cultural factors in the success of global projects. Based on their managerial experiences, they understand that cultural factors can "make or break" the project. As a consequence, the project managers engage in active interpretation of their own culture as well as those of the other project participants. Thus, it is understood that increasing cross cultural awareness and sensitivity is vital in coping with the cultural complexity in global projects.

The project managers engage in active cross cultural management, that is, they actively develop ways to cope with the cultural complexity. However, they also admit and understand that learning to understand other cultures as well as to make mutual adjustments and adaptations is a long-lasting process.

Finally, the project managers have a wide understanding on cultural complexity and differences in global projects. They understand that cultural complexity include differences in individual and group behavior; differences in working practices and leadership styles; differences in professional, organizational, and national cultures; and differences in project host country market, political, technological, and legal environment.

3.3.2 Learning to recognize and understand cultural differences

In sum, it can be said, that learning to recognize and understand cultural differences in cross cultural interaction in global projects is a long-lasting process. Becoming aware of one's own and the others' cultures can be described as a journey of exploration, where cultural differences become observable and understood one step at a time.

The process of learning to recognize and understand cultural differences in global projects usually starts by ignoring cultural differences and by not paying any attention to them at all. Often this is unintentional, that is, this happens accidentally. This is because different situations are interpreted according to one's own cultural framework. In other words, different situations are perceived through one's own "cultural lenses". People are imagined to interpret different situations in a similar way, and the multitude of different situations that people actually interpret differently are not recognized or noticed. As a consequence, individuals and groups in global projects usually try to behave the way most familiar to them. However, as this happens, the cross cultural clashes and conflicts also begin to emerge.

The second step in learning to understand cultural differences in global projects appears when differences in behavior, work practices, and leadership styles begin to emerge. As a consequence, individuals and groups begin to create generalized images of stereotypical and idiosyncratic behavior attributed to different national groups (for example, "the Germans are bureaucratic, whereas we Finns are flexible"). In global projects these stereotypical characterizations are often highly subjective in the sense that usually "the others" are described with characteristics indicating inferiority, whereas one's own culture is described with superiority. In addition, these kind of generalized stereotypes are often highly dependent on particular situations in the sense that different situations bring forth different aspects of a particular culture. However, this second step in learning to understand cultures is highly important as it serves to create identities for the different groups in global project organizations. It is a significant source of self-esteem and self-worth for the project groups and teams. In other words, it is a highly important source of team spirit. On the other hand, these stereotypical characterizations also indicate differentiation and fragmentation between the groups within the project organizations. They are a source of group boundaries and barriers. At worst, this leads to national fragmentation, ethnocentrism, creation of cliques, and the disintegration of the project organization and network.

The third and fourth steps in learning to recognize and understand cultural differences are very close to each other, although they differ in one significant way: When individuals and groups in global projects enter the third step in recognizing cultural differences, they understand that people behave differently, they hold different values, and that they interpret the same physical and social world in highly

different ways. However, characteristic to the third step is that these differences are considered as problems and threats. As a consequence, cultural differences are considered something that should be minimized in global projects. Usually this leads to the different cultural groups beginning to impose their own way of behavior onto the others. The fourth step is similar to the third step in the sense that cultural differences are recognized. However, the fourth step differs from the third in that the differences are no more considered as threats or problems. Instead they are approached from a neutral standpoint or seen in a positive light. When this happens, it becomes possible to take advantage of the cultural differences and create cross cultural synergies. This happens usually by mutual adaptation of the cultural groups or by allowing and creating cultural heterogeneity and segregation, that is, allowing each party to operate in the way most familiar to them.

To summarize, both "virtuous" and "vicious" paths of cross cultural cooperation were observed in the studied global projects. The "virtuous" path begins by not perceiving any cultural differences. Gradually the differences begin to appear during the project. Groups then begin to identify themselves according to nationality, and ethnocentrism appears. Gradually this is replaced by development of cross cultural awareness. Groups begin to learn about each other and mutual adaptation appears. A shared working culture, where each party makes adjustment to their behavior begins to appear. Synergies and possibilities to capitalize on cultural diversity emerge.

The "vicious" path follows the initial steps of the "virtuous" path. However, instead of mutual adaptation, the national fragmentation of the project organization intensifies. Groups become locked in strengthened attempts to impose one's own way of operating onto the others. Ethnocentrism and parochialism intensifies. Some cooperation might be achieved in order to accomplish temporary project milestones. However, the hostilities and animosity between groups remain latent and reappear at the first possible instance. Consequently, the project organization remains in a hostile, disintegrated state for extended periods. Cultural differences thus paralyze the cooperation and inhibit the possibilities for cross cultural synergies.

3.3.3 Finnish project management culture

Despite the case studies focused on different Finnish companies carrying out global projects, some elements of a common, shared worldview among the Finnish project managers, which could be labelled as the "Finnish project management culture", became observable.

Elements of this culture were evident in the following areas of project management:

1. subcontractor selections
2. supervising partners
3. supervision by partners
4. project manager's role
5. project plans and documentation
6. project contracts
7. conflict behavior and crisis management.

With regard to subcontractor selections, the preferred mode for the Finnish project managers, when operating in foreign markets, was to try and select the subcontractors according to their expertise, experience, and financial "health". Thus, references and indicators of past and current performance of the potential subcontractors were sought after. However, often this collided with the necessity to make the subcontractor selections based on their position in the project host country's business environment.

In partner supervision there seemed to be a preference for closely supervising the operations of, for example, the subcontractors. However, when being supervised by their project partners, autonomy and leeway was customary preferences for the Finnish project managers.

For the Finnish project managers, it also seemed to be customary to rely on the expertise and self-guidance of their colleagues and subordinates. Thus, empowerment of the subordinates and "distant" leadership was typical. However, during significant project difficulties or crises, the Finnish project managers seemed to adopt a more "close" leadership style, assuming some responsibilities of operative management.

With regard to project plans and documentation, informality was preferred and "excessive" bureaucracy was disfavoured. For example, documentation that was considered to benefit the project progress was considered worthwhile. However, this was often met with considerations that the project partners seemed to require documentation which does not benefit the project progress and which is produced "just for the sake of producing documents". This latter type of documentation was considered unnecessary and highly disfavored.

Project contracts were also seen as potential sources of "excessive" bureaucracy and even conflicts, hindering smooth project execution if followed to the letter. Thus, a more flexible attitude towards the contracts was evident. According to this attitude the contracts were seen as general guidelines for project execution and partner relations. On the other hand, project contracts were also seen as tools for self-defence in conflict situations.

With regard to conflict behavior, the initial instinct of the Finnish project managers was to try and avoid conflicts as far as possible. This also included an attitude towards claiming, whereby claims were also seen as potential sources of conflicts. Thus, a preference to avoid "unnecessary" claims and to avoid seeing claims as potential instances to boost profits was evident. In crises, the main behavioral mode could be described as "thinking before acting". Thus, the preference in crises was to plan for systematical responses and actions before carrying them out. This kind of preference was sometimes conflicted with the preference to show immediate action instead of planning, which seemed to be evident in some other cultures.

Some possible risks related to the Finnish project management culture could be classified into the following three categories:

1. relationships with project partners
2. power positions in project network
3. operating in the project host country's institutional network.

With regard to relationships with project partners, the Finnish project managers sometimes seemed as authoritarian, autocratic, and possessing a sense of superiority. This could then run the risk of contributing to the disintegration of the project organization and to the increase of ethnocentrism. On the other hand, as a consequence of the preferred documentation practices, own skills, competencies, ca-

pabilities, and input in the project progress could sometimes remain hidden from the project partners. Also own viewpoints, stances, and worldviews in conflict situations ran the risk of remaining hidden.

With regard to power positions in project networks, the Finnish project managers often considered themselves as a bit too "kind" and contrasted themselves, for example, with the Germans, who were perceived as highly strict and demanding. This could then run the risk of the Finns becoming defendants in power battles between the project partners. In addition this could also lead to extended legal battles as well as to missing "bargaining power" in post-project disagreements and settlements. The "Finnish kindness" was also considered sometimes to lead into missed opportunities for extra revenues or even to over-payments.

With regard to operating in the local institutional environment, the risk from the Finnish project management culture was related to the possibility of overlooking the importance of the project host country's business networks and the importance of the local organizations' position in those networks. There also seemed to be lack of know-how in operating with the project host country's authorities, which could hinder the project progress.

3.3.4 Managing cultural differences

In general, there are three basic ways to manage cultural differences:

1. ignore
2. minimize
3. utilize.

When cultural differences are ignored, it is often assumed that "business is business" everywhere and that no cultural adaptation is needed. Ignoring cultural differences might also be unintentional. As cultural differences might initially be difficult to notice, the multitude of situations where cultural differences might exist are often passed by unconsciously. Sometimes ignoring cultural differences is intentional, and often in these situations ethnocentrism appears where one's own culture is considered to be superior to other cultures. For cultural groups, unintentional ignoring of cultural differences or ethnocentrism are highly natural social processes, hence, this way of managing cultural differences is often the most common way.

When cultural differences are minimized, they are often perceived as problems or posing a threat to the project progress. As a consequence, attempts to create sameness, for example by attempts to standardize work practices are carried out by the project management. Another way to minimize cultural differences is to try and minimize the possibility for cross cultural clashes. This happens usually by allowing each party to operate in a way most familiar to them.

When cultural differences are utilized, they are no more seen as problems or threats. Instead, they are perceived as opportunities for learning and creativity. Utilizing cultural differences builds on the idea of recognizing the "best" parts of different cultures in a particular situation, and combining them in order to achieve cultural synergies. However, in general this way of managing cultural differences is usually the most infrequent.

In global projects, all these general ways to manage cultural differences were utilized in different combinations. In addition, a deeper look into these management tactics revealed that underlying are

specific processes that produce these coping mechanisms. These processes could be classified into four different categories:

1. cognitive processes
2. affective processes
3. rationalistic processes
4. coercive processes.

Central to the cognitive processes producing the ways to cope with cultural differences was gradual learning to understand cultural differences and to adapt and make adjustments accordingly for alleviating the cross cultural tensions or for benefiting from cultural diversity.

Characteristic to the affective processes were the development of emotional attachment between project partners by the emergence of a sense of common commitment as well as mutual respect and trust between the two parties. These processes seemed to facilitate the possibilities for both living with cultural differences, as well as for minimizing cultural differences by promoting unity and integration.

Rationalistic processes seemed to contribute, for example, to minimizing the implications of cultural differences by buffering and isolating the differences. Central to these processes were reasoning for accepting the differences, and deliberate, rational action taken to contain and manage them.

Coercive processes seemed to underlie the capability to both ignore and minimize the implications of cultural differences. These processes were marked by the exercise of power and authority bestowed by the project managerial status or by perceived technological superiority to determine, for example, appropriate operating methods or project team membership.

What is noteworthy of these processes is that they make the three general ways to manage cultural differences dependent on temporal development. In other words, ignoring, minimizing or utilizing cultural differences are not tactics that the project management could just decide to use in a particular day or situation. Instead, for example minimizing cultural differences by attempting to create unity within the project organization might require cognitive processes, i.e. gradual learning to understand the differences, as well as affective processes, i.e. development of mutual respect and trust between the project partners. Hence, achieving unity and establishing common, shared ways of operating could be a long-taking, gradual process in a global project. In a similar way, the decision to ignore and bypass some cultural differences between project partners might require cognitive processes, i.e. learning to recognize and understand which differences are those that can be ignored and bypassed. This holds true also in case of the coercive processes, that is, the project management's capability to make a unilateral decision on a particular way to proceed might be dependent on learning to understand the ways in which to cope with the possible cultural clashes.

In sum, it can be said that utilizing cultural differences and creating cross cultural synergy is something that is often aimed for in global projects. However, usually the different cultural groups in a project network initially start by operating according to one's own cultural way. Consequently, achieving cross cultural synergy might be a long-taking process, requiring time consuming, gradual learning and adaptation.

Finally, some significant antecedents for achieving cross cultural synergy between project partners can be listed as follows:

- project management support
- mutual respect
- mutual interdependence and motivation to work together, creating a common goal
- equal status between partners
- information sharing
- joint experiences
- mediator/facilitator/buffer persons
- common external “threat”.

As can be seen, this list of antecedents for achieving cross cultural synergy is highly ambitious, and includes issues that are often highly challenging to carry out and achieve in global projects. As a consequence, this list is presented in the sense, that it could be seen as an indicative list to those issues and areas that the project management might focus on and pay attention to when gradually developing cross cultural synergy.

4. Integrated results from the three perspectives

Global projects represent an extremely challenging form of project work, especially in the sense that despite the best efforts for planning and prediction, the complexity of the project network and the fact that the operations usually take place on foreign soil with foreign partners are likely to cause many unpredictable and unexpected events and deviations from project plans, having a significant impact on the project progress. According to the research results, the most significant sources of the unexpected events and deviations from plans are the actions of the various project stakeholders and the emerging cultural diversity during the project progress. These two broad areas then have a significant impact on the project risk management processes required for answering the specific needs and challenges of global projects.

As becomes evident from the above presented research results in the three perspectives, during the project life-cycle of a global project, the project execution is the most challenging phase where most of the unexpected events and deviations from plans occur. This is the phase during which the project stakeholders utilize the multiple mechanisms they have at their disposal for affecting the project progress. This is also the phase during which the cultural diversity within the project network and project environment begins to appear and have its full impact on the project progress. Consequently, project execution is also the phase where the need for the informal risk management practices is at its peak, and where they are utilized to their fullest.

As the results also show, project managers of global projects have at their disposal multiple ways to manage the risks emanating from the project network and stakeholders as well as from the cultural diversity inherent in the project organization. However, it is to be admitted that many of these respond mechanisms and informal risk management procedures are processes by nature, involving time, learning, and experience in order to be carried out. Hence, the research results point out that developing and supporting the development of capabilities for carrying out these processes is of utmost importance. Therefore the following is suggested:

Working towards more balanced formality – informality in project risk management: Formal analyses and shared work procedures are valuable in creating a common basis for understanding all the foreseeable situations in projects. However, these standardized work practicies turn out to be inadequate in solving unexpected situations in complex social contexts with neither predetermined action plans nor specified response strategies available. In those situations it is more a question of the abilities to quickly gather relevant data of the situation, abilties to make and give sense of the situation and abilities to correctly respond to it.

1. Managing foreseeable risks and unexpected events can make or break the project.
2. The formal risk management procedures are predefined behaviour models for project managers: what they are expected to do in project risk management and with which tools and methods.
3. There are two discontinuity points in formal project risk management process.The first one is in the project start-up and handover phase from the sales to the project team. The other discontinuity point is at the end of the project where the risk information from each project should be gathered and utilized in other projects.
4. If project managers feel that the risk management practices are not usable in turbulent project environments, those procedures and tools will not be taken into active use. Instead, more informal practices will be taken into use.
5. Informal actions taken outside the formal predetermined risk management process are in significant part of the uncertainty management in project execution phase. These informal risk management processes and mechanisms are often hidden and their significance both to the project risk management process and to the risk level of the project is not well understood.
6. Utilizing the project managers' intuition and instinct more effectively will bring along new perspectives to project risk management, especially in uncertain environments. At best, the project manager's informal practices and company's formal practices in risk management are congruent to each other, and informal actions support the formal systems and reinforce the project managers' behaviours that are aligned with formally stated goals.
7. Varying conceptions of risks among different positions in project organizations may hinder the development of shared risk management culture in project business. Among project managers, the risk is mainly seen as an adverse event by the project managers. Case organizations' management emphasized the opportunities, positive side of the risks, as well. In sales manager's work the risk means a lost deal or, on the other hand, a won deal with strict terms, although it is also their concern that the project will not have intolerable risks.
8. Experiences from realized risks and successful risk management practices are not fully utilized in companies. Lessons learned practices could be expanded to evaluate the risk management actions in projects and to update the risk knowledge that is gathered during the project.

To fit the risk management practices and new software tools better to project managers' everyday work and to encourage project managers towards more proactive risk management, we need to look at the other end of the line: project managers' current activities in practice, their preferences and their needs in risk management. If project managers and site personnel feel that the risk management practices are not usable in turbulent project environments, those procedures and tools will not be taken into active use. At best, the informal practices and formal practices in risk management are congruent to each other, and informal actions support the formal systems and reinforce the project managers' behaviours that are aligned with formally stated goals.

Successful projects show exceptional **stakeholder management.** Global projects involve various actors with different interests and claims. Increasingly, projects are carried out as networks of different organizations, namely project networks or multi-organizational or inter-firm projects. As projects are embedded in complex stakeholder network**s** consisting of several organizations, it is central to understand how these forces, external to the focal project organization, affect the project's behavior and

structure. Despite the established standards of systematic project stakeholder management, global projects many times face unexpected challenges and interferences that rise from their unfamiliar stakeholder environment. Such interferences affect the project progress and achievement of the set project goals significantly. Unexpected stakeholder related challenges may be due to the incapability or impossibility to identify relevant stakeholders to which the project has dependencies, incapability to evaluate the interests and objectives of stakeholders, or failures in predicting the evolution and progress that takes place among stakeholder relationships in the environment. Project managers need to pay continuous attention the stakeholder environment throughout the whole project lifecycle. The use of different stakeholder analysis tools supports the project team in its effort. The importance of open mindset towards different stakeholders, negotiations, engagement and dialogue with stakeholders in the early stages of the project, cannot be overemphasized.

Projects may differ with regard to the complexity of their stakeholder network. Different stakeholder network structures alter projects differently to influences and disturbances from their environment. The observed differences in the project's interaction with its environment due to different stakeholder network structures call for project management approaches that would be adjusted to the complexity of the stakeholder network. Managers should realize that projects that are in constant interaction with their stakeholder environment need different stakeholder engagement and management models than projects that are more closed systems.

9. Managing stakeholders can make or break the project.
10. Despite the established standards of systematic project stakeholder management models, global projects many times face unexpected challenges and interferences that rise from their unfamiliar stakeholder environment.
11. The complexity of the network structure is directly related to the number of deviations, realized risks and unforeseen events during the project: the higher the complexity of the stakeholder network, the higher the number of deviations during the project.
12. External stakeholder related risks (e.g. risks related to authorities, local groups) do not draw enough attention in the project risk analyses conducted in the preparatory phases of the project.
13. Even within an organization the interpretations of stakeholders' motives may differ significantly, which poses challenges on the decision making processes related to the formulation of appropriate stakeholder management strategies.
14. Stakeholder management is not just management of single and separate dyadic stakeholder relationships, but management of a network of stakeholders that may have interdependencies with each other.
15. The dynamicity of stakeholder salience makes it hard to identify all important stakeholders in the early phases of the project and emphasizes the need for continuous stakeholder management process.
16. Network perspective provides a useful standpoint for examining how the patterns of relationships affect, facilitate and constrain a focal organization's behaviour towards external stakeholder pressures.

17. Project organizations need to realize the controversial influences and impacts of local relationships: on the one hand they generate unexpected events to projects and reduce the high integration of the project network. On the other hand they support the legitimacy of the project organization in the host country.

Recognizing cultural differences is an individual journey of exploration that unfolds one layer at a time and may take a long time. Cross cultural stereotypes may be misleading but they are an important step in learning to understand cultural differences. Cross cultural stereotypes serve for important functions in enhancing group self-esteem and self-worth. However, they also often indicate power imbalances between project partners as well as disintegration within the project organization. Cultural learning is much more: Decisive is to learn to understand how different cultural groups understand and perceive objects, behavior, meaning, and appropriateness in common social and physical world, as well as their underlying reasons.

18. Cultural factors can make or break the project.
19. Project managers recognize the significance of cultural factors and the potential risks they might incur in global projects.
20. Many of the cultural differences between project participants often go unnoticed and just pass by. However, unexpected events in the project often catalyze recognition of cultural differences.
21. From the management's point of view, decisive is not the amount or size of the cultural differences rather than their situational match/mismatch. For example, cultural diversity in the project network may buffer or mitigate the emerging difficulties and unexpected events.
22. Support and guidance might be needed in order to go beyond stereotypes towards more advanced stages of cross cultural understanding.
23. There are three basic ways to manage cultural differences: ignore, minimize, and utilize.
24. Ignoring cultural differences is usually the most common way to manage them as much of the cultural differences are not noticed initially.
25. Attempts to minimize cultural differences by creating standardized, shared work practices or common project cultures are also common. However, this is usually highly time-consuming because of resistance.
26. Utilizing cultural differences might require extensive cross cultural learning for understanding the cultural differences, appreciating them, and tapping their benefits.
27. Creating shared project cultures or the ability to allow different project parties to operate in their culture's own way is a gradual and multidimensional process. It requires, for example, development of trust and feelings of reciprocal appreciation between project partners.
28. Decisions to either ignore, minimize, or utilize cultural differences might not be simple decisions to be made in any particular point of time. Instead they are often consequences of temporal development and learning processes.

5. Summary

Formal procedures form a premise for risk management, which project managers use to adjust the risk management practices and day-to-day actions suitable for their own project management style and for the project at hand. In order to achieve an efficient risk management process, both the project context and nature of the party undertaking risk management need to be considered. Especially, for global projects, we need more flexible and agile approaches to risk management that take account of the complex project networks, cultural diversities and high level of uncertainties. Also conceptual understanding is argued: Understanding both the variance in risk perceptions and the varieties in unexpected events, their occurrences and management within projects, are seen to contribute to more proactive uncertainty management in projects. Managerially, we provide new insights into the project managers' point of view and their role in project risk management. This study clearly indicates how diverse approaches project managers actually have to risk management.

In global projects, Finnish project managers and teams encounter simultaneously multiple cultures, both close and familiar as well as distant and exotic, in temporary, rapidly changing networks of organizations with various participants having often different objectives. As a consequence, cultural clashes take place, and time and possibilities for aligning and merging the different worldviews, and management and operating practices do not necessarily exist. Project organizations divide into subgroups and cliques often based on national origins. Collaboration between the parties erodes and managing and executing the project becomes complicated. Thus, cultural diversity may introduce significant and unexpected risks to the project. On the other hand, cultural diversity may become a benefit in different project phases and environments when the variety of different possible operating practices and problem solving technique becomes extensive. This way project managers and teams may experience possibilities for learning novel operating methods and worldviews. In the studied projects, the Finnish project managers have, for example, managed the cross cultural interaction with multiple ways by attempting, on the one hand, to bridge the cultural gaps with different team building methods, arranging possibilities for mutual familiarization, learning and trust development, and on the other hand, by trying to reduce the tendencies for domination of one party or emphasizing one's own ways of operating, thus, creating space for everybody to work in their personal ways. In the studied global projects Finnishness and the Finnish project management culture has also emerged with different emphasis and elements depending on the encountered cultures and project host countries

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Three perspectives to global projects

Managing risks in multicultural project networks

Abstract

The purpose of the GPS II research program is to identify and analyse interactions between cultural processes, network connections and risk management practices in global delivery projects. During the research, data has been collected from 21 projects delivered to 17 countries worldwide. The studied projects varied in size, the degree of success and cultural diversity. The data consists of 92 interviews with the project managers and other project specific key personnel from four project-based companies as well as project documentation. The interviews have been conducted both in Finland and in various project host countries. The examination of the case study projects is implemented both as project specific and comparative case studies. By project specific historical studies, the project trajectories and critical incidents have been described as well as explanations for the project specific outcomes in general have been sought for. In addition, the comparative research designs have been built according to the planned and emergent outcomes of the projects as well as according to their cultural diversity and institutional characteristics. By comparisons, novel ways to unravel the risks and difficulties of the project management due to the cultural differences have been sought for. According to the research results, the most significant sources of the unexpected events and deviations from plans are the actions of the various project stakeholders and the emerging cultural diversity during the project progress. These two broad areas then have a significant impact on the project risk management processes required for answering the specific needs and challenges of global projects.

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Global projects represent an extremely challenging form of project work, especially in the sense that despite the best efforts for planning and prediction, the complexity of the project network and the fact that the operations usually take place on foreign soil with foreign partners are likely to cause many unpredictable and unexpected events and deviations from project plans, having a significant impact on the project progress. The most significant sources of the unexpected events and deviations from plans are the actions of the various project stakeholders and the emerging cultural diversity during the project progress. These two broad areas then have a significant impact on the project risk management processes required for answering the specific needs and challenges of global projects.

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