Essays on managing cultural impacts in multinational projects

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VTT

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Abstract

Cultural differences have become more perceivable at the same time as national borders have become less relevant and economic systems more dependent on each other. Current concepts about culture do not seem to help in understanding the differences and their effects in practice. Despite the previous efforts within the project management discipline, a large variety of concepts and the lack of practical solutions are leading to disregarding especially the innovation potential arising from multiculturalism.

This thesis consists of a summary and three essays, which are based on three research settings exploited in parallel in the essays. The first essay illustrates the variety of cultural conditions causing challenges between unified project practices and the flexibility of action in individual projects. The second essay reveals the tactics of Finnish project managers when navigating in multicultural project encounters, and the third essay depicts key elements of cross-cultural competence by comparing the differences between the approaches of masters and novices in culturally slanted project encounters.

The first attribute and at the same time limitation associated with the concept of culture is nation, which often (almost always in daily conversation) is used as an equivalent to the word culture. National culture has been found to be obsolescent when managing cultural diversity in a multinational business environment, although it can sometimes be a relevant unit of analysis if linked to, for example, the political and legal institutions of the nation. The external variations of cultural spheres cause problems internally when applying the unified project process model and take attention away from external challenges. Secondly, culture is basically seen as causing only challenges, that is, having a negative influence. Especially on the level of an organisation the actions were directed to decrease or eliminate the possible problems. The individual project managers, on the other hand, saw diversity as more fine-grained and sought the subsequent opportunities. Thirdly, both cultural and project management knowledge are context related. The project manager should be able to change the approach if necessary in the situation at hand.

Keywords   cultural diversity, project management, cross-cultural competence

Esseitä kulttuurivaikutusten johtamisesta monikansallisissa projekteissa

Tiivistelmä

Kulttuurierot ovat yhä selvemmin havaittavissa samaan aikaan, kun maiden välinen kanssakäyminen on lisääntynyt ja niiden taloudelliset järjestelmät ovat yhä riippuvaisempia toisistaan. Tämänhetkinen ymmärryksemme kulttuureista ei tunnu selittävän riittävästi kulttuurierojen vaikutuksia käytännön projektitoiminnassa. Aikaisemmista tutkimuksista huolimatta projektijohtamisen käsitteiden suuri määrä ja käytännön ratkaisujen puute ovat johtamassa tilanteeseen, jossa erityisesti monikulttuurisuudesta nouseva innovaatiopotentiaali jää kokonaan hyödyntämättä.

Tämä väitöskirja sisältää yhteenvedon ja kolme esseetä, jotka perustuvat kolmen erilaisen tutkimusasetelman rinnakkaiseen hyödyntämiseen. Ensimmäinen essee havainnollistaa kulttuurierojen moninaisuutta, joka aiheuttaa haasteita yrityksen yhdenmukaisen projektijohtamisen käytännön ja yksittäisen projektin johtamisen välillä. Pelkästään kansallisten kulttuurierojen huomioiminen ei ole riittävää projekteja johdettaessa, vaikka niillä voi tietyissä tapauksissa olla merkittävä rooli. Poliittiset ja oikeudelliset järjestelmät liittyvät tiiviisti tiettyyn kansallisvaltioon. Kuitenkin esimerkiksi toimialoilla, ammattikunnilla ja organisaatioilla on omat kulttuuriset erityispiirteensä, jotka vaikuttavat tämän tutkimuksen perusteella projektitoimintaan. Nämä erot ulkoisessa toimintaympäristössä vaikeuttavat usealla toimialalla toimivan yrityksen sisäisten toimintojen yhdenmukaista järjestämistä ja vievät huomion ulkoisista haasteista sisäiseen organisoitumiseen.

Toinen essee paljastaa, kuinka yksittäiset suomalaiset projektipäälliköt ovat navigoineet projekteissa ilmenneissä monikulttuurisissa tilanteissa. Toistaiseksi kulttuurierojen nähdään aiheuttavan pääasiassa haasteita ja kielteisiä vaikutuksia projektien etenemiseen. Tämä toteutuu erityisesti organisaatiotasolla, kun taas yksittäinen projektipäällikkö saattaa löytää erilaisuudesta myös mahdollisuuksia. Kolmas essee kuvaa tekijöitä, jotka vaikuttavat projektipäällikön kykyyn ratkaista monikulttuurisissa projekteissa syntyneitä haasteita vertaamalla kokeneiden ja aloittelevien projektipäälliköiden tapaa toimia eri tilanteissa. Tarvittava kulttuuri- ja projektijohtamisen osaaminen on riippuvainen asiayhteydestä, joten projektipäällikön tulee pystyä muuttamaan lähestymistapaansa kussakin tilanteessa sen vaatimalla tavalla.

Preface

The research of which this thesis work was a part began in 2003 as collaboration between VTT Technical Research Centre of Finland (below 'VTT'), the Helsinki School of Economics (now the Aalto University School of Business), and the Collaboratory for Research on Global Projects (CRGP) affiliate programme at Stanford University. In 2005, researchers from Helsinki University of Technology (now the Aalto University School of Science) joined the collaboration. I wish to thank all who have participated in this collaboration and with whom I have exchanged thoughts along the way.

The first in-depth interviews for the thesis project were conducted in 2003–2004. I want to express my sincerest gratitude to my supervisor, Professor Risto Tainio, for his guidance over all these years. My background in a different discipline challenged us both; however, in part through Finnish perseverance, a positive outcome materialised in the form of this thesis. Your encouragement to continue despite my constantly postponing deadlines was really needed. I want to thank also Doctor Tapio Koivu, for introducing me to the opportunity for doctoral studies, and Doctor Abdul Samad (Sami) Kazi, for seeing this project through to the end.

I would like to thank Professor Patricia Wolf for acting as an opponent for my thesis, and as pre-examiner along with Professor Kalle Kähkönen. I am deeply grateful to both of you for your insightful comments on my thesis.

I am grateful to all my colleagues at VTT for the support that enabled my doctoral studies. As a part of my work, I was able to take part in researcher exchange with Stanford University. I especially thank Professor Raymond E. Levitt and Doctors Ryan Orr, Ashwin Mahalingam, and John Taylor, from CRGP, whose enthusiasm and excitement about research in global projects have no equal. The above mentioned research collaboration involved a multitude of professionals, from diverse organisations. Special thanks for the discussions and stimulation go to Professors Antti Ainamo, Karlos Artto, Arto Kiviniemi, and Jaakko Kujala.

Along the way, my fellow students and friends Doctor Sampo Tukiainen (from the School of Business) and Doctor Kirsi Aaltonen (from the School of Science) have had a great influence on the progress of my thesis and development of my ideas. Thank you for the fruitful discussions and support.

When I started my doctoral studies at the School of Business, a very different approach to the philosophy of science was introduced to me, in sharp contrast to what I was then familiar with. My understanding about what constitutes science

Finally, I want to thank my family, relatives, and friends for supporting me on my path and being there whenever I needed you. I know that my parents, Leena and Juhani, have always been proud of me, whatever I do. I am ever grateful to you for cherishing the belief that there is nothing I could not do. I want also to thank my brother Sami and his family for the support and joyfulness whenever and wherever we meet. My dear husband Arto has walked with me during this journey, giving me love and support. You have ensured that I keep my feet on the ground.

Vantaa, September 2012

Johanna Kuusisto

Academic dissertation

List of essays

This thesis is based on the following original publications which are referred to in the text as essays I–III (Appendices A–C).

I   Kuusisto, Johanna. Cultural assumptions in the global project management office. Unpublished manuscript.

II Kuusisto, Johanna. Culture-related uncertainty-reducing practices in projects. Unpublished manuscript.

III Kuusisto, Johanna. The cross-cultural competence of the project manager in multicultural projects. Unpublished manuscript.

Contents

Appendices

List of acronyms

CC   Cross-Cultural Competence

CRGP   Collaboratory for the Research on Global Projects

GCP   Global Change Project

GPSI   Global Project Strategies, Phase I

GPSII   Global Project Strategies, Phase II

NGO   Non-Governmental Organisation

PBM   Project-Based Management

PBO   Project-Based Organisation

PM   Project Manager

PMI   Project Management Institute

PMO   Project Management Office

POO   Project-Oriented Organisation

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1. Introduction

1.1 Background of the study

The variety of cultural and institutional differences between stakeholders causes extra costs in large construction and engineering projects (e.g. Scott, 2001; Koivu et al., 2004; Mahalingam and Levitt, 2007). Civil engineering projects, like dams, airports and power plants, originally required more international operations as building construction projects, because of the extent of the co-operation. However, the number and size of the building projects has grown during the last decades (e.g. construction of high-rise buildings all over the world), increasing the level of internationalisation. Globalisation, technology changes and increased interaction between social and technical issues have also increased the complexity of projects (Baloi and Price, 2003). A growing number of construction and engineering companies, in which projects are a common way of conducting activities, are operating cross-nationally and cross-continentally.

When national borders become less relevant, and economic systems more dependent on each other, the cultural differences become more perceivable (Ngowi et al., 2005). Researchers within cultural studies in management have conducted surveys about cultures' influence based on large samples and quantitative analysis (e.g. Hofstede, 1980; Trompenaars and Hampden-Turner, 1998; House et al., 2002). This applies in project management research as well (e.g. Zwikael et al., 2005; Bredillet et al., 2010). Cultural research has its origins in anthropology, where the most traditional method of studying culture has been ethnography. Despite all the research efforts within the project management discipline, the large variety of concepts and the lack of practical solutions are leading to disregarding especially the potential of cultural diversity among practitioners. Table 1 and Table 2 summarise the key concepts and definitions that are used in this thesis. The concepts arise from both organisation and management studies, as well as cultural research. Successful project implementation could not have been reproduced. The impacts of cultural diversity on multinational projects require more understanding relating to the phenomenon itself.

Table 1. Key concepts in organisation and management studies used in this thesis.

Temporary organisation	A non-permanent way of organising actions (Lundin and Söderholm, 1995).
Projectified matrix organisation	An organising principle combining the function-based and project forms of organisation (Arvidsson, 2009).
Project organisation	A type of temporary organisation (Lundin and Söderholm, 1995).
Multi-project organisation	An entity managing multiple projects simultaneously (Hobbs and Aubry, 2007).
Project-based organisation (PBO)	"In contrast to the matrix, functional, and other forms, the PBO is one in which the project is the primary unit for production organisation, innovation, and competition" (Hobday, 2000, p. 874).
Project-oriented organisation (POO)	"An organisation where revenues are generated in the permanent functions, but where a major share of the costs are related to projects" (Arvidsson, 2009, p. 98).
Programme management	"A group of related projects, managed in a coordinated way to obtain benefits and control not available from managing them individually" (PMI, 2008, p. 9).
Portfolio management	"A portfolio is understood as a collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives. The projects or programs of the portfolio may not necessarily be interdependent or directly related" (PMI, 2008, p. 8).
Project management office (PMO)	"An organizational body or entity assigned various responsibilities related to the centralized and coordinated management of those projects under its domain. The responsibilities of the PMO can range from providing project management support functions to actually being responsible for the direct management of a project" (PMI, 2008, p. 11).
Project risk management	"The processes of conducting risk management planning, identification, analysis, response planning, and monitoring and control on a project" (PMI, 2008, p. 273).
Opportunity management	The positive outcome of uncertainty (Olsson, 2007).
Anxiety/uncertainty management	A management ideology aimed at influencing the effectiveness of communication in interpersonal and inter-group encounters (Gudykunst and Nishida, 2001).

Project management practice	The use of tools and techniques that is characteristic of project management (Besner and Hobbs, 2006).
Project management competencies	Knowledge, skills, experience, personality traits, attitudes and behaviours enabling a project manager to perform as expected in employment (Crawford, 2005).
Multicultural project	A project team whose members have different national or ethnic backgrounds (Mäkilouko, 2004).
Cross-cultural management	"Implies a) procedures and policies relating to the management of workforces with different cultural backgrounds, and b) moderating the impact of cultural differences on the execution of management tasks" (Søderberg and Holden, 2002).

Table 2. Key concepts in cultural research used in this thesis.

Culture	A social construct with three levels: artefacts and behaviour, values and beliefs, and underlying assumptions (Hofstede, 1991; Schein, 2004). The concept can be attached to various spheres: national, national-political, regional, industry, organisation, project, profession, and function (Phillips, 1994; Rooke et al., 2003; Schneider and Barsoux, 2003; Schein, 2004; van Marrewijk, 2007; Chevrier, 2009).
Cultural diversity	The variety of features that distinguish cultures from each other (Trompenaars and Hampden-Turner, 1998).
Cultural dynamics	A concept used to describe the changing meaning of culture through social interaction and in relation to people's personality (Kashima, 2004).
Polycontextuality	The source of misunderstanding in cross-cultural communication due to the multiple interdependencies of verbal and nonverbal communication with context (Von Glinow et al., 2004; Johnson et al., 2006).
Cross-cultural competence	The ability to function effectively in various cultural spheres (Gertsen, 1990; Johnson et al., 2006).
Cross-cultural leadership	A concept including leadership skills and competencies that are characteristic of multicultural projects (Toor and Ogunlana, 2008).
Cultural intelligence	An individual's ability to act successfully in various environments and social settings (Earley and Ang, 2003).
Intercultural sensitivity	"The way in which learners construe cultural difference" (Bennet, 1986).

At the same time as this research, ground breaking research initiatives have been taken to change the common understanding about what culture is and the methodologies for studying it (Søderberg and Holden, 2002; Boyacigiller et al., 2004; Sackmann and Phillips, 2004; Chevrier, 2009). A limited amount of project management researcher using qualitative methods is seen as a major source of the limitation in the current understanding. This research was started to fill that gap by following the foundation of grounded theory built up by Glaser and Strauss (1967; 1987). The basis of this research is in inductive reasoning, qualitative data collection and methods of analysing. The phenomenon was investigated in-depth, in a real-life context (Yin, 2008). The empirical material supports the presented arguments.

1.2   The structure of the thesis

Though the years, the original idea of writing scientific articles changed to essay form. This thesis consists of a conceptual frame for the phenomenon at issue, three separate essays, conclusions and managerial implications. This thesis starts by introducing several commonly known cultural studies (e.g. Hofstede, 1991; Trompenaars and Hampden-Turner, 1998; House et al., 2002; Schein, 2004), but then draws on research that has arisen during the last decade, which is challenging some of the general assumptions about cultures as well as introducing an optional interpretation (Adler, 2002; Søderberg and Holden, 2002; Chevrier, 2003; Schneider and Barsoux, 2003). On the other hand, multinational projects and, more comprehensively, project-based business as a context provide an interesting yet largely unexplored arena for observations (Lundin and Söderholm, 1995; Cicmil, 1999; Henrie and Sousa-Poza, 2005; Hobbs et al., 2008). Uncertainty management, as one of the manifestations of project management practices, provides concepts through which studies of cultures, management and projects can be operationalised (Hillson, 2002; Ward and Chapman, 2003; Olsson, 2007). Finally the discussion about global competence introduces how cultural competence can be understood at an individual level and developed further (Johnson et al., 2006; Gherardi, 2009).

After the conceptual frame, I present the overview of the essays, where attention has been given to the project management office (PMO), uncertainty-reducing practices in projects, and the cross-cultural competence (CC) of a project manager. The aim in each of the essays is as follows:

1) Illustrate the variety of cultural conditions causing challenges between unified practices and flexibility of action in individual projects (essay I, see Appendix A).

2) Reveal the tactics of Finnish project managers when navigating in multicultural project encounters (essay II, see Appendix B).

3) Depict the elements of cross-cultural competence (CC) by comparing the differences between the approaches of masters and novices in culturally slanted project encounters (essay III, see Appendix C).

Finally, in conclusion, the findings of this research have been positioned in relation to the existing research.

2. Research methodology

2.1 Research setting

Characteristics of this research were the iteration of existing knowledge (mainly literature), the collection of empirical data and the analysis of data. These tasks alternated in a variety of orders. Detailed research questions were not formulated at the beginning of the research and the research started with the first circle of data collection. This philosophy of research is called inductive reasoning, where single observations are used to find patterns or regularities and through that developed as general conclusions or theories (Strauss, 1987). The research questions started to form gradually in relation to writing the essays. A continuous reflection between the empirical data and existing literature were conducted with each of the essays, meaning the alternation of writing, reading, sketching and thinking in a changing order.

A case study approach was chosen for this research in order to "understand the dynamics present" in multicultural project implementation (Eisenhardt, 1989, p. 534). The dominant and narrow understanding of cultures' hindering of impacts in multinational projects has already been challenged, but understanding of the complexity of cultures' impacts has remained limited. The objective of this research frame was to reveal the multidimensional nature of cultures' impacts in very narrow area – engineering, as well as research and development projects and project organisations led by Finnish managers. Case studies were used in two different ways for this research. On one hand, the descriptions of projects were built in an iterative process with project managers. On the other hand, critical events from these same projects were introduced to novice project managers. Multiple projects and sources of data were used in order to have a more holistic understanding of the findings (Phelps and Horman, 2010). The relative nature of cultural diversity with the context could be illustrated by a comparative arrangement even with the small and heterogeneous data set.

2.2 Data collection

The exploratory nature of the research led to the use of open interviews, narratives and observations, supported by project documentation and process descriptions on the company intranet. The focus in the interviews was on critical events, because people cannot easily hide their behavioural traits during negative encounters, leading to these being fruitful moments from which to learn (Tijhuis and Fellows, 2012). The critical incidents technique is in fact "a set of procedures", where the potential of an informant is used to solve the problem and to develop a broader conceptual framework (Flanagan, 1954, p. 327). The technique proved to be a successful approach to the phenomenon in order to first understand the variety of situations where cultures have a meaning to the informants, and secondly to enter into explanations of the meaning that the concept of culture has among project management practitioners. The projects were chosen based on the importance of cultures' influence, that is, the course of these projects was seen by company representatives as somewhat being influenced by the cultural variation between mainly national cultures (theoretical sampling, Eisenhardt, 1989).

The empirical material for this thesis has been collected in three phases: material in projects from the contractor, consultant and subcontractor 1 were collected during 2003–04, observations and projects from subcontractor 2 in 2006, and responses from novices in 2010. The research has followed an inductive research approach, where data collection and analysis alternate. One of the common qualitative methods used in cultural research is the interview (Strauss and Corbin, 1998; Moisander and Valtonen, 2006). In this research, an in-depth retrospective interview style was used, guided by Spradley (1979) and Strauss (1987). On one hand, the objective of the interviews was to reveal underlying and sometimes even taken-for-granted elements relating to the research phenomenon, rather than to find quantitative evidence. Even a single notion could be a basis for theory building. Guidance from Spradley's (1979) ethnographic interview was followed: open questions, expressing ignorance, and so on. Because the researchers were not familiar with the industry, the informants had to give exact details about the encounters and be very patient in doing this, even if they were busy people. All this was conducted advisedly.

The interviewees, together with the projects, were selected by the upper management in project units, based on their view of the impacts of cultural differences in these projects and the suitability of the personalities of project managers for the study. Interviews lasted from one to one and a half hours and were conducted either face-to-face (in Finland and China) or by phone. Sometimes two interviewers were present in the interviews, but always one interviewer led the discussion. The objective was to encourage informants to tell stories about important events during the projects. The Finnish informants, who often acted as project managers, were interviewed three times each to build up a timeline for the events and to go in more detail into events and what informants

saw as the reasoning behind the events. Three projects were analysed based on the 12 interviews and secondary material.

The second phase of interviews was conducted during the spring of 2006 in one company. The same method of choosing projects and informants was used as in the first phase of interviews. At this time, two projects were selected and altogether 15 interviews conducted. The informants were interviewed once, and this time the focus in interviews was on the interface between project sales and execution functions of the project organisations, the functioning of the general project process model used in the unit, and observed impacts of cultural differences. Some of the interviews were conducted by two persons when the material was collected for a master's thesis (Lampenius, 2006) in addition to this doctoral thesis.

All the companies that participated in the research can be considered as multinational or even global companies. Even if the headquarters of these companies are located in Finland, all of them have the tradition of delivering products and services all over the world. Table 3 summarises the sources of primary data, that is, the informants and their backgrounds. In addition to interviews, material from 20 novices was exploited with the material from some of the interviews.

Table 3. Summary of primary empirical material.

Company	Informants	Number of interviews
Consultant	Project manager	3
	Partner	1
Subcontractor 1	Project manager	3
	Sales manager	1
Contractor	Project manager	1
	Project manager	1
	Project manager	3
Subcontractor 2	Director	1
	Engineering manager	1
	Engineering manager	1
	Engineering manager	1
	Engineering manager	1
	Country sales manager	1
	Key account manager	1
	Area sales manager	1
	Sales manager	1
	Project manager	1
	Sales manager	1
	Project manager	1
	Project manager	1
	Project manager	1
	Project manager	1
	Total	**28**

In addition to primary data, some secondary data were collected as well. At the same time as the second round of interviews during 2006, I worked in the company's open office, conducting participant observations and collecting my observations in a research diary. I also had access to the company's internal websites and I could use the internal project process material as the basis for interviews, as well as separately a secondary data for the research. I also conducted several shorter discussions with project unit personnel during the lunch and coffee breaks. The challenge here is that I could not take notes during these discussions, to avoid the disturbance of reminding the other party of my role as an outsider. The notions from these discussions were reported as soon as possible after the occasion in the research diary. I was open with all the informants about my role as researcher and outsider at the beginning of the discussions. I have avoided using any information here that could identify either the companies involved or the identities of the informants. The final phase of data collection was realised in spring 2010, when the reflections of novices were collected. The events from the initial projects and interviews were used here. Figure 1 represents the connection between the collected data and essays. The different phases of data collection each formed a specific set of information and were analysed separately. However, material from all the projects were used in Essay II (Appendix B).
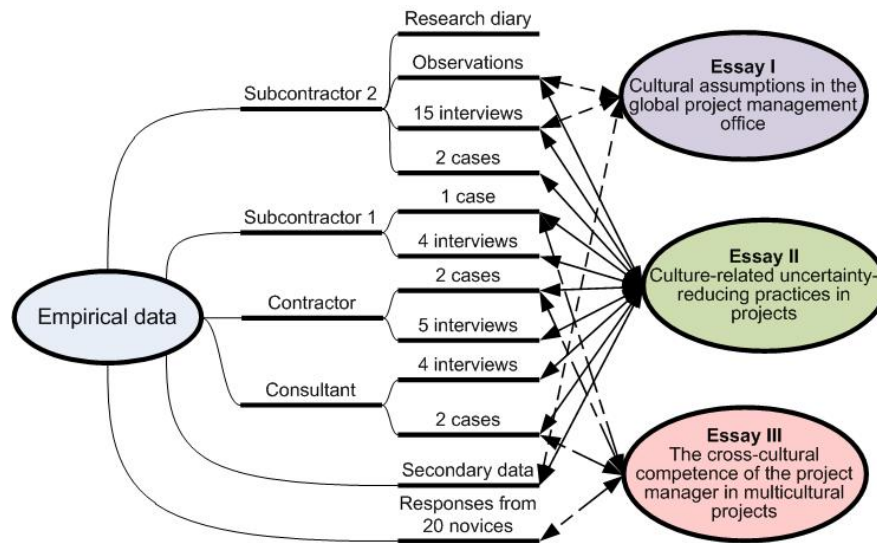
Figure 1. Summary of empirical data and essays.

2.3   Data analysis

The objective of this research was to reveal the complexity behind the impacts that cultural differences create in multinational projects, and thereby create a descriptive framework of managing cultures' influences in projects. As described by Yin (2008), this is the least preferable strategy because it does not rely on existing theories before data collection. Analysing a project and writing about it is a challenging task and can be learned only by doing it (Ellet, 2007). Data collection and analysis follow each other in turns and "much depends on an investigator's own style of rigorous empirical thinking, along with the sufficient presentation of evidence and careful consideration of alternative interpretations" (Yin, 2008: p. 127). Yin (2008) continues to state that an introspective approach is needed in order to evolve as a researcher. Multiple researchers were used to "enhance the creative potential" and "confidence in findings" (Eisenhardt, 1989, p. 538).

In this research, three levels of analysis were used: department (project unit in an organisation), work group (project group consisting of people from several organisations), and individual (project manager). In order to understand cultures' influences in projects, relevant and simultaneous human activity on the different levels was necessary; however, this creates challenges, as the majority of previous management research has a single-level approach, and if care is not taken, the findings from different levels are easily mixed (Rousseau, 1985). Hitt et al. (2007, p. 1385) suggested four possible approaches to multi-level research, which "reveals the richness of social behaviour" and "draws our attention to the context":

1) applying multi-level designs to existing conceptual models
2) considering bottom-up effects
3) collaborating across disciplines on multidisciplinary topics
4) addressing major real-world problems via multi-level approaches.

Interviews for the second and third essays were transcribed by the researchers themselves either literally or in more compact fashion. Interviews for the first essay were transcribed by a subcontractor. The order of the essays became evident only when writing this summary, and it does not correspond with the order of collecting data. The coding of interviews was done in an "old-fashioned" way, without help from coding software such as Atlas.ti, NVivo7 or XSight. Coding was conducted alone, however, the developed interpretations were checked with the participants. As described in Figure 1, the same interviews were used for different essays, but for each essay the coding was conducted from the beginning. The coding was conducted two to three times, simultaneously with analysing the text, by starting with open coding schema in the initial phase and becoming more selective each time (Strauss, 1987). I can sincerely echo Strauss's (ibid.) notion about how "a single document can often astonish even the experienced researcher". To my thinking, the data seemed to reveal an endless amount of knowledge, of which only a part is exploited for this thesis. Following Table 4 compiles and connects research settings, objectives, data collection and analysis to individual essays.

Table 4. Construct of essays.

Essay	Research setting	Objective	Data collection	Data analysis
Cultural assumptions in global project management office	Project management unit of an engineering company in Finland, serving clients of two distinct industries worldwide	Cultural conditions causing challenges between unified practices and flexibility of action in individual projects	Primary data: 15 interviews Secondary data: observations in unit's open office, and project management guidelines on company's intranet	Coding of interviews complemented by notions from secondary data sources Phase 1: 5 in-depth interviews of the management of the unit Phase 2: 10 in-depth interviews of sales and project personnel in relation to two projects
Culture related to uncertainty-reducing practices in projects	Project management in two engineering companies: one acting as a turn-key contractor and another as a subcontractor in two separate projects Project management in a consultancy company coordinating research and development project, including partners from six European countries	Tactics of Finnish project managers when navigating in multicultural project encounters	Three projects including 1–3 interviews of seven informants (altogether 13 interviews) Secondary data: project documentation (schedules, memos of meetings) First-hand reflection on interviews with co-interviewer	Coding of interviews
The cross-cultural competence of the project manager in multicultural projects	Same as in Essay II 20 advanced management students in a business school joining a class in project management	Differences between approaches by masters and novices in culturally slanted project encounters	Three projects including three interviews of three informants (altogether 9 interviews) Responses of novice project managers to critical events picked from interviews	Coding of interviews complemented by notions from secondary data sources Coding of responses

2.4 Reflecting the quality and limitations of this research

The researchers define culture in more or less the same way. However, there is a great variation in how they conduct the study in practice, that is, what it is that they actually study (Martin, 2002). Research generally is expected to be value neutral, which is especially challenging to follow related to cultural studies. I have identified that, in this research, I follow the theoretical perspective of fragmentation with managerial interests, that is, the focus is on control and manipulation rather than on conflicting preferences of employees and managers, for example (cf. ibid.). This thesis has been conducted during an eight-year period starting in August 2003, by interviewing project managers in three different organisations. Another phase of data collection was realised during spring 2006 in the fourth organisation, and the final phase in spring 2010 in a class of management students. The time between the phases can be seen as a strength or weakness of this research. On one hand, there has been enough time to reflect on the findings between the phases and specify the following phase in order to understand the deeper levels of the phenomenon. On the other hand, when time passes, the events and encounters change in a person's mind and, in order to get back to the information, there need to be good notes from previous phases.

Yin (2008) has presented four principles that can be used to assess the quality of research design: construct validity, internal validity, external validity and reliability. The construct validity of the research is met when the objectives of the study match the measures of the concept. By using several sources of evidence, establishing a chain of evidence, or having a draft of findings reviewed by the informants, the construct validity can be improved (ibid.). Documentation, interviews and direct observations were used as sources of evidence. Interviews were the primary source of evidence but, depending on the project, secondary material (e.g. project-specific planning documentation or project management procedures) was available. However, this material was not consistent through all the projects. On one hand, project management procedures differed greatly between the organisations participating in this research, meaning there was no possibility to compare this information and use this to strengthen the findings. On the other hand, full access to organisations' internal material can only be deepened in the long run. The level of detail was limited by time and the researchers' ability to adopt information during that time. Findings were also discussed with informants and separate reports from this thesis were written and introduced.

Internal validity measures the causal relationship between the studied phenomenon and the conclusions, and can be used to measure explanatory case studies (Yin, 2008). Yin (ibid.) suggests four different tactics to increase internal validity: pattern matching, explanation building, addressing rival explanations, and using logic models. I used explanation building, which is iterative by nature, to play with the data as described in section 2.3. External validity measures the generalisation of the results, which in qualitative research deals with analytical generalisation rather

than statistical generalisation. Multiple case studies can be used to increase the external validity (Eisenhardt, 1989; Yin, 2008). Three simultaneous case studies were used for this thesis. Finally, the reliability of the research can be measured in two different ways: by using a case study protocol and developing a case study database (Yin, 2008). The case study protocol was set up and improved with the co-researcher, together with whom some of the interviews were also conducted. I have maintained an individual case study database consisting of transcriptions of interviews, notes and analyses of cases, and confidential company reports.

3. Previous research and conceptual frame for this thesis

3.1 Concepts used in cultural discourses

Culture as such has been given many definitions over the years. It does not have the same meaning to all people or even researchers in the fields of anthropology, sociology, psychology and management (Sackmann and Phillips, 2004). Individuals behave differently in groups than when alone. We human beings are "social animals" and define ourselves in relation to different groups to which we belong or want to belong. On one hand, all humans have the same needs to eat and sleep, but on the other hand, we are individuals with our own personalities, in which nobody else is equal. Belonging to a group creates a feeling of safety and comfort for an individual (Schein, 2004). This way, a culture creates possibilities to respond to the challenges that come from outside; to break the comfort zones and create new solutions to problems. According to the widely used definition of culture by Hofstede (1991), a culture is a group's response to its environment. The members of the group share a set of beliefs and values. This description is based on the idea that culture is something that all the members of the group have, instead of being a social construct, which exists only in human interaction (Søderberg and Holden, 2002). This means that the people within a specific culture do not necessarily share the same meaning or act similarly (Chevrier, 2009).

Levels of culture have been used in literature in ambiguous ways, for example in describing the visibility of culture to the observer (artefacts, values/beliefs, basic assumptions) or the different spheres of culture (e.g. national, organisational, professional etc.) (e.g. Schein, 2004; Chevrier, 2009). Without analysing and understanding the basic underlying assumptions of a specific culture, the interpretation of artefacts and values will be limited (Schein, 2004). Various spheres of culture interact with each other; however, it seems that national culture is very strongly bound to basic assumptions in different spheres (Schneider and Barsoux, 2003). D'Iribarne (2009) has questioned the whole existence of national culture, especially if it is linked directly to the nation state. On the other hand, institutions in a nation state define the national culture in that country (Chevrier, 2009).

Ybema and Byun (2009, p. 340) concluded that "even if the variance that is measured in survey research does capture some 'real' or experienced cultural essence, it does not represent the actualities of everyday work situations". Ngowi et al. (2005) have noted that as national borders become less relevant and economic systems more dependent on each other, the cultural differences become more perceivable. On the other hand, several researchers have suggested that there is a rise and intensification of world or global culture in the business world at least (Arnett, 2002; Lechner and Boli, 2005; Bird and Fang, 2009).

Søderberg and Holden (2002) have contested the existing concept of culture by invoking its inadequacy in explaining the complexity of transnational corporations. Advancements in technologies, new ways of communication, political, economic and societal changes force us to reconsider the underlying assumptions that there are about cultures (Sackmann and Phillips, 2004). Boyacigiller et al. (2004) identified three research streams in the field of international cross-cultural management research: cross-national comparison, intercultural interaction and multiple cultures. These differ in conceptualisation, context, theories, and methodologies. One of the biggest challenges is to define the relevant approach to culture in different units of analysis (Chevrier, 2009).

The relationship between cultures' influences and other factors in relation to the success of a project is a question raised many times by practitioners. Several researchers have investigated the relationship between project success and different managerial features, such as leadership competency profiles of the project manager (Müller and Turner, 2010), project management structures (Lechler and Dvir, 2010), and the project manager's personality and project type (Dvir et al., 2006). However, cultures' influences have not often been considered in project management studies, and the research so far has been largely confined to national and organisational cultures. In practice, cultural differences are also often defined as being caused only by the differences between the national cultures of participants. Eriksson et al. (2002) traced success factors when managing multinational R&D projects, but concentrated only on challenges, not possibilities, derived from cultural variation. Considering cultural differences as a source of misunderstandings and conflicts has often been the approach to the issue (Søderberg and Holden, 2002). One might even claim that there is a "culture-shock preventing industry" in cross-cultural management. Hoecklin (1995) has concluded that even if projects are managed by successful managers in successful organisations, misperceived cultural effects might still lead to failures in projects due to their embeddedness in an individual context.

Cultures can influence projects either directly or indirectly. Direct effects unfold when people interacting with each other have difficulties in language or communication overall, and are linked to the artefacts of a culture, the most visible level of culture. Indirect effects of cultures emerge gradually through behaviour, which is affected by values and underlying assumptions. Paying attention to communication could enhance the interaction. Keysar (2007) has concluded that people have an egocentric approach that influences the way we communicate. This leads us to be too optimistic about the level at which we think others

understand us. In discussions, people use their knowledge about context, which helps to shorten and expand on the delivered message (ibid.). Cultural differences are often seen as causing only hindrances during project implementation. Conflict is an essential part of human interaction and, depending on how individuals handle the situations, the outcome is either positive or negative (Hammer, 2005). On one hand, several researchers have already tried to define universal cultural characteristics, but on the other hand, to inclusively define the impacts of cultural differences, the understanding of the situational bonding of cultures must be increased. However, cultural differences can be seen very clearly as having both positive and negative impacts on projects (e.g. Adler, 2002; Hillson, 2002; Chevrier, 2003).

3.2 Projects as a context

3.2.1 Project-based organisation

The number and size of large projects have grown during the last decades (Miller and Lessard, 2000). By definition, projects are temporary in nature and target a unique goal in a given time period (e.g. Lundin and Söderholm, 1995; PMI, 2008). It can be argued that nowadays every company conducts work that is somehow related to projects. When projects have become more common, their role in the company strategies has grown as well. This has made it worthwhile to pay attention to how the project work is being organised internally. The features of project form, from where the advantages are considered to arise, relate often to the dynamic nature of the project. Projects are a way to break traditional organisational barriers, because they do not cause a threat to established practices and interests, and they are a relatively cost-effective way to experiment with different things (Sydow et al., 2004). There are differing views about what affects project success, whether it is the personal characteristics of project management processes, tools and techniques, the role of context, or a balance between these (e.g. Crawford and Cooke-Davies, 1999; Ives, 2005; PMI, 2008). However, understanding the temporary nature of projects and the consequences of this as a method of organisation, compared to more permanent structures of the parent organisation, is a prerequisite for successful project management (Grabher, 2004).

In some industries (i.e. construction, engineering), projects as an organisational form are already standard practices, whereas in others, projects are used to conduct exceptional efforts outside the everyday business of the company (Grabher, 2002). Arvidsson (2009) proposed a categorisation of the companies conducting some or all of their activities as projects, based on whether the revenues and costs are related to permanent or temporary structures and processes in the organisation. In project-oriented organisations, the costs are mainly connected to temporary structures and the revenues to permanent structures, whereas in project-based organisations, both revenues and costs are

under the control of temporary structures and processes. Projects are also a common way to organise activities in different types of organisations. On one hand, projects are exploited to follow through reforms in otherwise functionally organised organisations (weak matrix: see e.g. Larson, 2004); on the other hand, some organisations only work through projects (project-based organisations: see e.g. Hobday, 2000; project-oriented organisations: see e.g. Arvidsson, 2009). Organising project activities in a more or less functional organisation (often weak or strong matrix) has an influence on the success of project management (e.g. Connell et al., 2001; Larson, 2004).

There is an ongoing debate about the organisational structures of a company that conducts some or all of its work for internal or external customers as projects (e.g. Lundin and Söderholm, 1995; Grabher, 2002; Lundin and Steinthórsson, 2003; Hobbs et al., 2008; Arvidsson, 2009; Jonas, 2010). Researchers have found that external pressure (market competitive pressure, client demands, image of modernity, internationalisation and globalisation) and internal complexity (increasing project complexity, increasing number of projects, and time pressure for projects) function as drivers for adapting project-based management (i.e. Martinsuo et al., 2006). Hobbs et al. (2008) noted that political tension (power and control over projects), and standardisation (the level of flexibility in management) are closely related. This causes tensions between individuals, sub-structures, and so on to emerge from the structure of the organisation. An additional factor is that the number and size of large projects have grown during the last decades (Miller and Lessard, 2000). This has led to an increased number of multicultural project organisations between and in organisations. The challenges arise when power and control need to be distributed.

Companies have several reasons to adopt project-based organisation and management. Martinsuo et al. (2006) explored through a survey the drivers leading to the adoption of project-based management, realised changes, and gained benefits (Figure 2). Drivers represent organisations' motives for adopting project-based management; changes describe the transformation in practices and processes followed by the adoption process, and benefits are the positive outcomes that result from the adoption of project-based management (Table 5). The main benefits of project-based management in an organisation can be obtained when project-based management is absorbed into the organisation's processes throughout the organisation. The increased external pressure to adopt project-based management also directly improves the project culture, and has even stronger effects on the depth of project management adoption. Internal complexity has some effect on introducing project-based management. However, based on a research by Martinsuo et al. (2006), external pressure has greater correlation with the gained benefits.

DRIVERS   **CHANGES**   **BENEFITS**
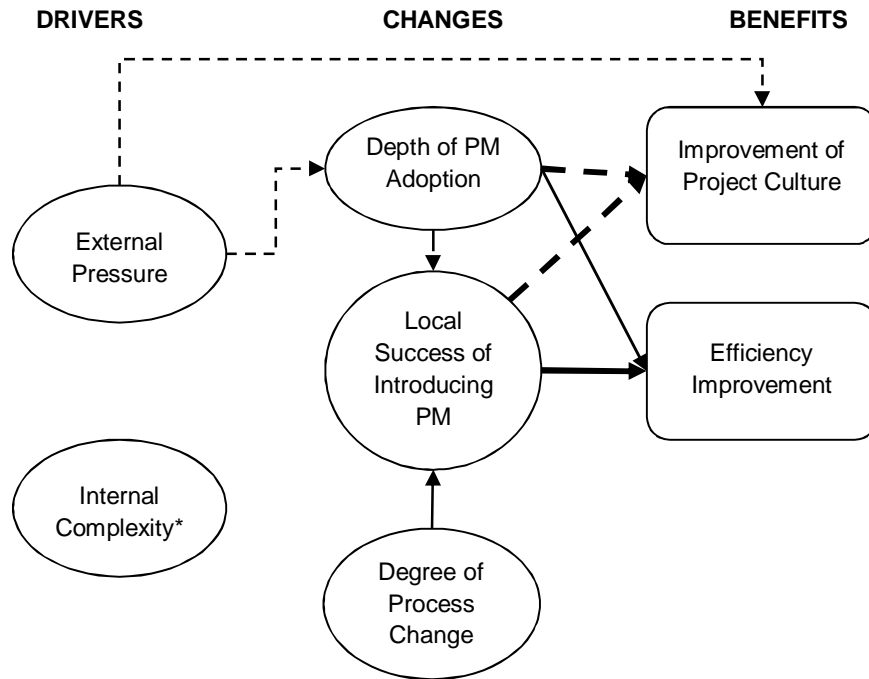
* No correlation between changes and benefits was found in the study.

Figure 2. Relations between drivers and benefits when introducing project-based business (in accordance with Martinsuo et al., 2006).

The project type of organisation can be seen as an individual organisational form. Projects are planned efforts carried out in a limited time period to achieve a defined goal. On the other hand, a project itself, especially a large engineering project, has an organisation that can have, for example, a functional or matrix form.

Table 5. Variables included in the Martinsuo et al. (2006) study (PBM = project-based management).

Drivers	External pressure	• Client demands
		• Internationalisation and globalisation
		• Market or competitive pressure
		• Image of modernity
	Internal complexity	• Increasing project complexity
		• Increasing number of projects
		• Time pressure for projects
Changes	Depth of PBM adoption	• PBM culture present at all levels of the hierarchy
		• PBM is used consistently (= not sporadically) in the company
		• Project and line organisations work well together in the company
	Local success of PM introduction	• Success of introducing PBM in a department
		• Success of introducing PBM in an area
	Degree of process change	• Process change in the department
		• Process change in the area
		• Process change personally
Benefits	Improvement of project culture	• Greater entrepreneurship
		• More client satisfaction
		• More knowledge management and know-how transfer
		• More effective communication
	Efficiency improvement	• Improved project control
		• Better multi-project coordination
		• Greater project transparency
		• Better project performance

Kwak and Anbari (2009) have concluded that, due to the applied and interdisciplinary nature of project management research, it is challenging to justify project management as a distinguishable academic discipline. Even so, adding understanding of project management to more established management disciplines, such as human resources management, will result in project management as a field of academic discipline.

3.2.2 Project management

Project-based management can take several forms in a company. Larson (2004) has defined four different types of approaches to project management structures: functional organisation, dedicated project teams, matrix structure, and network organisation. These structures represent different types of relationships between the parent organisation and the projects. Each form has strengths and

weaknesses related to the stability of existing organisational structures, human resources (e.g. availability, motivation, career paths), decision-making, communication, time, and costs (Table 6).

Table 6. Four approaches to strengths and weaknesses of a project management organisation (Larson, 2004).

Approach	Strengths	Weaknesses
Functional organisation	• No change in the parent organisation • Flexibility in the use of staff • In-depth expertise available	• Low commitment • Poor integration • Slow progress • Lack of ownership
Dedicated project teams	• Simple, independent • Speed relatively fast • Cohesion between participants • Cross-functional integration	• Expensive • Internal strife between project team and parent organisation • Limited technological expertise • Post-project assimilation of project personnel
Matrix structure	• Efficient resource use • Dual project/functional focus • Post-project assimilation of project personnel • Flexible use of resources and expertise	• Dysfunctional conflict at a personal level • In-fighting over shared resources • Stress caused by distribution of command • Slow progress due to decision-making process
Network organisation	• Cost reduction through contracted services • High level of expertise • Increased flexibility	• Breakdowns in coordination • Loss of control • Conflict due to lack of trust

From the organisation's perspective, having many ongoing projects with different customers sometimes leads to conflicting goals for the individual project and the organisation. Long execution periods for projects might cause tensions between new and existing projects when project activities (e.g. planning and execution) have been optimised based on the past project activities. The strategy of the company might also be interpreted differently in different parts of the organisation, and some projects might not even follow the company strategy. The industry and company practices have effects especially on project autonomy (Lampel and Jha, 2004). The time and effort invested in, for example, the operation of centralised project management activities, should result in "the sum of its parts" being greater than the projects standing alone. In addition to temporality, projects are multidisciplinary, employing people from different professional backgrounds (Larson, 2004). The tension between people and organisations is rarely seen to produce positive outcomes even if it "can stimulate synergies, creativity and learning" (Arvidsson, 2009, p.105). In order to be competitive, the organisations need to be able to change their routines (practices) and organisational structures

(Pettigrew et al., 2003). Lundin and Steinthórsson (2003) even suggested that nowadays there is no difference between organisations based on how permanent or temporary their structures are. It can be argued that previously considered permanent forms of organisation are being shaped more as dynamic structures. On the other hand, organisations that have both projects and functional units often try to rationalise their project activities in the same way that they rationalise the more permanent activities.

If different organisational units are not willing to learn from internal and external sources, or a common goal is not shared by the managers in different units of the organisation, the global opportunities will not be fully exploited (Williams, 2009). Williams continues to state that important managerial elements "include a subsidiary culture that allows subsidiary staff to informally discuss information gathered from the marketplace, the monitoring of headquarters for information on subsidiary performance, and a willingness to develop a local knowledge base and receive knowledge from other units without putting up barriers" (Williams, 2009, p. 102). Søderberg and Holden (2002) have extended cross-cultural management to what they call 'management of multiple cultures' including, for example, different organisational, professional and regional cultures. They see different cultures in a globalised business world as "domains of implementation", where 'culture' is defined in interactions between various stakeholders (ibid. p. 113). Previously conducted studies about multinational organisations indicate that employers do not need to agree or change their values according to the organisation's values, but they need to agree upon the work practices (e.g. Hofstede et al., 1990; Chevrier, 2009). Management overall consists of planning, organising, staffing, leading or directing, and controlling an organisation. There are several levels of management in an organisation: the top, middle, and first levels, where different management tasks are relevant. There are often several levels of project management in large engineering projects, as well, which means that the role of the project manager varies. There is a gap between knowing what is needed to be a successful project manager in a multinational project and doing what is necessary (Johnson et al., 2006).

3.2.3 Project portfolio and programme management

From the governance point of view, project-based organisation can be seen from two perspectives: programme or portfolio management (Blomquist and Müller, 2006). Programme management is used when the benefits and control of multiple projects can only be exploited when a group of projects is managed together (PMI, 2008). Portfolio management aims to manage a collection of projects or programmes in order to manage projects more effectively and meet the strategic goals of the company. The forming of portfolios or programmes empowers companies to gain benefits from scaling and reproducibility. Managerial tasks and roles relating to project portfolio management can be differentiated in order to trace

elements of success in project portfolio management in relation to associated line and senior managers (Jonas, 2010).

Blomquist and Müller (2006) identified three categories that define the roles of a portfolio manager: effectiveness, coordination and efficiency. The role prior to project implementation includes business planning, project selection, resource planning and procurement, and project plan review. During implementation, the portfolio manager identifies bad projects, participates in steering groups, prioritises projects, initiates reviews, handles issues, coaches project managers, and improves processes. Portfolio managers generally have internal focus by "aim(ing) for improvement of the organisation's overall results" (Blomquist and Müller, 2006, p. 62). Jonas (2010) added the dimension of time and based his analysis on four phases of project portfolio management, as presented in Table 7.

Table 7. Phases of the project portfolio management process and related managerial tasks (Jonas, 2010).

Phase	Description of related managerial tasks
Portfolio structuring	Strategic portfolio planning Definition of the long-term target portfolio Evaluation of project proposals Conscious selection of projects
Resource management	Cross-project resource planning Resource approval Handling of resource conflicts Resource re-allocation in reaction to short-term change requests
Portfolio steering	Monitoring the strategic alignment of the portfolio Development of corrective measures Identifying synergies between projects Coordinating projects across business units
Organisational learning and portfolio exploitation	Evaluation of project results Post-project reviews Storage and maintenance of relevant knowledge Utilisation of lessons learned

Top management support is one of the most cited success factors in the project management literature, and several studies have tried to reveal its effects on project success (e.g. Fortune and White, 2006; Zwikael, 2008). Most of the top management support practices that have an influence on the success of individual projects are industry and country specific (Zwikael, 2008). Table 8 summarises the defined practices and results from Zwikael's (ibid.) study. Only the use of standard project management software and a supportive project organisational structure implicated a positive influence on project success among the limited sample of studied countries (in bold).

Table 8. Influence of top management support practices on project success above industries and countries (Zwikael, 2008).

Top management support practices	Evidence of influence on project success	
	Industry	Country
Appropriate project manager assignment	Production	Israel, Japan
Communication between the project manager and the organisation	*No influence found*	*No influence found*
Existence of interactive inter-departmental project groups	Engineering	New Zealand
Existence of project procedures	Production	Israel
Existence of project success measures	Engineering, Production	Israel
Extent of use of standard project management software	Engineering	**Israel, Japan, New Zealand**
Involvement of the project manager during initiation stage	Construction	*No influence found*
On-going project management training programmes	Engineering	Japan
Organisational project quality management	Software	Israel, Japan
Organisational project resource planning	Software	Israel, Japan
Organisational project risk management	Production	Israel
Project office involvement	Engineering	Israel, New Zealand
Project-based organisation	Software	Israel, Japan
Refreshing project procedures	Engineering, Production	Japan
Supportive project organisational structure	Engineering, Production, Government	**Israel, Japan, New Zealand**
Use of new project tools and techniques	Engineering	New Zealand
Use of organisational project data warehouse	Engineering, Production	*No influence found*

In addition to top or senior management, the role of the line manager (e.g. divisions, departments) is expected to include tight interaction with project portfolio managers (Jonas, 2010). Line managers with a human resources (HR) department are often seen as owners of human resources; however, the previous trend in project-based organisations is the transfer of HR responsibilities from the HR department to line managers (Bredin and Söderlund, 2007). This leads to new demands on line management and increases the demand for better leadership skills. Bredin and Söderlund (ibid., p. 829) presented a new role of competence coach for project-based organisations "operating in the intersection between the HR department and the firm's operations".

Organisations have difficulties in transferring the knowledge from experiences (both success and failure) of past projects. Grabher (2004) call this phenomenon "organisational amnesia", which has later drawn researchers' interest into a wider social context. Knowledge created in a project is valued based on the usefulness for solving the specific project task, and due to the temporal nature of the project form, the knowledge is not adopted by the implementing organisation (Grabher, 2004). There is hardly any time to compare experiences with previous assignments due to the time limitations associated with a project type of organisation (Hobday, 2000). Establishing a PMO has been one of the most popular ways to respond to that challenge in organisations. In other words, PMOs are often established to facilitate the exploitation of project management knowledge in the organisation between people, organisational units (i.e. business lines), project stages, and so on. Julian (2008) concluded that PMO leaders act as knowledge brokers between project teams and between the PMO and senior management. Projects that have problems more often play a key role in the management of the PMO (Julian, 2008). Hardly any attention is drawn to projects that follow the plans, meaning that learning is focused more on critical incidents rather than expanding the elements of success stories across the organisation. Julian's study also revealed that PMO leaders often feel they do not have enough decision-making authority over the project teams. This notion was supported by the study of Hobbs and Aubry (2007). Organisational practices used throughout the PMO can either enhance or reduce the learning from past project experiences (Julian, 2008).

Kostova and Roth (2002) describe the institutional duality that foreign subsidiaries confront when adopting practices introduced by the headquarters in another country. On one hand, subsidiaries are more or less forced to implement the given practices, but on the other hand, they have their institutional environment to follow.

3.2.4 Polycontextuality in projects

There is no single technical definition of the word context that is widely used among different disciplines. The definition used in this research is introduced by Duranti and Goodwin (1992, p. 3): "The notion of context thus involves a fundamental juxtaposition of two entities: (1) a focal event; and (2) a field of action within which that event is embedded." The term focal event is used to "identify the phenomenon being contextualised" (Duranti and Goodwin, 1992, p. 3). Phases relating to project business can be considered as fields of action. Based on the definition above, the events then have a relation to these fields. Events actualise when individuals are or are not active. The outcomes of these events are dependent on the relationships between individuals and social processes ongoing during the event. Organisational fields co-evolve together with organisations in the same region or industry, where national or regional business systems (Whitley, 1992) and professional communities (Brown and Duguid, 1991) also affect project-based organisation. These relatively permanent contexts include structures (e.g. rules and resources) that are then employed in projects by the actors (Sydow et

al., 2004). This should work both ways: permanent structures are expected to function as knowledge transfer mechanisms between projects.

Practitioners do not necessarily believe that cultural differences exist or that they have an influence on projects. Textbook descriptions of cultures and observations in practice do not always match. This paradox can be explained by the context dependence of cultures (Osland and Bird, 2000). The multiple interdependencies between verbal or nonverbal communication and context are called polycontextuality (Von Glinow et al. 2004; Johnson et al. 2006). Sydow et al. (2004) suggested that at least four different types of contexts should be considered when investigating project-based organisation: organisational units, organisations, interorganisational networks, and organisational fields (Table 9). Organisational units can be separated in several ways, for example, by location, function, product, or customer group. Current economic organisations can consist of dozens of units. Strategic interorganisational networks are sometimes the only possibility for small and medium-sized companies to stay in business against large corporations.

Table 9. Different contexts relating to project-based organisations (Sydow et al., 2004).

Context	Reasoning for investigation
Organisational units (e.g. marketing department)	The embedding of project organisation in a functional or business unit.
Organisations (i.e. companies)	Differentiation between mechanistic (e.g. functional) and organic (e.g. project-based) types of organisation
Interorganisational networks (e.g. different organisations providing their products through one marketing channel)	Existence of hierarchies in different networks during the interorganisational coordination of projects
Organisational fields (e.g. national innovation system that co-evolves together with projects and project-based organisation)	Benefits or hindrances to the projects (e.g. regional or industry norms or regulations)

Sahlin-Andersson and Engwall (2002) have pointed out that the organisational practices are embedded in different contexts and cannot be transferred to other contexts directly. Wang and Liu (2007) concluded that values and beliefs behind project management are based on Western values and are not transferable directly to China. However, Milosevic and Patanakul (2005) found that standardised project management processes have a positive impact on project success, although they did not find a correlation between the success and standardising of the project organisation, information management system, project management metrics or project culture. Even if the project management processes have been considered to be global, practices in different countries, as well as industries, are emphasised differently (Zwikael et al., 2005).

In large multinational projects, the participants, people and organisations change all the time, meaning that the project context changes. On the one hand,

the market area for the largest companies in the construction and engineering industries contains the whole world. On the other hand, the organisations working with the largest projects, measured either in size or influence on the surrounding society (e.g. dams, power plants), have a global resource pool. The global existence in the market requires better cooperation between activities in different geographical locations. Recent debate about context dependence of projects demands "better understanding of project actuality – that is complex social processes that go on at various levels of project working" (Cicmil et al., 2006, p. 675). The actors participating in large construction and engineering projects have different backgrounds, for example in the relationship with nations and organisations. Grabher (2002, p. 208) concludes that "embeddedness of projects in personal ties and social structure … is as much a source of vital ingredients as it is a persisting cause of tension and conflict".

Sackmann and Phillips (2004) have argued that different contexts have influenced the concept of culture and methodologies in research on cross-cultural management. Undoubtedly, the same can be argued for project management research. Table 10 presents the cultural research in project management, following perspectives identified by Boyacigiller et al. (2004) and Sackmann and Phillips (2004). The cross-national perspective focuses, as indicated, solely on national cultures, whereas in intercultural interaction, the cultural traits at organisational and workplace level are identified as well (Boyacigiller et al., 2004). A multiple cultures perspective acknowledges the variety of cultures in an organisation and, on the other hand, an individual's possibility to identify themselves as a member of several cultural groups (Sackmann and Phillips, 2004). Henrie and Sousa-Poza (2005) conducted a literature survey that focused on culture within project management literature between the years 1993 and 2003 and concluded that culture is a very limited subject in the research area of project management. As seen in Table 10, the situation has not changed drastically during the last years and culture is still seen traditionally among project management research, even if the understanding about cultures has deepened in other disciplines.

Table 10. Research on culture among project management studies (cf. Sackmann and Phillips, 2004).

Perspective	Cross-national comparison	Intercultural interaction	Multiple cultures
Key contributors	Mäkilouko, 2004 Tukiainen et al., 2010 Kruglianskas and Thamhain, 2000 de Bony, 2010 Müller et al., 2009 Shore and Cross, 2005 Vu and Carmichael, 2009 Zwikael et al., 2005	Ochieng and Price, 2010 Shore and Cross, 2005 Tijhuis and Fellows, 2012 Morrison et al., 2008	Chevrier, 2003

3.3 Managing cultural uncertainty in projects

3.3.1 Managing risks and opportunities in projects

Some project management researchers have contributed to the research on cultures' influences on projects and many practices have been developed to manage cultural diversity before and during the project process (e.g. Ward and Chapman, 2003; Perminova et al., 2008). Cultural diversity can be, depending on the project, a source of high uncertainty, manifested in both positive and negative outcomes. Common project culture can also act as a helpful ingredient when managing the objectives of the project. The word risk has a long history and its meaning has been modified over time, causing debates about the correct terminology (e.g. Lupton, 1999; Hillson, 2002). Our knowledge about the management processes of risk or uncertainty is still inadequate at the moment (Perminova et al., 2008). Decisions made are the result of the learning process of an individual, rather than one-time and objective choices between known alternatives (Maule and Hodgkinson, 2003).

The management of negative impacts, or risks, has conventionally been stressed more intensively (e.g. Hillson, 2002; Ward and Chapman, 2003; Olsson, 2007). Positive outcomes of uncertainty, or opportunities, and this type of thinking overall might not even be very suitable for traditional projects. When projects, by their nature, are unique efforts and the objective is to gain something successfully, far too little attention has been given to possible opportunities. When participants launch a project, they most likely have already estimated some benefits at least to be gained through the project. Some of the risks are also already known and proactive actions could have been taken, such as eliminating or minimising the impacts, transferring responsibility to another party, or actively accepting the consequences (Hillson, 2002). Uncertainty can be generated from external or

internal sources; however, Barber (2005) has claimed that externally generated uncertainty is managed more effectively compared to internally generated uncertainty. Internally generated uncertainty evolves mainly from the behaviour of individuals – their personal skills, values, and attitudes.

Karlsen (2011, p. 245) summarised the notion that management researchers refer to (organisational) culture as an instrument "to be used by management to shape and control in some way the belief, understandings, and behaviour modes of individuals, and thus the organization to reach specified goals". As already discussed in section 3.1, this means that the culture is understood as something that all the members of the group have, instead of a social construct, which exists only in human interaction (Søderberg and Holden, 2002). Uncertainty management is a continuous process (PMI, 2008). Hillson (2002) concluded that both threats and opportunities could be managed simultaneously in the same process; only new risk identification techniques and response strategies are proposed to identify opportunities: exploit, share, enhance or ignore. The impact of the same event might be positive to one project participant and at the same time negative to another.

3.3.2 The connection to culture through learned routines and practices

People confront new and unexpected situations almost every day. Learned routines and practices help us by serving as uncertainty reduction devices (Gherardi, 2009). Our social identity defines the set of practices we know, but we all have a different identity, although primary identities in situations can be the same (Salk and Shenkar, 2001). Bjørkeng et al. (2009) have studied how practices are born, and at the same time noted that practices involve variability. In international project business, the situations and people change constantly. The business itself is also transformed. Individuals learn by connecting new experiences to their understanding of past experiences (Weick et al., 2005). This happens even if nothing similar has happened to them before, and consequently that link between experiences might be misleading. It takes a while until the connections between the current and past experiences are rectified. In multinational projects, project managers deal with new situations daily. In the encounters, they reflect their feelings and understanding against past experiences (Nummelin et al., 2005). Novices do not have as wide a range of such experiences as masters. By learning the hard issues relating to project management, like managing time and cost, novices can familiarise themselves with organising projects.

3.3.3 Opportunities arising from cultures

Projects are restricted by time, and changing a project culture or affecting it takes time. A project might end up having its own project culture that is more influential than other cultures. Sometimes in a project, as well as in other organisations, only

the visible elements of cultures, that is, artefacts have been changed, but the deeper levels of cultures – values, beliefs, and underlying assumptions – remain the same. The findings revealed that this might cause the danger of undervaluing the impacts of culture in following projects, because project participants might think that they share a common culture. The dynamic nature of culture results in the possible changes that appeared not being static. Self-awareness is one of the key issues when managing cultural diversity. According to Kets de Vries (2004), managers have to first become aware of cultural diversity in how and why the managers themselves do things the way they do. After that, they can decide if they want to continue that way or perhaps change the course of actions. Before reacting to the effects of cultural differences in projects, there is a need to understand the way managers unconsciously behave.

Multicultural teams have advantages from many points of view. As the environment becomes more complex, having greater uncertainty and changing faster, multicultural teams might be able to better answer external challenges. Multicultural teams have a wider range of viewpoints, so solutions for old problems can be found. However, the differences might cause interpersonal conflicts and communication problems. The multicultural team needs to actively manage the project process and the challenges that cultural differences bring, to use the possible loss of resources and time, missed opportunities and disappointing outcomes (e.g. Chevrier, 2003; Schneider and Barsoux, 2003). Multicultural teams have the potential to become the most effective, but also the least effective teams (Adler and Bartholomew, 1992; Adler, 2002).

The experience from large and complex projects has shown that there is also a general shift among project management practices towards a multi-discipline approach. Besides technical competencies and managerial skills, the project management needs to have skills related to leadership and socio-cultural aspects (Jaafari, 2001).

3.4   Cultural competence of a project manager

Sanchez-Runde et al. (2011) have identified three contemporary approaches to global leadership: universal, contingency and normative. In the universal approach, leadership has been understood as generalisable traits and processes across cultures, whereas in the contingency approach, leadership processes are seen as culturally embedded. The normative approach defines global leadership as personal skills and abilities, concluding that some of the traits and abilities are common to all global leaders. Wills and Barham (1994) have concluded that multicultural managers need cognitive ability in order to cope with complex realities by differentiation and integration of information, the emotional capacity to channel stress raised from complex environments, and the psychological maturity to choose appropriate coping strategies. On the way to managing cultural diversity, there has been a strong tendency to classify the differing cultural features (e.g.

Hofstede, 1991; House et al., 2002). These categorisations have been used in management education.

Several researchers have proposed different skill sets that could be used to train a 'global manager' (Adler and Bartholomew, 1992; Funakawa, 1997; Spreitzer et al., 1997; DeSimone and Harris, 1998; Goleman, 1998). Ratiu (1983, p. 140) identified four different patterns defined by managers themselves when identifying the qualities of an international manager:

1) their view of what it is to be international
2) their assumptions about the world and themselves
3) their ways of dealing with stress
4) their ways of making sense of new experiences.

Adler and Bartholomew (1992) defined that a transnational manager needs skills such as a global perspective, synergistic learning and cross-cultural interaction. Hammer et al. (2003) used the term 'intercultural sensitivity' to describe an individual's ability to recognise cultural differences and their effects, and the term 'intercultural competence' to describe the ability to act accordingly. Intercultural sensitivity corresponds with Hofstede's (2001) definition of culture-general knowledge, including features such as awareness of cultural differences, knowing how to learn cultural values, consciousness of one's cultural framework and understanding the differences with other cultures, and understanding the complexity of the business environment. Johnson et al. (2006) have claimed that if an individual does not have the culture-general knowledge (i.e. intercultural sensitivity), he or she can learn it only up to a certain level.

Being interculturally sensitive or possessing culture-general knowledge, however, are not sufficient to be successful in the international business arena. In fact, global competence "requires being able to learn from practice" (Bandura, 1986, p. 407). Varying external factors in projects, such as physical, economic, political and legal environments, constantly raise new challenges and opportunities as the project progresses. In the current management research, the competence of a manager working in a multinational organisation has matured more in the direction of a manager with the potential to act in the future rather than with a special learnt skill-set from the past. A multidisciplinary approach has also been emphasised in the field of project management, as projects are becoming a more common way to organise in industries other than engineering and construction. A global manager is not tied to specific skills or competence in a known situation, but rather to the holistic capability, including ability, for shared appropriate values and self-efficacy (Townsend and Cairns, 2003).

During the last few decades, project management has started to emerge from a special set of skills as an independent discipline (Morris and Pinto, 2004; Morris et al., 2006). However, the necessary project management skills are always heavily related to the contents (e.g. IT, engineering) and context (e.g. legal, political and economical environments) of the projects themselves. Cultural variation always exists if project participants come, for example, from different organisational, professional or national backgrounds. Current project management education and

training focuses on a defined skill-set in order to standardise and certify project management as a profession, that is, there is relatively strong trend for considering project management practices as universal (cf. PMI, 2008). For example, large engineering projects are implemented in different parts of the world and they include employees of many nationalities from several organisations, but different guidelines for such projects state that the same project management practices should be employed. On the other hand, several studies have concluded that, for example, national cultures affect organisations and leadership (e.g. Hofstede, 1991; House et al., 2002).

Toor and Ogunlana (2008) found that communication, teamwork, and personal and interpersonal skills were essential for leaders in multinational project environments. The project manager confronts different types of cultural variations in different relationships relating to a single project. Aaltonen (2010) found several stakeholder categorisations used in the project management literature. One of the recent categorisations is presented by Moodley et al. (2008), who used a contract-based approach to identify the relevant stakeholders by the expected behaviour of the stakeholders at corporate level (Figure 3). However, they found that the actual influence of different stakeholders on projects or organisations still varies between projects. Especially in large engineering projects, a project manager might need to communicate with all these stakeholders.
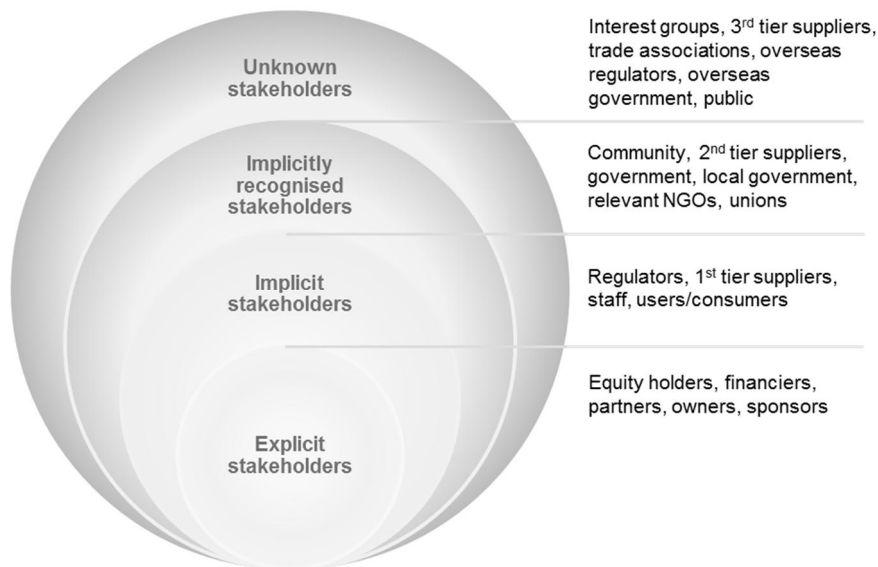
Figure 3. Relevant stakeholders in construction according to a contract-based approach (Moodley et al., 2008).

Project-oriented companies crave for experienced project managers because, despite the several project management training possibilities, project management

as a profession is still greatly based on individuals learning in practice. However, by learning project management practices, a novice project manager does not gain the competence to manage multinational projects. Individuals from the same social background share mental references of how to make sense of given situations, but how they act in practice varies significantly (Chevrier, 2009). However, sense-making can create organised action and structures through its influence on behaviour (Tukiainen et al., 2010).

Organisations consist of a specific set of implicit and explicit rules (Swieringa and Wierdsma, 1992). The learning abilities and cognitive styles of learning of individuals influence their understanding of their rules and the capability to act accordingly (Hayes and Allinson, 1998; Sense, 2007). Organisations learn when their members learn or when they hire new people with new skills and knowledge (Simon, 1991). Sense (2007) concluded that some deficiencies in cognitive styles of project participants in fact enhance the learning and the development of learning skills. The implementation of a large engineering project creates several challenges to this learning process, for example projects have time constraints leading to the prioritisation of simple and predefined tasks. In order to change the rules, the organisation has to learn, that is, collective learning should occur (Hayes and Allinson, 1998). In large multicultural projects where participants change during the process, learning seems to be an almost impossible task to conduct. The learning styles might also differ between cultures as well (Yamazaki, 2005). However, learning spaces can also be a person's mental constructs in a social environment and "embedded in communities of practice that have a history, norms, tools, and traditions of practice" (Kolb and Kolb, 2005, p. 200). Learning and innovating should not be seen as separate from working (Brown and Duguid, 1991).

As project management matures at an organisational level, so that tools and techniques develop, the project management practices become more generic despite the differences in project types and contexts (Besner and Hobbs, 2008). Tools supporting organisational learning and memory are among those with the most potential to improve project performance (Besner and Hobbs, 2006). One must make a distinction between the concepts of 'practice' and 'practices', as drawn among the social sciences. In project management, the word 'practice' is used as a single activity and 'practices' as a plural of that. This might be explained because project management practitioners and theorists often have an engineering background. However, among social scientists, 'practice' has been used as "patterns of interaction developed into predictable arrays of activities" having inseparable social and historical elements (Bjørkeng et al., 2009, p. 145). As Turner (1994) has argued, the word 'practice' is used in connection with meanings like transferable, teachable, transmittable and reproducible. In addition, practice can include knowledge, which is tacit and which is carried and developed further by humans based on their experiences. Practices can be studied from either the outside or the inside, which leads to different conceptions of practices as well as different methodologies for studying them (Gherardi, 2009). From the outside, practice can be seen as a set of activities that can be learned and

replicated (Feldman, 2000; Gherardi, 2009). From this viewpoint, the objective is to find similarities, frequencies and patterns that can then be made explicit and transferred from experienced persons to novices. The inside view means that practices are seen as "action that forges relations and connections among all the resources available and all the constraints present" (Gherardi, 2009, p.117). Further, Gherardi (ibid.) claims that a competent practitioner needs to know how practices in the field can and need to be used.

4. Overview of the essays

4.1 Essay I – Cultural assumptions in global project management office

The number of large engineering projects has been growing during the last decades. Projects, customers and people who realise the construction work are located in different countries. A few decades ago, the only possibility for a company to participate in projects overseas was to have a major part of its functions in that location in order to serve the customer effectively. Currently, a globally acting company can centralise its activities with functions in different locations and still be able to conduct an increasing amount of work in multiple locations at the same time. When a company has the ability to conduct its activities globally, it can deliver its products and services faster and with improved quality to customers. However, a major part of the engineering industry is still facing serious challenges when acting globally. The transformation into a truly global organisation is, in many companies, an ongoing process.

The project management office (later PMO) or project unit, as an organisational form, has evolved during recent decades to respond to the challenges of better performance that have emerged from globalisation. Projects, by definition, are unique efforts to achieve a certain goal in a certain time period. There are sometimes opposite objectives inside a PMO: on one hand, effectiveness across projects in the PMO is connected to the use of common tools and procedures, and on the other hand, project managers face totally new situations in projects when existing knowledge and processes are not adequate in order to take full advantage of events or to prevent risks from being actualised. PMOs will change the traditional project business by influencing the flexibility in individual projects.

Figure 4 illustrates the key concepts arisen from the empirical data and analysis. First, the literature related to PMOs was reviewed. Managing multi-project organisational unit arises challenges between the unit and surrounding company. On company level, the optimal balance between organising as projects and as functional units is ongoing constant transformation. The role and tasks of PMO is constantly changing as well. Secondly, in this context cultures are generally understood as defining differences between national cultures. By

examining the literature, evidence of several cultural spheres and their interaction could be found. The understanding of cultural conditions effecting on the project management practices in PMO was extended by identifying related cultural spheres. In addition to inter-organisational national cultural differences, at least professional, organisational and functional cultural differences were revealed in both inter-organisational and intra-organisational relationships. External variations caused problems internally when applying the unified project process model and took attention away from external challenges.
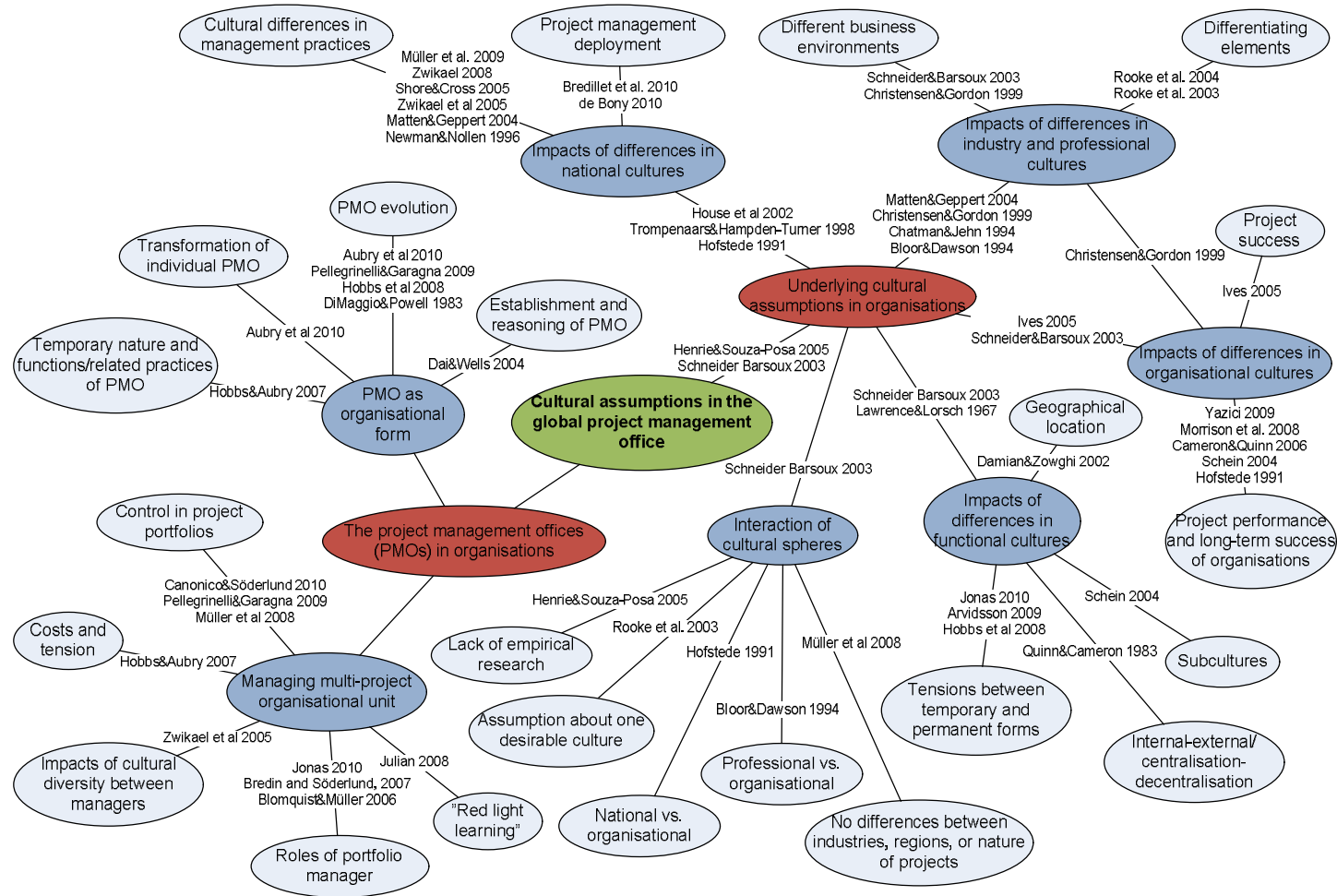
Figure 4. Theoretical structure of Essay I (Appendix A).

In this essay, the underlying cultural assumptions were identified in order to understand better the challenges between unified practices and flexibility of action in individual projects. The findings indicate that there are gaps between the goals of the PMO and other functions in the company. Customers are dividing large projects into smaller parts and each part is quoted separately. Different sales offices of service providers can end up quoting separate parts of the same project without knowing about each other. From the sales function's point of view, the goal is to optimise the result of a single sales assignment, whereas from the PMO point of view, the suboptimisation of a single assignment can lead to the opposite outcome for the whole.

4.2 Essay II – Culture-related uncertainty-reducing practices in projects

Multinational projects move along fast, meaning that the response to unexpected events needs to be fast as well. Misunderstandings occur due to the time constraint, differences between the cultures of participants, different personalities and so on. Cultural differences exist especially in multinational projects; however it is not clear whether the differences causes impacts or not, and if so, whether the impacts are positive or negative. In addition, from the project and project organisation point of view, the impacts of cultural differences and, on the other hand, the impacts of personalities of the individuals are still unexplored areas.

Cultural differences among multinational engineering and construction projects are often defined only as differences in national cultures, which only cause hindrances. Impacts can also be arisen from other cultural spheres, like organisational and professional cultures. Differences also elicit opportunities that could be exploited. Overall uncertainty related to cultural differences in projects can lead to both positive and negative impacts. The recognition of opportunities asks for a more holistic view of uncertainty management than is used currently. Uncertainties at project level are different in their nature than at project portfolio level, requiring different approach from managers. This difference is due to the different root causes of risks and opportunities.

Development and delivery projects conducted by large engineering-related companies are nowadays organised as project units or project management offices in order to unify the practices and manage larger and more complex customer assignments globally. Five projects were explored for this essay, to understand what kinds of cultural assumptions exist in the project and what kinds of actions have been taken to influence the impacts of cultural differences. Even if there is no solid evidence about the impacts, the organisations have established practices to reduce uncertainty. Still, at an individual level, project managers trusted their own experience and intuition. Some of the conducted actions were preventive and some were reactions to already actualised impacts. In all the studied projects, the main objective of the actions was only to prepare or respond to negative impacts, or risks.

Figure 5 illustrates the key concepts arisen from the empirical data and analysis. By reviewing the existing literature the coherent definition of culture and the impacts of cultures in projects were first developed. Secondly, the concept of uncertainty and its relation to impacts of cultural differences were identified. Thirdly, the concepts relating to managing uncertainty in project environment were clarified. The findings of the essay showed that individually justified actions were conducted in order to influence the impacts of cultural differences, even if definite information about the impacts did not exist. Different sources of uncertainty actualise during different project phases and call for flexible and simultaneous use of uncertainty-reducing tactics. However in all of the studied projects, the main objective of the actions was only to prepare for or respond to negative impacts, or risks. In order to exploit also the opportunities that arise, managing uncertainty demands new cognitive practices.
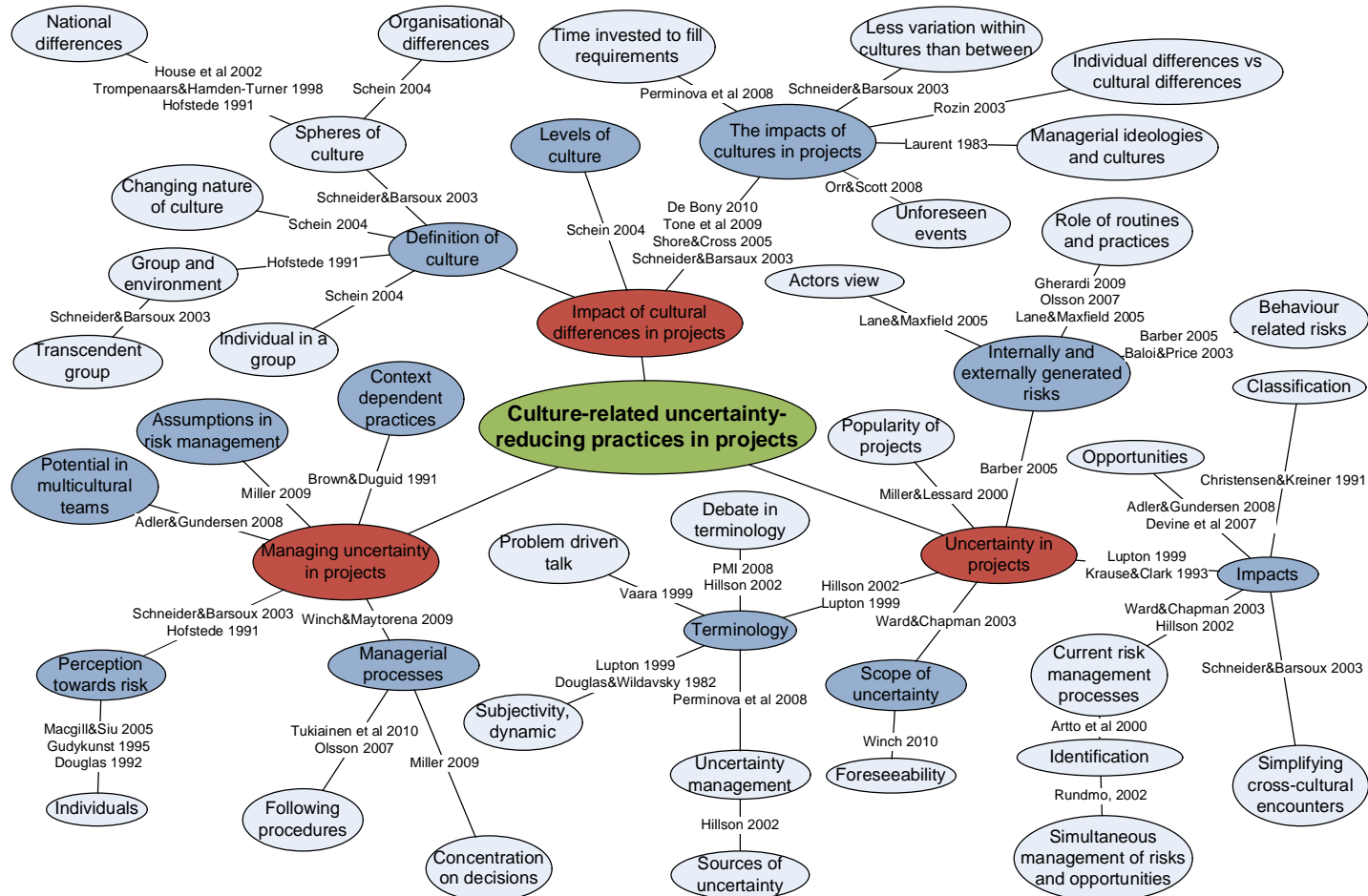
Figure 5. Theoretical structure of Essay II (Appendix B).

4.3   Essay III – The cross-cultural competence of the project manager in multicultural projects

Project management is gaining higher degree of legitimacy as an independent profession. Previously, project management professionals have had a technical background as engineers, for example. Currently, also the business schools are providing courses and subjects in project management. Neither technical nor economical educational background is sufficient in order to start working as a project manager in multinational projects. Project-oriented companies crave for internationally experienced project managers. No doubt, project managers learn the essence of their profession in practice. Notably in multicultural projects, cultural differences that can have an impact on project implementation emerge simultaneously from several sources, such as professional, organisational, industry or national differences. On the other hand, current project management training is focused on culture-specific knowledge, as distinct from culture-general knowledge, and practices and tools that deal with the 'hard' issues, such as managing time and resources. Training is also biased by cultural values and assumptions related to the project as a form of organisation.

In this essay, I present first the sources for culturally biased project management especially linked to the Finnish project management culture. Secondly, the previous research relating to cross-cultural competence in project management is examined. Thirdly, I identify traits of cross-cultural competence based on interviews with three Finnish project managers with an engineering background, and the reactions of project management students (novices) to the critical events in the three different multinational projects managed by the experienced (masters) project managers.

Figure 6 illustrates the key concepts arisen from the empirical data and analysis. The literature review related to cultural competence covers here sources from the international business and project management training. In able to reveal the cultural assumptions relating to projects, a literature review of projects as a way to organise, universality of project management, and Finnish management style was conducted. The training and education of project managers at the moment emphasises acquired knowledge and skills rather than the implementation of these. To be able to deal with the situational characteristics, the project manager should be able to change the approach if necessary in the situation at hand.
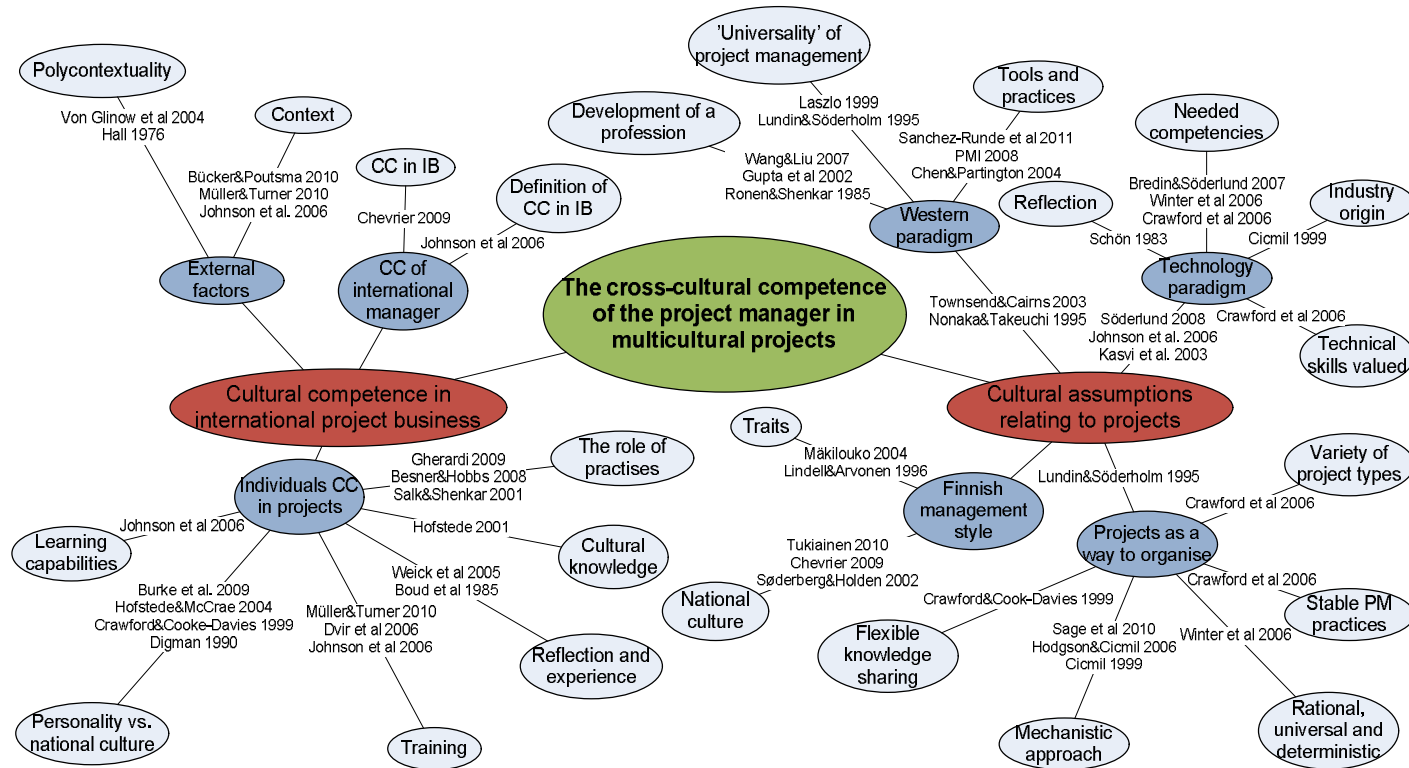
Figure 6. Theoretical structure of Essay III (Appendix C).

5. Conclusions

Cultures and their influences seem to continuously remain as an interesting topic among management researchers and practitioners. The findings from previous research efforts do not seem to explain current management practices, especially in multinational projects. Technological changes and increased interaction between social and technical issues have also increased the complexity of projects (Baloi and Price, 2003). Culture as a concept has gained a specific meaning among practitioners, as well as some researchers, leading to an underestimation and misinterpretation of the actual influences of cultural differences, that is, values and assumptions in specific contexts.

The first attribute, and at the same time limitation, associated with the concept of culture is nation, which is often (almost always in daily conversation) used as equivalent to the word culture. Søderberg and Holden (2002) have noted that national culture is obsolescent when managing cultural diversity in a multinational business environment. Chevrier (2009) concluded that national culture can be a relevant unit of analysis, because nations have specific political environments attached to local institutions, but she would call this national-political culture. At the same time, she has noted that a nation can consist of several cultures. Schneider and Barsoux (2003) have presented several different cultural attributes or spheres, which can define the norms, values and basic assumptions of individuals who share a cultural background.

In able to contribute to this theoretical discourse, three different research settings were established to reveal complexity behind the impacts that cultural differences create in multinational projects. The result from the first setting shows that external variations in market conditions, players and customers cause practical problems internally when applying the unified project process model, and take attention away from external challenges. In project work, contracts ultimately define many ways in which the different tasks need to be conducted, and they are always based on a legal institution of a specific country. This same applies internally to the employment contracts of project personnel. Due to these institutional connections, national cultures or national-political cultures have a role both in organisations' external and internal challenges. Observations from a multinational project management office (PMO) illustrated the influence of context on project management when the same unified practices were applied in projects

for two different business lines. Looking closer the global operations revealed internal challenges related to product and resources, illustrating the variety in knowledge requirements and physical distance. Functional differences arose when the focus of the PMO was on transforming from a resource pool of project personnel to the identification of business opportunities – originally the focus of another function in the organisation.

Secondly, the main objective of the observed actions was only to prepare for or respond to negative impacts, or risks. Uncertainty can generate positive outcomes, or opportunities, however the underlying thinking behind uncertainty management easily has a pessimistic tone. This research illustrates that project managers have established strategies and tactics to reduce uncertainty that they consider to be caused by cultural differences, even if solid evidence of the impacts is not available. At an individual level, project managers consciously modified their existing stereotypes based on the individual encounters, preferred face-to-face communication, and acted as a mediator in conversations. At a project level, they increased the control of schedules, tried to create a common project culture, involved upper management, and leaned on the spirit of the contract rather than the letter. Finally, at organisation level, cooperation is preferred with known partners, a culturally matching or local workforce is hired, cultural prejudices are exploited, and honesty is used as an asset.

Thirdly, to be able to deal with the situational characteristics, the project manager should be able to change the approach in multicultural encounters if necessary in the situation at hand. The findings in this research shows that both cultural and project management knowledge are context related. Cultural knowledge is often understood as culture-specific knowledge, that is, the understanding of a specific local national culture. In large and complex multinational projects, acquiring enough culture-specific knowledge is impossible. PMs actually learn specific practices relating to situations when they reflect on existing situations. They conduct reaction-in-action and choose the right practices from their personal knowledge pool to take into consideration with the situation-related factors like a contract text or a relationship with the client. The project managers learn through experience which practices are useful in what situations, and are able to change their approach if needed. An experienced project manager (master) does not stick to one way, but reflects on the situation all the time. As the projects showed, sometimes only one approach works, but often it is not uncommon to use several practices simultaneously or in different phases of the project. A project manager should be able to analyse the situations constantly and change the behaviour when needed. This research supports Johnson et al.'s (2006) findings that a person possessing the competence might not be able to act successfully in different contexts due to the external factors affecting the business relationships. An increased amount of cultural-general knowledge (e.g. awareness of differences and similarities, or one's own mental structure) could help novice project managers to adopt the needed responsibilities faster (cf. Hofstede, 2001). It remains unsolved whether students learn cultural-general skills just by studying in multicultural study groups or whether this knowledge can be taught.

In this thesis I have analysed the cultural complexity on the level of project management office and individual project manager. Figure 7 illustrates these two levels and findings from this thesis to manage cultures' influence in projects.

Level of analysis

Project Unit

Identified
- cultural spheres effecting on the project management practices in PMO
- inter-organisational (internal) and intra-organisational (external) cultural conditions
- need to develop cognitive practices for uncertainty management

PM

Identified
- culture-related uncertainty reducing practices
- need to be able to change the approach in multicultural project encounters if necessary

Influencing favourable outcome of cultural diversity in projects

Figure 7. The descriptive framework of managing cultures' influence in projects.

In able to create a descriptive framework of managing cultures' influences in projects, it is not necessary to investigate whether cultural differences have an influence in projects or not. Project stakeholders definitely have different sets of values, which affect their behaviour. The influence changes project by project and during the project as well. Understanding cultural manifestations is not as important as understanding how these are interpreted (Martin, 2002). Each project can benefit from the project manager's and other project personnel's ability to act in multicultural encounters. Multiculturality is not just national, even if there is sometimes a geographical dimension (for example north-south Europe), but there are also industry, professional, and organisational cultures, to mention just a few possibilities of social constructs. Our talk about cultures is almost always problem-driven, leading to the conclusion that diversity is often seen as a source of extra work and investments in projects in order to reach the goal (cf. Vaara, 1999). We also generalise when talking about cultures, even if in practical project work, there are individuals who communicate with each other. The experienced project managers interviewed for this research were very careful to point out that they use generalisations and that there are always exceptions. The generalisations are connected to perceptions, and at the beginning of the project, there is often a need to overcome these perceptions.

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Appendix A: Cultural assumptions in the global project management office

Abstract

The number and size of large multinational projects have grown during the last decades. This has had effects on organising project management activities in organisations. Projects, by definition, are temporary and unique efforts; however, scaling and reproducibility are elements that can lead to an effective and profitable business. Project-based organising has weaknesses where more permanent structures are strong. For example, time limitation has led to difficulties in transferring experiences in an organisation from previous project successes or failures, or when project teams have not offered clear career paths for experts in organisations. A recently arising organisational form is the project management office (PMO). Yet existing research has only scratched the surface of the role and relationship with other functions in the organisations or with the external environment. More understanding is needed of the underlying assumptions about how this form of organising operates in current organisations. The objective of this essay is to define cultural conditions in order to understand better the challenges of unified practices and flexibility of action in individual projects.

In this essay, the focus is on the activities of a global multi-project PMO. General management principles and project management knowledge, together with product and process knowledge from two industries, have been studied. In-depth retrospective interviews were used to collect narratives of how cultures affected the project. The interviews were complemented with observations and finally the results were validated with the interviewees. The existence of similar project management activities in separate industries has provided the company with a possibility to form a PMO, where, for example, sharing knowledge should be easier and the use of scarce resources more efficient. Despite the congruence of activities, the integration of the expected advantages has not been realised.

The understanding of cultural conditions effecting on the project management practices in PMO was extended by identifying related cultural spheres. In addition to inter-organisational national cultural differences, at least professional, organisational and functional cultural differences were revealed in both inter-organisational and intra-organisational relationships. External variations in market conditions, players and customers caused practical problems internally when applying the unified project process model and took attention away from external challenges.

Keywords: project management offices, cultural differences, portfolio management

1   Introduction

When a company has the ability to conduct its activities globally, it can deliver its products and services to customers faster and with improved quality by utilising its resources when and wherever needed. There are still serious challenges in the engineering industry in the manner of acting globally. A project management office (later PMO) or project unit, as an organisational form, has evolved during recent decades to respond to the challenges of performance that have emerged, for example from globalisation. Projects, by definition, are unique efforts to achieve a certain goal in a certain time period. There are sometimes opposite objectives inside a PMO: on one hand, effectiveness across projects in the PMO is connected to the use of common tools and procedures; and on the other hand, the growing amount of control in project-based organisations might destroy the basic benefits from project-based organisation, such as flexibility and innovativeness (Canonico and Söderlund, 2010). PMOs will change the traditional project business by influencing the flexibility in individual projects.

Cultural differences are said to have impacts on international business. One of the most researched cultural spheres is national or regional culture along with organisational culture (Hofstede, 1991; Trompenaars and Hampden-Turner, 1998; House et al., 2002; Schein, 2004). Often the research in management studies concentrate on a predetermined cultural sphere, through which the data is then analysed. It is, though, impossible to say which of the cultural spheres is the most dominant (Schneider and Barsoux, 2003). Managing an international project portfolio under the pressure of customers and production is a major challenge with which the management of a PMO deals every day. PMOs have various roles in organisations, such as development of project management procedures, providing administrative support or human resource assistance (Dai and Wells, 2004). The role of managers in a PMO is increasingly to manage a "pool of project workers" by matching competencies and projects, and to take care of the long-term careers of project workers, rather than act as a technical expert (Bredin and Söderlund, 2007). In fact, portfolio managers' focus seems to be more on internal issues than external (Blomquist and Müller, 2006).

In a culturally homogenous PMO, the internal focus does not reveal the full potential of the PMO for handling the challenges that project managers' confront or the opportunities from different viewpoints in individual customer projects. In this essay, I identified and analysed the national, industrial/professional, organisational and functional spheres of one project management office and identified both internal and external conditions in order to understand better the challenges of unified practices and flexibility of action in individual projects.

2 Project management offices (PMOs) in organisations

2.1 The PMO as an organisational form

The concept "project management office" has been used in at least two meanings: 1) a single-project PMO or project office of one large project, 2) a multi-project PMO responsible for several projects (Hobbs and Aubry, 2007). Establishing PMOs became popular towards the end of the 1990s (Dai and Wells, 2004). Now, more than a decade later, it is still not clear what kinds of effects PMOs have in their organisations. In this essay, the research object is the multi-project PMO. As an organisational unit, a PMO matures and evolves, or it can be dissolved (Pellegrinelli and Garagna, 2009). Because of the vagueness of the phase where PMOs, as organisational forms, are on the path of institutionalisation, it is difficult to study which elements are essential in relation to this organisational form and which will survive through evolution (cf. DiMaggio and Powell, 1983; Hobbs et al., 2008). According to Pellegrinelli and Garagna (2009), PMOs should not act as just project support offices, but as change agents when implementing project management through an organisation's routines and processes.

Some PMOs are temporal in their nature, as projects are (Aubry et al., 2010). Unified and centralised project management activities that are intended as permanent structures are not that permanent after all, but might exist for only a few years until they have been shut down or modified radically (Hobbs and Aubry, 2007). A PMO can be established and its presence reasoned based on several motivations, such as (Dai and Wells, 2004):

- improving different elements of project management

- achieving a common project management approach or more efficient use of human and other resources

- ensuring consistent project management training, competence, and performance

- improving quality and customer satisfaction

- incorporating project management with strategic goals and developing competitive advantages.

Aubry et al. (2010) described a pattern of individual PMO transformation: level of project management standardisation, growth and contraction, and agility. Hobbs and Aubry (2007) identified five groups of functions that PMOs are expected to fill in their organisations: monitoring and controlling, development of project management competencies and methodologies, multi-project management, strategic management, and organisational learning. Table A1 represents these groups and related practices. Hobbs and Aubry (2007) excluded three functions

from the groups due to a lack of statistical and conceptual relations: executing specialised tasks for project managers, managing the customer interface, and recruiting, selecting, evaluating and determining salaries for project managers.

Table A1. Groups of functions important in PMOs and related practices (Hobbs and Aubry, 2007).

Group of functions	Related practices
1. Monitoring and controlling	• Report project status to upper management • Monitor and control project performance • Implement and operate a project information system • Develop and maintain a project scoreboard
2. Development of project management competencies and methodologies	• Development and implement a standard methodology • Develop competence of personnel, including training • Promote project management within organisation • Provide mentoring for project managers • Provide a set of tools without an effort to standardise
3. Multi-project management	• Coordinate between projects • Manage one or more portfolios • Identify, select and prioritise new projects • Manage one or more programmes • Allocate resources between projects
4. Strategic management	• Provide advice to upper management • Participate in strategic planning • Benefits management • Networking and environmental scanning
5. Organisational learning	• Monitor and control performance of PMO • Manage archives of project documentation • Conduct project audits • Conduct post-project reviews • Implement and manage database of lessons learned • Implement and manage risk database

2.2 Managing a multi-project organisational unit

According to Pellegrinelli and Garagna (2009), PMOs create value for an organisation by several different controlling mechanisms; however, there is a great variety of roles and primary functions of these mechanisms. On the other hand, Canonico and Söderlund (2010) noted that the growing amount of control in project-based organisations might destroy the basic benefits from project-based organising, for example flexibility and innovativeness. Based on research by Müller et al. (2008), successful organisations select and prioritise projects according to the company strategy (company level), lead information from projects to the portfolio using a shared reporting channel (portfolio level), and share the

responsibility for decisions (portfolio level). When projects are managed in the PMO, this has been found to cause expenses and tension between the PMO and other units of the organisation (Hobbs and Aubry, 2007). Zwikael et al. (2005) have noted that detected impacts of cultural differences among employers and middle managers related to projects are expected to occur among senior managers as well.

Blomquist and Müller (2006) compared the roles of portfolio and programme managers and found that portfolio managers focus more on internal issues and programme managers on external issues. This is supported by Jonas (2010), who defined the tasks of the portfolio manager as portfolio structuring, resource management, portfolio steering, and related organisational learning. It is important to differentiate the roles of portfolio, line and top managers, as well as the different objects to evaluate success: process effectiveness, portfolio success and portfolio-related corporate success (ibid.). One of the roles that portfolio managers take is to identify bad projects. However, according to Julian (2008), this approach leads to so-called "red light learning", which in fact hinders learning by focusing on troubles and generates defensive routines.

3 Impacts of cultural differences in organisations

3.1 Impacts of national and regional cultures

Projects can be influenced by many different cultural spheres (i.e. regional, industry/professional, functional and organisational spheres), but it is impossible to say which of these is the most dominant (Schneider and Barsoux, 2003). In addition, the impacts from different cultural spheres in a single project or organisation cannot be differentiated. One of the most researched cultural spheres is national or regional culture (Hofstede, 1991; Trompenaars and Hampden-Turner, 1998; House et al., 2002). The reasons for national or regional differences lie in history and language (Schneider and Barsoux, 2003). On one hand, a nation can and usually does consist of several regional cultures (e.g. an east-west dimension), and on the other hand, a region can consist of several nations (e.g. Scandinavia). Management practices and national culture are dependent on each other when measured in financial terms (Newman and Nollen, 1996). Research has also shown that implementation of management practices is influenced by national institutions as well as sector specialisation (e.g. Matten and Geppert, 2004; Shore and Cross, 2005; Zwikael et al., 2005; Zwikael, 2008; Müller et al., 2009). The most recent research relating to the relationship between project management deployment and national cultures also includes evidence that there is variation in the different cultural aspects between regions (Bredillet et al., 2010; de Bony, 2010).

3.2 Impacts of industry and professional cultures

Besides regional or national differences, projects are influenced by industry and professional cultures (Matten and Geppert, 2004). Several studies have verified that organisations differ more between industries than within them, revealing the existence of industry culture (e.g. Chatman and Jehn, 1994; Christensen and Gordon, 1999). Currently, large companies have several more or less independent business lines that serve different customer industries. A connective element might be the same technology or products used as a basis for services. Differences derive from the elements in different business environments, such as the nature of decision-making, the degree of state intervention, market characteristics, and use of technology and growth (Christensen and Gordon, 1999; Schneider and Barsoux, 2003). Elements such as the proportion of female and male employees, or specific standardised practices, can also be distinctive elements between industries affecting the culture (Rooke et al., 2003; Rooke et al., 2004). Organisations vary in their composition of professional cultures, from mainly non-professional staff or one profession to a variety of professional groups (Bloor and Dawson, 1994). The work, depending on the task at hand, might be conducted in multi-disciplinary or professional teams or by single experts (ibid.). Project managers can be seen as a professional group with the characteristics of a profession, such as the formation of a professional association and the development of minimum standards of professional training (ibid.).

3.3 Impacts of organisational culture

Studies show that organisational culture is a significant element when compared to project performance or the long-term success of organisations (Schein, 2004; Cameron and Quinn, 2006; Morrison et al., 2008; Yazici, 2009). It can be argued that organisational culture is one of the most researched cultural spheres besides national culture. There are several studies that combine these two, as in Hofstede's study (1991), where the result was that the differences between national cultures were notable even if there was a strong organisational culture. Organisations also differ notably between industries (Christensen and Gordon, 1999). Differences in organisations can arise, for example, from the role of the founder or other leaders, governance structures and company maturity in business (Schneider and Barsoux, 2003). Project success is concluded to be influenced also by contextual factors such as an effective sponsorship and governance model, successful negotiation of project scope, the balance of authority and power between organisation and project manager, and overall changes in organisational context (Ives, 2005).

3.4 Impact of functional culture

When an organisation has spread across several locations, these are likely to develop their own cultures, especially if different functions of the company (e.g. sales, production, PMO) are located geographically distant (Damian and Zowghi, 2002). Lawrence and Lorsch (1967) have identified the differing values between the functions in organisations that impact the effectiveness. For example, task requirements, time frames and customers (external or internal) affect the cultures of different functions (Schneider and Barsoux, 2003). Schein (2004) differentiates three subcultures that exist in all organisations and cause conflicts if not identified and managed: operator, engineering/design, and executive subcultures. Quinn and Cameron (1983) concluded that organisations are in a constant resolving process between contradicting values like internal-external orientation and centralisation-decentralisation of decision making. There is a constant dialogue between temporary and more permanent structures in project-based organisations due to "the way employees identify themselves with either the line function or with projects and by competition for limited organisational resources" (Arvidsson, 2009, p. 97). For example, there is tension between actors caused by fundamentally different organising principles of functional and project organisations, and limited resources (Hobbs et al., 2008; Arvidsson, 2009; Jonas, 2010). A project-oriented company also emphasises external factors, whereas line functions emphasise internal factors (Arvidsson, 2009).

3.5 Interaction of cultural spheres

Based on the literature survey conducted by Henrie and Souza-Posa (2005), culture is a limited topic in project management literature and there is a lack of empirical research relating to the topic. However, there is often an assumption relating to cultural research that there is one desirable culture, which should be pursued (Rooke et al., 2003). Based on Hofstede's (1991) study, values are more influenced by national culture; however, practices are more influenced by organisational cultures. The impacts of professional and organisational cultures on each other depend on the types of organisation and the place of professionals in the organisation (Bloor and Dawson, 1994). When individuals are deciding how to act when facing organisational events, they will use both the organisation's operating and cultural systems and the codes and operating practices of their profession (ibid.). Interacting spheres of culture can create a competitive advantage for a company, if the differences are understood and the impacts analysed (Schneider and Barsoux, 2003). Müller et al. (2008) revealed that companies do not differ in portfolio control across industries, geographical areas or the nature of projects.

4   Implementation of the research

In-depth retrospective interviews were used to collect narratives of how cultures affected the project. The interviews dealt with the activities of the project management office as well as two separate projects, and the goal was to collect observations relating to challenges recognised from the unified form of the project process in the PMO. The interviewees were encouraged to tell stories about the situations where they considered the cultural differences had an essential role in the course of actions. Trust between researcher and interviewees was developed by researcher working at the office few days per week. This gave an opportunity to have informal discussions during the lunch and coffee breaks. The interviews revealed individual notions and insights, which were combined with the observations of researchers using an iterative process, and then validated with the sales and project personnel. Finally, the concluding workshop was arranged, where the findings were discussed together with the management team, that is the director and engineering managers of the PMO. Figure A1 summarises the data collection and links the methodology to the goals of the data collection.
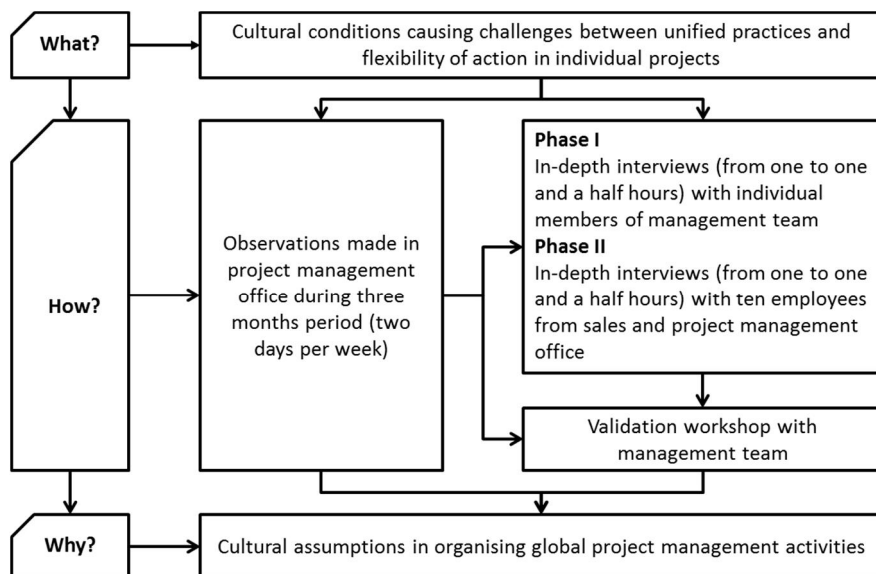
Figure A1. The structure of the research arrangement and the link to the goal of the research.

The empirical material for this study consists of in-depth interviews with four engineering managers, the director of PMO, and ten project sales and management employees (Table A2). In addition, observations were conducted by doing the research writing in the office of the PMO (an open office) during a three-

month period. The interviews were recorded and transcribed. The company had extensive internal websites and other common tools, which linked different functions and locations. The project management guidelines were also available on the company's intranet. There was also a possibility to travel with one of the engineering managers to a China subsidiary, which consisted, in fact, of two subsidiaries: one in Shanghai and the other in Beijing. Data analysis was divided into two phases. In the first phase, the detailed notions from interviews with the director and four engineering managers of PMO were collected and grouped. In the second phase, the groups were validated with material from ten interviews with sales and project personnel.

Table A2. List of interviews.

Nationality of interviewee	Title	Industry	Mode of interview	Place	Language
Phase I					
Finnish	Director	1&2	Face-to-face	Finland	Finnish
British	Engineering Manager	1	Face-to-face	Finland	English
Finnish	Engineering Manager	1	Face-to-face	Finland	Finnish
Finnish	Engineering Manager	2	Face-to-face	Finland	Finnish
Chinese	Engineering Manager	1	Face-to-face	China	English
Phase II					
Chinese	Country Sales Manager	2	Face-to-face	China	English
Chinese	Key Account Manager	1	Face-to-face	China	English
Chinese	Area Sales Manager	2	Face-to-face	China	English
Italian	Sales Manager	1	Face-to-face	Finland	English
French	Sales Manager	1	Telephone		English
Finnish	Project Manager	1	Face-to-face	Finland	Finnish
British	Project Manager	1	Face-to-face	Finland	English
Finnish	Project Manager	2	Face-to-face	Finland	Finnish
Finnish	Project Manager	2	Telephone		Finnish
Chinese	Project Engineer	1	Face-to-face	China	English

5 Underlying cultural assumptions in project management offices

5.1 Assumptions relating to national cultures

The data for this research was collected in a large multinational corporation that offers high technology products and services, and has operations in more than 50 countries all over the world. The collected data included activities of the PMO in

the UK, Finland and China, and the company's sales offices in France, Italy and China. The company originates in Finland, although it has had a strong orientation to global markets since its establishment, first to other Scandinavian countries and then to other continents. The largest group of personnel in the whole company, one third, is located in Finland. The majority of the personnel in the PMO were Finns (approximately 75%), and 60% of the managers of the PMO (excluding project managers) were Finns, as well. The personnel in each country were local. Because of the origin of the company, there is no doubt that Finnish national culture, among nations and regions, played a role in procedures, control systems, communication, decision-making, strategy, human resource management, and management practices (cf. Schneider and Barsoux, 2003).

PMO UK has focused on helping the sales offices in technical parts of quotations and it has a couple of quotation engineers in France to help with the technical quotations, but commercial quotations are made by the sales personnel in different sales offices.

> *"No, it [handling revisions] changes, really changes country by country. It depends on the, on the sales guy. Quite often they want to keep control of it, they just want the initial help and from there on in, they say right, I want to handle this, I don't want you to touch it. And we [quotation support in PMO] don't hear about it again. It's happened on several jobs. Spain is one of them where this happens, not just France…Italians does it a bit differently, they want limited help to do the quotation, but then generally they take care of it themselves. So I'd say definitely those three is where that type of work happens. I think more than Northern Europe with Germany, Holland, Belgium, UK, if you do a quotation they sort of expect you to stay with it to the end, to the point of it becoming an order or becoming lost." Engineering manager*

The PMO China subsidiary was established to respond to the growing market demands in Asia, which was one of the largest potential growth areas for the company's products and services. When the PMO established a subsidiary abroad, the goal was to make it as independent as possible, and the subsidiary was expected to follow the general processes in the organisation. However, the personnel in the new office were less experienced with the company's products and located far from production. The time difference and language skills caused delays in communication, which caused frustration among the personnel in PMO China. On one hand, PMO Finland encouraged PMO China to contact production personnel or PMO Finland whenever they had questions, but on the other hand, e-mails or phone calls were not responded to. From a Chinese point of view, this was a sign that people in Finland did not feel responsibility.

National culture seemed not to play an important role in the internal relationship between PMO Finland, UK and China, compared to the power relations (headquarters – subdivision), product knowledge (there was training only in Finland) or experience (years in current position). However, the same national

culture with the customer was seen to be very essential from a sales office point of view, but not so from a PMO point of view:

> *"Salesmen did not trust that PMO would treat the most important order of their best customer well enough, and that's why they wanted to make sure that that the best project execution personnel is nominated." Engineering manager*

Sometimes the sales manager trusted the customer in the hands of the project manager:

> *"I'm doing the quotation because he [sales manager] is busy, he is travelling whatever. He's built up or I could say I've built up his confidence through the management of the project. So he is confident, that yes you know, my relations with the customer are going on well, he can see you know that the customer has a good, you know, interaction with me … In fact I know as the ideal management of a project that we like is that the project unit manage the whole project commercially and technically. And basically just say to the sales office you know, this is what we're selling, this is what we're offering, so you know, the sales office are left out a little bit. But a lot of that, it doesn't happen most of the time, because sales managers being sales persons they like to keep their orders." Project manager*

There is variation between the customers. Without language barriers, the customer would follow same procedures as followed in any domestic project, that is trying to minimise the risk of miscommunication.

> *"Well, generally speaking that person from customer, who is responsible for the project towards our company, would like to contact directly to production, especially in nasty situations, because they get information in full, and they [customer] understand that if they agree directly with people from production, how the things are done, it will come over better without a middleman. One could imagine that this is the trend: people learn languages and cultures and such, and want direct communication with the production. But then there're language barriers; it might be that the guy from the customer doesn't speak fluent English or other … or might not be used to work internationally. Then it is familiar and safe to contact the guy from our [local] sales office." Director*

5.2 The context in the global engineering business

Only a few decades ago, business in the engineering industry consisted of the production of technically advanced products and their delivery to new facilities and for the maintenance of existing ones all over the world. Currently, the delivery of products is not enough, but the amount of related service business has grown fast. Each individual customer and customer facility has different needs for the services. Production is situated in specific locations where the necessary amount of technical skills or other resources (e.g. materials, energy) is available. Sales

offices, on the other hand, are located near the customers. But when it comes to implementation, the actual customer projects can be located almost anywhere. As the challenges in customers' processes have increased, demand for widening the scope of service has increased on the supplier's side as well. The project form is a common way to organise around constantly changing needs and requirements.

The company has eight "customer industry" specific business lines, and its assignments vary from the delivery of single components to the construction of large turn-key projects, not forgetting the maintenance services provided to the customers after the finalisation of the construction phase. Based on the three project dimensions that shape the interaction between the projects and organisation, different approaches to projects between the two business lines inside the PMO were obvious (Table A3) (Lampel and Jha, 2004). The project definition, and the extent to which the details of the scope are known at the beginning of a project, are included in project scoping. Project programming measures how tightly the budgets, schedules, and targets are defined. Finally, project autonomy determines the level of reporting and the involvement of the parent organisation in the project.

Table A3. Project dimensions shaping the interaction between the projects and the organisation in the PMO (cf. Lampel and Jha, 2004).

| | | | Autonomy | |
	Scoping	Programming	Resource allocation	Monitoring
Projects for industry 1	Rigid	Tight	Gradual, even too late	Heavy
Projects for industry 2	Flexible	Loose	Up front	Light

In industry 1, the need for separate task groups was essential, but in industry 2, it was more like a rule than an exception to mix tasks. Project personnel in industry 1 did almost solely the tasks to which they were appointed:

> "Yeah, I think that's a difference between the types of business. With industry 1 we get an inquiry or the sales office will get an inquiry for [products], they need a quotation done on it; they'll use the project unit to do that quotation. It would, the quotation group is very separate really in the project unit from the execution group. It's a different set of skills, different type of people, and that's why we try to keep them separated to a certain degree. They will, they know the project way sort of, they fully understand the business. They'll do the quotation, it then, generally goes to the sales manager to do all final negotiations…With industry 2 I think all the roles get a bit mixed, because the contract is set and then the real definition, quotation work happens, and then it sort of the execution starts again, so it's, the whole team very much works as one, but that's purely the way the business is run in industry 2, by the customer, the way the customer runs it." Engineering manager

Table A4 summarises the differences between two business lines based on the interviews and observations. Despite the differences, there was a strong confidence in the management team that the unified project management process model works across two business lines. Practices are one of the most distinctive elements of cultures (Schein, 2004). Challenges were explained as being caused by cultural differences grounded on national and organisational differences. As can be seen in Table A3, the interaction between projects for industry 2 and the PMO was flexible in scope, loose in programming and autonomous from the beginning. Still, Table A4 shows that, measured several ways, projects in industry 2 had more advantages compared to projects in industry 1 (cf. Schneider and Barsoux, 2003).

Table A4. Variation between business lines inside the PMO.

	Industry orientation 1	Industry orientation 2
Customer	External	Internal (other business unit of the company) and external
Early involvement of the PMO during sales	No	Yes
Level of detail in tendering phase (and amount of work)	High	Low
Scope of project (portions of delivery, planning and services)	Varies	Wide
Hit rate	20–25% of offers	60% of offers
Market size	Enormous and growing heavily	Limited and growing moderately
Market share	~5%	~25%
Maturity of the market	Young	Mature
Number of players and customers	High	Low
Location of players and customers	All over the world	Customers located in specific geographical areas
Knowledge of customers beforehand (even on a personal level)	No	Yes
Product knowledge	Detailed knowledge about specific equipment and processes	Wide knowledge about the whole system
Formal requirements	More safety standards	Fewer requirements
Changes after order	Just then the definition of specifications will be conducted	Few

Challenges in the market environment can be divided into market conditions, players and customer, for example, depending on the industry, the customer acts in the different phase of the whole project (Table A5). To the end-user, technical

details are less important than that the facility works as planned and serves its purpose. This has an effect on other aspects in the project as well, such as the amount of detail in the contract and the number of meetings required.

> *"Well, there's this cultural difference [between industry 1 and 2], that [industry 2] has been there for so long. We know all the solutions… In industry 1 we are a smaller player in the market. There are lots of players and we are quite small even if our volume is large. The market there is huge." Engineering manager*

Table A5. External challenges affecting the PMO.

MARKET ENVIRONMENT	Market conditions	• Market share • Size of market • Hit rate • Risks
	Players	• Number of players (customers, competitors etc.) • Existence of earlier relationships with other players (customer, competitors etc.) • Number of start-up meetings (sales, customer, production, planner)
	Customer	• Variety of customers' geographical locations • Development of new customer relationships • Position of the customer in the business chain • Centralised decision-making among customers even if projects are global • PM is nominated based on previous projects with the same customer if possible • Customer preferences in relation to the process

Engineering managers' and project personnel roles differed between the PMO's offices: in Finland, each person was assigned to one of the roles in the PMO (engineering manager, project manager, project engineer, quotation engineer, project assistant, and so on). Engineering managers were responsible for one business line each. PMO UK had two different task groups (quotation and execution) and the engineering manager was responsible for one of the business lines. Personnel had clearly defined tasks. Personnel in PMO China had several roles each; the engineering manager also acted as the project manager, and the quotation engineer as the project engineer, for example. Both business lines were also included, although the weight was heavily on industry 1 projects. Sometimes the people in PMO Finland were conducting different tasks than their roles anticipated. Changes in ongoing projects, market situations, and lack of resources led sometimes to skills of individual employers being exploited; for example, the project manager might have made a quotation relating to additional assignments relating to ongoing projects, or the quotation engineer might have worked as a

project engineer and the other way around. On the other hand, by changing roles, the individuals could get variety in their daily routines:

> *"When we have talked with the guys … project engineers feel that if you do just tasks of a project engineer … you get bored quite soon... In my area [industry 2] same guys who are quotation engineers handle always the execution phase as well." Engineering manager*

> *"The customer has redeemed options that [Company] has given to them … I have actually been the guy, who has made the offers." Project manager*

The company and the customer also have different people responsible for commercial issues and technical details, and during the quotation phase, there needs to be constant information exchange between these two.

> *"But concerning the revision, the problem is that it take a long time … from the quotation of the project team [technical] to the order [both technical and commercial issues], they [customer] could ask for ten revisions to do. And that takes a lot of time. But during all the revision, you need to be very close to the customer. You can have the customer every day on the phone. So I think it's easier to do that in the, in the [sales] office than in the project team, and it takes time, it takes a lot of time." Sales manager*

5.3 Global existence

Large companies often grow through mergers and acquisitions for fast growth. Some reasoning behind the growth is to better serve customers by improving the product offering and widening the scope of services. However, rationalising overlapping operations is challenging, but at the same time, a company has widened its knowledge base, which should be exploited in the whole company. Benefits have been expected to arise, especially in a globally distributed engineering business, when the company organises centralised project management activities to follow the customer projects. Protocols do not always follow the growth.

> *"Sometimes it has been OK that a sales person has taken care of the whole quotation, because he knows how to deal with the technical issues too, but it cannot be said that there's a clear protocol, which is used … sometimes it's accepted that a sales person conducts the technical part, and sometimes not." Director*

PMO China objectives were at first to help sales offices with quotations for Chinese customers and the PMO Finnish office with project execution, or act as an independent project manager in some of the projects. Despite these objectives, firstly the subsidiary served only sales offices for industry 1 outside China. The company had previously established a sales office in another Chinese city for industry 2. Due to good customer knowledge, the office also conducted project

management activities relating to industry 2 projects, causing confusion between the PMO and production. Customers for industry 1 were located in other Asian countries where the company's matching sales offices were also located, and the customer projects were not even located in China. Secondly, the PMO China subsidiary did not have a full-time project manager at the time, but temporarily the engineering manager managed projects as well. The PMO in Finland made technical quotations and managed the projects in China. The PMO subsidiary in China had less power compared to PMO Finland and the other office in China, and because the PMO and sales are different organisational functions, the PMO does not have any power over the other Chinese office in order to unify the project management practices that would benefit the company as a whole. The reasons why PMO Finland manages the project instead of its subsidiary are:

1) the project is large and complicated – not enough resources or competence

2) "political reasons"

3) the project manager needs to be close to production.

Internal challenges in the company arose from the product, process, and resource allocation (Table A6) as summed up in the following excerpt:

"This company is harnessed to deliver products not conduct projects … people [from line organisation] report hours to a project only when they participated … but the problem is to get them committed … project managers don't have real power to tell them to participate." Engineering manager

Table A6. Internal challenges affecting the PMO.

PRODUCT DETAILS	Process	Number of specs before contract signing. Technical specs are not that interesting from an end-user point of view, but a contractor point of view. The need for detailed checking of specs with the customer after the order. The number of changes made after contract signing. Scope of the delivery: routine delivery – turnkey project (number and complexity of products and customer processes, including services like product, planning, turnkey, maintenance) The time of contract signing within the project (requirement of complete specs).
	Product	The standardisation of products. The number of the same products in the project. The number of safety standards relating to customer processes. Product complexity Variation of product mix in one project. The number of customer processes. The need to supervise the production due to the special features of products. The effect of company traditions relating to products (knowledge, mindset etc.).
RESOURCE ALLOCATION	Between business operations	Differentiation of roles between the quotation team and project implementation. Required skill-set between quotation and project engineers (product vs. process knowledge). Differences in work descriptions. Differentiation of business operations.
	Between project stages	The point in the project when project execution people are nominated (investment decision vs. order made by customer). The PM's knowledge level relating to technical or commercial specs when project execution starts. Early involvement of project execution people in the sales phase (hit rate, size of the projects, complexity, strategic importance).

When interviewees were asked whether they considered the company to be Finnish or global, they all answered global, but procedures were considered to be Finnish. The company needs to act globally, because the customers and competitors act globally as well, even if projects are delivered to one geographical area. The company was following organisational procedures, which originated from Finnish headquarters:

> *"Company procedures are Finnish, because the company originated there."* Engineering manager

> *"Purely global in my mind … Our offices and subsidiaries around the world are in a way very local. So in that way the company cannot be considered Finnish, purely Finnish. We have to have strong cooperation with locals."* Project manager

The people in the company were classified as commercial or technical. Sales people have commercial skills, but depending on the sales office, they might be

technically skilled as well. Sales offices were divided into internal and external salesmen, meaning that, for example, technically skilled but young people were hired as internal salesmen, to prepare the quotations, while more experienced external salesman negotiated the contracts.

5.4 Relationship between the PMO and other functions in the company

The PMO was part of one of the eight business lines (customer industries) in the company, and was specialised in the execution of a definite type of solution. Due to the mergers and acquisitions, the PMO served external customers as well as other business lines of the company, when these "internal customers" were supplying projects to external customers with a large scope. Sales offices were located all over the world and individual business lines might even have separate sales offices in the same location. Sales offices and the PMO covered in this research served two out of eight customer industries. Similar activities (projects) for different industry clients provided a possibility to form activity-based organisational units, where information sharing is easier and the use of scarce resources more efficient.

Depending on the strategic importance, size and complexity of an order, the assignments in the company were basically either product deliveries or projects, and handled through different business lines in the organisation (see also Lampenius, 2006). In the case of a new customer, market or business application, the project management unit was involved. The monetary value of the order also gave some guidance to sales persons, as to whether they should contact production directly or the PMO. In addition, resource availability determined which unit to approach. Complexity depended on whether planning, installation, training or some other services were included.

Some years before the material for this research was gathered, the company went through fundamental changes in organisation. The previous organisation consisted of sales and project management activities by business lines. As the result of several company acquisitions, the project management was now centralised in one unit and sales was dispersed geographically, consisting of another organisational unit. Sales handled smaller and less complex orders directly with factories (i.e. production). The project management unit assisted the sales offices with large and/or complex orders, which were formed as projects, and internally invoiced the sales office at issue. Figure A2 illustrates the organisation structure and the relationships between different organisational units and projects. The major part of the PMO situated in the company's headquarters, serving projects all over the world. Other parts (smaller in size) were situated in the UK and China.
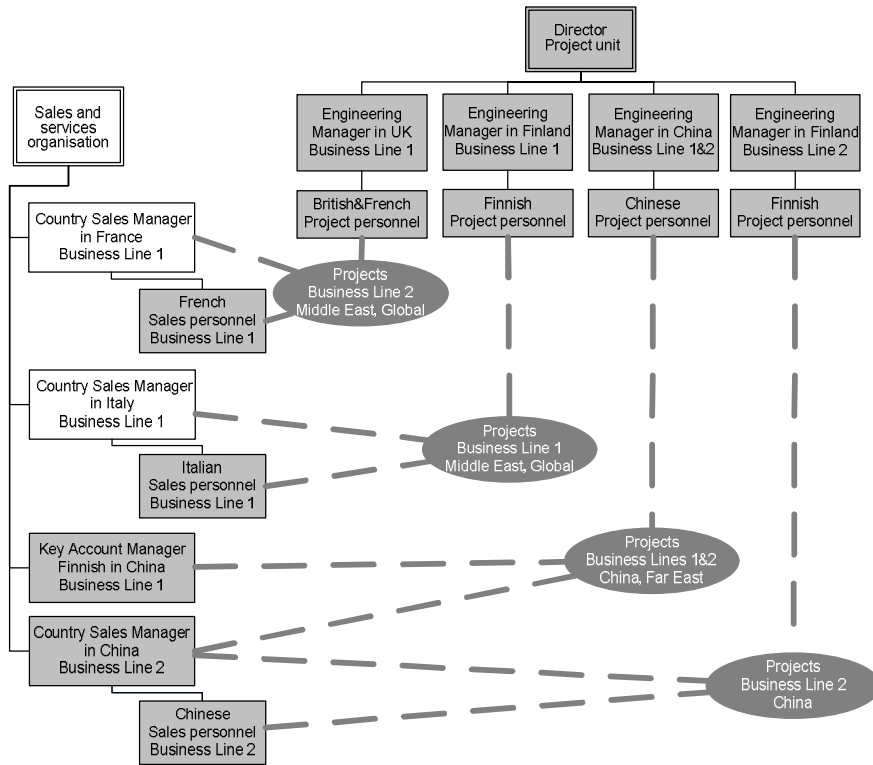
Figure A2. Relationship between different organisational units, that is sales and project implementation, covered in this research.

The PMO of the company forms one department among others. Project resources were "owned" by the PMO, and flexibility was obtained by using subcontractors in the quotation phase when needed. Sales, production and services are separate organisational units. Managerial roles and tasks in the studied projects can be elaborated by using Jonas's (2010) contribution. In fact, the management team of the PMO consisted of one senior manager and four portfolio managers. The management team made decisions together, yet the senior manager was the PMO's link to top management of the whole company. The senior manager and two portfolio managers were located in the same country and were responsible for projects relating to one customer industry each. Two other portfolio managers were located in two countries: one in the same continent. The roles of the two were to assist the one portfolio manager in Finland, even if from an organisational point of view they were at the same level. The role of the director of the PMO can be defined as being between top management and portfolio management (Bredin and Söderlund, 2007). Engineering managers act as portfolio managers being responsible for different customer industries.

Some overlapping activities of functions (see Figure A3) were also found relating to customer relationships and technical specifications. These activities required special skills and were seen as essential in all functions. However, responsibilities relating to these two activities were expected to change in different phases of the project (sales, execution, and service). Blomquist and Müller's (2006) conclusion that higher environmental complexity results in clearer roles could not be perceived in the PMO. Either the data does not support their findings or the PMO is in such an early stage of maturity that roles were not fully developed (Aubry et al., 2010).

Business Lines

	Industry 1	Industry 2
Sales		
Quotation		
Functions **Production**		
Execution		
Services		
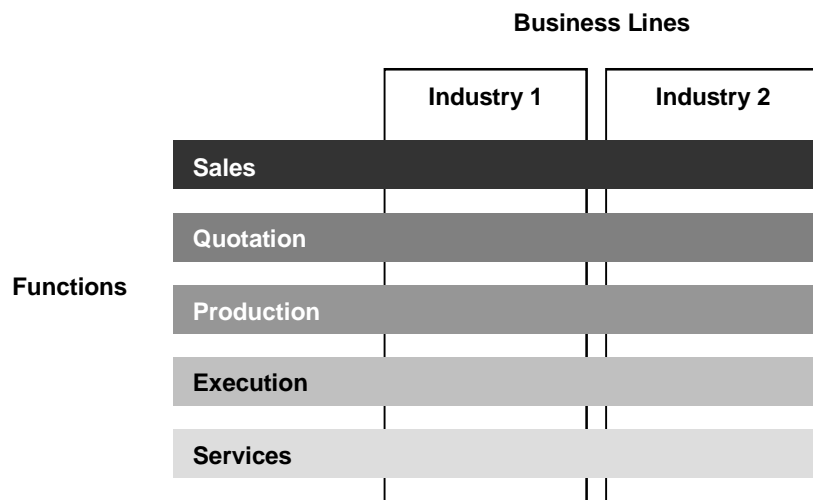
Figure A3. Illustration of the relationship between the business lines and activities of the company.

The production of the company has traditionally generated large numbers of standard products for industry 2. In addition to technical challenges, this has created challenges in communication between project execution and production. Industry 2 is also more mature, meaning that an experienced workforce is available. When the level of technical detail is not high and customer processes are similar, the same person can work during sales and execution. This decreases the amount of missing information due to the shift in responsibilities. Figure A4 represents the tasks between the functions where the interviewees defined that challenges existed.
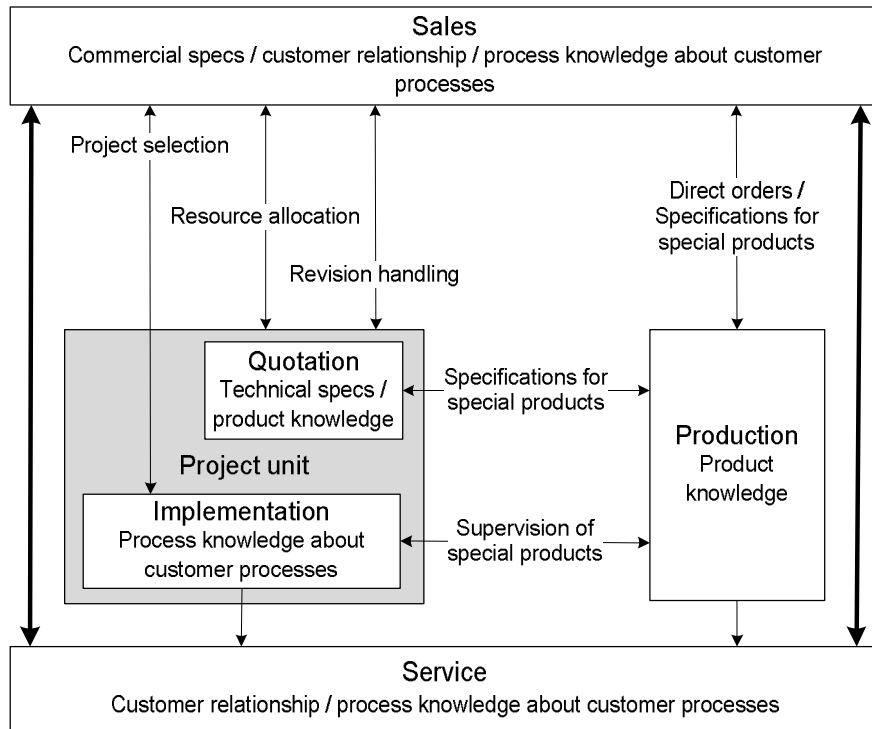
Figure A4. Tasks between the functions of the organisation, where challenges actualised.

Again the different mode of action between the PMO and line functions (sales, production and service) can be observed.

> *"After the project execution is finished, the responsibilities are moved to our local office. But especially in the large projects, the problem is that the local office is actually a sales office for specific products... In order to get the project finished, I cannot look after the whole chain from sales to services. I just make individual acquisitions [during project execution] and someone else in the organisation takes care of the rest afterwards [service]... A single person cannot think about all the functions of the company ... there's not enough time for that... Our economic system doesn't support this type of activity either."* Project manager

Challenges arose when sales people should have handed over the project to the execution people and stayed in background. The PMO is less relationship-oriented than sales, which, from the sales point of view, put in danger the whole customer relationship, especially when there is no common language between the customer and execution.

> *"What I'm telling you is based on our experience with an Italian customer, so maybe these comments feel it valid as made for an Italian, because maybe in another country there is no, there are other mentality, the other, let's say, cultural point of view, so it might be different."* Sales manager

> *"Unfortunately I don't speak German, though I should. The official language in this project is German and it would help a lot, if I knew the language, but I learn by force along the project. It is so that I cope with English, but it would be a great help, if I knew German … Memos from meetings with the customer are in German and, of course, the meetings with the customer."* Project manager

A unified project process model was established in the PMO many years before the time of data collection. The PMO had no power over sales offices relating to the establishment of the process model; however, the expected benefits were introduced and the process model adopted also in many sales offices. Some challenges still existed, such as coordination of quotation activities of different sales offices, the role of sales personnel during the implementation, and a risk of sub-optimisation (Lampenius, 2006).

> *"We apply the model differently in different types of projects, as well as in different countries in different ways."* Project manager

> *"The model represents turnkey-delivery … but in practice the nature of the activities, skills and knowledge concentrates on projects around product deliveries."* Project manager

The role of sales is defined through the customer relationship when the customer needs to feel that their special needs, as products, are considered to be "a baby" by the deliverer. Sales offices work with the same customers year after year:

> *"On the customer side, there is most of the time the same people, and these customer specs [specifications] are most of the time similar..."* Sales manager

However, sales offices usually deal directly with production in the customer assignments, when the delivery is small and there are no special products involved or there are no other reasons (e.g. strategically important delivery). When a sales office decides or is forced to involve the PMO, the PMO will charge a small percentage of the value of the delivery from the sales office. Sometimes the sales office tries to handle the order as a product delivery, especially if the order includes a large number of standard products without any special features. This causes then problems in production. Project managers have more knowledge about the company's production process than people in the sales offices. One obvious reason is that the PMO and production are located in the same country.

> *"Most of my time I sell projects, but sometimes the same customer has smaller enquiries and we feel it is not really a project, and we handle those as a day-to-day matter… So there is no specific splitting in the organisation*

> *chart, but we have our own customer, and the splitting of the activity is customer-based."* Sales manager

> *"If it's a large project and it is driven through production as a product delivery, the whole factory might jam and cause delays to other processes. The company has the interest to projectify those orders that actually needs to be projectified."* Engineering manager

Sales offices were encouraged to use resources in the PMO for technical quotations, and hand over the project to the PMO after the contract was signed, then go to trace the next deal. However, there were not enough resources available and in several projects the resources needed to negotiate between the sales office and the PMO, leading to a situation in which sales offices tried to handle some of the obvious projects as product deliveries without even notifying the PMO. Some sales offices were feeling confident about their technical capabilities already from the beginning, so a decision to handle things all by themselves was easy to make.

> *"For the technical quotation he [from PMO] involves people, in case we [sales] need them, but sometimes we are going straight to the project manager, because we are not, let's say, pure sales people, most of us have a technical background."* Sales manager

6 Conclusions

The focus of this essay was on the activities of a global multi-project PMO, where the expected advantages of centralised management have not actualised sufficiently. The objective of this essay was to define internal and external cultural conditions in order to understand better the challenges between unified practices and flexibility of action in individual projects. Managing a project portfolio between the pressure of the customer and production is a major challenge with which the management of the PMO deals every day. Based on this research, the establishment of the PMO was seen as more like a response to the market – to serve customers more efficiently. Aubry et al. (2010) concluded that internal drivers are seen as more influential than external drivers. When the strategic importance of projects and related challenges increased every year, the goal of the PMO was actually the efficient use of resources and the exploitation of product and project management knowledge between people in different countries, in order to work in a more customer-oriented and efficient way at the same time. A unified project process model was established; however, the use of it caused practical problems that engineering managers need to solve every day; but as a result, the cooperation between the director and the engineering managers was intensive.

It became evident that, during the time of the data collection, the company was going through the first stage in the path of PMO development (Aubry et al., 2010). The functions that the PMO filled in this organisation were monitoring and

controlling, multi-project management, and to some extent the development of project management competencies and methodologies (Hobbs and Aubry, 2007). The notions represented above about industry, functional, national and organisational cultures in the PMO overlap with each other; for example, the company has a specific organisational culture due to the strong and historical relation to industry 2. On the other hand, the company has always been located in Finland and one third of its employees are Finnish, meaning that company procedures originate from common elements of power relations and hierarchy structures in Finnish companies in this industry.

In the interviews, the engineering managers reflected on their experiences in their own industry to the other. The analysis of the results generated three main categories and seven related subcategories. One of the three main categories can be considered as inter-organisational and two as intra-organisational. Hobbs et al. (2008, p. 554) found that a PMO is "deeply embedded in its host organisation, and that the two co-evolve". The findings here support this notion. Any changes in the external environment are implemented in the structure of the organisation, including the PMO. There were obviously some identification problems relating to the focus in the PMO. Interviews revealed that there was a tendency among the managers of the PMO to move from project selection to identifying the business opportunities, that is, from an internal to external focus. However, this identifying process had been a part of the sales function, which was still more focused on traditional business in production and sales of products. Due to the differences between customer industries, the industry 2 part of the PMO had succeeded in this, but the industry 1 part was struggling to adopt the project process model.

The challenges in introducing the unified project management practices were generally thought to be related to national differences. However, by exploring the sources of differences, several other cultural spheres effecting on the project management practices in PMO, could be identified. The sources were both inter-organisational and intra-organisational. External variations in market conditions, players and customers caused practical problems internally when applying the unified project process model and took attention away from external challenges.

7   Recommendations

This research contributes to the understanding of the role of PMOs in organisations; however, the gathered data was limited. More research on PMOs is needed in relation to different industries, comparison of PMOs in multiple organisations, roles of PMOs and actors involved in organisations. The establishment of a PMO was claimed to arise from the market, which would lead to interesting research questions about whether the customers have realised the benefits that PMOs should bring into the relationships. It is certain that local knowledge is required in engineering projects. There are local regulations, communication with authorities, and so on. When multinational projects are conducted, global management practices are used. However, there is a strong

emphasis on localising management practices. When the subsidiary has a loose connection to headquarters, the local practices are more effectively used. On the other hand, when there is tight control and lots of cooperation relating to projects by headquarters, the effectiveness of global practices comes into action.

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Appendix B: Culture-related uncertainty-reducing practices in projects

Abstract

Cultural differences exist in large multinational projects, creating uncertainty especially during the project execution. Previous research has shown the existence of diversity in relation to cultural spheres in different types of organisations. However, there is inconsistent evidence on whether cultural differences have an impact on project execution, and whether the impact is positive or negative. In practice, cultural differences are often considered to cause hindrances and attention is often only on the national backgrounds of participants. The emphasis in research has been mainly on decision-making and its impacts, but there is still the need to analyse more carefully the processes leading to the decisions. Cultural differences especially are embedded into the processes rather than single decision-making actions.

In order to understand the relationship between cultural differences and the multidimensional nature of uncertainty, a deeper analysis of uncertainty-reducing practices was conducted. In-depth retrospective interviews were used to track events during the implementation of five multinational projects where uncertainty-reducing activities could be identified. Cultural aspects and uncertainty-reducing practices related to the events were identified and analysed.

Based on the empirical material gathered for this research, organisations have established practices to reduce uncertainty even if solid evidence of the impacts is not available. The findings showed that individually justified actions were conducted in order to influence the impacts of cultural differences, even if definite information about the impacts did not exist. Some of the actions were preventive and some reactions to already actualised impacts. Culture-related uncertainty-reducing practices could be recognised in three layers: individual, project and organisational. Different sources of uncertainty actualise during different project phases and call for flexible and simultaneous use of uncertainty-reducing tactics. In all of the studied projects, the main objective of the actions was only to prepare for or respond to negative impacts, or risks. In order to exploit also the opportunities that arise, managing uncertainty demands new cognitive practices.

Keywords: uncertainty management, projects, cultural differences

1   Introduction

Projects are a common way to carry out different types of tasks, which are in many ways unique, and the number, complexity, and scope of big projects has been increasing during the last decades (Miller and Lessard, 2000). The project, as a

way of organising, maintains its popularity, but as a form it is constantly evolving due to the variety of use and the tendency towards formalising of different elements relating to projects, such as management practices and tools. Large and complex engineering projects, including dams, power plants, and airports, have participants from several separate organisations and national cultures, and thus from different cultural backgrounds, creating uncertainty for the project. Misunderstandings and unintentional messages can affect project work practices, management procedures and leadership styles.

There is inconsistent evidence of whether cultural differences have an impact on project execution or the outcome. The most seminal studies concentrating on national differences (e.g. Hofstede, 1991; Trompenaars and Hampden-Turner, 1998; House et al., 2002) or organisational differences (Schein, 2004) have presented evidence of the impacts. On one hand, de Bony (2010), Shore and Cross (2005) and Morrison et al. (2008) have investigated the role of national culture in scientific projects. On the other hand, some of the studies have concentrated on construction projects in different parts of the world (Tone et al., 2009). However, none of these studies could directly link the impacts to the measured outcome. Researchers have claimed that cultural differences cause uncertainty in projects, and guidelines on how to manage subsequent problems, as well as possibilities, have already been defined (e.g. Schneider and Barsoux, 2003; Ward and Chapman, 2003; Perminova et al., 2008). It seems that these ideas have not reached the project management practitioners when they handle everyday situations. When project practitioners are talking about cultures, the only dimension of culture that is discussed is often the national culture.

Another general assumption among project management is that cultural differences cause only hindrances, but differences also elicit opportunities that could be exploited. Current practices in projects concentrate on known negative impacts, and even these practices are not always followed (Olsson, 2007). Overall uncertainty related to cultural differences in projects can lead to both positive and negative impacts (cf. Nummelin, 2005). The recognition of opportunities asks for a more holistic view of uncertainty management that is used currently (ibid.). Uncertainties at project level are different in their nature than at project portfolio level, requiring a different approach from managers. The actions cannot be taken beforehand, if an event and its impact cannot be foreseen (unknown unknowns). The reaction always happens afterwards.

The cultural differences at the level of a cultural group at a given point in time can be defined by using existing classifications (e.g. Hofstede, 1991). The challenge, however, is at the project level, where the individuals' personalities influence single events. Even if the impacts of possible cultural differences between project participants have been analysed beforehand and mediating actions have been conducted, in the single events, individuals do not necessarily follow the defined procedures. The mediating actions can smooth the project path; however the impacts of actions do not necessarily last, due to the unique nature of the project. There is a need to develop practices relating to uncertainty management (Perminova et al., 2008). In this essay, some insights into the relationship between uncertainty management and the impacts of cultural

differences are presented. The findings resulted from actions that were not planned and were conducted in order to affect the impacts of cultural differences, even if definite information about the impacts does not exist. Some of the actions were preventive and some were reactions to already actualised impacts. However, the main objective of these actions was to prepare for or respond to negative impacts. A case study approach, consisting of in-depth retrospective interviews, was used to track major events during project implementation. Cultural differences in these events were then analysed and the used practices identified. Culture-related uncertainty-reducing practices could be recognised in three layers: individual, project and organisational.

2 Literature review

2.1 The impacts of cultural differences in projects

Culture is a group's response to its environment (Hofstede, 1991). A group shares a set of beliefs and values that exist deeply in the individual's mind (ibid.). Belonging to a group creates a feeling of safety and comfort for an individual (Schein, 2004). This feeling gives individuals better possibilities to respond to the challenges that come from outside, and to break the comfort zones and create new solutions to problems. A group might also act defensively against outsiders and, for example, deny all interventions against its culture, keeping the group distinct (Schneider and Barsoux, 2003). On the other hand, any group of individuals acting together continuously will form a culture. The most commonly referred spheres of culture, in addition to national culture, are organisational (corporate), functional, professional or industry cultures (Schneider and Barsoux, 2003). Culture does not stay static, but changes over time. This change is claimed to be usually very slow, but very significant external factors can force the culture to change radically when, for example, there is a danger that the culture will fade away (ibid.). Sometimes, only the visible elements of a culture change (i.e. artefacts), which can be misinterpreted to mean that the underlying structures of the culture have changed (i.e. norms and values or basic assumptions). The change can only be perceived afterwards (Schein, 2004).

In relation to organisational cultures, Schein (2004) has described three levels of analysis relating to cultural differences: behaviour and artefacts, values and beliefs, and underlying assumptions. The first level can be seen visually, for example in clothing, food, and language. Shared values and beliefs can also be articulated, meaning they are conscious strategies that a group shares. Cultural assumptions, however, are taken for granted, so that even the individual, as an insider of that particular cultural group, cannot describe them.

Several studies have shown that cultural differences have an impact on projects (e.g. Schneider and Barsoux, 2003; Shore and Cross, 2005; de Bony, 2010); practitioners believe that cultures have a specific effect on practices. Orr

and Scott (2008) found that more of unforeseen events or exceptions actualise in multinational projects compared to national projects. However, cultural differences exist in every project, national or multinational, because nationality is only one dimension of culture. Cultural differences are only one element affecting project outcomes, and yet their significance is not clear or hardly even measurable. The direct connection cannot even be drawn between impacts and project outcome. Of course, a positive impact means a positive outcome to work; for example, an innovative project team can make a technological breakthrough, but this might still mean that some of the project's original objectives are not met, such as time or cost. Lots of time is invested especially in projects to meet these requirements (Perminova et al., 2008). Schneider and Barsoux (2003, p. 15) expected to find "less variation within cultures than between them" in their study. But Rozin (2003, p. 276) proposes that "differences between individuals in different cultures are generally larger in behaviour than in thoughts or feelings". Already Laurent (1983) did not find a correlation between managerial ideologies of individuals and national cultures; however, there was a correlation between the collective managerial ideologies of different countries. Rozin (2003) also claims that the differences between two cultures are bigger than between two individuals, and that "in the contemporary world, differences between cultures will generally be larger in older generations" (ibid. p. 280).

2.2   Risk and uncertainty in project organisations

The word risk has a long history and its meaning has been modified over time, causing debates about the correct terminology (e.g. Lupton, 1999; Hillson, 2002). Risk management has interested practitioners; however, theories relating to risk or, currently, uncertainty management are still underdeveloped (Perminova et al., 2008). Risk is used to define impacts whose probability is known or able to be known, whereas uncertainty describes unknown impacts or probabilities of known impacts (Lupton, 1999). On the other hand, risk is sometimes used only in connection with negative impacts, and uncertainty when describing both positive (opportunities) and negative (risks) impacts. This terminology corresponds with that used by the informants during the interviews and other communication. There is another school of thought that uses risk as an overall concept, with the word "threat" meaning negative and "opportunity" meaning positive impacts (e.g. PMI, 2008). Despite the term used, opportunities overall are under-managed at the moment, and new ideas need to be taken into account. Vaara (1999) noted that when people talk, it is problem-driven. It is also argued whether risks and opportunities are 'sides of the same coin' or whether they arise from different sources (Hillson, 2002). According to a constructionist perspective in sociocultural literature, all knowledge relating to risk is related to the sociocultural context, meaning that risk is never an objective or static phenomenon (e.g. Douglas and Wildavsky, 1982; Lupton, 1999).

Ward and Chapman (2003, p. 99) defined the scope of uncertainty relating to projects as "'variability' in relation to performance measures like cost, duration, scope or 'quality'." They also defined 'ambiguity', which they mean as "associated with lack of clarity". Uncertainties also have time dimensions in projects. Sometimes events or changes that are ambiguous and cause uncertainty are known in advance (known unknowns), but often the events and changes cannot be foreseen (unknown unknowns) (Winch, 2010). Because preparing for risks or recognising the opportunities at an early stage is economically viable, the focus has been on managing these events. However, surprises arise in projects even if the preparations have been made thoroughly.

Barber (2005) has claimed that inherent and externally generated uncertainty is managed more effectively compared to internally generated risks, whose significance is underestimated. One reason why internally generated uncertainty is not managed in the way it should be, is that it arises mainly from people's behaviour. This uncertainty relates to actors' beliefs relating to entities (actors' world view), interaction and change, that is, the future consequences when the uncertain entities themselves are unknown (Lane and Maxfield, 2005). The origin of uncertainty is in the project organisation or its host, and it is affected by rules, processes, structures, actions, decisions, behaviours or cultures. Behaviour-related uncertainty is often very sensitive and intangible to analyse and therefore ignored in many projects. However, analysing this type of uncertainty is a key to driving rapid organisational responses to changes in the environment (e.g. Baloi and Price, 2003; Barber, 2005). Learned routines and practices help us by serving as uncertainty-reduction devices, but this type of uncertainty cannot be coped with either by routines or by rational choice (e.g. Lane and Maxfield, 2005; Olsson, 2007; Gherardi, 2009).

It is necessary to distinguish between uncertainty and its impacts, because the word 'risk' has generally been connected only to events whose probabilities can be quantified, and is generally used to refer only to threats, hence negative impacts (Lupton, 1999). There are several types of uncertainty. Krause and Clark (1993) have described the main types as error, imprecision, variability, vagueness, ambiguity and ignorance. These sources of uncertainty have stressed a built-in assumption of negative impacts, hence risk. At the same time, the differences in time make uncertainty very difficult to model. Christensen and Kreiner (1991) have suggested following classification of uncertainty:

1. The operational, appreciable, foreseen.
2. The contextual, unforeseen events.

Actualised risks are expected to cause extra costs, time overruns, changes in scope and quality problems. This is a view seen from traditional thinking in risk management. Opportunities generated from cultural differences are, for example, knowledge transfer, innovativeness, better relations with the customer through problem-solving, and enhanced creativity (e.g. Devine et al., 2007; Adler and Gundersen, 2008). Current risk management processes are only partly adequate when managing opportunities (e.g. Hillson, 2002; Ward and Chapman, 2003). The advantage when managing both risks and opportunities at the same time is that

they both get equal status. However, Artto et al. (2000) recommended that identification of risks and opportunities should be done separately, because often the negative impacts are more in focus. During a project's early phases, before the actual signing of the contract, the opportunities might have been looked at too optimistically. On the other hand, human perception of risk does not take both sides of uncertainty into account in unison (Rundmo, 2002). In order to reduce the uncertainty attached to new situations, people simplify cross-cultural encounters by using the past experiences that they have of similar encounters (perceptions) (Schneider and Barsoux, 2003). These generalisations, which cause preconceptions, change quite slowly.

2.3 Managing uncertainty

Previous research has also shown the two-fold impacts that cultural differences might bring out in projects. Adler and Gundersen (2008) have shown that multicultural teams have the potential to become the most effective, but also the least effective teams. Already Hoecklin (1995) noted that a shift in thinking is needed relating to assumptions about the impacts, from the challenge to the enabler. Hofstede's (1991) research showed significant differences between nations in how they perceive uncertainty (uncertainty avoidance). Some cultures are more permissive when giving and accepting feedback than others (Schneider and Barsoux, 2003). However, there is also variation in how different individuals perceive uncertainties (Gudykunst, 1995). The origins of the variation are in both personalities and cultural background. Different aspects of uncertainty become an issue depending on the person's knowledge about handling something as an opportunity or threat (Macgill and Siu, 2005). Individuals' personal assessments of risk are grounded in the cultural assumptions of that individual (Douglas, 1992).

Current risk management includes several assumptions that have already been questioned recently: the individual as a unit of analysis, using unexplained risk preferences, the objective and quantifiable nature of risk, a stable environment, ethical considerations not to be included, and highlighting decisions rather than acting when responding to risk (Miller, 2009). According to a postmodern perspective of organisational risk management, risk is subjective and unquantifiable due to the impossibility of knowing all the future states of the world (ibid.). This means that risks cannot be managed completely in advance and there is a need for continuous risk procedures to respond especially to this challenge. Risks are often evaluated by individuals in organisations; however, managers are influenced by their past experiences, which limit the possible solutions in the future. In able to avoid this deficiency, the analyses should be conducted either by several individuals or by using sophisticated system dynamics models.

As Winch and Maytorena (2009) noted, there is an ongoing comparison between the costs of risk management and the costs of wrong or imperfect decisions. However, as pointed out by Miller (2009), concentrating just on decisions does not reveal anything about the managerial processes leading to the

decisions. The overall project process consists of practices that do not necessarily concern risk management as such, but still have an influence on the decisions made for risk management purposes. Tukiainen et al. (2010) found an indication that when unforeseen events happen, project managers do not often follow the formal procedures and guidelines. According to Olsson (2007), it depends on the project manager and the follow-up requirements whether the risk management procedures are followed during the project execution phase. The opportunities are identified during the sales phase, but the same procedures are not followed in the execution phase (ibid.). Each social context defines its own practices (Brown and Duguid, 1991). This study seeks to reveal the cultural aspects involved in uncertainty-reducing processes in multinational projects.

3   Implementation of the research

A case study approach was chosen for this research in order to "understand the dynamics present" in the projects (Eisenhardt, 1989, p. 534) and investigate the phenomenon in-depth, in a real-life context (Yin, 2008). Multiple projects and sources of evidence were used in order to strengthen the reliability of the findings (Phelps and Horman, 2010). Theoretical sampling was used to choose the projects (Eisenhardt, 1989). The upper management of the project unit or the company selected the projects based on the research focus and the phase of the project (finalised or close to the end). Figure B1 represents the structure of the data collection and analysis.
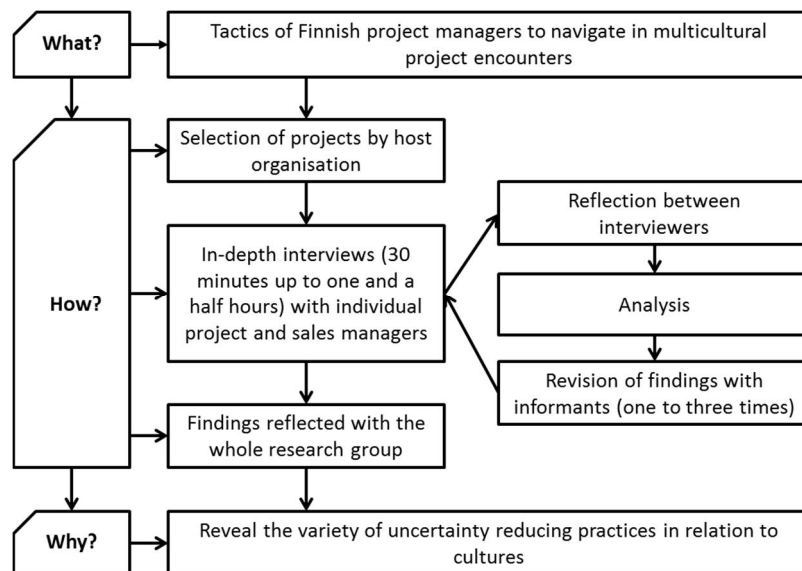

Figure B1. The structure of the research arrangement.

Ethnographic style, that is, the aim to understand a phenomenon from a native point of view, was used when conducting the in-depth retrospective interviews to track events during project implementation (Spradley, 1979). The interviews started from the outcome of the project, continuing by tracking the process from sales to a specific project outcome (not successful – successful) (cf. Starbuck and Milliken, 1988; Weick, 1988; Gephart, 1993). Seven persons were interviewed one to three times each, with interviews from 30 minutes up to one and a half hours, which were recorded and transcribed. Eight of the interviews were conducted by a single person, four by two persons, and one by four interviewers, so that in the multiple interviewer situations, the main responsibility of the interview was held only by one interviewer. Multiple researchers were used to "enhance the creative potential" and "confidence in findings" (Eisenhardt, 1989, p. 538).

Informants represented three nationalities and three different industry areas. Seven different roles in the projects were identified. In this essay, the roles of subcontractor's sales and project managers are considered different from the roles of main contractor's sales and project managers. Extensive travel was not possible due to budget and schedule reasons, so half of the interviews were conducted by phone. Finnish personnel were interviewed in Finnish and others in English, which was the language used in many of the projects (German was used in one project).

Five projects were investigated, including material from 13 interviews. The first two projects were exceptional for the company, because they were research projects and conducted in international cooperation, which brought an extra challenge to the relationship between the project partners. Projects 3 and 4 were opposite in terms of how successful they were (time, cost, quality). Even if the previous multinational project in a new market was successful, this success could not have been repeated in the following projects. Project 5 represented an unorthodox way of approaching a new market niche, where operational culture was tough and nationally bounded. In order to increase the validity of the data, documentation, such as newspaper articles and administrative documents were collected from public sources, as well as received from informants during and after the interviews (Yin, 2008). The accuracy of the findings was checked by the informants (cf. Phelps and Horman, 2010). Table B1 summarises the projects and interviewees' roles used for this essay.

Table B1. Summary of studied projects and interviews.

Project	Business area	Project	Interviewee's role in project	Nationalities involved
No 1&2	R&D, Community development	Research and development project (two consecutive projects)	Coordinator	Finnish, Spanish, Italian, British, Belgian, German
No 1&2	R&D, Community development	Research and development project (two consecutive projects)	Partner	Finnish, Spanish, Italian, British, Belgian, German
No 3	Energy industry	Turnkey delivery	Two project managers, main contractor	Finnish, Polish, British, American
No 4	Energy industry	Turnkey delivery	Project manager, main contractor	Finnish, German (from East and West), Italian, Polish, Yugoslavian
No 5	Machine industry	Product delivery and installation, after sales service	Sales, subcontractor	Finnish, Arabic from UAE, Egyptian, Indian, Canadian, British, South African
No 5	Machine industry	Product delivery and installation, after sales service	Project manager, subcontractor	Finnish, Arabic from UAE, Egyptian, Indian, Canadian, British, South-African

The starting point for the interviews was to form a timeline about critical events that were actualised in the projects (see methodology, for example Flanagan, 1954). After gathering basic data about the participants involved and the phases of the project, the informants were encouraged to tell stories about single events where they considered impacts of cultural differences actualised. Open questions were asked to help the informant to go along and to make sure that the timeline of the project was covered in the given time for interview (cf. Phelps and Horman, 2010). The necessary numbers of specified questions were asked about details, especially during the following interviews. When there were multiple interviewers participating in the interview, only one of the interviewers led the discussion. The others could ask additional questions, but did not control the course of the interview. In these projects, there was also an informal feedback session between the interviewers just after the interview.

Data analysis started right after the first interview, in order to understand the phenomena and ask more focused questions in the following interviews. The reflection between the interviewers was conducted directly after the interviews. Findings were reflected with the whole research group. All the gathered data was codified and analysed by following the elements of grounded theory represented by Glaser and Strauss (1967) and Strauss (1987). Both selective coding and open coding were used in the analysis. Selective coding was used to track cultural aspects in project implementation. Open coding was used to answer the question of how uncertainty was reduced in the projects. The findings are presented in the following sections.

4 Findings

4.1 Variation of cultural spheres

Despite some similarities between project participants, all of the informants considered projects to be heterogeneous from a cultural point of view, that is, informants saw differences in individuals' behaviour and related them to their different backgrounds. As backgrounds, different nations, organisations (corporate), organisational units (intra-organisational, functional) and professions (disciplines) were identified. Industry culture did not seem to have a role for informants, perhaps due to the existence of a single industry culture in each of the projects. Table B2 represents areas where interviewees identified a connection to cultural differences in the project.

Table B2. Identified impacts arising from cultural differences in projects.

Project	Project	Areas where cultural differences affected projects
No 1&2	Research and development project (two consecutive projects)	• Project manager's power over partners • Attitudes towards deadlines • Sense of responsibility to deliver • Project (type) culture
No 3	Turnkey delivery	• Differences in project cultures (bureaucracy, documentation, and complexity of contract) • Power relations and trust internally • Communications • Relationships with third parties (authorities etc.) • Sense of responsibility
No 4	Turnkey delivery	• Attitude towards documentation (especially contract and level of detail) • Interpretation of contract and regulations • Permanence of details during the assignment • Decision power over customer's suppliers • Requirements of local authorities • Communication with subcontractors
No 5	Product delivery and installation, after sales service	• Customer preferences and customer relationship • Power relations and trust externally • Attitudes towards standards • Business culture (bargaining) • Work on site (large number of migrant workers)

However, a project, as a form of organising, was also seen as "a common denominator" unifying the work and deriving several assumptions attached to this form. Besides the project form, the same professional background and the common religion of participants were seen as unifying features, often having more importance than differing national cultures, as noted by one of the interviewees:

> *"When you are a Protestant, you are educated from the beginning to work hard in your life. If you do not, you are immoral. You are bad. " Partner*

Even if the project culture in large projects has general features relating to project type, the project culture can have elements relating to a national or wider geographical area. In one project, the culture was connected to a wider regional context (the Middle East) than one nation. Based on the empirical material, cultural differences exist, but not necessarily the impacts. Different uncertainties might have different impacts on different project participants. At the same time, arisen uncertainty might cause negative impacts on one project partner and positive impacts on another. One informant mentioned an "international standard" as a way to generalise actors that follow culture being created in a specific project type, but on the other hand, the same informant relates the phenomenon to the size of the country.

> *"He has adopted the international standard … how people treat each other, how they meet deadlines, how they practice co-operation." Partner*

People from a small country (market) are forced to seek business opportunities abroad more often and in this way "internationalisation" becomes part of the national culture in that country.

> *"The market is so small that it is not enough to orient your work only to a domestic community. The people in small countries have oriented themselves to the outside world from the beginning." Partner*

On one hand, the common language (English) used in this type of project impacts the project as a cultural element wherever the projects have been conducted. On the other hand, the use of the same language does not necessarily mean shared cultural values, for example in British/American collaboration when Americans prefer a more "directly to the point" approach and the British consider multiform mastery of language to be a sign of intelligence (Schneider and Barsoux, 2003). Table B3 summarises the identified cultural spheres present in projects.

Table B**3.** Identified cultural spheres arising from cultural differences in projects.

Project	Project	Cultural spheres
No 1&2	Research and development project (two consecutive projects)	National Professional
No 3	Turnkey delivery	National Organisational Functional Professional
No 4	Turnkey delivery	National Organisational
No 5	Product delivery and installation, after sales service	National Organisational

Different cultural spheres are present in projects simultaneously and they cannot be separated. National culture in one country creates features in the organisational cultures of that same country (e.g. Hofstede, 1991). Cultural differences influence the practices and procedures in the projects and related organisations, creating uncertainty. Project managers have employed different tactics to cope with the encountered situations. Experienced managers have found suitable practices and procedures by using "trial-and-error"; however, the challenge is that the projects are never similar, and well-tried ways of working in previous projects do not necessarily lead to the same outcome. Influential cultural spheres might have changed between the projects. Recognition of the relevant areas of uncertainty in every project and in connection to the related spheres leads to advanced ways to manage uncertainty.

4.2 Uncertainty-reducing procedures and practices in projects

4.2.1 Project manager's limited power over partners

Projects 1 and 2, which actually were sequential, were research and development projects with participants from six European countries: Finland, Germany, the United Kingdom, Belgium, Italy, and Spain. The successful outcome of the first project led to continuation of the work, and to an even more successful project. The work itself was mainly conducted separately in each participant's home country, although the partners met every third month in participating countries in turn. In addition, there were several other stakeholders financing and participating as experts in the project. In this type of project, the participants form a consortium, which is responsible to the main financier for the results of the project. However, often the responsibilities and obligations of individual partners are not sufficiently agreed and decision-making is conducted more based on consensus rather than on a hierarchical power structure. Informants identified national and professional cultural differences.

> *"I have noticed that there is different culture for example regarding time schedules. And how important it is to do what was agreed in time... It is more common that certain countries deliver their document in time and certain countries do not... We, for example, are more used to express ourselves very briefly and in a very consistent way. Whereas, again, more southern countries, they use more words and explanations." Coordinator*

> *"You should not forget the discipline, for instance, engineering versus social science. It is sometimes that the distinction between disciplines is more important than the country." Partner*

As a result of good cooperation and the outcome from project 1, partners continued the collaboration in project 2. New partners joined the cooperation and

the financier was favourable to the continuation of collaboration. Informants hesitated whether the events were influenced by the cultures or personalities of the participants, but they needed to change their preconceptions towards participants from specific countries due to the experiences from these two projects. Stereotyping is an unconscious way to cope with new situations by helping to "process new information by comparing it with past experience and knowledge" and reducing uncertainty and ambiguity when we meet new people (Schneider and Barsoux, 2003, p. 13).

> *"You must be very careful to avoid generalisation. And what I say about [other nationalities] is in general, but not for example this one person from [country X]. He has adopted the international standard… We have tried to adjust our behaviour to this international standard, because that exists." Partner*

At the beginning of project 2, the project coordinator considered possible cultural impacts to be large enough to justify preventive actions. For example, the content of the work was specially taken into consideration and controlled (time wise), and the planned tasks were described in detail (*exactly*). Research and development work is usually less controlled in detail, so this tactic differs from general. More attention was also paid to the way the work was presented to other participants (*carefully*). The project manager followed established procedures, which were agreed with the partners. Especially important was that procedures were agreed in mutual understanding with the partners in one of the face-to-face meetings.

> *"It's often more easy to continue with people that you already know. It creates some friction to have new partners … inputs and outputs have to be standardised very exactly and carefully." Coordinator*

The informants considered the co-operation with the international actors to be very fruitful and to give new ideas and ways of thinking. This was the main reason for them to find new project opportunities despite some extra work that sometimes needed to be conducted. In fact, both of the informants preferred working with international partners; however, new projects often start with partners they already knew in advance. The rules of the main financier require the additional involvement of new partners in the projects.

> *"That has a long history, which dates back to our co-operation with the consulting firm ... who is also a partner in [this project] … there is a community … which is worldwide, consists of maybe 20 people, and they all know each other and meet frequently at certain conferences. And exchange papers and e-mails and so on. I was always a member of that worldwide community, so it was easy to get the information and be invited to participate in such a project. It is a kind of network. These networks are very important." Partner*

4.2.2 Functional challenges

Project 3 was executed in Poland, and the project organisation consisted of employees from Finland, Poland, the United Kingdom, the United States and several other countries, which could not all be listed here due to the complexity of the project. The client, partners, different contractors and subcontractors each represented different nationalities. The project was the biggest and the most complex in the company's history. The opportunities in this market were seen as being very good. The company had a subsidiary in the country, but the majority of project and subproject managers were Finns. The two informants acted as project managers of the main contractor. They could identify organisational, national, functional and professional cultural differences having influence during the project.

> *"The contract was special – very demanding, bureaucratic and complex – there were American consultants involved and they had a totally different project culture than we are used to … there were complications on the way – international contest between the two nations and organisational units … the cooperation suffered in the beginning due to the constant arguing … the communication between the different professionals, even in one country, does not always work. However, the difficulties are even bigger when we are in foreign countries and cultures."* Project manager

In order to work effectively, the project management was given to two experienced managers who had already worked in similar types of projects in the same markets. In addition, the company empowered local organisational unit and hired more local workers. Even if there was no unequivocal evidence about the impacts of cultural differences in projects, informants described actions that were conducted in order to make the project execution easier, for example, to help people to know each other and build up a joint project culture. Challenges arose between organisational units just after the project started. An external consultant led the project team through four workshops, where actions to create a unified project culture were taken. This reduced the pull of units in different directions; however, the impacts lasted only until the end of the project. The same challenges arose when the next project started, even if the project group was the same. The company had difficulties reproducing the success from the previous international projects even if the implementation of the project was similar.

> *"We expats just looked at facts and numbers, but then there are soft issues, which you know and can take into consideration only if you understand enough the market you are in… When you do things right, the positive impacts will actualise in the project very soon … when we [project participants] come from different project implementation and national cultures, we all understand what we want to achieve in the project, but because we have different backgrounds, we can have different ways to get to a certain point and we need to accept that. Then we just need to make the decision together and all of us should follow that."* Project manager

4.2.3 Struggle against vicious circle

Project 4 was executed in Germany and the project organisation consisted of Finnish, German, Italian, Polish, Portuguese and Yugoslavian employees. The client, partners, different contractors and subcontractors each represented different nationalities and the informants acted as project managers of the main contractor. The scope of the project was exceptionally wide and the company gave many concessions to the customer, sometimes without compensation. At the beginning, however, everything looked promising from the project management point of view. But when the first delays occurred in the permission process, this was the start of when "everything started to go wrong despite making corrective actions". National and organisational cultural challenges were identified in relation to this project.

> *"They are theoretical and bureaucratic. At least in this project. When there are lots of papers, everything is fine… Every paper needed to be signed, before anything could have been done. It was very troublesome and slow… I think that this happened because of the contract and securing one's own part, if anything happens. Securing one's own part is related to the culture."* Project manager

At the time of the interviews, the project had already exceeded the delivery deadline. At the beginning, the project seemed to progress as planned, but then hindrances started to actualise: bankruptcy of the largest subcontractor, changes required by the client caused delays (no compensation), delays in the building permission process, changes required to the content of the delivery by the authorities (interpretation of regulations vs. guidelines), difficulties in communication with some of the subcontractors (no common language), limited decision-making power over the most focal supplier (ruled by the client), and the client's requirement to follow the contract exactly despite the changes. The local workforce was not used at the beginning of the projects, when the designs were evaluated, and this resulted in different interpretations of regulations.

> *"We did documents wrongly (contracts, permission applications etc.), because there were only Finns. We would have needed locals, who understand the language and what the authorities really mean… Local guys were involved too late in this project."* Project manager

The project manager was responsible for the activities on the site. When the problems started, he was more heavily involved in the daily decision-making on the site than is usual in this type of project. The negotiations with the client were conducted by the upper management of the company and lawyers. However, the challenges directly affected the costs and schedule of the project, but negotiators did not take these into account as much as needed. Some monetary compensation, as well as one month extra on the delivery time, were negotiated later with the customer, but "when things started to go wrong, nothing could have stopped that".

> *"We interpret issues in a different way than they (client) do… We just need to negotiate and negotiate, so that a common agreement can be obtained… In the meanwhile, we had a workforce tied to the project even if nothing could be done… The completion shifted half a year onward … the uncertain situation caused extra cost to the project."* Project manager

When problems started, the details in the contract were read and followed very explicitly by the client and some subcontractors on site, whereas the contractor would have acted the opposite way given more flexibility in relation to the ways of implementation. On the other hand, the project manager of the contractor had more decision-making power than his counterpart, who had to get approvals on details from higher levels of the hierarchy in the client organisation. The original building permit was granted for the use of different technology, so the final building permission was a trade-off between the solutions. In addition, any kind of regulation was followed in detail even if that was not necessarily mandatory, but rather a recommendation.

> *"There are guys from the west side and east side on the site. The one that comes from east side is extremely careful and everything needs to be "right", according to the contract. He doesn't make any exceptions, or even decisions. One can see the difference… The client doesn't agree anything unless it is on paper. Even the small changes go through their bureaucracy. I would agree first verbally and then on paper in able to ensure smooth project progress."* Project manager

Discussions and paperwork with the client and authorities required very good language skills, as well as deep understanding of the local business environment. Negotiations and documentation were carried out in the local language. This time, when negotiations were conducted mainly by other persons than project manager, he still needed to be able to use the language on-site. Missing a common language led to a situation where people tried to avoid any communication due to the difficulties.

> *"If I didn't know this language at all, nothing would work… This one subcontractor does not speak any other language than their own… Communication is non-existent… Every now and then we used an interpreter. It was really difficult; the whole company has been difficult so far. They do not answer the phone… With a few other subcontractors, the cooperation has worked well… I joke with their installers on site every now and then… They had their own dialect… But communication worked well."* Project manager

4.2.4 Turning defeat to victory

Project 5 consisted of machine delivery as a part of a bigger entity in Abu Dhabi. Informants represented the subcontractor's viewpoint. The project had

participants, for example, from Finland, Canada, South Africa, Egypt, India, and other Middle East countries. The end-user's consultant had already chosen another subcontractor as a supplier through the regular bidding competition, whereas informants represented a company whose product had some novelty features in the market and this way did not fit directly into the client's requirements. National and organisational differences were identified.

> *"It's easier to communicate with a person in front of you by your own language, if you have common background and the same language... I knew the culture better, I knew what they think, how they would react to some of my suggestions and I know how to react to their comments, without really defending them, without really making them feel or think they don't know much about our business." Sales manager*

> *"Here is a unique regional project culture, but it certainly has similarities with other countries in the area." Project manager*

Informants were able to set up a meeting with the end-user and to convince them to change the supplier by taking advantage of the client's prejudices against specific national cultures.

> *"We brought this convincing European point of view, because we thought it was quite important in this meeting. Because we act on the borders of Asia, people in specific positions look also where you are from... It has a big value, if the guy is from … Europe, South-Africa or America… So his words have more value and they trust him more. And that he has more knowledge, even if that is not, of course, always the case." Project manager*

The market where the project was implemented was experiencing fast growth and the interest of several players, which had created a specific business culture in the area. Tender documents are thick and tight specifications need to be totally fulfilled. Due to the lack of supervision, companies trust that details are not checked later and offer are as specified, even if tender documents are faulty or they know they cannot fulfil all the client's requirements.

> *"We have committed to highlight all the issues that we cannot do. We tend to point at the tender documents, which by the way are an impressive collection in every project … also the details, both economic and technical, which don't suit us or we don't accept… We follow European norms and try to highlight these." Project manager*

The project management (whole entity) consultant's strong prejudices against some nationalities also created challenges especially at the beginning of the project. Despite the nationality of the subcontractor's organisation, their employees from specific nations were treated harshly by the consultant. The project manager needed to act as a mediator between the consultant and some other subcontractor as well, in order to avoid conflicts or solve already existing ones. After a few months, the situation changed little by little and participants

could concentrate on issues and discuss issues, whatever nationalities were involved in the conversation.

> *"But of course Finns are Europeans, which means that they listen to Finns and do not kick them out from the office so easily. But this happened in the beginning of this project to our local guys, who are not local, of course. In fact there are no local workforces… I saw a couple of times with my own eyes how our employers were thrown out from the office by the consultant in the beginning of the project, because of small reasons, which happened very often… For some reason they wanted to bring out their power by mistreating others… Even if the price and schedule have been settled, they will show their power and bargain."* Project manager

5 Conclusions

Uncertainty management is in constant development to answer real-world challenges. On one hand, the challenge is to recognise the source of uncertainty in a very complex project environment. The concentration on national differences does not give a full understanding of risks or opportunities in the project business. On the other hand, the need to understand the consequences of uncertainty caused by cultural differences has increased when competition in the global market is becoming tougher. Cultures are very dynamic, which creates another challenge for uncertainty management. Current tools do not take into account the dynamic perspective of any uncertainty. This study consists of only a small number of projects, but the use of in-depth interview methods revealed already some underlying processes and assumptions. More research is required to clarify where the uncertainty lies in specific projects, for example to investigate similar sizes and types of projects in the same industry, so that the results of this study can be used as a practical means.

Different cultures are present in our daily activities, affecting the practices and processes. The objective in this research was to reveal processes related to uncertainty reduction in multinational projects. The studied projects were two consecutive research and development projects, two separate turnkey-deliveries, and one product delivery and installation project. There is inconsistent evidence of whether cultural differences have an impact on project execution, and whether the impacts are positive or negative. The emphasis in previous research has been mainly on decision-making and its impacts. In this research, a different approach was taken, supported by principles of grounded theory. Uncertainty-reducing practices in relation to cultural differences were identified in the projects (cf. Miller, 2009).

In practice, cultural differences are often considered to cause hindrances and attention is often only given to the national backgrounds of participants. No doubt differences create uncertainty, whose effects cannot be predicted by probability distributions. This research illustrates that project managers have established

strategies and tactics to reduce uncertainty they consider to be caused by cultural differences, even if solid evidence of the impacts was not available. The findings showed that activities are based on and limited by individual experiences from previous assignments. Some of the actions were preventive and some were reactions to already actualised impacts. In all of the studied projects, the main objective of the actions was to prepare for or respond to negative impacts. In order to exploit also the opportunities that arise, managing uncertainty demands new cognitive practices.

The findings of this study support the notion from Lane and Maxfield (2005) that many of the events in which cultural differences play a key role cannot be seen beforehand and therefore managed using current uncertainty management practices. Impacts can sometimes be predictable, but they often unfold from encounters and are related to a certain context. Differences can have different manifestations in projects. They might vary during different project phases and between project types. Impacts can be negative, positive, and everything between. Evidence from the conducted project studies showed that sometimes there was no impact at all, even if differences existed.

Cultural difference can mean a great variety of issues in projects. The informants referred to, for example, national, organisational, professional, functional, and industry differences. The differences actualised in everyday project work, such as following time schedules and expressing oneself. Informants often described the culture they were talking about through what was actually similar in the project. Generally, the project is a form of organising unified work. There are certain elements that exist in each project. For example, each project has an objective, but as one informant stated "the paths to reach the goal are different". Experienced project people seem to follow an "international standard", a certain way to conduct the work, which was noted by informants to mean, for example, flexibility. In more detail, the adaptation and the change in behaviour in relation to communication and cooperation is required in each situation. Informants identified situations in which they retrospectively observed the impacts of cultural differences. Analysis resulted in the identification of cultural spheres in each project. Next, the uncertainty-reducing practices relating to cultural differences were identified. The conducted actions can be connected to three different implementation layers: organisation, project, and individual. Table B4 summarises the conducted actions to reduce uncertainty caused by cultural differences.

Table B4. Conducted actions to reduce uncertainty caused by cultural differences in projects (O – organisation, P – project, I – individual).

Project	Strategies and tactics/ Interaction among actors	Level of influence (O/P/I)	Cultural spheres
No 1&2	Consciously modifying stereotypes Controlling of schedules and outputs Co-operating with known partners	I P O	National Professional
No 3	Employing "culturally" matching workforce Creating common project culture	O P	National Organisational Functional Professional
No 4	Using local workforce Involving of upper management Leaning on the spirit of the contract rather than the letter Communicating face-to-face	O P P I	National Organisational
No 5	Exploiting cultural prejudices Using honesty as an asset Acting as a mediator in conversations	O O I	National Organisational

As individuals, project managers and other project participants consciously modified the stereotypes they had in relation to specific nationalities. This tactic was not decided in advanced before the project started, but recognised as a way to deal with uncertainty during the project, when other individuals were acting differently from expected. A major part of informants' thinking was linked to stereotypes. If a person with a specific cultural background behaved differently from the preconception, informants related this often to the personality, not the culture as general. However, during the long-term projects that last for years, informants needed to modify their prejudices. This research supports Rozin's (2003) notion that cultural differences seem to be bigger between cultures than between individuals from these two cultures. On a project level, when individuals meet, power relations, for example, play a bigger role (see also Tukiainen, 2010).

When project participant do not share a common language or have limited language skills, communication face-to-face was seen as very essential. By observing the situation as a whole (spoken and body language), the speaker can evaluate if the recipient has understood the message. However, speakers often have an egocentric approach to the situation at hand when they communicate (Keysar, 2007). People have the ability to modify their speech according to the recipient, but the speaker's egocentrism prevents successful communication. In the projects, the project manager sometimes acted as a mediator in conversations between different participants. Participants could have been the project's own personnel as well as individuals from the customer side or from other subcontractors.

Uncertainty is evaluated in many projects using subjective estimations. Individuals and their perception of uncertainty affect identification and estimation

of impacts as well. It is rational to try to reduce uncertainty in relation to the project at hand, because there are fixed boundary conditions defined in the contract for how to achieve the goal. There were rarely opportunistic conditions in the contracts of similar projects to the projects studied. On the other hand, it can be questioned if the opportunities, which would benefit several project participants, are also lost.

On a project level, the strategies and tactics used to reduce uncertainty related to cultural diversity consisted of controlling schedules and outputs, creating a common project culture, involving upper management, and leaning on the spirit of the contract rather than the letter. The direct link between the chosen tactics and project success cannot be drawn based on this research. Cultural differences actualised in the single encounters between the individuals, but project-level response actions were found as well.

Organisations were using uncertainty-reducing activities as well. Project people in different functional units (e.g. project sales, project management) co-operated most willingly with known partners. In many organisations, the selection of personnel is one of the main processes. Individuals are evaluated on how well they fit in to work with other employees. This same kind of evaluation has been made inside the organisation when appointing project personnel into a new project. Hiring a local workforce can help or cause hindrances to projects; for example, locals have knowledge about the ways of working and ease the processes. Cultural prejudices were also used to create an opportunity. Existing cultural prejudices were exploited, because they increased credibility. The use of honesty as an asset separated the company from its competitors.

One must distinguish different levels of business and cultural differences in order to understand the impacts of cultures in project business. At a project level, the personalities have larger emphasis, whereas at an organisation level, markets and the operational environment overall have more impact. In the studied projects, when the project started, the role of the organisation diminished. The project manager was the key decision-maker and involved in everyday activities. There was no time to observe possible opportunities. The organisation should have a major role in taking the initiative to monitor opportunities as well as taking action together with the project manager and other project personnel. Already Artto et al. (2000) have noted that different risk management areas are relevant at different organisational levels. Without a holistic view of the project, the opportunities cannot even be identified (Olsson, 2007). I argue that project level is seldom holistic enough to manage uncertainty, because projects are dependent on other projects and organisations, for example by using shared personnel. There is also a danger that interpretations might be misleading and the impacts that are claimed to arise from cultural differences might have other sources, such as gender, age, differences in personalities and institutions. The proximity of project team members also affects how cultural differences affect projects. If ethnically homogenous teams work in geographically separate phases and interact rarely or not at all, the cultural differences play a significantly different role.

Cultures are linked to many external factors, such as legal, environmental and social environments; however, cultural differences cause challenges in projects among other internal and external factors. The impact of cultural differences cannot be completely defined and isolated, because as social phenomena, the differences exist everywhere. On the other hand, a definition at one point in time does not hold for very long. As a subject, cultural differences raised many comments and led to exhilarated conversations about the project manager's current and previous experiences. The project type was found essential when considering what kind of emphasis the management of different sides of uncertainty should have. In research and development projects, where innovativeness is needed, the cultural differences are taken for granted in many projects. Cultural differences are already seen as an opportunity, but they are rarely managed. In traditional types of engineering projects, the differences are seen as a threat because, for example, the leadership and management styles and work practices vary. Miscommunication creates the need for time expansions, and causes extra costs, changes in scope without compensation, and lower quality. The observations from this study confirm the importance of flexibility and rapidness in decision-making through reflection (cf. Perminova et al., 2008). In one of the projects, workshops were conducted just after the challenges started to arise in order to create a project culture, which then would be stronger than any national or functional differences. This succeeded, but the same challenges were confronted in the next project with the same project personnel. In a delivery project, the cultural differences are confronted both inside the organisation and from external sources.

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Appendix C: The cross-cultural competence of the project manager in multicultural projects

Abstract

Current project management training is focused on culture-specific knowledge, and practices and tools that deal with the 'hard' issues like managing time and resources. Training is also biased by cultural values and assumptions related to project as a form of organisation. Studies relating to cultures' influences often concentrate only one cultural sphere at a time (e.g. national or organisational). The mechanisms of cultures' influences in projects, as well as the question of whether these influences should be managed in relation to available resources, are still far from clear. This has led to cultures' influences being an undervalued subject in project management. Project-oriented companies crave for experienced project managers partly because project management as a profession is greatly based on learning in practice. Especially in multinational projects, the ability to create and manage a cooperative atmosphere in a multidisciplinary project team, which consists of individuals that might not even meet each other face-to-face during the project implementation, is important already from the beginning. In projects, cultural differences emerge from several sources and in encounters between individuals, elements like personalities and communication skills play a role that cannot be differentiated from the influence of cultures.

The objective of this essay is to recognise key cultural competencies when managing multicultural projects by identifying the differences of approaches between masters and novices in culturally slanted project encounters. I present first the sources for culturally biased project management, especially linked to the Finnish project management culture. Secondly, the previous research relating to cross-cultural competence in project management is examined. Thirdly, I identify traits of cross-cultural competence based on the interviews with three Finnish project managers with an engineering background and the reactions of project management students (novices) to the critical events in the three different multinational projects managed by the experienced (masters) project managers.

The training and education of project managers at the moment emphasises acquired knowledge and skills rather than the implementation of these, causing the inability of novice project managers to take the necessary responsibilities at a faster pace. To be able to deal with the situational characteristics, the project manager should be able to change the approach if necessary in the situation at hand.

Keywords: cross-cultural competence, project management, multinational projects

1   Introduction

Cross-cultural issues have interested researchers since Hofstede (1980) published his seminal work identifying the cultural dimensions between nation states. By defining 'culture' as the software of the mind, he also implanted the idea that culture is something a group of individuals, in this case nation, possesses. On a national level, cultural differences have been found to be significant (e.g. Hofstede, 1991; House et al., 2002), however, showed that on the individual level there is as much variation among individuals within the same cultural background as among different cultural backgrounds (Ronen and Shenkar, 1985). The concept of culture is no longer equivalent to the nation state; however, this is the traditional conception among researchers in cross-cultural issues and project management practitioners (Søderberg and Holden, 2002). Rozin (2003) raises a question of whether the differences between individuals from different cultures are larger in behaviour than in feelings and thoughts.

An individual belongs to several cultural groups in different cultural spheres at the same time, such as national, professional and organisational. There is a strong trend to consider project management practices as universal (PMI, 2008). For example, large engineering projects are implemented in different parts of the world and they include employees of many nationalities from several organisations, but different guidelines for such projects state that the same project management practices can and should be employed. On the other hand, several studies have concluded that, for example, national cultures affect organisations and leadership (Hofstede, 1991; House et al., 2002). International project business is also influenced by westernisation (Chen and Partington, 2004), technological orientation (Crawford et al., 2006), and the form of organising (Winter et al., 2006). In this research, special attention was paid to the project management style arising from the Finnish national culture. Chevrier (2009) has claimed that a nation's political culture has its impact on managerial practices and, together with institutions, regulates the professional arena.

Uncertainties in the different country economies shake the existing financial structures and might even lead to the dissolution of existing economic unions. The management of large multinational companies struggle with the alignment of strategy and the necessary competencies of human resources (Bücker and Poutsma, 2010). In the multinational project business, the management competencies have received increasing interest among practitioners, but still the cultural competencies are a greatly unexplored area of research. There are differing views about what affects project success, and whether it is the personal characteristics of project management processes, tools, techniques, the role of context, or a balance between these (e.g. Crawford and Cooke-Davies, 1999; Ives, 2005; PMI, 2008). Johnson et al. (2006) identified a failure in the international business behaviour of companies due to an emphasis on 'knowing' rather than 'doing' in relation to cross-cultural competence. Project managers in large engineering

companies possess an extensive amount of knowledge and skills in relation to cross-cultural competence, but there is still a lack of implementing this knowledge.

This research had two phases: first, three international projects, managed by experienced Finnish project managers, were chosen. Each project manager was interviewed three times using storytelling about critical incidents in which they saw that cultures had an influence (e.g. Flanagan, 1954; Gold and Holman, 2001). One of the events in each project was presented to a multicultural group of novice PMs, who then gave their reactions to the events. The underlying elements of cross-cultural competence (CC) were revealed, together with the influence of external factors. This research provides insights in three different projects and increases our understanding about the various ways that cultures influence large multinational projects.

2   Cultural assumptions relating to projects

2.1   Western paradigm

Project management as a profession has its origins in western traditions. Development relating to the profession has mainly been conducted in the Anglo cultural cluster (e.g. Gupta et al., 2002; Wang and Liu, 2007). The Anglo cluster is one of the eight "meta-clusters" of cultures defined by Ronen and Shenkar (1985), which differ, for example, by geography, language, religion, and the level of technological development. It cannot be exactly defined what in project management is influenced by its origins in a specific geographical area and what by the industries in which it has become the customary way of conducting the work (see later in paragraph 2.2).

Projects are becoming more and more common across the world and in different industries, but western traditions have been emphasised, for example, in project management practices and tools. Sanchez-Runde et al. (2011) defined western traditions in leadership being, for example, emphasising the meaning of end-results, goal and action orientation. Chen and Partington (2004) concluded that current management practices are based on western paradigms that are not directly transferable around the world. Cultures vary in different conceptions of reality, which is also reflected in management beliefs and practices (ibid.). However, Laszlo (1999, p. 157) claimed that project management in its generic form is universal and can "be applied to any set of activities". Lundin and Söderholm (1995) have come to the opposite conclusion due to the temporary nature of the project as a way of organising. In current project management education and training, project management practices and tools are seen as universal and the influence of cultural diversity as a separate entity (e.g. PMI, 2008). Traits arising from recent research, however, indicate that in specific situations, the practical considerations "should be based on the knowledge that project management is not universal but culture-sensitive" (Chen and Partington, 2004, p. 405).

2.2 Technology paradigm

Projects as a way of organising have arisen in industries such as construction, engineering and IT (Cicmil, 1999). Project managers in these industries have traditionally been very technology-oriented and the emphasis has been on their technical skills (Crawford et al., 2006). When projects, as a flexible way to organise, have generalised and grown in size and complexity, the role of the project manager has been shaped differently in different organisations and industries. In large engineering projects, a growing number of the project manager's daily activities are connected less to technical details and more, for example, to time, cost, quality and risks management. Not until the early 1990s did project management education gain a stronger and more independent role, for example, in Finland and Sweden, when programmes for advanced project management were established in the universities of technology.

Several researchers have recently been broadening the concept of the competencies needed by the project manager (e.g. Crawford et al., 2006; Winter et al., 2006; Bredin and Söderlund, 2007). The shift from the project manager's technical competence (i.e. ability to use tools and techniques) towards reflection (i.e. ability to learn and adapt quickly) is ongoing (Winter et al., 2006). The reflection goes beyond learning from experience, including the actual thinking of an individual (Schön, 1983). Crawford et al. (2006, p. 723) identified ambiguity in the role of project manager when, in some organisations, "the project manager is only execution focused" and sometimes "involved in helping the project development functions" to set the time, cost and quality targets. When current project managers do not have basic management skills but technical competence, new roles in project organisations have been developed (Crawford et al., 2006). This tendency can be seen in major engineering projects, as well, where projects have been divided into parts with their own project managers with technical expertise. Management of the whole requires more basic management skills, such as marketing, finance and negotiation.

2.3 Projects as a way to organise

Projects are unique endeavours that respond to the need for flexibility in organising, compared to the more traditional ways of organising. Projects are considered temporal, that is, they have a defined exit already at the beginning (Lundin and Söderholm, 1995). However, this form also has limitations arising from the origins of the use. Projects are often considered to be rational, universal and deterministic from a managerial point of view (Winter et al., 2006). Projects have traditionally been common in specific industries, where project management practices have gained a specific form and have been influenced by the engineering field, leading to a mechanistic approach (Cicmil, 1999). Project management practices are generally seen as permanent and stable, and they are treated as being isolated from the outside world and social structures (Crawford et

al., 2006). By standardising and defining structures, projects have lost part of the flexibility, but on the other hand, gain credibility and power as a way to conduct a specific task in a given time with defined resources (e.g. Hodgson and Cicmil, 2006; Sage et al., 2010). The uniqueness is a feature of the end product, but the project organisations benefit from the standardised processes. A growing range of project types have elicited challenges that have not been aligned originally in the field of project management (Crawford et al., 2006).

Due to the task-orientation and greater degree of finesse required in applying project management knowledge, project personnel may not easily share their knowledge with others (Crawford and Cooke-Davies, 1999). In addition to the flexibility that project management brings to the organisation, it causes challenges in relation to the role of project manager, budget and schedule, and crossing the functional boundaries (Pinto and Rouhiainen, 2001). Projects are complex and stand-alone working efforts harm the continuous learning curve (ibid.). The focus is on the skills and knowledge that the project manager can adopt, rather than on the ability to handle uncertainty, complexity and ambiguity in different contexts.

2.4 Finnish management style

Tukiainen (2010) summarised the research conducted in relation to Finnishness and Finnish management culture, and noted that these studies were somewhat contradictory. Investigating cultural differences in relation to contextual and situational features has been introduced to take an alternative approach to managing cultural diversity and, more likely, to meet the current challenges in international business (Søderberg and Holden, 2002). On the other hand, Chevrier (2009) justifies national culture as a level of analysis by linking it to the political culture of a nation state. She also claims that this political culture has its impact on managerial practices and, together with institutions, regulates the professional arena. Traits in political culture lie in history, whether their current essence is based on facts or narratives that mix fact and fiction. Finland is considered to be a country between the East and West, due to its geographical location next to Russia, which has a long tradition of influence on Finnish politics. No doubt the influence is based on historical facts, but narratives also shaped part of the Finnish political culture, which has then influenced the managerial practices of Finnish managers (Nummelin, 2006).

Lindell and Arvonen (1996) concluded that Finnish managers, among other Nordic countries, are employee and development oriented. Finnish managers are used to working in decentralised organisations with little hierarchy, plan beforehand and communicate with subordinates (ibid.). On the contrary, in Mäkilouko's (2004) research, a majority of Finnish managers seemed to be task-oriented and conducted minimum pre-planning and process organisation, resulting in design flexibility and team member autonomy, but also role ambiguity. In communication style, Finnish managers might seem unpleasant, harsh, and insulting because they tend to go "right to the point with no softening" (ibid. p. 393).

Mäkilouko (ibid.) concluded that this ethnocentric leadership style may be a part of the learning process of multicultural leadership.

3 Cross-cultural competence in international project business

3.1 Cross-cultural competence of an international manager

Johnson et al. (2006) explained cross-cultural competence (CC) in international business through three dimensions: cultural knowledge, personal skills and personal attributes. In other words, the competence consists of the knowledge, skills and behaviour or attitudes of an individual. They also pointed out that external factors, like physical, economic, political and legal environments, are often ignored. This is the source of challenges, especially in multinational projects, for experienced project professionals. Successful experiences in the past cannot easily be replicated, because the external factors are always different from project to project.

In the field of project management, competence has been used in different meanings, limited often to knowledge and skills. Individuals from the same social background share a mental reference of how to make sense of given situations, but how they act in practice varies significantly (Chevrier, 2009). Practitioners often claim that novice project managers do not have the necessary skills and knowledge to act as project managers in multinational projects. Tools and methods form a major part of the training, but research has not yet been able to capture the traits of cross-cultural competence possessed by experienced project managers.

3.2 Individual's cross-cultural competence in projects

Based on the traditional thinking of cultures, the training has focused on individuals possessing culture-specific knowledge; however cross-cultural competence (CC) has another aspect: culture-general knowledge (Hofstede, 2001). Cultural-general knowledge includes awareness of cultural differences, knowing how to learn cultural values, consciousness of one's own cultural framework and understanding the differences with other cultures, and understanding the complexity of the business environment. Even in large engineering projects located in one geographical place, the project organisation executing the project always involves individuals from several countries, and companies as internal and external stakeholders. The parties and individuals also change constantly. In these projects, understanding the local culture is far from what is actually needed in conducting the everyday activities. However, an individual project manager also benefits from cultural-specific knowledge and the meaning of that should not be underestimated. Projects can be heavily influenced by local national culture, the

organisational or national culture of the client, professional cultures of the workforce, and so on. A fully heterogeneous project does not exist.

As project management matures at an organisational level, that is, as tools and techniques develop, the project management practices become more generic despite the differences in project types and contexts (Besner and Hobbs, 2008). Our social identity defines the set of practices we know, but we all have a different identity, although primary identities in situations can be the same (Salk and Shenkar, 2001). On the one hand, a practice can be seen as a set of activities that can be learned and replicated (Gherardi, 2009). From this viewpoint, the objective is to find similarities, frequencies and patterns that can then be made explicit and transferred from experienced practitioners to novices. On the other hand, practices are seen as "action that forges relations and connections among all the resources available and all the constraints present" (ibid., p. 117). Further, Gherardi (ibid.) claims that a competent practitioner needs to know how practices in the field can and need to be used, because learned routines and practices help us to confront new and unexpected situations by serving as uncertainty-reduction devices.

Practices evolve from reflection in situations when similar encounters are confronted. However, past experiences are sometimes so different from the current situation that they might not correspond closely enough with the real situation. In these cases, an individual reflects new issues against their past experience, that is, reflection links learning and experience (Boud et al., 1985). However, to consciously draw strength from reflectiveness requires self-reflectiveness and a high degree of self-knowledge. Masters use learned practices, but at the same time they transform them in action through sense-making (Weick et al., 2005). During their working careers, they have adopted their collection of practices by doing the actual work. They are able to quickly choose the best way to proceed, they are ready to change their approach fast if necessary, and they are able to use several approaches simultaneously. They know that in project business, people are not likely to use the same practice as such over and over again. In order to make sense of what is happening around us, we anchor our perception in social situations to our past knowledge about encounters. We are reflective in relation to our social environment and engage in constant sense-making by explaining and interpreting events, whether consciously or unconsciously.

The right kind of training can provide the necessary skills for novice project managers to handle everyday project situations. For example, mastering a foreign language, effective stress-management or conflict resolution are skills that individuals can acquire over time (Johnson et al., 2006). In some areas, the novices possess skills, such as using the latest project management tools, which are superior compared to the experienced project managers. The new generations of project managers might have superior skills compared to the current generations, but they lack the knowledge that has increased together with the experiences. As Müller and Turner (2010) have pointed out, project management has traditionally been considered to be using the right tools and techniques, but the latest studies have challenged this by showing that mastership of the tools has a weak relationship with successful performance of the projects. Matching personal attributes

and project type has been seen to be an important element influencing the success of leadership in projects and finally project success (Dvir et al., 2006).

Individuals differ in their knowledge and skills, but also in their personal attributes. Experience and an individual's ability to learn and adapt contribute to competence. A part of cross-cultural competence (knowledge and skills) can be acquired by an individual, but there is a large variation in how and what amount of knowledge and skills an individual can learn (Johnson et al., 2006). There is an ongoing debate on the relationship between personality and national culture. Hofstede and McCrae (2004) revealed that personality factors at a national level correspond with the national value systems. However, they noted that there is a wide variation in these factors among individuals. Burke et al. (2009) used Digman's (1990) Five-Factor Model, which consists of conscientiousness, emotional stability, extraversion, agreeableness, and openness to experience, and found that all of these five personality factors correlate with at least one dimension of international performance among international students. PMs can be differentiated from general managers based on the personality characteristics (Crawford and Cooke-Davies, 1999).

3.3   External factors – ability to act accordingly in specific situations

Cultures arise and evolve through communication, which is context dependent and, especially in projects, changes constantly. As we know, the internet has introduced new ways and possibilities to communicate all over the world. During the 21st century, the concept of culture has been changing so that it is no longer considered static, but a constantly evolving social framework through interaction between individuals. Cross-cultural situations in multicultural project organisations are various and this polycontextuality in cross-cultural communication causes challenges that are not yet fully understood (Von Glinow et al., 2004). Individuals with different cultural backgrounds interpret the meaning of the message differently by observing the non-verbal traits in addition to words, that is, the connection of communication to context (Hall, 1976).

The knowledgeable, skilled and capable individual can still confront great difficulties to apply CC in different environments and situations. To be able to act successfully, a project manager needs to learn effectively, but also needs to be able to perform (Johnson et al., 2006). External factors, such as physical, economic, political and legal environments, have been underestimated as factors in relation to CC (ibid.). Bücker and Poutsma (2010) have considered national cultural context as well as industry culture to be important moderating variables that influence the individual's behaviour. They have linked global management competencies to constructs such as global mindset, cross-cultural competence, intercultural sensitivity and cultural intelligence. Johnson et al. (2006, p. 532) introduced moderating factors like the range of cultural distance, that is, difference in cultural values between two cultures, and institutional ethnocentrism, meaning

the "persistence of structures, processes and management mentalities imposed by the parent organization on overseas affiliates, even when it is not appropriate to do so". The needed leadership competencies of project managers vary at least between industries (e.g. engineering, IT), complexity (e.g. variation in application type), the strategic importance of the project, and contract types (e.g. fixed-price, alliance) (Müller and Turner, 2010).

4 Implementation of the research

In this research, two different kinds of projects were investigated: engineering and new product development. As a basis for the test, three case studies were conducted. The masters of the chosen projects were asked to tell stories about critical incidents (see e.g. Flanagan, 1954; Gold and Holman, 2001) during the projects. These three projects were international projects in which Finnish informants, later masters, acted as the subcontractor's project manager, main contractor's project manager and a coordinator of a R&D project. The masters were all males in their 50s and they had more than 20 years of experience in international projects. All of them had lived for years outside Finland as expatriates and one of them had not lived in Finland for 20 years, but worked for Finnish company, spoke Finnish and had Finnish nationality, that is, was influenced by the national culture constantly. One of the masters has worked in Germany and the other two had experience from different countries in the Middle East. However, during the time of the interview, one of the masters with experience from the Middle East coordinated an international R&D project in Finland. Other project participants were located in Germany, the UK, Spain, Italy and Belgium. The masters of each project were interviewed three times. The objective of the interviews was to collect what informants considered to be critical incidents during project implementation, in which they saw cultures having some kind of influence.

The novices in this research consisted of 20 master's students, out of whom two had some earlier project management experience, of five and seven years. These novices were used to studying in multinational classes where English is used during the lessons. The world in which we are living now has changed quite a bit compared to when the masters were starting out in the 1970s and 1980s. Transportation and communications have become global, to mention just some of the changes. In this study, the novices are on their way to adopting management practices in projects. Figure C1 represents the structure of the research arrangement.
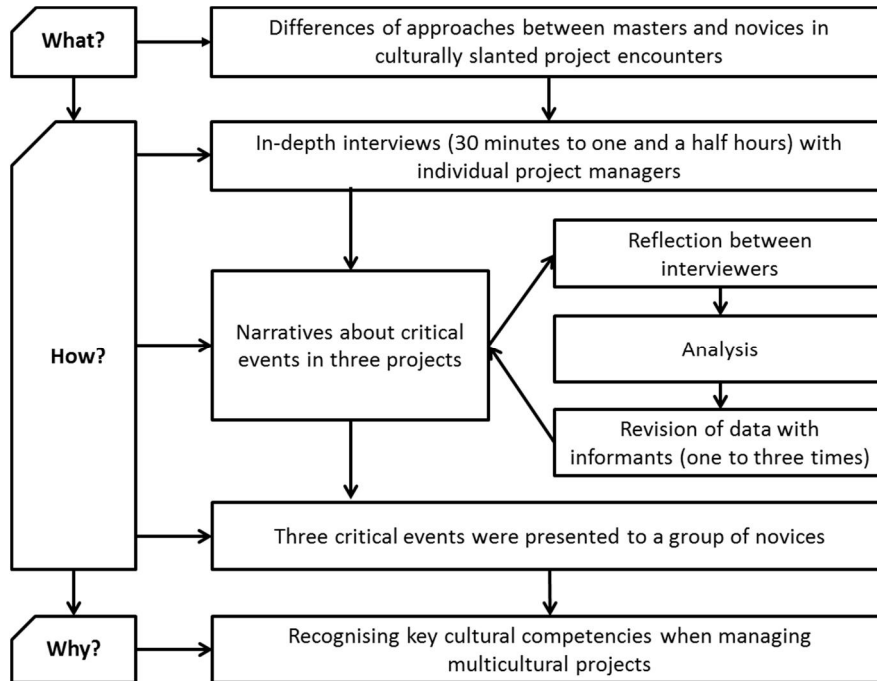
Figure C1. The structure of the research arrangement.

One critical event per project was selected to be presented to the novices, who were asked how they would react if they were confronted by similar events. At this point, the locations and nationalities of the participants related to the projects were not revealed. The test started by asking the novices to write down some background information: age, gender, nationality in passport, country, place of birth, and previous project management experience with duration and type of projects. After that, the cases were presented one-by-one in front of the classroom. After each of the case presentation, the novices were asked to write down their responses.

Relating to this essay, all the interviewed project managers, the masters, were Finnish and working in Finland-based multinational organisations. The management style arising from the cultural values and basic assumptions relating particularly to Finnish national culture cannot be ignored. The masters' behaviour was homogenously influenced by the traits of Finnish national culture, the organisational culture of the companies, and the industry culture related to the projects. The group of novices were less homogenous when considering the national background. They also differed from the masters in the sense that they were not technical experts or even becoming so, but learning managerial skills especially related to project organisations.

5   Findings

5.1   Case 1: Participating in competitive bidding

The first event – in fact, more of a set of events – occurred in the UAE. The regional sales manager (originally Finnish), acting as a project manager as well, was desperate to get a large reference project in this market for the Finnish company he was employed by. He had worked in the area for decades and knew the local cultural differences and similarities. A competitive tender for the construction of a high-rise office building was announced. It would have served perfectly as a reference for the company. However, the competition was tough and the tender document did not permit offering a product with different technical specifications. The sales manager knew that the competitors could not follow the tender documentation either and, in order to get the contract, the competitors would promise to deliver whatever was asked. In this case, the company had a strong belief that its product would better respond to the service needed by the client. Table C1 below shows how the novices answered how they would respond to the tender. The answers reveal four different types of perspectives.

Table C1. Table of the perspectives of novices relating to participation in tendering.

A	Offer based on the company's product
B	Communication with the client before submitting the offer in order to discuss the company's product and competitors' insufficient ability to deliver
C1	Give two offers: one according to the tender documents and another based on the company's product
C2	Give an offer according to the tender documentation with an option for a better solution
C3	Give an open solution in order to establish a long-term relationship with the client
D	Give an offer based on the tender documentation

Some reasoning for particular answers was given as well, for example that the company should offer the product it thinks would be the best, even if it does not fit the client specifications (A):

> *"In this time I would ensure client satisfaction from my point of view as project manager by offering the solution that I think is better, considering the fact that my company is in charge of a certain part of the project execution."*

Communication with the client was also seen to be important. However, this would often be impossible during the tendering phase, because of the large number of competitors. To establish a relationship with a client takes time, which is a scarce resource, especially in a growing market (B).

> *"I will discuss a better solution with my client. But I think it is not enough to persuade him. This is because I'm not experienced in this field, so my solution is not verified practically. Therefore, the client would not choose my offer. So, I think I should talk about my competitors' ability to deliver."*

Many perspectives from novices supported the idea that the company should make an offer that matches the client specifications, but should also make another offer according to its product, and make an extended version or more open version than requested in the tender (C1, C2 and C3):

> *"I would respond to the tender by delivering both of the offers: one which matches 100% but is worse and one that is in my opinion better. But in the better one I would point out the differences between them, especially the points that make the second one better. Depending on the culture involved I would highlight those things that I assume to be important to the new company/partner."*

According to some perspectives, even if the competition would have been won with an offer that deviates from the tender specifications, this might cause problems during project implementation (D).

> *"I would offer the requirements set out in the documentation with the option for further improvements should the client require them. After all it is the first project of this kind we would be part of as a firm. Once a contract has been signed it must be delivered. On the whole, as a firm we must be realistic."*

In reality the company gave an offer, but pointed out every single detail where it could not follow the tender documents. The competition for the project delivery was lost to the largest rival firm in the market. After the contract was lost, a different and perhaps exceptional approach was taken. The key person of the designer/consultant happened to be the same nationality as one of the company's sales managers. Relationship building with the consultant started in order to be able to get access to the local client of the project. The consultant was convinced that the features of the company's product would be more suitable for the project. Together, they proposed the changing of the subcontractor to the client. The change was made and relationship building with the main contractor started. In the end, the project was successful in economic terms from our project company's point of view. Important relationships with local actors, as well as key partners, were created and new projects were granted.

This project was executed during a time when there was a sharp economic boom in the construction market in the UAE. The client had the ultimate decision-making power and the competition for projects was harsh. In practice, there were no possibilities to offer a solution that did not match the specifications described in the tender documentation (A). Any additions (C2) or changes (C3) would also jeopardise the opening and acceptance of the offer. Due to the large scale of the projects and the time needed for formulating an offer, not many of the companies

would consider committing extra resources during the offering phase (C1). There are no possibilities to have conversations with the client before submitting the offer (B). In fact, all attempts to communicate with the client might even be forbidden due to the large number of contacts the clients would get in that project. The relationships need to be already established beforehand. Companies screen the market and establish relationships with major players (constructors and consultants) in order to be able to recognise opportunities early. This might even lead to a direct deal without competitive bidding. Even if the first perspectives do not fit this project, it does not mean they would not work in other projects. However, in this market the other approaches would have a minority position.

In the first case, only one of the perspectives of the novices would have fitted the actual project: give an offer based on the tender documentation. On one hand, the novices did not have the necessary culture-specific information about the national culture or the industry culture. On the other hand, they lacked culture-general knowledge about the complexity of the business environment, understanding of their own cultural framework and contrasting it to the culture in the project. Based on the variety of answers, the novices possessed at least some skills in order to know the process of tendering. Personal attributes of novices or masters could not be assessed for this research. Due to the importance of the project, the master decided to use an unorthodox plan of action. During a very short time period, the project manager, together with the sales manager familiar with the market, started to build a relationship with the client and did so successfully. Both had the necessary knowledge, skills and most likely the personal attributes to win the project. However, there were important external factors that needed to be overcome, for example, based on Hofstede's (1991) survey, the cultural distance between the client and company was relatively large (Figure C2). Power distance describes the extend how hierarchies are accepted and used (high degree depicts the wide acceptance of unequal distribution of power among society). The high degree of individualism represents the expectation of individual to take care of him- or herself rather than relying on the support from the group (relatives, friends etc.). The high masculinity score depicts a preference of achievement and material success, and high uncertainty avoidance the attempt to control the future.
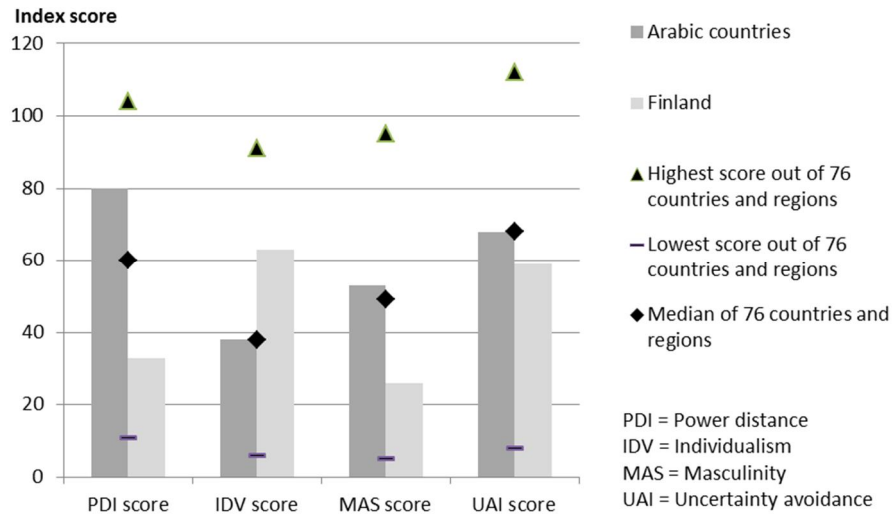
Figure C2. Cultural distance between Finland and Arabic countries (Hofstede, 1991).

The national background of the sales manager (Egyptian by nationality) acted as an important moderating factor due to the small cultural distance between the country of implementation and the national culture of one of the client's representatives. On the other hand, the sales manager knew the company's culture, but was not heavily influenced by possible institutional ethnocentrism of the home organisation. As a starting point, "westerners" were respected in the business over other cultures. The strong belief in superior technology, a highly valued aspect among Finnish project managers, together with the familiarity of the market, enabled the two individuals to apply what they knew to be the common way of doing business in that market. This differed from the common way of doing business, where the projects were granted to a personally known subcontractor in the network. Mastering the external factors in this project required an optimal combination of knowledgeable and skilled individuals with previous experience of the market. By possessing necessary cross-cultural competence without the experience from putting it into action, a novice project manager would not have been able to finalise the project successfully.

5.2 Case 2: Agreeing an additional delivery

The second event was related to a project in Germany (in the area of the former East Germany). The company in question was delivering a project of a much larger scope than its previous assignments. The client wanted a working facility on a turnkey basis. During implementation, it was noted that the contract did not include a lift or its installation in the lift well. Construction of a well was included in the drawings that were part of the contract. Compared to the contract price of the

whole facility, the installation of a lift did not have a great economic impact on the delivery. Table C2 below shows how the novices answered the question of who would be responsible for the costs of the lift and its installation. They were also asked if they would order the lift. Almost all answered yes (a few answered maybe). The answers could be divided into four different categories.

Table C2. Table of the perspectives of novices relating to additional delivery.

A	The client should pay the costs
B	The deliverer should pay the costs
C	The costs should be divided between the deliverer and the client
D	Depending on the relationship with the client: • if good, the deliverer will pay • if not good, the client should pay

Because the project was a turnkey delivery, a majority of the novices pointed out that the lift should be ordered, but the question is more about who should pay the costs. Four different types of answers could be identified. First of all, some respondents reasoned that the issue should be settled on the basis of what is written in the contract (A), meaning that the client should pay the costs.

> *"The installation of the lift was not part of the agreement, so the client would have to pay extra."*

However, some justified their answer by placing greater emphasis on the relationship with the client (B). This was interpreted to the effect that the deliverer will pay the costs.

> *"At my own cost, because this:*
> * *brings more value to the overall project than without it*
> * *improves the relationship with the contractor*
> * *means nothing in terms of the overall cost, or in other words the profits achieved."*

Some of the novices stated that the costs should or could be divided between the client and the deliverer (C). In their view, it was self-evident that the lift should be installed and that the division of the costs was fair.

> *"If the costs were 50/50, we could install the lift based on the argument that not tackling this problem might cause bad will and risk future projects."*

One of the respondents would decide the issue on the basis of the previous events in the project (D). However, future development might be as important. If the deliverer would like to establish a continuous relationship with the client, he might use this kind of event to ensure delivery capabilities. After all, this installation did not have great monetary value in relation to the size of the whole delivery.

"If the project has gone smoothly and paying for the lift will still allow you to make a profit out of the project then yes. However, if the client is already dissatisfied with your work and you know that he won't use you again, I'd leave it out."

In reality, an offer for the installation of the lift was made to the client. The installation was ordered. However, the project was a failure in economic terms. The contract text was reviewed on many occasions during the project and negotiated several times. According to the deliverer, the contract text was a very powerful tool during the project. In this project, the project manager of the deliverer would have liked to rely on "common sense" first and then, if problems occurred, base decisions on the contract. Actually, the lift installation was not the first negotiable event during the project progress. The deliverer would have installed the lift and paid the costs. The deliverer's company still decided to require the client to pay for the installation – one reason was that the relationship with the client was not that good.

The contract plays an important role in international projects. In major projects, the contract negotiations last for months and deal largely with non-technical issues (when the construction of a building or a facility is at issue). In this project, even the project manager had a slightly different opinion about the procedure than others in the company he represented (lawyers, top management, etc.). This project shows that the project manager is not always on top of the decision-making. Based on the contract and the deliverer (company), the client should pay the costs (A). However, the individual project manager had a different point of view (B). This is also dependent on who has the stronger position in negotiations. Here the answers revealed that the respondents believed that the client had a strong power over the deliverer and, in order to keep the relationship, the deliverer needed to make some concessions. A larger scale evaluation of the client relationship was also made so that the options could be assessed (D). This kind of evaluation might also be affected by the market situation (the client might be a marginal player, institutional circumstances might not be favourable, etc.) or delivery type (the deliverer might not want to implement a turnkey project after all), to mention just a few examples. The third perspective (C) is based more on negotiations and consensus between the client and deliverer. If the contract had not mentioned anything about the issue, negotiations would have been the most suitable way to proceed. Depending on the relationship between the parties and the overall project progress, a trade using money or other trade-off would have actualised.

All the perspectives provided by the novices could have actualised, but in reality one perspective was chosen: the client should have paid the costs. The previous course of the project and the future prospects with the client also supported this choice. However, during the interviews, the master highlighted that he would have acted differently. He would have tried to solve the problem by negotiating, or more to the point, coming to an agreement about the procedure. If this had failed, he would

have raised the contract in the conversations. At the end, the project had severe problems, but analysing the causes is not part of the scope of this paper.

The dominance of different professional cultures varied in different parts of the project, for example negotiations were conducted by managers and lawyers, whereas the project managers on both the deliverer and the client side were engineers. The novices in this case were management students in a business school, leading to the strong emphasis on the contractual issues. However, the project managers differed as well. Traditionally, the Finnish project management culture has strong roots in the engineering discipline and trust in a "gentlemen's agreement", where putting a contract on paper has been seen traditionally as an unavoidable task and an ultimate last source of settlement in case of disagreement. Experience is also seen as a more valuable asset than formal qualifications. The client's German project manager was running his first major project and, in a case of uncertainty, leaning first on the contract rather than on personal judgement.

The master project manager had gained cultural knowledge (culture-specific or culture-general) relating to national culture over several years, but neither the master nor the novices had enough understanding about the professional cultures involved. The project manager had the necessary skills to run the project, for example he was fluent in the language. He had the necessary technical skills relating to the technology at hand, which gave him respect from the workforce point of view (i.e. as an assembler and builder). In this project, the implementation of cultural knowledge would have been challenging due to the institutional ethnocentrism committed by both contract parties. The delivering company evaluated the relationship with the client as less important in the long run, whereas the project manager was not involved in the contract negotiations, but was strongly influenced by the consequences.

5.3   Case 3: Ensuring the project delivery

The third event that was presented to novices happened in an EU-funded research project. The research partners were from six countries: Finland, the UK, Spain, Italy, Germany and Belgium. The project started in 2000 and ended in 2003. In such a research project, the partners create a consortium, where one partner acts as a coordinator (in this project, the Finnish partner). The members of the consortium were treated equally and were jointly liable from the financier's (EU) point of view. Project content was divided into tasks and each partner was responsible for performing its own task autonomously. Every second month, the partners gathered in one of the participant countries to discuss the results and coordinate the next steps in the project. Even if the tasks were relatively independent, there was some dependence between them. In practice, delays in one of the tasks would have an effect on the other tasks. At the minimum, some of the content of the other tasks and their schedule needed to be redefined and to be approved by the EU project coordinator, causing a lot of extra work and the risk that funding for the whole project would be terminated.

What happened in the project was that one of the partners did not deliver what was agreed. It was the coordinator's role to keep track of the whole project and tackle any problems that arose. The coordinator was also responsible for combining the project results as one entity. Generally, the partners worked on their individual parts of the project in their own countries and met every other month. The novices were asked what they would do in order to get the needed results from the partner. The answers are shown in Table C3 below.

Table C3. Table of the perspectives of novices relating to ensuring the project delivery.

A	Contact the partner and pressure it to deliver (ask for an explanation, set a new deadline, exclude from the consortium)
B	Tell the partner to deliver and suspend its funding until it does so
C	Ask the partner to deliver and invoke the idea that the delays endanger its participation in further EU-funded projects (effects on reputation).
D	Consider the previous behaviour of the partner and the possibility of delays in the future. Inform the partner of the conclusion and set goals and terms.
F	Directly inform the partner about its exclusion and withdrawal of funding.

The case revealed five distinct perspectives on dealing with the issue. The first perspective indicated a desire to establish mutual communication between the coordinator and the partner who was not delivering.

> *"I would contact the partner and ask for an explanation and ask it to deliver its part."*

The second perspective showed a more straightforward approach. Funding was used as means to motivate the delivery of results.

> *"Demand the results before paying the funding."*

In addition to suspending funding, the risk of a tarnished reputation was mentioned in the answers. Mostly this was presented as a hint, but direct action was also suggested, in which a coordinator would "put out the word that the partner is unreliable and ineffective."

> *"I would ask the partner what is going wrong in its work and set another deadline before which it should deliver what we need. Otherwise it wouldn't get the money and its reputation would also be in danger."*

A more time-oriented perspective was also presented. Here, the culture was also mentioned; however, no further conclusions are made based on this.

> *"First consider his or her nationality. Think about whether this is only a one-time event or could happen again in the future."*

Direct action was also revealed, just to let the partner know about the consortium's decision to exclude the partner from the consortium. In this perspective, dependence on the contract terms was raised.

> *"Get a lawyer. Sue the partner for non-delivery (compensation) and delays. In the meantime, find a new partner to complete the missing part of the project."*

In the actual project, the coordinator negotiated with the partner, who explained that the delay was caused by problems in his internal organisation. The coordinator based his point of view on the consortium agreement and pointed out that the partner needed to solve his internal problems and fulfil his obligation to the consortium. The partner solved the problems and followed a common procedure defined for these kinds of events in EU projects (prepared a delivery plan, which was sent to the financier, as well). This worked and the partner was able to deliver his part of the project. Originally, the coordinator was expecting some kinds of delays in the project. He assumed that cooperation with Southern European countries would be more difficult due to their different concept of time. This led to a strict and task-oriented project management style. However, the above-mentioned partner came from the UK. That said, the management style worked in this specific situation if the success of the project was considered. However, after the project ended, the same consortium planned a new project from which the UK partner would be excluded.

At least two of the five perspectives were in line with what actually happened, with one distinction: the coordinator had to have both of the perspectives and he had to use different approaches derived from the perspectives. The coordinator had presumed that something like this might happen (D), so he had decided to follow the timetable and deliverables strictly. In addition, the consortium agreement was formulated to take into account such obstacles. As soon as there were signs of problems, which came to light during alternate monthly meetings, he contacted the partner and started negotiations (A) based on the agreement. Records of the actual discussions held between the coordinator and the partner were not available for this study. Only the coordinator's view of how things went was available. The perspective of endangering the partner's reputation (C) seemed to be the result in the actual project. However, it cannot be said if this was used as leverage during the negotiations.

Two out of five perspectives (B and E), suspending the funding or excluding a partner in the middle of a project, are extremely difficult to execute in practice. What usually happens is that the rest of the consortium needs to "fill the gap" that an inadequately performing partner has left in content and funding. In order to have EU project funding (one type of funding in the EU), additional national funding is required. If one of the partners is excluded, the national funding relating to this specific partner is usually withdrawn. The corresponding amount of EU funding will also be withdrawn. It is easier to try to get the partner to finish the work as planned and not cooperate with that partner in future projects (as happened here).

Some of the perspectives presented by the novices were not possible due to the nature of the project. In order to know, a project manager needs to be familiar

with the conditions and their practical effects in this type of project. Two of the perspectives fit in this project: contact the partner and apply pressure to complete the delivery, and consider the previous behaviour of the partner and the possibility of delays in the future. Monetary values often, if not always, play an essential role in projects and can be used as a negotiating asset. Money was a factor in this project as well, but the conditions set by the financier led to the development of other solutions. EU research and development efforts are one of the most multicultural project types due to the requirement of the participation of several nation states in each project and the collaborative nature of the relationship between the partners. Partners interviewed for this study suggested that there is an EU project culture due to the long-term collaboration between them in several projects over the years. In this type of project, the emphasis is strongly on culture-general knowledge. Taken into account the number of nation states in Europe and the collaborative nature of the project, acquiring deep-level culture-specific knowledge would not be possible. On the other hand, individual behaviour influences strongly, and as pointed out earlier, individual attributes and an average representative of a specific nation state can differ greatly.

Fluent language skills (usually English), use of various communication tools, and rigorous working methods have a great importance. With the skills that novices can acquire nowadays in multicultural classrooms and teamwork types of studies, they have a relatively better starting point than in engineering projects. Cultural distances can be great in projects; however, the dominance of a single nation state is usually missing. The main financier, the European Commission, sets rules for the processes, which decreases the possibility that institutional ethnocentrism will hinder the exploitation of CC. Among the researchers and other experts, the individuals define the work relationships rather than the organisations behind the individuals, and thus CC possessed by the individual plays a key role in achieving a successful outcome.

6   Conclusions

Cross-cultural competence can be understood as a set of skills, knowledge and personal attributes (Johnson et al., 2006) However, as pointed out by Johnson et al. (2006), person possessing the competence might not be able to act successfully in different contexts due to the external factors affecting the business relationships. The goal of this essay was to identify the differences of approaches between masters and novices in culturally slanted project encounters and recognise key competence when managing multicultural projects. In order to reveal the underlying competence features, a comparison between the novices and masters was conducted. First, three masters were interviewed about encounters in specific projects. Second, one event in each project were chosen and presented to a group of novices, asking for their reactions to the event.

The novices were studying project management in a business school without having strong technical skills in relation to the content of the projects, whereas all

the masters had the necessary skills. The novices have a theoretical "toolbox" on how to act in the different phases of the project. These rarely fit in real world situations as such, but the novices can apply the learnt skills to find a solution that is much better than any of the used practices. Masters do not stick to one approach, but are able to change if necessary in the situation at hand. They have a greater understanding of the exceptions to implement their skills than novices, but on the other hand, the masters often stick only to the known ways of solving unexpected events. Multicultural classes, teamwork types of studies, and extensive use of different kinds of communication tools worldwide give the novices nowadays a very different kind of starting point to an international career.

Learning a local culture by studying and experiencing it seems to be a basis for a project manager to be able to work effectively (or at all) in another country (Eriksson et al., 2002). This study supports the notion that contextual factors are essential when managing projects in different countries. Knowing the norms, routines, traditions and rules of a specific culture is not enough for the successful implementation of a project, but it is essential when the perceptions need to be modified and practices transformed. Inexperienced project managers do not have sufficient knowledge of local culture and they might act in the opposite way than is intended. However, the culture-specific knowledge should not be limited only to national cultures. A sufficient level of culture-general knowledge contributes to understanding a variety of different cultural spheres (e.g. professional, organisational, project type). It is essential for a project manager to understand his or her own cultural framework and how it differs from the cultural variation in the project. The influence of a specific culture diminishes if the power relationships in the project are less unequal (e.g. joint ventures, collaborations). The situation in projects might change radically between the project phases or parts (management, production, operative staff etc.) of the project.

Johnson et al. (2006) described external factors such as cultural distance and institutional ethnocentrism, which hinder the project manager in using the CC that he or she possesses. To overcome, for example, the challenges caused by cultural distance, a project manager can work as a team with others who are more familiar with the culture in the project. Institutional ethnocentrism can have an influence in several ways. On one hand, it can set the project manager into a difficult intermediary position between staff and management. On the other hand, the processes defined by an external party can unify the project team: decrease the negative effects created by the diversity in communication, for example, and open possibilities for new solutions through the fresh viewpoints of partners.

Learning in the context of large and complex multinational projects is exceptionally difficult due to the large number of project participants and changes in participants across projects (Hobday, 2000; Leufkens and Noorderhaven, 2011). Each company participating in a specific project has its own and somewhat differentiating drivers for collaboration (Artto et al., 2008). In addition, the interests between organisations and individuals representing them might not be congruent. Leufkens and Noorderhaven (2011) argued that individuals decide their interests during the interaction with other project participants, that is, their interests are

socially constructed. The training and education of project managers at the moment emphasises acquired knowledge and skills rather than the implementation of these, causing the inability of novice project managers to take the necessary responsibilities at a faster pace. This research supports the concept of CC presented by Johnson et al. (2006), with a strong emphasis on the external factors. Even the most skilled and experienced project manager cannot reach a successful outcome without help from his or her own organisation or similar attempts on the client's or other stakeholders' side.

The exploitation of cross-cultural competence in multicultural project environments is more complex phenomenon than our current understanding reveals. The variety of responses between novices and masters in different situations leads to a conclusion that there is no single set of practices that a project manager can learn to be able to handle situations. To be able to deal with the situational characteristics, novices should learn to recognise their own ways of reacting in different situations. There cannot be one right way due to the fact that every human being "carries" a different set of experiences and has a different personality. In this essay I have explored the underlying features of projects that enhance or hinder either the positive or negative influences of cultural diversity.

7 Limitations

For the empirical part, the novices had a very limited amount of information and time available. Actually, this is often the situation in the real world. Their reactions at one point in time were only requested, that is, no development of thoughts or understanding could have happened. The decisions also result from negotiations between parties. The deliverer is rarely in such a strong position that it can dictate the solution. The problems are solved piece by piece under hard time and cost pressure. In the real world, the project manager is not always the only one making the decisions, especially if they affect the business of the company on a wider scale. For example, general managers or lawyers are involved in the decision-making. Personal attributes of the novices or masters could not be assessed for this research, but the novices were relatively young compared to the masters, whose careers started during the 1970s to 1980s. Travel and communication have changed fundamentally, so the new generation has a different worldview for the basis of international project management. This would be an interesting topic for another study.

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Title	**Essays on managing cultural impacts in multinational projects**
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Abstract	Cultural differences have become more perceivable at the same time as national borders have become less relevant and economic systems more dependent on each other. Current concepts about culture do not seem to help in understanding the differences and their effects in practice. Despite the previous efforts within the project management discipline, a large variety of concepts and the lack of practical solutions are leading to disregarding especially the innovation potential arising from multiculturalism. This thesis consists of a summary and three essays, which are based on three research settings exploited in parallel in the essays. The first essay illustrates the variety of cultural conditions causing challenges between unified project practices and the flexibility of action in individual projects. The second essay reveals the tactics of Finnish project managers when navigating in multicultural project encounters, and the third essay depicts key elements of cross-cultural competence by comparing the differences between the approaches of masters and novices in culturally slanted project encounters. The first attribute and at the same time limitation associated with the concept of culture is nation, which often (almost always in daily conversation) is used as an equivalent to the word culture. National culture has been found to be obsolescent when managing cultural diversity in a multinational business environment, although it can sometimes be a relevant unit of analysis if linked to, for example, the political and legal institutions of the nation. The external variations of cultural spheres cause problems internally when applying the unified project process model and take attention away from external challenges. Secondly, culture is basically seen as causing only challenges, that is, having a negative influence. Especially on the level of an organisation the actions were directed to decrease or eliminate the possible problems. The individual project managers, on the other hand, saw diversity as more fine-grained and sought the subsequent opportunities. Thirdly, both cultural and project management knowledge are context related. The project manager should be able to change the approach if necessary in the situation at hand.
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Nimeke	**Esseitä kulttuurivaikutusten johtamisesta monikansallisissa projekteissa**
Tekijä(t)	Johanna Kuusisto
Tiivistelmä	Kulttuurierot ovat yhä selvemmin havaittavissa samaan aikaan, kun maiden välinen kanssakäyminen on lisääntynyt ja niiden taloudelliset järjestelmät ovat yhä riippuvaisempia toisistaan. Tämän hetkinen ymmärryksemme kulttuureista ei tunnu selittävän riittävästi kulttuurierojen vaikutuksia käytännön projektitoiminnassa. Aikaisemmista tutkimuksista huolimatta projektijohtamisen käsitteiden suuri määrä ja käytännön ratkaisujen puute ovat johtamassa tilanteeseen, jossa erityisesti monikulttuurisuudesta nouseva innovaatiopotentiaali jää kokonaan hyödyntämättä. Tämä väitöskirja sisältää yhteenvedon ja kolme esseetä, jotka perustuvat kolmen erilaisen tutkimusasetelman rinnakkaiseen hyödyntämiseen. Ensimmäinen essee havainnollistaa kulttuurierojen moninaisuutta, joka aiheuttaa haasteita yrityksen yhdenmukaisen projektijohtamisen käytännön ja yksittäisen projektin johtamisen välillä. Pelkästään kansallisten kulttuurierojen huomioiminen ei ole riittävää projekteja johdettaessa, vaikka niillä voi tietyissä tapauksissa olla merkittävä rooli. Poliittiset ja oikeudelliset järjestelmät liittyvät tiiviisti tiettyyn kansallisvaltioon. Kuitenkin esimerkiksi toimialoilla, ammattikunnilla ja organisaatioilla on omat kulttuuriset erityispiirteensä, jotka vaikuttavat tämän tutkimuksen perusteella projektitoimintaan. Nämä erot ulkoisessa toimintaympäristössä vaikeuttavat usealla toimialalla toimivan yrityksen sisäisten toimintojen yhdenmukaista järjestämistä ja vievät huomion ulkoisista haasteista sisäiseen organisoitumiseen.

Toinen essee paljastaa, kuinka yksittäiset suomalaiset projektipäälliköt ovat "navigoineet" projekteissa ilmenneissä monikulttuurisissa tilanteissa. Toistaiseksi kulttuurierojen nähdään aiheuttavan pääasiassa haasteita ja kielteisiä vaikutuksia projektien etenemiseen. Tämä toteutuu erityisesti organisaatiotasolla, kun taas yksittäinen projektipäällikkö saattaa löytää erilaisuudesta myös mahdollisuuksia. Kolmas essee kuvaa tekijöitä, jotka vaikuttavat projektipäällikön kykyyn ratkaista monikulttuurisissa projekteissa syntyneitä haasteita vertaamalla kokeneiden ja aloittelevien projektipäälliköiden tapaa toimia eri tilanteissa. Tarvittava kulttuuri- ja projektijohtamisen osaaminen on riippuvainen asiayhteydestä, joten projektipäällikön tulee pystyä muuttamaan lähestymistapaansa kussakin tilanteessa sen vaatimalla tavalla. |
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Cultural differences have become more perceivable at the same time as national borders have become less relevant and economic systems more dependent on each other. Current concepts about culture do not seem to help in understanding the differences and their effects in practice. Despite the previous efforts within the project management discipline, a large variety of concepts and the lack of practical solutions are leading to disregarding especially the innovation potential arising from multiculturality.

This thesis consists of a summary and three essays, which are based on three research settings exploited in parallel in the essays. The first essay illustrates the variety of cultural conditions causing challenges between unified project practices and the flexibility of action in individual projects. The second essay reveals the tactics of Finnish project managers when navigating in multicultural project encounters, and the third essay depicts elements of cross-cultural competence by comparing the differences between the approaches of masters and novices in culturally slanted project encounters.