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University of Stavanger

Faculty of Science and Technology

MASTER'S THESIS

Study program/Specialization: Industriell økonomi / Prosjektledelse	Spring semester, 2018 Restricted access
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Thesis title: *Global Project Execution through the Lens of Cultural Diversity*	
Credits (ECTS): 30	
Key words: Global project, global team, national cultural diversity, Hofstede, Siemens, cultural intelligence	Pages: 88 + enclosure: 15 Stavanger, June 15th, 2018.

Abstract

Globalization has an impact on the workplace environment. Being part of the global business does not appear to be the same as operating in the local environment. Global projects are characterized by substantial financing and ambitious goals. The complexities encountered in cross-border projects can threaten the successful results. By completing this thesis, the researcher sought to understand how to achieve improved project performance in the global setting.

Using systematic process, the study involves both body of knowledge review and target group experience with the phenomenon using exploratory analysis. Empirical data collection was performed through the project statements and interviews with project leaders at Siemens in relation to global oil and gas business. The interviewed senior professionals have experience with leading global projects and international teams in almost all main oil and gas regions, such as Europe, USA, Asia and the Middle East.

By completing the academic literature research, focus of this study was narrowed to one of the primary global project success contributors – project team, where cultural differences appear as a key success variable. Studies related to national cultural diversity completed the theoretical framework of this thesis. The theory-guided framework relies on Geert Hofstede's cultural theory, Kogut and Singh's cultural distance index calculations and Turner's project phase's cultural profile concept.

Experience of project leaders in the field of global projects and global teams showed that all culturally related decisions are made rather intuitively and there is no practically applied model used within the industry representative company.

With the completion of empirical evidence analysis, the research proposes a framework which has a prospect of contributing to improved global project performance with regard to cultural diversity. This framework could enable project leaders to design teams that could potentially deliver better results, driving project through successful execution. This concept can help effective resource allocation, as well as activity delegation to compatible entities worldwide. The outcome of this thesis may form a basis for future practical model development.

The essential idea of this thesis is to show that there are no right or wrong cultural attributes, each nation has an equal right to be a participant of the global business. The principal goal is to use the cultural diversity as one of the instruments in achieving the improved project performance through the balance between project activities, project team and project leadership.

Acknowledgments

Table of Contents

List of Tables

List of Figures

List of Equations

Abbreviations

PDI	Power Distance (Hofstede's Cultural Dimension)
IDV	Individualism vs. Collectivism (Hofstede's Cultural Dimension)
MAS	Masculinity vs. Femininity (Hofstede's Cultural Dimension)
UAI	Uncertainty Avoidance (Hofstede's Cultural Dimension)
LTO	Long-Term Orientation vs. Short-Term Orientation (Hofstede's Cultural Dimension)
IVR	Indulgence vs. Restraint (Hofstede's Cultural Dimension)
CQ	Cultural Quotient or Cultural Intelligence
PMI	Project Management Institute
IPMA	International Project Management Organization
GLOBE	Global Leadership and Organizational Behavior Effectiveness
SMWT	Self-Managing Work Teams

1. Introduction

Global project execution is an integral part of the globalization of business environment. Globalization is a significant trend which helps to expand the boundaries of businesses on an international scale. Portfolios of global projects continuously increase in size. Companies cooperating globally deliver significant volumes of products and services. Increasing amount of investments are made in the global business. As a result, more risk and more pressure to succeed is encountered in the global market.

In order to perform effectively in this complex environment, everyone involved in the global business needs to understand opportunities and be aware of underlying challenges.

The global business environment can provide access to new markets, valuable resources, favorable tax regimes and diverse manpower rates. More importantly, global project execution can stimulate the exchange of essential human resources when it comes to skills, experience and education. This promotes an important role of a project team construct in achieving the defined business goals.

However, besides apparent opportunities, in contrast to traditional projects, global projects deal with an additional dimension of complexities expressed by geographical, legal, ethical and cultural distances of internal and external stakeholders (Aarseth, et al., 2011).

With regard to other complexities, some of the challenges related to norms, values and behavioral specifics of each nation, attributed as cultural diversity, are hard to change or influence even within one organization (Hofstede, et al., 2010). For that reason, it can be essential to learn how to work and use these specifics in favor of the business.

The purpose of this study is to identify critical elements which are essential to consider when working on projects in the global setting. Based on the acquired information, this study intends to suggest a framework which can be used for achieving improved project execution in addition to existing managerial practices.

This work is supported by scholarly literature review and empirical data acquired from the large multinational company, represented by actual project data and interviews with project leaders from different countries involved in global project execution.

1.1 Motivation

Working for one of the biggest international companies with presence almost in each country of the world and having almost ten years of experience working in multinational teams on cross-border projects in the countries other than the country of origin brought the subject of global project execution as one of the primary interests in researcher's professional carrier path.

1.2 Problem Statement

Considerable financing and ambitious business goals characterize global projects. The most substantial investments in global projects worldwide are done in power generation, oil and gas and transportation businesses, 202.8 billion USD out of 229.6 billion USD as of total in 2017 (Thomson Reuters, 2017). On that account, it is essential for global players to learn how to deliver successful results through efficient cooperation in order to avoid delays, cost overruns and maintain and enhance trust among all project stakeholders. Sometimes even organizations with a long history of global presence, such as industry representative company of this study, experience difficulties in global cooperation.

Global projects are characterized by additional complexities not encountered in traditional project execution. Identification of potential areas of project risk may help improving project processes in order to accomplish project requirements.

Most of the existing managerial practices take as basis standards and practices developed by management organizations, such as Project Management Institute (PMI), PRINCE2 or International Project Management Organization (IPMA). Consequently, most of the used managerial standards and practices emerge from the Western world (USA, UK, EU). The generic project management processes might not be equally successful in different geographical regions. As a result, it can be essential to derive and evaluate the main differences when working globally. This knowledge can potentially contribute to the improvements of existing managerial methods applied in global business.

1.3 Purpose

This research can be a useful source of information and advice for project managers who are challenged by new trends and new market demands to deliver and cooperate globally.

The purpose of this qualitative exploratory study is to identify and create an improved understanding of one of the predominant factors affecting the successful global project performance in contrast with traditional projects.

This study will attempt to contribute to existing project management practices for delivering better results, helping to achieve project goals and overcoming challenges imposed by globalization.

1.4 Research Questions

The research is split into two consecutive parts: supportive research and primary research. The supportive research is focused on the examination of available academic literature on global project execution. The purpose of the literature review is to identify one of the main potential pitfalls which could cause challenges in global cooperation. Presumedly, several aspects can influence global project outcome. Consequently, the emphasis is placed on factors, where impact is hard to predict and quantify.

The theoretical part of the research was guided by the following supportive questions:

How are global projects different from traditional projects?

What factors project leaders must be aware of for successful global project execution?

What is the main global project success contributor?

The primary part of the research, to a large extent, is focused on practical experience related to the phenomenon identified in the supportive part of the research and guided by the following questions:

What are the perceptions of project leaders regarding opportunities and challenges of global project execution?

What is the primary global project success variable according to field experience of project leaders?

What opportunities and challenges related to cultural diversity have been experienced in the field of work?

Using the supportive data acquired from theoretical and empirical evidence, this study addresses the central research question:

How to achieve improved project performance in the global environment, on the basis of national cultural diversity?

1.5 Structural overview

This thesis is composed of six themed chapters:

Chapter 1 is an introductory chapter of this thesis. It begins with a brief overview of globalization and trend's influence on international business, provides motivational basis and purpose and, lastly, states research questions.

Chapter 2 is focused on laying out the theoretical framework of research presenting a review of theoretical principles concerned with successful global project execution, global team dynamics and performance, project leadership and national cultural differences.

Chapter 3 is concerned with the methodology used for this thesis, explanation of data collection and analysis methods, assessment of the reliability and validity as well as the delimitation of the scope, assumptions, limitations and ethical principles of the study.

Chapter 4 conducts the analysis of data collection results and undertakes the discussion of the implication of the findings.

Chapter 5 contributes with the development of framework and recommendations drawn from theoretical research as well as the field experience of study participants.

Chapter 6 provides a summary and draws conclusions to the thesis in relation to the central problem statement. Additionally, conclusion gives an assessment of findings in perspective of limitations and highlights areas for further research.

2. Theoretical background

Prominent contribution to this study is done by a theoretical framework. The theoretical framework is based on literature review of articles and books on international business, global cooperation, global projects, global teams and cross-cultural characteristics in project business.

The theoretical foundation starts with a description and definition of a global project and a global team, which offers an insight into the differences between global and traditional project environment. Further, the discussion elaborates on the predominant project success nuances when working globally. Emphasize shifts to the project team as one of the influential components of project success, where team performance and factors that deal with cross-cultural teams are discussed. Further, risks related to the incomprehension of cultural diversity are discussed, consequently, recognizing it as one of the primary global project's pitfalls.

In the effort of studying the cross-cultural phenomenon, the prevailing literature review part is presented by research works focused on cultural dimensions, calculation of cultural distance index and cultural preferences for different project activities. Additionally, this chapter presents the definition of cultural intelligence as an essential quality in a global environment.

2.1 Literature Review

The literature basis principally covers a 20-year timeframe of the research area. Due to the continued relevance of earlier research work accomplished in the cross-cultural analysis, references are given to original sources dated outside of the 20-year period.

Literature research was conducted using databases: Research gate, Google Scholar, PMI, ScienceDirect, Scopus and the Wiley online library. Forward and backward citations were followed to acquire necessary knowledge about the phenomenon in the academic literature. Set of keywords and phrases such as "global projects", "global teams", "global project success", "cultural diversity" etc. were used to identify most relevant publications.

The considerably vast body of knowledge has been accumulated by scholars on the research of traditional project execution. In contrast, still growing amount of research covers the area of global project execution. Using ScienceDirect research database one can witness that scholars' interest has increasing pattern, summarized by 9 159 publications in the year 2000 and 45 774 publications achieved in 2017. This provides evidence of growing interest in the exploration of global projects and indicates that this area is available for more research efforts.

Traditional project management defined by well-known and globally accepted principles of PMBOK® Guide, PRINCE2 or IPMA. Knowledge of these principles is meant to support successful projects execution. Is this sufficient for projects in the global setting? What else must be considered when working in cross-border cooperation? These and other research questions will be addressed in this theoretical part of the report.

2.1.1. Globalization

Central to the increased international business activities appears to be the concept of globalization.

The process of globalization has been present for centuries, but the term of globalization with current meaning was established only in the 1970s (James & Steger, 2014). This trend became initially observed at the beginning of the 19th century largely due to advances in transportation and communication technology, specifically with the invention of the steamship and the telegraph. However, the actual concept is believed to originate in the Age of Discovery (15th century). Some economic historians argue that it began when Christopher Columbus voyage targeted on establishing spice trade with Asia discovered another "American" market (Corbett, 2014; Bartosik-Vélez, 2006). Globalization was always primarily connected with trade.

In 2000 the International Monetary Fund (2000) identified four fundamental aspects of globalization: trade and transactions, capital movements and investment, migration and movement of people and the spreading of knowledge.

Nowadays, more and more companies are involved in the process of globalization delivering their products and services to the global markets. Global business arena provides access to essential resources, including skills, education and experience.

When it comes to *skills and education*, statistics from World Economic Forum Human Capital Report (2017) show that Europe dominates the global league table for skills and education with eight of the top ten places. However, the top twenty is represented by countries from all main global regions / continents: America, Europe, Asia, Africa, Australia and the Middle East. Globalization provides access to the best schools and universities, opportunities for cross-country learning and exchange. Therefore, it can be reasonable to conclude that, in the global setting, education and skills are becoming a global attribute and going away from the country-specific characteristic, providing more opportunities for cross-border business.

Anantatmula and Thomas (2008) argue that global projects have the opportunity to draw team members from different parts of the world. Consequently, projects can acquire experts from a much larger resource pool. This enables the possibility of assembling a highly talented team.

Exchange of *knowledge and experience* is another important attribute of globalization. In a situation when one of the collaborating entities is missing relevant skills and experience, the required expertise can be found in another entity. Global presence increases the availability of resources and allows project flexibility. Knowledge transfer is a necessary element of global processes; it helps local companies to acquire the right competence and skills for the job (Aarseth, et al., 2011).

Perceptibly, the era of globalization promotes the idea of global projects carried out by global teams. The question of the right team balance, project effectiveness and possibility of contribution from each country to the accomplishment of the business goals and ideas plays the central role in the global project processes.

2.1.2. Global Project

The purpose of this thesis is to identify factors leading to improved project performance in global environment. Firstly, we need to understand what makes projects in the global setting to be different from traditional projects.

Project Management Institute (2008) defines a *project* as a "temporary endeavor undertaken to create a unique product, service, or result." Anantatmula and Thomas (2010) explicate a *global project* as "a temporary endeavor with a project team made up of individuals from different countries; working in different cultures, business units, and functions; and possessing specialized knowledge for solving a common strategic task."

Evidently, one of the differences between projects is denoted by the project team, which brings us to exploring the contrast between traditional and global project teams. *A project team* is comprised of individuals from different groups with knowledge of a specific subject matter or with a specific skill set who carry out the work of the project (PMI, 2008). Govindarajan and Gupta (2001) interpret a *global team* as "a cross-border team of individuals of different nationalities, working in different businesses and cultures, who come together to coordinate some aspects of the multinational operation on a global basis."

Sometimes in scholar literature, global teams are referenced as *virtual teams*, where virtual is attributed to the fact that teams are distributed, and the communication is done using electronic means with no or limited face-to-face contact (Gibbs & Boyraz, 2017). This difference does not appear to be significant for the conceptual idea of this thesis. On that account, global teams are regarded as a group of individuals from different countries, where team members may be co-located or distributed.

It is commonly accepted that project success is measured by delivering on time, within budget and with expected quality, following so-called "project management triangle." PMI (2008) confirms that "success is measured by product and project quality, timeliness, budget compliance and degree of customer satisfaction."

However, research literature demonstrates that more success categories must be addressed when working globally (Aarseth, et al., 2011; Anantatmula & Thomas, 2008; Mahalingam & Levitt, 2007; Orr & Scott, 2008). These success categories are related to overcoming the challenges which global projects are faced with.

Contrasting the standard project business, global projects deal with an additional dimension of complexities. The most apparent is a time zone complexity which can impose some challenges in communication, when instant feedback might not be possible due to the time difference between regions. This results in difficulties to schedule meetings and conference calls during working hours in different regions around the globe. However, it is essential to mention the concept of uninterrupted distributed engineering or project support, which in some cases could be performed twenty-four hours a day, improving the time to market and achieving customer satisfaction.

Geographical distance and lack of face to face communication can impose trust issues and negatively influence collaboration. However, globalization provides access to any desired recourses and talented people all over the world helping to achieve goals of the project and to overcome travel time and costs. Geographical barriers are no longer a threat.

Aforementioned challenges and opportunities of global projects can be a matter of correct team and leadership construct. How effectively teams are managed will affect whether the challenges of global executions are turned to project advantages.

2.1.3.   Global Project Team

Management of projects correlates with the management of teams. One of the central factors considered in global projects is a *project team.* Independent of the nature of interactions, the success of the venture, with high probability, comes to people, their education, experience and skills.

Ward (1998) argues that project scope and goals play guiding role that directs the efforts of project team which determines a project's success or failure. Without a right team in place, any strategy and plan can have a potential of failing. Project team fulfills mediating duties between plans and the final project achievements.

In the effort of the understanding dynamics of project teams, it is essential to regard the McKinsey 7-S framework, developed by McKinsey consultants Tom Peters and Robert Waterman in the early 1980s (McKinsey & Company, 2008). The model presents seven internal aspects of an organization, also applicable to project team level, that need to be *aligned for successful operation.*
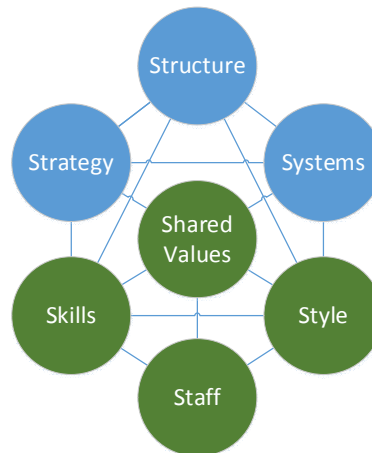

Figure 2.1-1 McKinsey 7-S framework, adapted from McKinsey and Company, 2008

The framework consists of three 'hard' elements and four 'soft' elements, refer to Figure 2.1-1, which can be defined for project team level as follows:

"Hard" elements:
- *Strategy*: project goals and objectives.
- *Structure*: the way project team is organized, communication and authority relations.
- *Systems*: the transformation of input to output: the tools, techniques and processes used by a team to accomplish project goals and objectives.

"Soft" elements:
- *Shared Values:* norms, views and culture shared by people in a team.
- *Style*: the behavior patterns of a team, their ways of interacting, and approaches to leadership and authority, attributed to culture to some extent.
- *Staff*: people and positions in a team, experience and talent within the organization.
- *Skills*: institutional and individual skills and competencies of team members.

For a team to perform well, these seven elements need to be aligned. The alignment between all elements creates a balance and a harmony within a team. "Efficiency is positively related to team harmony," explains Liu and Cross (2016) in their work on project team performance. Ensuring that team operates as a harmonious unit is one of the keys to favorable project performance. This concept is especially important in managing diverse global teams.

It is significant to highlight that the Shared Values hold a central position in the McKinsey 7-S framework model, suggesting that team's values expressed by culture and work ethics are central in achieving the optimum outcomes from all other elements (McKinsey & Company, 2008). Culture affects behavioral aspects, interaction style, values and expectations of team members. For that reason, when team participants from diverse cultural identities are united in one functional unit, it can impose a risk of misunderstanding and misinterpretation of some of the norms, views and actions.

In SAGE handbook of intercultural competence, Darla K. Deardorff (2009) explains that *source of disputes* and *misunderstanding* in a project team can be related to the fact that project members of different cultures working together exhibit different norms, values, customs and communication styles. Whereas for some nations, a plan is the very specific element to conform to, while for others, a plan is fluid and open for adjustments (Sahi, 2009).

In their research, Anantatmula and Thomas (2008) point out that it is essential to "identify the differences between cultures up front, or an unnecessary risk is created for the parties involved as well as for the overall success of the project."

Cultural differences may entail the *transactional difficulties* in sharing project context across borders (Kogut & Zander, 1993). Considering culture as a risk factor, Sennara and Hartman (2002) argue that, if cultural risks are not recognized in projects, consequences could be *costly*. Orr and Scott (2008) define institutional transactional costs as "cost of ignorance (reputation damage, relationship damage, resource costs, and time costs); costs of sensemaking (time spent in meetings, delay, communication and travel expenses, and consultant fees); and costs of response (further resource commitments, recognition that costs of ignorance may be irrecoverable)."

As evident, the exact impact of cultural diversity is hard to predict and quantify. It can be anything from travel expenses and extra time spent by additional meetings up to reputation damage, which could threaten the entire company existence on the global space. As it is summarized in Delloite global survey on reputation risk (2014), on average more than 25 percent of a company's market value is directly attributable to its reputation. Moreover, the survey shows that reputation damage is number one concern for business executives around the world.

From aforementioned statements, we can learn that cultural characteristics in global teams are an imperative factor to account for. The nature of interactions within a cross-cultural team is more sophisticated compared to traditional team construct. Consequently, traditional managerial practices may fail to be useful in dealing with teams of diverse cultural identities.

Nevertheless, sufficient comprehension of this phenomenon might aid management methods to reach better project performance. We need to look carefully into existing research to understand the sophistication of a cultural phenomenon and find a way of reaching better global project results.

2.1.4. Cultural Phenomenon

Many scholars dedicated their research efforts to the cross-cultural phenomenon in international business.

Culture is not a unique characteristic of an individual; it applies to groups, not only historically formed groups but also institutions that people establish together. Consequently, the research literature on the cross-cultural phenomenon in international business is split between studying national and organizational culture.

As commonly defined in the literature, *organizational culture* is generally formed by guidelines and principles learned in the organization. It consists of practices, symbols, values, and assumptions that the members of the organization share with regard to appropriate behavior (Schein, 1990). Organizational culture is an essential component of the global business. However, it lacks well-defined analytical frameworks, helping to study this phenomenon.

To some extent, specifics of organizational culture can be addressed by institutional theory (Zilber, 2012; Aten, et al., 2011). *Institutional theory* studies "the socially constructed, historical patterns of material practices, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality" (Thornton & Ocasio, 2008).

National culture, on the contrary, is represented by the set of norms, behaviors, beliefs and customs that exist within the population of a sovereign nation (BusinessDictionary, 2018).

By studying bibliometric research works related to the cross-cultural phenomenon in international business, it was recognized that national culture is the subject matter of cultural dimension theory (Battistuzzo & Pisco, 2015; Pinto, et al., 2014).

Cultural dimension theory is a framework describing the theory in which one national culture can be measured relative to another culture by a set of defined attributes (Hofstede, et al., 2010). This theory can address cultural phenomenon experienced in the business environment from the perspective of national cultural differences of business participants using consistent, widely-applied quantitative measures. The nation is used as a unit of analysis.

By contrast, the institutional theory has slightly different research approach which is mainly related to models and approaches of anthropology (Aten, et al., 2011). Due to the intention of this study to develop a framework helping existing managerial practices, more solid quantitative measures appeared to be most useful for the purpose of this research. Therefore, the body of knowledge connected to national cultural dimension theory is considered as more suitable research basis in this study.

2.1.4.1. Theories of national culture

Studies on national cultural differences became popular in the 1970s and 1980, to a great degree, through the work of Geert Hofstede. Hofstede's cultural values framework was taken as a basis in a variety of cultural studies and considered as the most acknowledged and influential work in the field (Turner & Müller, 2004). The framework focuses on defining any national culture by six attributes or cultural dimensions: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation and indulgence.

Among the most known works besides Hofstede's which looked at cultural diversity from a business perspective are research achievements of the following scholars:

- *Schwartz* (1994) identified seven cultural dimensions of values that included conservatism, intellectual autonomy, affective autonomy, hierarchy, egalitarian commitment, harmony and mastery. This theory is predominantly considered as an extension of Hofstede's cultural dimension framework.
- *Trompenaars' and Hampden-Turner's* (1998) work presented a set of seven cultural dimensions: universalism-particularism, individualism-communitarianism, specific-diffuse, neutral-affective, achievement-ascription, internal-external, time. On the contrary to Hofstede's dimensions, Trompenaars primarily referred to relationships with other people, attitudes towards the environment, attitude towards time (past, present and future).
- The largest of recent studies was the *GLOBE* (Global Leadership and Organizational Behavior Effectiveness), comprising results from 62 countries and more than 17 000 managers in 951 organizations. The research work of GLOBE was implemented by a joint effort of 160 academics around the world. It was primarily focused on determining leadership characteristics that might be positively viewed across all cultures (Gupta & House, 2004). GLOBE examines culture in terms of nine dimensions: performance orientation, future orientation, assertiveness, power distance, humane orientation, institutional collectivism, in-group collectivism, uncertainty avoidance and gender egalitarianism.

Frameworks developed by Hofstede, Trompenaars, GLOBE and Schwartz are not 100% complements or substitutes, in fact, each of these frameworks partly captures the same cross-cultural characteristics extended by some additional attributes. These works are usually used as alternatives to each other.

There are relatively fewer independent research studies that utilize GLOBE's, Trompenaars' or Schwartz's framework, compared to Hofstede's.

The practical application of Hofstede's cultural theory received several improvement suggestions through the work of Kirkman (2006). The researcher argues that generalization of cultural values from national to individual level should be done with compensating measures. Measures should be complemented by integrating multiple cultural frameworks such as regions, socioeconomic groups and cultural variation within countries. So far, the literature has not provided an overall theoretical framework accounting for all recommendations from Kirkman (Beugelsdijk, et al., 2017). Therefore, the initial formulation of the theory is still considered to be valid.

Beugelsdijk's (2017) study finds that Hofstede's cultural values do change over time but in parallel for all dimensions, implying that national cultural characteristics are relatively stable over time.

Compare to other cross-cultural theories, the values of Hofstede's dimensions are maintained and updated regularly (Hofstede Insights, 2018). Data is based on analysis of the World Values Survey, collected from representative samples of the population in 93 societies. Cultural values are publically available, which creates better research opportunities.

Taking into account the continuous relevance of the theory, small fluctuation of data over the time and availability of data, Hofstede's framework was chosen as a primary theoretical basis of this thesis.

2.1.4.2. Hofstede's Cultural Dimensions

Geert Hofstede is a Dutch psychologist and researcher, an ex-employee of IBM. Hofstede started his research by collecting a data via a worldwide survey of over 88000 IBM employees for a period of six years. Data was related to people's behavior in large organizations and the way they collaborated. He managed to collect data from over 72 countries around the world. Since the only difference within the sample was nationality, this difference stood out clearly for research.

Hofstede (1980) defines *culture* as "the collective programming of the mind, which distinguishes the member of one human group from another."

The researcher explains that culture is formed by two primary attributes: values and practices. He describes *practices* as a composition of symbols, heroes, and rituals. Hofstede defines *values* as tendencies to prefer certain states of affairs over others, such as evil vs. good, dangerous vs. safe, forbidden vs. permitted, moral vs. immoral. As indicated in Figure 2.1-2, values are the core of culture.
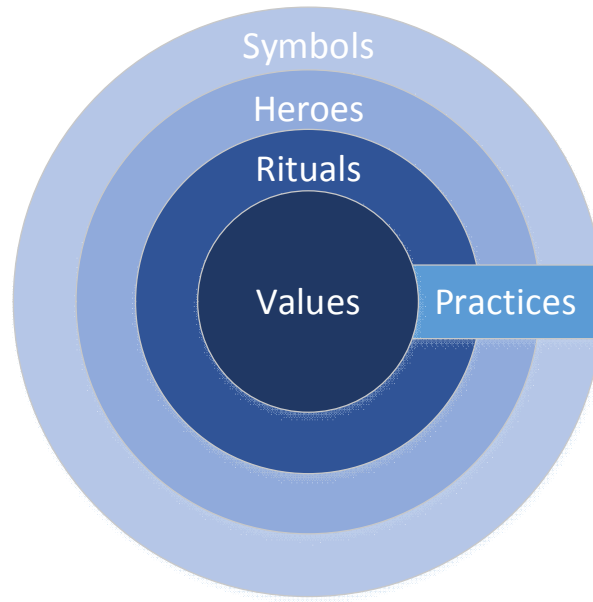
Figure 2.1-2 Levels of cultural depth, adapted from Hofstede, et al., 2010

Because they are acquired so early in our lives, refer to Figure 2.1-3, many values remain unconscious to those who hold them. Hofstede confirms that values acquired in childhood rarely change in later life and remain rather consistent over the time (Hofstede, et al., 2010).
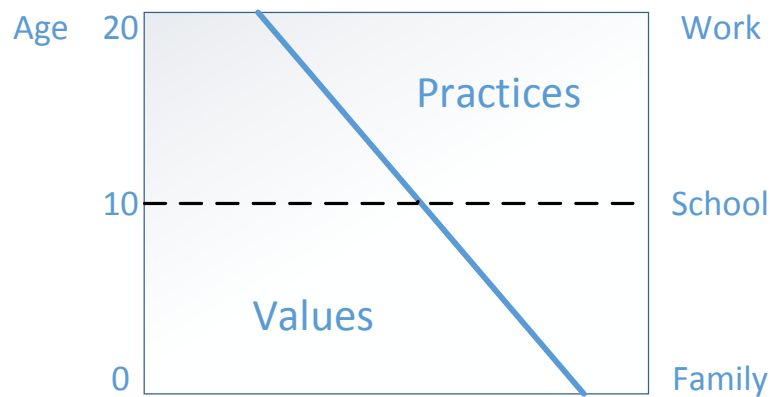

Figure 2.1-3 Learning of Values and Practices, adapted from Hofstede, et al., 2010

Initially, Hofstede identified four major dimensions of cultural differences and measured each on a scale from 1 to 100. Subsequently, with more research, his work was completed by another two dimensions. These last dimensions were defined in 1991 and 2010 respectively.

The *cultural dimensions* represent independent preferences for one state of affairs over another that distinguishes countries from each other (Hofstede Insights, 2018).

A brief description of Hofstede's dimensions with reflection on the work practices is given as follows:

Power Distance (PDI). The extent to which the less powerful members of institutions accept that power is distributed unequally (Hofstede, et al., 2010). In regard to the work settlement, employees in high Power Distance cultures resist the autonomy and responsibility that requires a high degree of self-management and are more comfortable working in teams that have a strong leader. They are likely to behave submissively in the presence of managers. In lower Power Distance societies, team participants with relevant expertise and knowledge are involved in decision-making process more than those with power in hierarchy (Kirkman & Shapiro, 1997).

Individualism vs. Collectivism (IDV). The dimension expresses degree of interdependence between members of society, when a person's self-image is defined in terms of "I" or "We" (Hofstede Insights, 2018)*.* Individualist is not afraid to challenge prevailing ideas and stand against the group. This can promote a generation of novel ideas and stimulate creativity and innovation. On the contrary, people high in Collectivism tend to underprioritize their self-interests for the interests of the group. The collectivistic societies can stimulate a harmony and consensus within a team. However, this can lead to group-thinking and affect creativity (Hofstede, et al., 2010).

Masculinity vs. Femininity (MAS). Masculinity is primarily represented by a preference for achievement and material success. Femininity is represented by a preference for a relationship, and quality of life (Hofstede, et al., 2010). In the work settlement, Masculinity is referred to interests in material success, recognition, achievement and challenge. Working conditions and social relationships at work are less valuable than exciting work, performance and pay. Femininity is identified by good work relationship, cooperation, employment security. Working conditions and social relationships at work are more important than performance.

Uncertainty Avoidance (UAI). Need for rules versus an ability to think in new directions and uncover new solutions. Weak uncertainty avoidance cultures are more tolerant towards deviants (Hofstede, et al., 2010). In the work setting, it could mean that people characterized by strong uncertainty avoidance experience discomfort and stress about unknown situations. They need more formal laws and informal rules or internal regulations controlling the work process.

Long-Term Orientation vs. Short-Term Orientation (LTO). Long-term oriented societies promote more importance to the future; whereas in the short term oriented societies, values are related to the past and the present. Short-term societies give respect for tradition, incline spending rather than preserving and orient on short-term profits. Work practices focus on what functioned before with little thought about the future. Long-term oriented societies want to learn from other practices, not bound by traditions, prefer to have large savings, seek long-term profits (Hofstede, et al., 2010).

Indulgence vs. Restraint (IVR). This dimension is expressed by the extent to which people try to control their desires and impulses. Relatively weak control is called "Indulgence" and relatively strong control is called "Restraint" (Hofstede Insights, 2018). Freedom of choice and importance of leisure are prime concerns of indulgent societies. Work environment should allow balance between work and personal life. By contrast, restraint societies tend to sacrifice personal time

and leisure in achieving defined goals. Restraint societies are used to rather formal work environment, high degree of professionalism and structure.

Hofstede's dimensional model provides a good starting point for an understanding of cultural differences.

2.1.4.3. Project Leadership and Cultural Intelligence (CQ)

"The project managers of tomorrow will not be project managers at all; they will be project leaders." (Gallagher, 2015). This line of thought goes through a number of academical articles on project management as well as contemporary managerial practices and studies. From the project management study courses, we learn that more than a tactical execution of managing, planning and controlling is required for project success. Strategical thinking and acting as a leader has become essential for project management. For that reason, this study refers to a person who has responsibility for project execution as a project leader.

The GLOBE defines organizational leadership as "the ability of an individual to influence, motivate and enable others to contribute toward the effectiveness and success of the organizations of which they are members" (House, et al., 2002). PMI defines leadership as "the ability to guide the project team while achieving project objectives and balancing the project constraints" (PMI, 2017).

A project leader is an integral part of the project and the project team. The contribution of project leadership to successful project execution should not be undervalued. Research literature indicates that for leaders responsible for culturally diverse teams in addition to the conventional managerial techniques and practices is beneficial to develop cultural awareness.

It is generally acknowledged, that many Western leadership theories dominate management literature. For that reason, many researchers studying cross-cultural management express the concern that those leadership theories will be applied to different countries regardless of specific cultural practices.

"Managers and leaders, as well as the people they work with, are part of national societies. If we want to understand their behavior, we have to understand their societies", argues Hofstede (2010) in his book. Attention to the cross-cultural relationship should not be underestimated. It can help project leaders to become more aware of own cultural biases and may contribute to avoiding of misunderstandings in other cultural contexts. Specific cultural traditions, values, beliefs and practices, which are the constituents of culture, have a direct impact on leadership style (Hofstede, et al., 2010)

Various scholars identify many different leadership approaches exhibited in various business areas and fields of work. As an example, GLOBE empirically identified six leadership styles: charismatic / value-based leadership, team-oriented leadership, participative leadership, humane leadership, autonomous leadership and self-protective leadership (House, et al., 2004).

However, most of the styles are considered to be variations of the two classic commonly-known leadership approaches: authoritarian and democratic.

A democratic project leadership takes an emphasis on sharing the decision-making process with group members and practicing equality in a team (BusinessDictionary, 2018).

An authoritarian project leadership focuses on the distinction between the authoritarian leader and subordinates, characterized by contrasting hierarchical relationship and decision-making typically done by a leader alone (BusinessDictionary, 2018).

However, to succeed in the global business, it is not enough to exhibit one defined leadership perspective. Individuals coming from different cultural backgrounds interact in a team and organization generally from the outlook of own mental programming. Balance and harmony in a team can be influenced by individual's mental programming. Consequently, traditional one-sided project management approach might not be as useful in the time of increased global cross-cultural activities. A chosen leadership strategy which may be effective in one culture can be counter-productive in another. To succeed, a leader should be able to recognize the cultural specifics. Leadership may require an intellectual understanding.

One of the objectives of this thesis is to expand the cultural knowledge in an organization. This is why it is essential to define the concept of cultural intelligence also known as a cultural quotient (CQ).

Cultural intelligence was introduced in the literature by Earley (2002) as "a person's capability to adapt effectively to a new cultural context." Cultural intelligence refers to a person's capacity to adapt to a new cultural setting based on cognitive, motivational and behavioral features (Earley, 2002):

- Cognitive cultural intelligence is a mental process helping individuals to recognize differences between their culture and others. It is expressed by awareness of individual about the values, norms and practices of other cultures.
- Motivational cultural intelligence deals with an individual's willingness to learn about the foreign culture and ability to adapt to norms and practices expected by another culture.
- Behavioral cultural intelligence involves an ability to behave in an appropriate manner in a variety of cultural contexts. Behavior should be viewed from an ethical and cultural perspective. Some actions may seem ethical, but they may have potential conflict with the cultural norms.

2.1.4.4. Index of Cultural Distance

As previously stated, creating a harmonious and balanced team can help efficiency, increase productivity, ensuring the improved project performance. Global teams are usually comprised by cultural sub-groups with similar identities. Differences across subgroups can create misbalance and challenges in team processes, related to team coordination, communication, and knowledge sharing (Kochan, et al., 2003; Cramton & Hinds, 2005; Earley & Mosakowski, 2000). Diverse teams create potential for misunderstandings. On that account, using the measure of cultural distance can help to shed light on cross-cultural relationships in global projects.

Kogut and Singh (1988) define *cultural distance* as the degree of difference between two countries' cultural norms.

As mentioned earlier, Hofstede's theory had several followers. Due to the convenience of defining cultural dimensions in numeric values, several scholars used Hofstede's work as a basis for calculation of the index of cultural distance.

Kogut and Singh (1988) were the first to develop computations of cultural distance index, which combines Hofstede's dimensions into one aggregate measure. The index is based on the deviation of each of Hofstede's dimensions in relation to the target country:

$$CD_j = \sum_{i=1}^{4} \{(I_{ij} - I_{iu})^2 / V_i\}/4$$

Equation 2.1-1 Cultural Distance Index – original version. Source: Kogut and Singh (1988)

The original formula takes the difference between two countries, j and u, for each of the four initial dimensions (Power Distance, Uncertainty Avoidance, Masculinity and Individualism). These differences are consequently squared before being divided by the variance of the dimension. When Kogut and Singh created cultural distance formula, only four cultural dimensions were defined by Hofstede. Therefore, summation and division are done by four, refer to Equation 2.1-1.

The above index calculates average cultural distance over four dimensions. Thus, the calculation of the distance of single dimension can be derived as follows:

$$(I_{ij} - I_{iu})^2 / V_i$$

Equation 2.1-2 Cultural Distance Index – single dimension. Source: Kogut and Singh (1988)

Many studies used Kogut and Singh's formula or an adapted version as a measure of cultural distance. Subsequently, this formula will be used in this study to get some insights into cross-cultural relationships. The original formula presented in this theoretical part will be adapted to include all six Hofstede's cultural dimensions.

2.1.4.5. Global Team Performance

Granted that a project team is an executor of project goals and activities, team performance can affect project outcome. That being the case, it is useful to mention the concept of a *productive team* where Kirkman and Rosen (1999) define a 6-item measure of team productivity:

- team meets or exceeds team goals;
- completes team tasks on time;
- makes sure that products and services meet or exceed production standards;
- responds quickly when problems come up;
- is a productive team, measured by the amount of produced outcome;
- successfully overcomes problems that slow down work.

These measures of team productivity provide rather generalized description of effective team performance. As apparent from theoretical material presented earlier, in international business, diverse cultural background sophisticates project team's interrelationships. Can global teams achieve the same level of productivity as a team in a traditional setting?

If appropriately managed, multicultural project teams can perform substantially better than monocultural teams (Miller, et al., 2000; DiStefano & Maznevski, 2000). Using a set of experiments as empirical evidence, Leung, et al. (2008) were able to prove that multicultural experience enhances creativity and helps to find innovative, non-conventional solutions in new or challenging situations. Multicultural teams could solve the performance-limiting challenges of monocultural teams such as unwillingness to support new ideas, adherence to the similar way of thinking and low creativity. Culturally diverse teams benefit from a variety of ideas generated from different backgrounds as well as the ability to be more flexible in the complex and demanding environment (Bunderson & Sutcliffe, 2002; Stewart, 2006).

Comprehension of cultural attributes that generally contribute to increased team performance can be instrumental. However, there is little research evidence available in scholarly literature mapping cultural attributes to the team productivity.

Most of the research articles cover the effects of Power Distance and Individualism on the aspects of performance. This research evidence is predominantly related to the specific type of tasks and activities and can hardly be associated with the universal meaning of team performance.

As an example, wide agreement in the literature is observed when it comes to the contribution of high Individualism to activities related to creativity and innovation (Rinne, et al., 2013; Tekina & Tekdogan, 2015). Some of the research works confirmed that creativity of a team is also positively correlated with low Power Distance and low Uncertainty Avoidance (Nakata & Sivakumar, 1996; Czerniak & Smygur, 2007).

However, the literature evaluation on other cultural dimensions shows rather mixed results. As an example, high Masculinity could result in excessive competition and reduced cooperation within a team; low Masculinity could result in the excessive effort of achieving the collective agreement, at the expense of progressing. Relatively limited research is available on the empirical application of Long-Term Orientation and Indulgence cultural attributes.

When it comes to examples of cultural team attributes taken rather independently from certain types of activities, Kirkman and Shapiro (2001) evaluated in their research the concept of self-managing work teams (SMWT) in context of cultural aspects.

SMWTs are defined as teams whose members manage themselves by assigning jobs, planning and scheduling work, decision-making and problem-solving (Wellins, et al., 1990). In their research article, Kirkman and Shapiro (2001) reflect that among other qualifications "SMWTs have been positively associated with higher levels of productivity." They have shown that more effective SMWTs will be teams that are higher in Collectivism, lower in Power Distance.

However, some of the scholars argue that productivity and efficiency of self-managing teams might be hurt when it comes to operating in the global environment. "The paradox, however, is that the very act of bringing people from different backgrounds together may be the reason why they fail to achieve their objective. The biggest challenge to overcome is effective conflict resolution," explain Appelbaum, et al. (1999) in their research dedicated to self-directed teams. That being the case, the role of project manager should not be undervalued.

This study strives to get insights into global project success factors with the focus on maintaining a balance in a team. Project leadership is an integral part of the project, responsible for ensuring this balance. Consequently, the concept of self-managing work teams, where the role of a leader is understated, is not applicable for the purpose of this thesis.

2.1.4.6. Cultural Profile of Project Life Cycle

Project execution processes involve management and coordination of people and resources, as well as performing the activities of the project in accordance with the project plan. For that reason, another fundamental constituent of any project is a project activity. Project activities can be conveniently aggregated to the level of project phases. Almost every project goes through the stages of evolution and development generalized as project life cycle phases.

PMI defines project life cycle phases as a collection of logically related project activities that finishes by the completion of one or more deliverables. Some of the common project phases are: initiation, planning, execution and closing (PMI, 2017), refer to Figure 2.1-4:
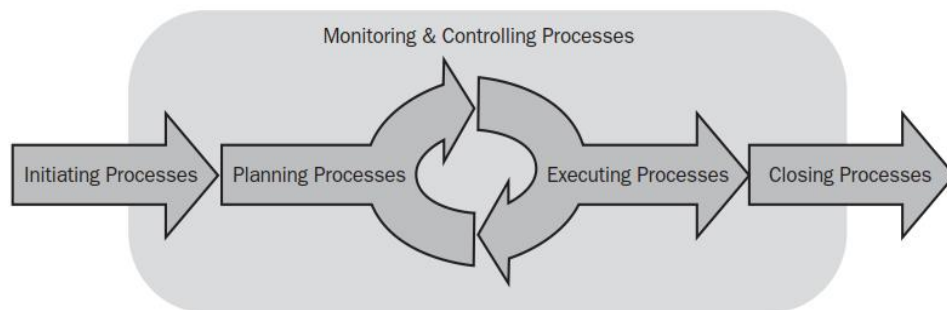
Figure 2.1-4 Project life cycle. Source: PMI (2017)

Each of the phases is characterized by a standard set of activities which are accomplished by teams with a particular set of skills and experience. Each project activity can require different levels of management involvement, decision-making philosophy, creativity, communication and can be characterized by some level of uncertainty and unpredictability. All these characteristics can be seen in the light of cultural patterns when certain social practices and social values would benefit the specific tasks.

The research interest in the scholarly literature addressed the benefits of cultural variations throughout project life cycle through the work of Svein-Arne Jessen (1992) and Turner (2009). According to Turner (2009), Svein-Arne Jessen (1992) initially deduced a country's performance at each stage of the project life cycle and proposed that requirements for Power Distance, Individualism and Uncertainty Avoidance varied throughout the project life cycle. Turner (2009) describes this theory in his analysis, relating the Hofstede's framework to the stages of the project life cycle. In his work Turner (2009) summarized cultural preferences for project phases as follows, refer to Figure 2.1-5.

Cultural Dimensions – Project Phases				
	Feasibility	Design	Execution	Close-out
Power Distance	High	Low	Low	High
Individualism	High	Medium	Medium	Low
Masculinity	Medium	Medium	Medium	Medium
Uncertainty avoidance	Low	Medium	Medium	High

Figure 2.1-5 Preferred cultural approach in project life cycle, adapted from Turner, 2009

Turner (2009) provides clarifications on the suitable cultural allocations between phases:

Feasibility Phase is dedicated to exploring whether a project is reasonable and whether it should be initiated; therefore, it is advantageous to have the following cultural profile:

- Power distance should be high, indicating that manager must give priority to the requirements and be actively involved in decision making.
- Individualism should also be high, as there is a need for creativity and innovative thinking during this stage.
- Masculinity does not appear to be significant.
- Uncertainty Avoidance should be low, as feasibility demands the ability to think in new directions and uncover new solutions, attributed by risk and unpredictability.

Design Phase is focused on preparing a specific plan of actions, including budgeting, risk register, quality plan and etc. Design and execution phases have the identical cultural profiles.

Execution Phase is dedicated to the actual execution of the plan.

The primary purpose of design and execution is to ensure that defined goals are achieved, and project team members are the best people to decide the method of achieving it. Therefore, these stages of project life cycle have similar requirements, mainly focused on one dimension:

- Power distance should be low, as people who do the work should also be responsible for planning and executing it.
- The rest of the dimensions do not appear to be significant.

Close-out Phase is generally related to the finalization of the project.

- Power distance should be high, as evaluation of the work done and results obtained are the responsibility of project leader.
- Individualism should be low for the same reason.
- Masculinity does not appear to be significant.
- Uncertainty Avoidance should be high, as the termination needs to be a well-structured process.

The deducted cultural preferences summarized in Figure 2.1-5, show that project management is typically a Western approach to problem-solving (Turner, 2009). As a result, defined preferences might function less effectively when project activity is operated by non-Westerners. This study will attempt to acquire empirical insights into the proposed concept and verify whether the same results will be achieved in the light of diverse ethnical belonging and diverse cultural experience of interviewed respondents.

Predominantly, this concept is found to be useful in association with the purpose of the research, when global project execution is usually split into phases. Project activities of various phases are allocated to different project teams and sub-teams, usually attributing cross-cultural differences between the groups.

2.1.5. Summary of Theoretical Principles

This thesis seeks to examine factors contributing to the improved global project performance and propose a practical framework helping to achieve it.

By studying the body of knowledge, the researcher determined that global project teams could contribute significantly to the successful project operation. Furthermore, by exploring the predominant differences between global and traditional teams, complexities of globalization uncovered that organization could have a little control over the national culture or so-called mental programming of individuals in a team. Consecutively, ignorance of this difference can impose project risks. Whereas, profound understanding can foster new solutions and practices in international business. This is why studying cross-cultural phenomenon becomes the primary objective of this thesis.

Furthermore, based on the peer-reviewed literature, the proposition was made to outline that increased team performance can be reached looking through the lens of cultural diversity. However, team performance is primarily dependent on project activities it intends to accomplish. Project leadership, with regard to cultural awareness, should ensure that the balance in a team is achieved when it comes to team construct and assigned project tasks. All three highlighted elements of the project seem to correlate.

To thoroughly explore this topic, a theoretical framework was established based on cultural dimension model proposed by Hofstede, cultural distance index developed by Kogut and Singh and project phase's cultural preferences summarized by Turner. This framework will be further applied in empirical research to get a better understanding of the phenomenon.

3. Research Methodology

This section is dedicated to the description of research methodology and nature of the study. Further, justification is provided for the choice of the research methods and empirical evidence. The report describes data collection and data analysis techniques. Assessments of reliability and validity, as well as the delimitation of the scope, limitations, assumptions and ethical aspects, are highlighted at the end of this chapter.

The choice of the research methodology depends on the nature of the study, type of data required, availability of time and resources, research problem and research questions which researcher is attempting to address. In this relation, it is important to remind that this study seeks to explore empirically a number of research questions (refer to chapter 1.4 Research Question) related to:

- Perception of the project leaders about the phenomenon of global projects;
- One of the most influential variables of global projects as asserted by the field experience;
- Cross-cultural experiences in global project execution.

The central research question of the thesis is: *How to achieve improved project performance in the global environment, on the basis of national cultural diversity?*

3.1 Nature of the Study and Research Methods

This study has an exploratory nature and is primarily based on the qualitative research method. The choice of qualitative method is justified by the purposes of this study and research questions, focused on studying experience of project leaders with global project execution and global project teams.

Qualitative method is found as the best suitable method in gaining insights and understanding of complex processes, meaning of the context, aiming at a generalization of theories rather than an enumeration of frequencies (Yin, 2003). Qualitative methods usually benefit the generation of new propositions in contrast to testing hypothesis usually offered by quantitative methods. This complies with the purpose of this research to explore phenomenon and propose a conceptual input for enhancing existing managerial practices applied in global project environment.

Qualitative research has a variety of approaches; the commonly outlined among many are narrative, phenomenology, grounded theory, ethnography, and case study. These research strategies have much in common when it comes to the data collection such as field observations, documents and interviews. However, some of the differences are related to the origin of the data, where, for example, ethnographic studies collect data from specific cultural groups, narrative studies are focused on individuals and their stories. Grounded theory studies have a more explanatory approach based on field data, whereas phenomenological and case studies have mainly exploratory nature. Phenomenological study commonly focuses on the experiences from target group and interview as a primary source of data collection. A case study uses more in-depth research strategy through multiple types of data sources.

The case study was chosen as the most suited approach for this thesis. Case studies provide in-depth examinations of institutions, people or groups of people focusing on "an analysis of the context and processes which illuminate the theoretical issues being studied" (Hartley, 2004). The case study is a unique way of observing any natural phenomenon which exists in a set of data (Yin, 2003). When it comes to this study, the set of data was collected from one organization, retrieved from project data and fieldwork observations of company members.

Case-based methods provide a level of in-depth learning about the phenomenon that surveys methods miss (Yin, 2003). The central research question explored by this thesis relates to "how" side of the phenomenon. A case-based approach is ideal for addressing research question ''how'' and "why" (Yin, 2003).

Case study benefits from the prior development of a theoretical framework to guide data collection and analysis. The body of literature on cultural dimension theory was used as guidance and theoretical foundation for this research.

As emphasized by Yin (2003), the opportunity to use many different sources of evidence is the significant strength of case study. Although the predominant contribution to the research is made using the qualitative method, the thesis uses a mixed methods of triangulation, where qualitative findings are complemented by some quantitative data. The intention of this technique is to allow an improved understanding of the phenomenon. Quantitative data is collected via scoring provided by interview participants for some of the characteristics used in the research. Due to the limited sample size, the quantitative method cannot be considered independently from qualitative and should only be taken as complementing matter.

The survey was considered, but not chosen, for the reason that this study attempts to explain the phenomenon that is too complex for the survey approach. Cultural aspects could be considered as a biased topic. Therefore, immersion of respondent in the context of the problem was necessary to ensure desired broadness and honesty of answers. Moreover, the study is focused on exploration and understanding the behavioral conditions of cross-cultural phenomenon going beyond the quantitative statistical results.

In-depth interviews were used as a primary data collection technique. Individuals who had experience with global projects and international teams participated in interviews. The interview process in this study included semi-structured open-ended questions to encourage the participants to provide their life experiences about the subject in question. The objective of this approach is to understand the phenomenon in the best possible way and at the same time to be able to collect practical information from experiences of project management representatives to expand the existing knowledge. This approach can help to verify the relevance of existing literature basis and identify new dimensions which can be used to improve existing organizational processes, fulfilling the principal purpose of the research.

The study focuses on intercompany processes, relationship with external stakeholders is not considered.

3.2 Data Collection

This study makes use of both primary and secondary data resources.

The primary data or uninterrupted original evidence contributing to research is represented by data acquired from industry representative company: project statements and field experience of interviewed participants.

Secondary sources are information sources that interpret, include, describe, or draw conclusions based on works written by others (Blaikie, 2010). Secondary resources are generally presented by peer-reviewed academic articles and books. The theoretical foundation of this thesis is represented by research achievements of Hofstede (2010), Kogut and Singh (1988) and Turner (2009) in the form of frameworks and concepts. Additionally, cross-cultural data from the official online database "Hofstede Insights" is used (Hofstede Insights, 2018).

3.2.1. Company

Siemens was chosen as an industry representative for this research. Among other reasons, this organization was selected because of more than a century of experience operating globally as well as data access availability.

Siemens is a German-based multinational engineering and electronics conglomerate company headquartered in Munich, Germany. Worldwide Siemens and its subsidiaries employ approximately 377 000 people in more than 200 countries and reported global revenue of 83.0 billion Euros as of 2017. Siemens AG is listed on the Frankfurt Stock Exchange and has been listed on the New York Stock Exchange since March 12, 2001 (Siemens AG, 2018). Roots of the company go back to 1847 with the design of telegraph*, which coincides with the actual beginning of globalization itself.*

The focus of this thesis is given to oil and gas portfolio, which represent one of the biggest globally distributed businesses for Siemens. Oil and gas portfolio on most of the instances unite several Siemens entities under the same project across the world. This type of collaboration is chosen, firstly, for the reason of the client location and legal bounds, secondly, because of the expertise distribution. Norway is considered as the center of competence for Siemens oil and gas portfolio, mainly, owing to the fact of the historically most significant project footprint and close cooperation with government and local company representatives in developing standard solutions for oil and gas industry.

Oil and gas portfolio at Siemens is represented by two main divisions: Power and Gas and Process Industries and Drives. Data collected for this thesis are primarily related to businesses of Process Industries and Drives division.

3.2.2. Respondents

Purposive sampling was used to define the group of respondents - practice when researcher relies on own judgment in the choice of members of the population to study. Researcher's professional network was used to identify respondents satisfying the criteria of target demographic of this study.

Interview data was collected from various senior professionals operating in the area of global project management in almost all main oil and gas regions, such as Europe, USA, Asia and the Middle East.

When it comes to sampling size or a number of interviewees, researcher refers to the explanation provided by Magnus Englander, who describes interview practices in his study on qualitative research. Englander (2012) highlights that in any research it is important to achieve the generalizability. However, one cannot assume that this is achieved the same way for quantitative and qualitative analysis, answering the question of "how many?". Quality of the data comes over quantity in qualitative research. Englander (2012) comments that the best sample size for an interview includes at least three participants with experience in the phenomenon to achieve the desired quality.

The qualitative method of analysis with interview data collection is a time-consuming process, where interview time is also dependent on the availability of key informants. The semi-structured interviewing method requires increased time level compare to structured interview or questionnaires in terms of preparation and data analysis. Therefore, seven interviewees were selected and invited to participate in the interview process for this study.

Four of informants are expatriates working in the country other than the country of their origin; another three respondents had lived and worked in the different countries for some duration of time. Ethnical belonging among respondents is represented by the following countries: Norway, Croatia, Germany, the Czech Republic and Pakistan. Respondents vary in age and gender; experience within the company is ranged between 10 and 32 years.

Senior professional's team, mainly composed of Project Managers, also involved project functions such as Technical Project Manager and Commercial Project Manager. This selection of project leaders was chosen to ensure fulfillment of criteria for involvement in global project collaboration activities with different Siemens entities, working in international teams, experience with team leadership and having the best overview of the project data.

Project leaders have diverse experience when it comes to project size:

- project order value, starting from 300 thousand NOK up to 950 million NOK;
- project team size composed of 1-2 people up to 60 people;
- duration of the project from several months up to several years.

Table 3.2-1 summarizes an overview of interview participants with regard to participants' primary work location and cultural experience in professional life.

Table 3.2-1 Overview of the interview participants

Respondent	Primary work location	Cultural experience
R1	Oslo	Norway, the UK, Denmark, Germany, the Czech Republic, Poland, Singapore, Korea, Malaysia, Kazakhstan, Mexico, Brazil, Italy, India and the Middle East.
R2	Bergen	Norway, Colombia, India, Lebanon, Egypt, Kazakhstan, the Czech Republic, Qatar and Syria.
R3	Trondheim	Brazil, India, Sri Lanka, Poland, Germany and Switzerland.
R4	Bergen	Poland, Germany, Italy, Ukraine, India, the Czech Republic, Russia and Kazakhstan.
R5	Doha	Germany, Romania, the Czech Republic, the UK, Norway, Colombia, Venezuela, Kazakhstan, India, Philippines, the USA, Africa, Sri Lanka, Egypt, Sudan, Jordan, Malaysia, Indonesia, Somalia, Morocco, Saudi Arabia and Lebanon.
R6	Bergen	India, Pakistan, Qatar, UAE, England, Germany , Spain, Denmark, Netherlands, the Czech Republic, Poland and Kazakhstan.
R7	Oslo	Germany, Poland, Austria, Turkey, Canada, the USA, Qatar, China, Korea, Singapore and Malaysia.

3.2.3. Interview

Yin (2003) defines interview as one of the most important sources of case study information, where respondents could be asked about facts as well as their opinions referring to events.

The purpose of the interview was to gather as much as possible insights about global project execution, global project teams and cross-cultural challenges and opportunities. As a data collection tool, semi-structured interviews were used with a focus on open-ended questions to encourage the participants to share their experience and express their views in the most open way. The main difference between semi-structured and structured interviews is that the former leaves space for adjustment to the flow of conversation and improvisation in order to get more in-depth information about the experience of the phenomenon.

Additional follow-up or interpretive questions were also sometimes required in order to explore research objective. Open-ended interviews are considered appropriate for conducting exploratory research of the phenomenon (Pawson, 1996; Kvale, 1996).

Interviews were conducted within the timeframe of two months (March-May 2018). Duration of interviews was on average 1.5 - 2 hours. In addition to the interview answers, respondents shared some of the project information and documentation, as follow up activities after the interview.

Six out of seven interviews were done in person; a practice which makes interviews more reliable (Castillo-Montoya, 2016). Due to geographic location and limited time, one interview was done via teleconferencing tool.

Each interview was conducted in English. Interviews were done using voice recorder. All participants were asked prior recording, whether they are comfortable with this method. Sensitive project data and names were left anonymous.

The primary goal of the interview was to direct the conversations towards themes that were of interest to the research objectives. The interviewer was focused on making the interview process relaxed and comfortable with the purpose of receiving more open answers.

Self-developed set of open-ended questions was used as an interview guide to ensure that focus on research questions is kept at all times. Theoretical framework and research questions were used to formulate essential areas of interest and prepare a list of interview questions, refer to Appendix A - Interview Guide.

Questions were substantially focused on six areas of interest:

- *Introduction.* Learning about respondent's background and experience.
- *Meaning of globalization.* Exploring what this concept means for respondent and the company in general.
- *Global project experience.* Thorough learning about experience working in international teams, cross-border projects, countries, nationalities, global contracts and procedures.
- *Opportunities and challenges in global projects.* Learn about respondent's views supported by experience.
- *Team qualifications.* Involvement in the hiring process, the importance of international experience, main qualifications essential for global projects, the importance of cultural aspects of a team, the perception of efficient team performance.
- *Practical application of cultural theory (Hofstede's framework).* Learning about personal views, introduction to the theories developed in the literature, mapping of experience towards classifications given in the literature.

A theme overview was sent to participants in the interview invitation to highlight the points of consideration and engage thought process in advance. However, the complete interview guide was not disclosed to ensure the independence of respondents' opinions from theoretical framework reflected in questions. Interview sessions began with a statement of the study purpose, conditions of anonymity and confidentiality and agreement to recording process throughout the interview.

Triangulation of methods allowed acquiring some numerical data for analysis. As a part of the interview process, all respondents were given a brief description of Hofstede's cultural dimensions; they were asked to characterize nations with which they had collaborative experience along each of these dimensions, using 0 – 100 scale (0 – 'not important', 100 – 'very important').

Another set of data used participant's assessments employing 5-point Likert-type scale (Allen & Seaman, 2007). On a scale from 1 to 5, the respondents were asked to indicate the importance of each cultural dimension in relation to project phase, where 1 represents 'not important' and 5 is 'very important'. Additionally, the same assessment was provided to the definition of team productivity.

The mixed method helped to elaborate on the subject with a discussion session on the matter, encouraging respondents to argue their score choices. Interview notes were taken during the session of score assignment. The collected numerical scores helped the researcher in the analysis of results.

Additionally to the aforementioned topics, the respondents were asked to provide global project examples, where cross-cultural terms imposed either challenges in project execution or, on the contrary, benefited the actual process. This information provided grounds for studying project data by the researcher to prove the relevance of established cross-cultural theoretical frameworks.

3.2.4. Projects

As a follow-up process, access was acquired to the data of three projects of interest. Data studied was related to contracts, project documentation, minutes of meeting and project information provided by the project leader and some of the key team participants. Notes were used in data collection process.

The project data is summarized in Table 3.2-2.

Table 3.2-2 Overview of the projects

Pr.	Project Type / Purpose	Project duration	Project team size	Location of Main Entity	Locations of Support Entities	Relevant Specifics
P1	New development project	1,5 years	69 per., subgroup of interest 9 per.	Oslo, Norway	Mumbai, India Singapore, the Republic of Singapore	International team, project team members distributed between different locations.
P2	Upgrade project	1 year	12 per.	Bergen, Norway	Oslo, Norway	International team, project team members commuting from different locations.
P3	Delegation project	3 years	10 per.	Doha, Qatar	Oslo, Norway	International team, combined of local members and delegates.

3.3 Data Reduction

Qualitative research of this study is focused on analytical generalization, where previously developed theory is used as a template with which to compare empirical results of the case study (Yin, 2003). To achieve this generalization collected raw data must be analyzed. Prior to that, data reduction process must be completed.

Raw data reduction was performed in order to prepare data for analysis. Data reduction started with coding respondents' data and project data to ensure anonymity. Direct personal information was not included in the interview transcript. Each informant was assigned an alphanumeric code, such as "R1, R2, …, R7". Project coding followed the similar syntax.

Further, the interview recordings were transcribed. It is essential to preserve original meaning and original text as close as possible. For that reason, interview transcripts were enriched by notes with nonverbal indicators.

In order to proceed with data analysis, it was essential to define a unit of analysis. Senior professionals with experience of working on global projects and leading global teams were chosen as respondents. However, interviewees served only as informants describing their experiences related to global projects and global teams. Therefore, units of analysis are global projects and global teams.

The theory-based nature of study allowed part of preparation work for data analysis to be completed by preparing the interview guide. Questions in interview guide were organized in patterns according to theoretical categories, units of analysis and research questions. This helped to complete initial categorization and coding.

However, nature of open-ended interview questions and differences in expressing the opinions and life-experience between respondents showed the need for additional coding. Meaning units of data were moved between categories to provide progressive development of the category outcome (Bengtsson, 2016). Categorization was finished when a reasonable explanation was reached.

3.4 Data Analysis

When it comes to the choice of analysis of the interview content, two types of analysis were considered: quantitative and qualitative content analysis. Bengtsson (2016) in her article about qualitative studies explains that quantitative content analysis represents facts from the text in the form of the frequency of occurrence, summarizing rather than reporting the message. "In the qualitative content analysis, data are presented in words and themes, which make it possible to draw some interpretation of the results."

Due to the nature of the study and research questions, it was considered rational to use qualitative content analysis to give meaning to the data and study the experience with the phenomenon.

The qualitative content analysis offers a theory-guided method for analyzing interview transcripts, where data is analyzed in a step-by-step process. According to Mayring (2000) this methodology helps to deal with the complexity of the studied phenomenon.

Some of the main rules for the use of qualitative content analysis are (Mayring, 2000):

- Develop categories for every unit of analysis - can be defined by research questions.

Part of content analysis concerning data reduction and categorization process was completed during the design of interview guide, as the interview guide was structured around main theoretical categories.

- Have a theory-based analysis, where state-of-the-field of the respective research subject integrated into the analysis.

State-of-the-field of cross-cultural phenomenon represented by research achievements of Hofstede, Kogut and Singh and Turner, was integrated into the data analysis and discussion.

- The inclusion of quantitative steps of analysis to generalize results.

In addition to qualitative, a quantitative method was used to study the phenomenon and draw a comparison between scores provided by respondents in relation to cultural dimensions, cultural preferences of project phases and qualifications of teams' performance. This method helped to generate sufficient amount of material for analysis and discussion.

- Quality criteria of reliability and validity.

Quality of research work is evaluated in the following chapter.

When the use of the method was justified, researcher followed three analytical procedures developed by Mayring (2000), refer to Figure 3.4-1. As part of qualitative content analysis interview data was *summarized*: text was paraphrased and generalized. Use of e*xplication* was applied by explaining, clarifying and annotating the material. The technique of *structuring* was used to filter out a particular structure from the material.
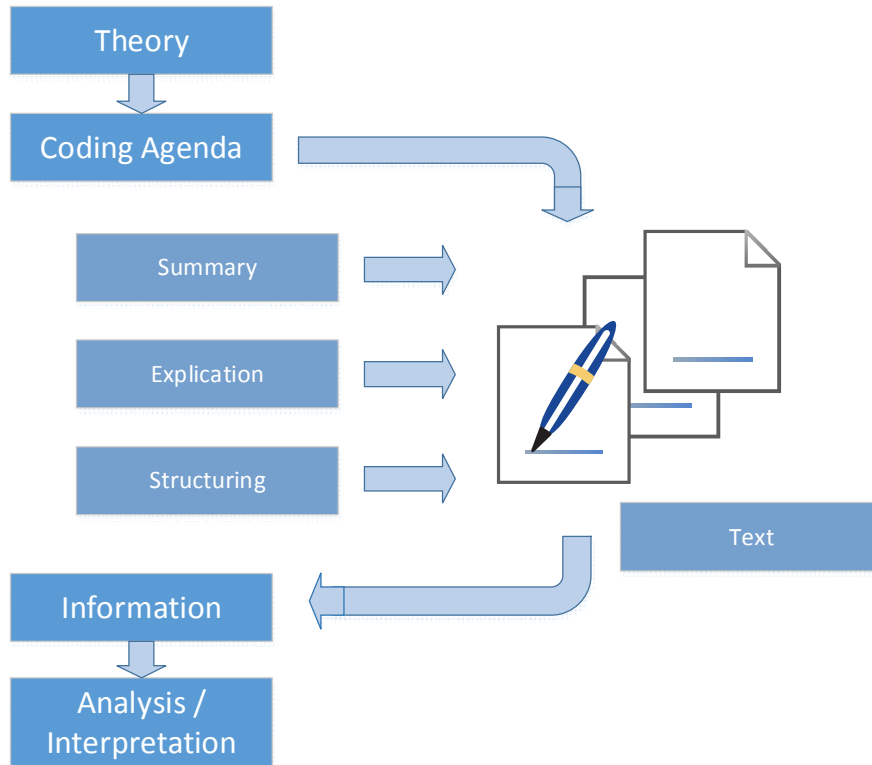
Figure 3.4-1 Basic proceedings of qualitative content analysis, adapted from Mayring, 2000

3.5 Validity and Reliability

This study uses the methodology of triangulation combining both qualitative and quantitative methods. In theory, these methods have utterly opposite ways of testing the reliability and validity of methods. Quantitative methods are tested by conducting different statistical tests. However, data collected by quantitative methods was not of an applicable size to conduct this type of verifications. Quantitative data is used to enrich qualitative approach of this thesis, which is consequently considered as a primary method of this research.

Qualitative studies cannot be evaluated with the same set of measures as quantitative studies. It is, therefore, more challenging to evaluate qualitative studies using a standard set of criteria. Results of qualitative research are not always readily replicated and verified.

In order to demonstrate the validity and reliability of qualitative approach in this thesis, it was chosen to follow Yin's (2003) four design tests which are represented by construct validity, internal validity, external validity, and reliability. Quality of research design is characterized as follows:

Construct validity is expressed by establishing correct operational measures for the concepts being studied, referring to the fact how well research is constructed to meet its purpose and generalize the concept.

Construct validity compliance
Relevant peer-reviewed literature on global projects, global project teams and cross-cultural differences was thoroughly studied to acquire insights in the research area. Scholarly literature was studied to get insights on academic research techniques and methods. Collected theoretical guidance was used in the design of the study. The theory-based framework was used to construct the interview guide. The technique of open-ended questions was used during the interviews to explore the experience of the respondents with the studied phenomenon and address the research questions. The study made use of different sources of evidence, such as respondents of different project management roles, from different ethnical origins, different types of projects, refer to chapters Respondents, 3.2.4 Projects. Use of triangulation in the interview process by combining several resources of evidence - qualitative and quantitative. Respondent validation was performed. Two of key informants reviewed draft study report. Focus on the chain of evidence while writing a report as well as theory orientation while making the data analysis.

Internal validity refers to establishing a causal relationship, whereby certain conditions are shown to lead to other conditions.

Internal validity compliance
Not applicable. Valid for explanatory or casual studies only (Yin, 2003)

External validity refers to establishing the domain to which study's findings can be generalized to outside context, where interpretations of this study can be useful in relation to other phenomena or bigger population.

External validity compliance
The study has limiting compliance to external validity due to the limited sample size, which makes it challenging to make a generalization of results. However, the effort was made to enhance the richness of the sample by the following: - Choice of the case company operating globally more than a century, with diverse national cultures to avoid bias related to ethnocentrism. - Experts from various ethnical and professional categories were selected to ensure a variety of opinions.

Reliability refers to a demonstration that the research can be repeated with the same results. In case of qualitative studies, this commonly applies to the process of documenting procedures and techniques.

Reliability compliance
Case study protocol for data collection and reporting was followed. The condition of anonymity, study purpose and theory briefing of respondents helped to ensure openness and consistency of discussion during the interview process. The researcher used "bracketing" concept when the theoretical knowledge and own experience are taken aside and effort is made to not affect the interpretation of informant's field experience with the phenomenon. Case study database was developed in the form of documenting the collected raw data via: - universal interview guide with pre-determined questions and scoresheets. - common transcription technique was implied. - use of study notes, in the form of records of meetings and discussions with internal and external advisors. Creation of study roadmap, project plan. - a structured process for recording, writing and interpreting data. Reference to the existing scholarly literature was made to prove consistency. Comparison of research findings with other findings in the peer-reviewed literature.

3.6 Ethical Aspects

Participation in the interviews was voluntary. All informants were asked whether they are comfortable with interview recording prior interview execution. Respondents were informed about the area of research and purpose prior start of interview and recording. In the interview invitation email was stated six areas of interest of discussion to ensure transparency:

- *Introduction;*
- *Meaning of globalization;*
- *Global project experience*;
- *Opportunities and challenges in global projects*;
- *Team qualifications;*
- *Practical application of cultural theory (Hofstede's framework).*

Respondent's names and other personal data which can lead to their identity were left out of recording and are not mentioned in this report. Indirectly identifiable data, such as ethnicity, national belonging, years of experience, position and gender are grouped in the report. Alphanumeric coding principle as R1, R2,…, R7 was used to address information provided by interviewees. The same principle was employed for project data used in the analysis of this study.

Scoresheets were either printed out and filled in by respondents without identification data or filled out electronically during the discussion by the interviewer. No personal data was or will be distributed. Interview recordings are planned to be deleted after submission of this report; notification e-mail will be sent to all participants. This is done in accordance with recommendations from Norsk Senter for Forskningsdata (Norsk Senter for Forskningsdata, u.d.).

Referencing to other scholar's work was done in accordance with internal university requirements, using the unified style (University of Stavanger, 2013).

3.7 Assumptions

The foremost assumption of this study is that the informants would respond to the interview questions truthfully. In attempt to ensure that, a guarantee was provided to all participants that their responses in the interview process were confidential and that the information would not be disclosed. A one-to-one interview approach was selected to obtain the information in a most efficient way.

3.8 Delimitation of the Scope

Research is focused on intercompany global project execution. Therefore, with regard to participants, this research is limited to management organization represented by project managers, technical project manager, commercial project manager and senior management and will not include suppliers, customers, and external partners.

The research offered by this study took subject matter of cultural attributes of a project team in isolation from personality, skills and experience, due to the complexity of the phenomenon. This delimitation is highlighted in the summary section where the proposed framework answering the primary research question is described.

3.9 Limitations

Although Siemens is considered as one of the biggest international conglomerates worldwide, single company experience can be seen as a limitation to the study.

Oil and gas portfolio is one of the biggest globally spread businesses for Siemens, however, link to only one industry data can be seen as a limitation of this study.

The theoretical foundation of this study is predominantly established on the research work of Hofstede. As demonstrated in theoretical section the framework received increased popularity and applicability in scholarly literature. However, the researcher understands that limited set of quantitative cultural dimensions cannot cover all cultural differences between nations.

For analysis of project activities concept of project phases was used, representing the aggregated activity level. Researcher admits that attributes of project phases provide an only generalized description of project activities and not all project tasks can have the same characteristics as the defined project phases.

With regard to quantitative approach in this study, due to specifics of the topic, numerical data collection was done via the interview process. Consequently, the sample size is limited to seven interview participants. Although, a quantitative method was used only to support qualitative research and no conclusions were made in regard to generalizing the outcome to the entire population, more research efforts would need to be done involving survey data acquisition with broader sample size to increase the validity of the results.

Another potential limitation is related to objectiveness of the interviewees and the bias of participants and researcher in regards to the perception of other cultures through the own cultural values. This bias is difficult to exclude from the research. Therefore, it is possible that some of the results could be presented through the own cultural perception of researcher and respondents.

A potential constraint of the study is the time determinate for entire research activity. Research efforts were completed in the timeframe of six months. This had an influence on the size of collected data and duration of analysis.

3.10   Significance of the Study

Collected evidence and proposed framework can have importance for scientific work as well as for Siemens improvement of project management practices. The results of this study may also be instrumental for other organizations operating globally.

This study hopes to contribute towards a better understanding of the opportunities provided by global project execution, where challenges imposed by cultural diversity can be used in project advantage.

This work is aimed at helping to identify, evaluate and put together methods to improve the performance of projects utilizing teams globally, by exploring opportunities of cultural differences.

4. Findings and Discussion

The findings presented and discussed in this chapter are supported by analysis of information collected from project data and interviews with senior professionals from the industry representative company.

Results elaborated in theoretical part helped to establish the theoretical framework used to collect the empirical data.

This section presents findings and deliberates on the phenomenon of cultural context in the global business environment on the example of industry representative company. The discussion starts with a general overview of opportunities and challenges experienced by respondents, addressing the following supportive questions:

> *What are the perceptions of project leaders regarding opportunities and challenges of global project execution?*

> *What is the primary global project success variable according to field experience of project leaders?*

Further, the analysis is presented for three projects which respondents relate to as some of the distinguished experiences in regard to cultural context. Whereby, evidence assessment attempts to answer another supportive question:

> *What opportunities and challenges related to cultural diversity have been experienced in the field of work?*

Lastly, this chapter seeks to answer the central research question of this study using collected information from supportive theoretical and practical evidence:

> ***How to achieve improved project performance in the global environment, on the basis of national cultural diversity?***

All respondent's quotes are given in italic, the research questions which this study is trying to examine are given at the beginning of chapters reflecting the corresponding research evidence and deliberation.

4.1 Global Projects - Opportunities and Challenges

What are the perceptions of project leaders regarding opportunities and challenges of global project execution?

All interviewed respondents faced some project challenges imposed by the global environment.

Majority of respondents agreed that *communication* is one of the biggest difficulties when working internationally. This could be attributed to language skills as well as the cultural differences. What is presumed to be normal in one country could be considered as unethical and rude in another. A mix of different nationalities involved in project execution and cultural distance between them can lead to *misunderstandings*. One of the female respondents pointed out on a different *perception of women* in business by certain cultures as an obstacle for efficient cooperation. *"I was ignored during meetings, left out of communication chain and it took me some time to win acceptance on the other end,"* elaborated the respondent (R3).

Country regulations which impose customs clearance, work permits lead to additional work and cause delays. *Country-specific holidays* can impose both challenges and opportunities by limiting the availability of several offices at the same time. However, it can extend the overall availability of the company when one office is on holiday and the other one is fully operational.

Another challenge pictured by one of the informants (R2) was to overcome *resistance from team members* to cooperate in the global setting triggered by the potential loss of professional jobs as a result of outsourcing to low-wage countries. "*High labor cost is the issue specifically for Norway. New project opportunities could be lost because of that*", added respondent (R4).

 "*Even within one company we need to learn how to cooperate, it is not a rare case when one regional unit competes with another on winning customer contract,*" pointed out one of the respondents (R2). Another project leader (R7) explained that *lack of trust* is one of the main issues which hinders cooperation between different company units. This is valid with reference to examples when one entity offers to cooperate with another and deliver a complete solution to the customer. This type of business constellation can benefit client by less engineering efforts and administrative work by combining several suppliers in one functional unit. Moreover, it can benefit individual suppliers by higher margins and securing better chance of winning a project. However, on some occasions, regional units refuse to cooperate and, instead, approach customer directly with only one product proposition. The building of trust appears to be important for better business results. Several respondents pointed out that trust issues can be related to different cultural values.

Another respondent (R5) argued that it is essential to overcome *unconscious bias* related to religious and cultural perceptions when working globally. "There's a fine line between being aware of culture differences and stereotyping," admits social scientist Livermore (2015). Learning more about cultures and trying to understand people from different backgrounds is increasingly important in global business.

Even though each respondent faced some challenges cooperating globally, for all of them global business arena primarily meant favorable outcomes and opportunities. The range of opportunities is summarised as follows:

Opportunity	Informant's Comment
Access to new markets, valuable resources such as labor and production inputs;	*"We can be more efficient, procure internationally. We do not need to hire more personnel; we just outsource work to other Siemens entities," R3.* *"[…global projects provide…] expertise which one location has, but not the other.[…] As Siemens you get help from others, if something goes wrong - globalization is our advantage," R1*
Access to favorable tax regimes and a diverse labor market with diverse rates;	*"[…global projects…] allow profit using personnel with lower rates," R4.*
Proximity to customers almost in each country in the world (in case of Siemens), securing more business;	*"The big advantage for Siemens is the presence in many countries. Siemens can get any projects and can be close to project origins, close to the customer. Even if the project was delivered by some different Siemens entity, customer can always approach local Siemens office for support and get help from anywhere in the world. This means more business for Siemens," R6.*
Remote / distributed engineering, avoiding relocation and commuting costs;	*"We have talented programmers in Siemens Pakistan and India we can harvest their knowledge just by using global technologies such as remote engineering.[…] We only need to pay the money for the local assistance which excludes spending needed for relocation or commuting," R5.*
Possibility to travel, a variety of jobs, exchange of experience;	*"It […global project execution…] gives us opportunity to travel and be part of other Siemens entities for extended period of time," R6.* *"[…global projects allow…] possibility to travel more, job variety and more variety of choices," R3.*
Creativity and generation of new ideas driven by diverse teams and global competition.	*"It […global business…] mean a lot of competition for Siemens; generation of new business ideas," R3.* *"[…global project execution allows…] to have different people in my team, different countries, backgrounds, so I have mix of different solutions and ideas," R5.*

Reflection
In overall, respondents expressed their views positively in regard to opportunities of global projects and global business in general. However, informants pointed out that global project execution is challenged by country regulations and resistance from team members. The project leaders suggested that the challenges related to communication, gender inequality, misunderstandings and lack of trust are predominantly connected to cultural aspects of the nations involved in the collaborating process. However, much of the insights into the area of cultural differences should be acquired before drawing the conclusions. As it was pointed out, "incorrect" cultural perceptions of some nations or stereotyping can happen causing the "unconscious bias". This can affect trust and overall harmony in a team.

4.2 Project Team – Variable of Global Project Success

What is the primary global project success variable according to field experience of project leaders?

Siemens example shows that years of continuous operation globally made it essential for all participants of global cooperation to unify technology, work practices and legal frameworks. However, globalization of business does not lead to globalization of people. What always vary are people who agree on legal terms, follow defined guidelines and procedures and work with technologies.

One of the informants (R3) elaborated by arguing that "*one assumes that we have common understanding by following same procedures and contracts, but in fact, we don't. For example, in one of our projects we experienced that Chinese used to discuss contract terms after the contract was signed. Our Egyptian colleagues were not using e-mail addresses, which are common for our work processes, so some workaround needed to be done for this project with which we didn't count in the beginning. I would say that, mainly, misunderstanding is related to cultural differences. More than perfectly established work practices and legal framework is needed in order to collaborate globally.*"

"In general, no matter how many procedures you have, it all depends on the people. In order to have a successful project, we need to have a good project manager, that comes on top of all procedures. You need someone who understands, has a cultural sensibility, understands what it takes to make things to move ahead in India, Norway or any other place in the world," added another respondent (R7).

Another informant (R5) explained that *"globalization at Siemens is mainly expressed by people from diverse cultures and backgrounds. As an example, when I worked in Siemens Pakistan, we had a team of the same origin; when the problem was arising we were coming with the same type of solutions. When I started to work in Germany the way of thinking and finding solutions was different. They had different viewpoints. Same in Qatar, we have 17-19 nationalities. […]*

we get different ideas. And it is not related to the fact that they are different people - they come from different nationalities, backgrounds, practices and countries. This is how globalization is expressed in Siemens, different workforce needed to generate ideas and help problem-solving."

"In global environment, it is important to build a team and promote collaboration and teamwork. It all comes to people at the end", concluded one of the interviewees (R4).

Reflection
As highlighted in the literature research section, a project team is one of the predominant contributors to favorable project results. Majority of project leaders at Siemens confirmed the important role of global project team. Moreover, experience shows that, since global project team is primarily composed of people coming from the different heritages and cultures, generic managerial solutions may not be useful in specific cultural context. The managerial practices may vary to fit the diverse context. That being the case, in this study, global project team attributed by cross-cultural diversity is defined as the primary variable of global project success.

4.3 Cultural Experience

What opportunities and challenges related to cultural diversity have been experienced in the field of work?

4.3.1. Hofstede's Framework Application

With the intention to answer the research question, informants were asked to share experience about national cultures they had the most business interactions with. Most of the interviewed participants had collaborative experience with the following countries:

- Norway (7 out of 7 respondents);
- Germany (7 out of 7 respondents);
- China (5 out of 7 respondents);
- USA (5 out of 7 respondents);
- Middle East (5 out of 7 respondents), mainly Qatar and the UAE;
- Eastern Europe (7 out of 7 respondents), mainly the Czech Republic and Poland;
- India (7 out of 7 respondents).

Hofstede's cultural dimension theory was used as a basis to describe the cultural experience of informants. In addition to Hofstede's framework, the researcher found a need to use the Cluster theory developed by Ronen and Shenkar (1985). In order to optimize the research, some of the countries were grouped together within one cluster as they do not show significant deviations. Initially, clusters were deducted by Ronen and Shenkar (1985) from empirical evidence, based on the countries' relative similarities, taking into account employee's work attitude. Graphical representation of identified clusters is given by Figure 4.3-1.

The relationship between countries within one cluster is recommended to be analyzed using psychic distance approach, measuring linguistic, geographical, political and economic factors in addition (Sousa & Bradley, 2006). Evaluation of inter-cluster relationships is not part of this thesis scope and, therefore, such evaluation will not be addressed.
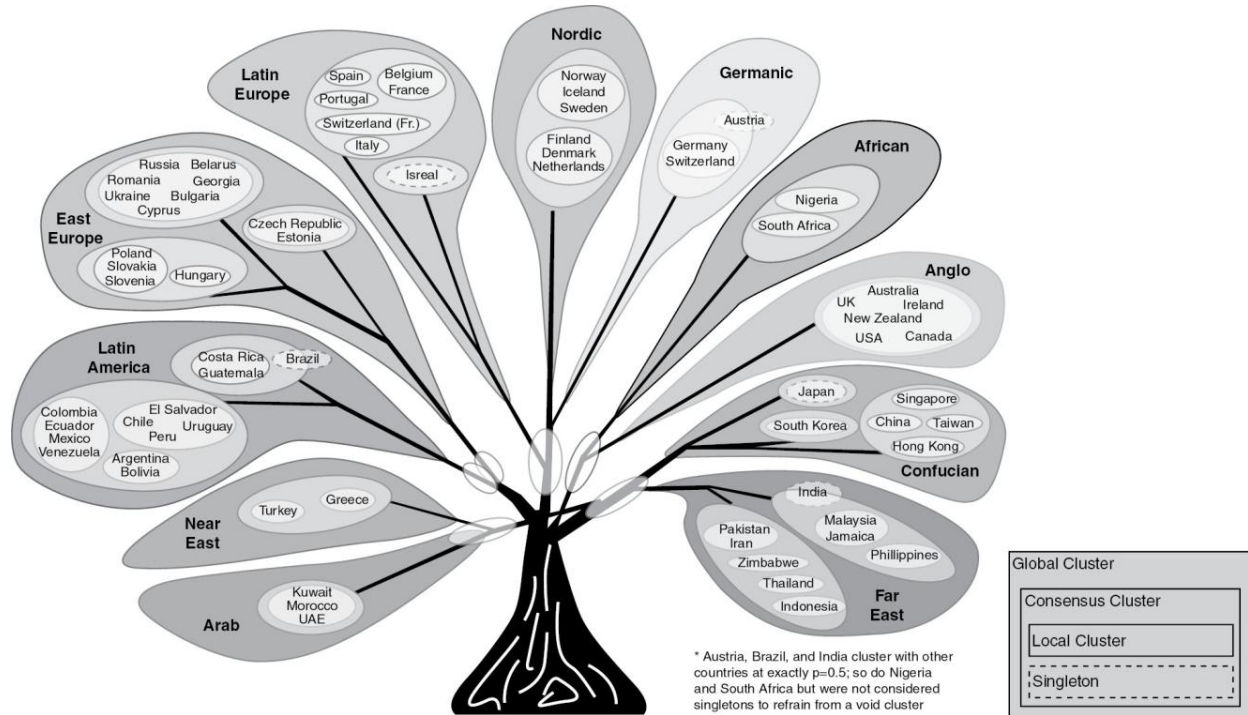
Figure 4.3-1 Cultural clusters. Source: Ronen and Shenkar (2013)

Countries representing Eastern European societies, such as the Czech Republic and Poland, suggested grouping in one cluster – "Eastern Europe", refer to Figure 4.3-1. Official data, released for evaluation of cultural differences according to Hofstede's framework (Hofstede Insights, 2018), show only insignificant deviations between countries supporting the simplification, refer to Figure 4.3-2.
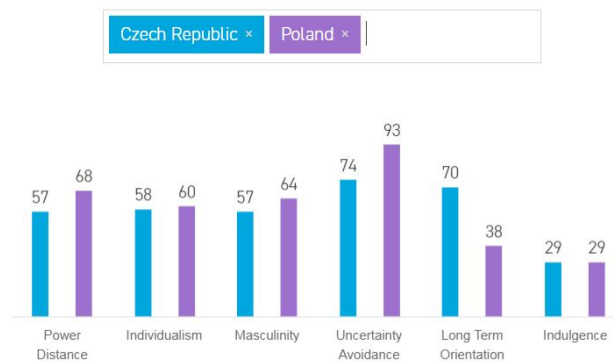
Figure 4.3-2 Cultural dimensions - Czech Rep., Poland. Source: (Hofstede Insights, 2018)

Another case of cluster societies is related to countries from the Middle East, according to Ronen and Shenkar (1985) they are grouped as "Arab" cluster, refer to Figure 4.3-1. Participants of the interview provided their evaluation for two Gulf countries: the UAE and Qatar (no official data is available for Qatar (Hofstede Insights, 2018); the country is assumed to be in the same category as the UAE). The project manpower resources between two countries are similar. Based on the respondents' experience, in addition to local representatives, two countries have team members of Egyptian and Syrian origin. Due to the relatively insignificant cultural deviation between nations representing UAE and Qatar, they were grouped in one cluster; refer to official data release Figure 4.3-3.
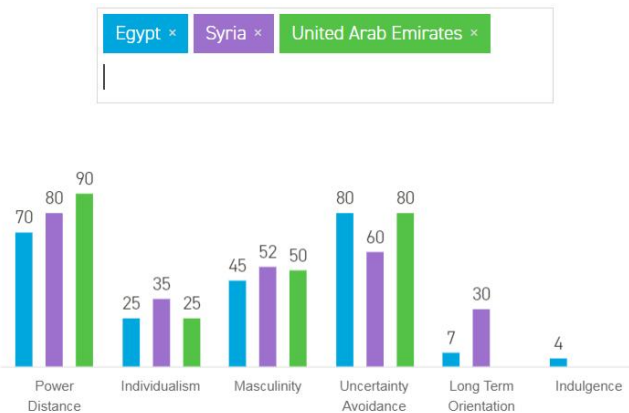
Figure 4.3-3 Cultural dimensions – Egypt, Syria, UAE. Source: (Hofstede Insights, 2018)

Interviewees were asked to reflect on the concept of cultural dimensions, when one culture "could be measured relative to another" (Hofstede, et al., 2010). Some of the respondents tried to elaborate by explaining:

- *"Late working - very common in Middle East, South Asia and Asia. People are culturally programmed to stay late - sometimes it is counterproductive. Productivity is not about working 12 hours a day it will lead to burn out, cause mistakes. Some people stay late because I stay late, they do not want to displease the boss by leaving earlier. People from Europe or USA they will leave at five no matter who is sitting there," R5.*
- *"First would be communication - if people are shy or are able to speak freely. Another one would be how they approach authorities, whether they respect leadership or they prefer to work independently. Another one would be how they are assuming the responsibilities, whether they are interested and involved in the work they are doing, or they have different priorities in their lives," R6.*
- *"Different nationalities have different ways of bringing bad news, for example. Someone tells it as it is, someone hides it until it explodes," R7.*
- *"Some people like to work in groups. Some nations are ok with working a bit extra overtimes, like Philipinies. The others are not so willing, like Norwegians," R3.*

None of the informants was familiar with Hofstede's cultural dimensions. Respondents were provided with a short theoretical explanation of each of the dimensions. The thorough choice of interview participants with long experience in global cooperation helped to pick up the meanings of the cultural dimensions very quickly. Respondents were asked to assign cultural scores from 0 to 100 to countries with which they had most collaborative experience. The process of score assignment had similarities with a discussion session when respondent was trying to argument his / her choices. Summary of respondents' arguments is given in the following tables.

For details on a summary of score allocations by respondents and deviations between official data and values provided by informants refer to Appendix C – Scoresheet 2, Respondents' Data. Official values are extracted from online database "Hofstede Insights" (Hofstede Insights, 2018).

Theory
POWER DISTANCE (PDI)
The extent to which the less powerful members of institutions accept that power is distributed unequally (Hofstede, et al., 2010).

Informant's Reflection						
Norway	Germany	China	USA	Arab cluster	Eastern Europe cluster	India
"Flat management style." The concept of *"everyone being equal, freely expressing their opinions."* A project leader is considered as a companion with *"informal work relationship."* Employees expect to be involved in the decision-making process.	*"Hierarchy is respected"* in the organizational culture of Siemens Germany. Attitude towards superiors is formal and is *"usually done using the second name."*	Distinctive hierarchical relationship: *"respect for power."* *"…more formal relationship between leader and team members."*	The mixed evaluation was expressed for this country, which respondents grade somewhere in between Europe and Asia.	Highly hierarchical society, not only in business relation. Respect and acceptance of status diversity.	Respect of hierarchy mainly attributed to *"historical past of centralized regime."*	India expresses a commitment to hierarchical behavior: *"…obedience to superiors, avoiding disagreement."* *"Employees expect to be guided through task execution."* *"Questions are not always asked if one is in doubt."*

Summary

Power Distance

LOW	MEDIUM	HIGH
According to interview results, the country represented by the lowest value in this category is **Norway**.	Countries with an intermediate value of Power Distance are defined by respondents as follows: **Germany, the USA and the Eastern Europe Cluster.**	Countries represented by highest Power Distance as an outcome of interview results are **China, the Arab Cluster and India**.

Alignment between respondents

Score allocation in this dimension received a reasonable level of agreement between respondents.

The highest misalignment is related to Germany (STDEV=24.3). However, the mean value for Germany is relatively close to official data (STDEV=13.4).

Conformity to official values

Respondents' opinions correlate very closely with official data (max STDEV=13.4).

Theory						
INDIVIDUALISM VS. COLLECTIVISM (IDV) Expresses degree of interdependence between members of society, when a person's self-image is defined in terms of "I" or "We" (Hofstede Insights, 2018).						

Informant's Reflection						
Norway	**Germany**	**China**	**USA**	**Arab cluster**	**Eastern Europe cluster**	**India**
Norway is considered as a highly individualistic society, where the perception of *"independence, individual goals and privacy are very important."*	Germany is classified as an individualistic society with the ability of its members to *"work independently."*	China is attributed as a collectivistic society mainly in relation to the political regime.	The USA is associated with independent work driven by *"self-interest."*	Respondents had mixed opinions in this category: From one side, society is oriented on relationships, *"strong big family connections."* From the other side, it is characterized by *"self- orientation in business."*	Mixed reviews were received from informants, characterizing organizational behavior as self-focused. However, there were opinions related to previous political system experience of *"collectivism,"* associated with common goal and belief of care for others.	India received low scores on individualism, supported by associations of observers with *"big Indian family relationship,"* *"sensitivity to public opinion,"* *"preference of working in the team."*

Summary

LOW	MEDIUM	HIGH
India and China are representatives of collectivistic societies as per interview discussions and scores.	Countries with an intermediate value of Individualism: *the Arab Cluster and the Eastern Europe Cluster.*	*Norway, the USA and Germany* score the highest in this category, confirming individualistic nature of these nations.

Alignment between respondents
This score allocation received relatively high value variations between informants almost for all countries. The highest misalignment is for Norway (STDEV=29.8). However, the mean value for Norway is very close to official data (STDEV=4.9).

Conformity to official values
Respondents' opinions are relatively close to official data. However, informants expressed polar views compare to official results when it comes to the USA (STDEV=38.9). All respondents define the USA as a rather individualistic society.

Theory
MASCULINITY VS. FEMININITY (MAS)   *"Wanting to be the best (Masculine) or liking what you do (Feminine)."* (Hofstede Insights, 2018)

Informant's Reflection						
Norway	**Germany**	**China**	**USA**	**Arab cluster**	**Eastern Europe cluster**	**India**
Norway is feminine society, where: *"work comfort, conflict avoidance and quality of life"* are main characteristics. *"… to be better than others materially is not socially accepted".* *"…to be better than other in environmental or health aspects is acknowledged by society."* *"No grades up to high school"* characterize preference to feminine methods.	Germany is evaluated as a primary masculine society with *"focus on work achievements and carrier path."* *"Highly result-oriented."*	China is associated with a firm goal and success orientation. *"Spending long hours at work is common."* *"Nation which is driven by competition."*	The USA is graded as rather masculine society. Associated with high competition. The concept of *"American Dream, where people are known for their achievements."* *"Thrive to do always the best."* *"Short vacation breaks"* - work plays an important part in the life.	A society where status is given an important role. Monetary rewards are important. *"Inequality is accepted by society."*	The Eastern Europe is defined as a masculine society. *"Competition is a driving force from the childhood."* Big difference in social groups. Monetary rewards are essential, status is important. *"Expressing the status is common."*	Mixed reviews were received for India. Society is associated with rather high competition. However, *"good relationship at work"* plays a significant role.

Summary

LOW	MEDIUM	HIGH
Norway is valued as a feminine society, coinciding with the official values.	*Germany, the USA and India.* Germany and the USA are defined by the majority of respondents as rather masculine societies, but some strongly opposing opinions allocated these countries in the intermediate area.	*China, the Arab cluster and the Eastern Europe* cluster are defined as masculine societies.

Alignment between respondents

This score allocation shows relatively high view variations between informants almost for all countries.

The highest misalignment is for the USA (STDEV=32.7). However, the mean value is very close to official data (STDEV=2.8).

Conformity to official values

Respondents' opinions correlate relatively closely with official data. However, official values present the Arab and the Eastern Europe clusters rather moderately masculine, whereas, respondents picture countries on stronger masculine side. At the same time, informants do not picture Norway as strongly feminine as official data presents it.

Theory
UNCERTAINTY AVOIDANCE (UAI) *Need for rules versus ability to think in new directions and uncover new solutions* (Hofstede, et al., 2010).

Informant's Reflection						
Norway	**Germany**	**China**	**USA**	**Arab cluster**	**Eastern Europe cluster**	**India**
Norway is characterized by more relaxed and agile behavior: *"flexible work style,"* *"flexible work hours,"* minimum rule policy at work. However, if any rule exists, it receives very high respect and adherence.	Respondents attributed Germany as a country *"creating rules"* and having an urge for them. Germans are characterized by extreme punctuality, *"attention to details,"* *"respect of deadlines."* Society expresses respect for social, behavioral norms.	Mixed opinions were expressed in this category: Experience of some informants with "*complicated systems of rules and regulations"* in China when operating in a global setting. However, some respondents highlighted that *"rules can be relative for Chinese."*	Mixed opinions were received from respondents: Americans are being known for agile *"customer oriented work style."* However, Americans have *"highly developed system of rules and regulations"* they try to follow and adhere to.	Mixed opinions were expressed by respondents: Society is built on rules, strong pressure to follow those rules. However, in business rules seem to be relative for representatives of this society.	This society is assumed to have a preference for avoiding uncertainty. It is associated with strong system of rules, precision level. *"high responsibility for any given task."* *"respect of deadlines."*	Informants associated India as a society which requires to *"follow the rules and procedures in order to complete tasks,"* therefore, the country is graded relatively high in this category.

Summary

LOW	MEDIUM	HIGH
NA	Countries with an intermediate value of Uncertainty Avoidance are defined by respondents as follows: **Norway, India, China, the USA and the Arab Cluster.** The Arab Cluster scores the lowest in this category. However, it is still considered in the intermediate range.	**Germany and the Eastern Europe Cluster** score relatively high in this category, complying with the official values (STDEV=11.3, STDEV=4.2 respectively).

Alignment between respondents
The score allocation from respondents is uneven for almost all countries. The highest misalignment is for China (STDEV=33.8), having the same high misalignment with official values (STDEV=19.1).

Conformity to official values
Close to polar views were expressed by respondents compare to official data, when it comes to China, the USA and the Arab Cluster. Respondents define China and the USA as societies rather focused on Uncertainty Avoidance, while official values confirm the opposite. The Arab Cluster is defined to be closer to neutral in uncertainty measure, while official data indicates relatively high Uncertainty Avoidance level.

Theory
LONG-TERM ORIENTATION VS. SHORT-TERM ORIENTATION (LTO)

Fostering of virtues oriented toward future rewards versus fostering of virtues related to the past and present (Hofstede, et al., 2010). |

Informant's Reflection						
Norway	**Germany**	**China**	**USA**	**Arab cluster**	**Eastern Europe cluster**	**India**
Mixed opinions:

Some respondents argued that Norway *"thinks about future by preserving money in the Oil Fund"* and care for nature as an example of *"popularity of electric cars."*

The other part of respondents argued that people *"do not save money, have very high spending value."* Preserving identities by *"speaking different dialects"* – orientation to past. | For the majority of respondents, Germany is associated with an urge for *"good planning and knowing ahead."* | The country is considered to have values, oriented on future like *"long-profit orientation,"* *"large savings."*

However, some informants argue that planning could be temporary and can be adjusted in favor of situation, where *"signing a contract does not mean terms cannot be changed."* | Mixed opinions were received for this dimension.

The USA is known for *"preserving its natural resources for next generations,"* therefore, orienting on future.

However, business does not follow strict planning; agile type of work according to customer needs is associated with the USA. | The Arab Cluster received relatively lower scores in this category compared to other countries, due to *"very high respect for traditions."*

"There is a little plan for future when it comes to oil extraction in those countries, as an example,…" - what is happening now is more important. | Society associated with *"savings for future."*

Does not have strong heritage relation.

Extensive planning and following up the plan is essential. | Respondents struggled to define aligned scores:

India is associated with prolonged traditions.

However, rules in some sense have abstract meaning. |

Summary

LOW	MEDIUM	HIGH
NA	Most of the countries received intermediate values for Long-Term Orientation: ***Norway, China, the USA, the Eastern Europe Cluster and India. The Arab Cluster[1]*** scored lowest in this category; however, it is still considered in the intermediate range.	***Germany*** scored high in this category, coinciding with official values (STDEV=9.9).

Alignment between respondents
In this category, mixed opinions were received. As a result, countries are mainly graded in the medium range what contradicts with some official results.

The highest misalignment is for China (STDEV=34.7), having the same high misalignment with official values (STDEV=26.9). |

Conformity to official values
Official data defines China, the USA and the Eastern Europe Cluster as fairly long-term oriented societies compare to rather neutral definitions from respondents.

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[1] No official data was provided for the Arab cluster in this category.

Theory
INDULGENCE VS. RESTRAINT (IVR)
An extent to which people try to control their desires and impulses (Hofstede, et al., 2010).

Informant's Reflection						
Norway	**Germany**	**China**	**USA**	**Arab cluster**	**Eastern Europe cluster**	**India**
Norway is evaluated distinctively high in this category.

The nation is identified as a free society, *"focusing on leisure time activities"* and giving it rather higher priority than work. | The country received slightly higher than average score, possibly attributed to high living standards.

However, some of the respondents argue that Germany is associated with rather *"hardworking attitude"* where, to some extent, work is prioritized over leisure time. | China is defined as a fairly restraint society, with distinctive *"focus on work,"* where leisure activities are underprioritized.

Nation has *"a good control over desires."* | The USA received mixed opinions and reviews.

The nation is associated with *"working long hours."*

At the same time, Americans urge to *"enjoy life"* and have quality time with family or friends. | Mixed reviews are received.

Due to *"strong religion"* bonds, the cluster is perceived as rather restraint society.

However, urge to have everything the best is also important for this nation. | The cluster received mixed reviews but is classified as rather restraint society.

Interviewees support this characterization by opinions related to *"hard-working attitude,"* *"dedication,"* *"high competition,"* being restrained by social norms.* | India is assessed as restraint society due to *"social pressure"* for following the norms, *"high competition"* and lowered priority for leisure activities. |

Summary

LOW	MEDIUM	HIGH
Relatively closer to the meaning of restraint nations are *China, the Eastern Europe Cluster and India,* supporting the official data (STDEV=9.9, STDEV=7.8, STDEV=12.7 respectively).	Intermediate in this category are defined: *Germany, the USA and the Arab Cluster[1].*	*Norway* received reasonably high scores in this category confirming official results (STDEV 13.4).

Alignment between respondents

This score allocation from respondents is uneven for almost all countries.

The highest misalignment belongs to the Arab Cluster (STDEV=32.1).

Conformity to official values

Respondents' opinions are relatively close to official data. However, Norway is defined by interviewees as a fairly indulgent society and the USA is rather intermediate in this dimension, while official data defines the USA as a fairly restraint society.

[1] No official data was provided for the Arab cluster in this category.

Reflection

The review confirms the presence of cultural differences in business environment between representatives of different countries.

Using the concept of Hofstede's cultural dimension, seven interviewees succeeded to define the cultural aspects of collaborating nationalities relatively close to the officially released results compiled from World Value Survey (Hofstede Insights, 2018). This confirms to certain degree cultural awareness of the interviewees.

Moreover, results show a relatively good level of agreement between respondents in regard to cultural characteristics of different nations, confirming the theory of mental programming between nations and the possibility to see differences via the framework of cultural dimensions.

On some of the instances, values assigned by respondents contradicted with some of the official statements. Researcher finds answers of participants useful in exploring the cultural specificity of the country from a more business-oriented angle, which could provide better insights for project execution basis. This advocates that cultural experience exchange could be a valuable practice at Siemens.

Looking at the national cultural profiles representing countries of collaborative experience of informants, the following can be highlighted, refer to Figure 4.3-4:

Cultural attributes generally differ between Western and Eastern societies. Eastern societies (China, India) tend to show collectivistic behavior, which emphasizes harmony and social order values. Leadership style in Asian and Arabic societies is somewhat autocratic. In this type of leadership, the leader gives orientation to team-members and takes responsibility for most of the decision-making.

Cultural specifics of Scandinavian society (Norway) stand out from complete evaluation characterizing rather flat work environment with a focus on the comfort, freedom of expression, high individualism and independence. Employees are broadly involved in the decision-making process, guiding the leader throughout entire project execution by their inputs.

Other Western societies (USA, Germany and the Eastern European Cluster) are characterized by rather democratic leadership style. However, the involvement in the decision-making process is considered as called upon, if a leader considers it necessary. Work environment has somewhat competitive nature, with focus on achievements and excellence.

Consequently, the diverse work environment can presume contrasting project management practices, where one generalized approach does not appear to be suitable.
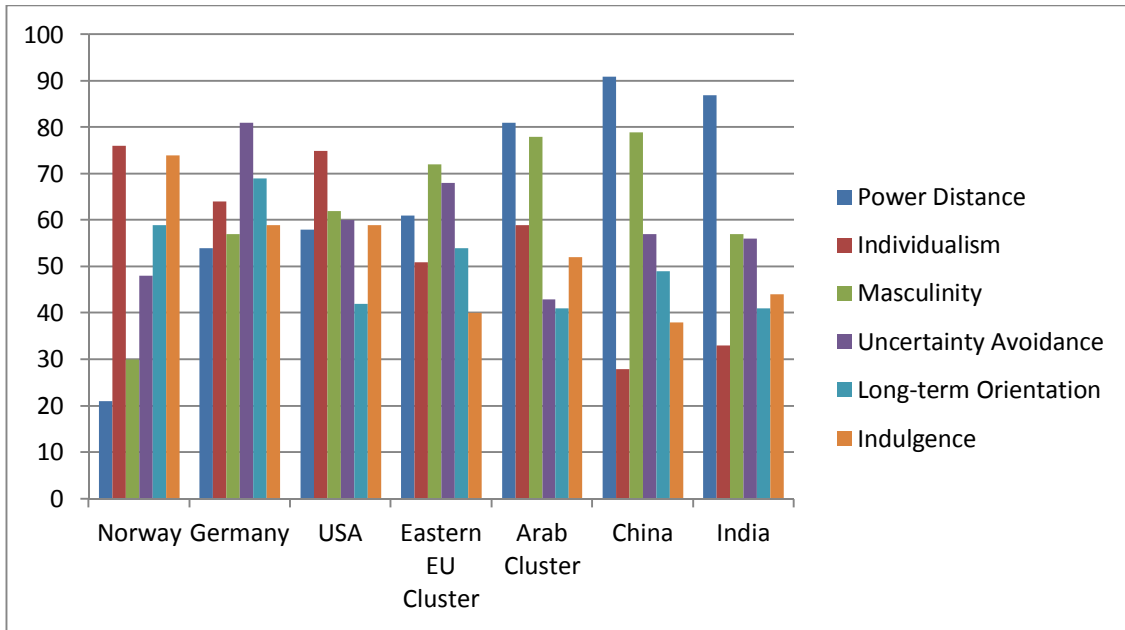
Figure 4.3-4 National cultural dimensions, respondents' data

4.3.2. Cultural Analysis of Global Projects

During the interview process, respondents were asked to share any project experience which could be associated with project success or challenges related to cultural diversity.

The researcher had an opportunity to study three projects (P1, P2 and P3) with distinctive characteristics related to cultural aspects of team members.

To run an analysis of a project, the theories and concepts studied in the theoretical section were used. For each of the projects, values of cultural dimensions were summarized using the official data (Hofstede Insights, 2018)**.** Additionally, cultural distance index was calculated for individuals involved in cooperation.

Initial formula from Kogut and Singh (1988), refer to Equation 2.1-1, was adjusted to include two more cultural dimensions. For that reason, Kogut and Singh's formula is given below in more generalized variation:

$$CD_j = \sum_{i=1}^{n} \{(I_{ij} - I_{ik})^2 / V_i\}/n$$

Equation 4.3-1 Cultural Distance Index – generalized, adapted from Kogut and Singh, 1988

Where,

CD_j – cultural distance of jth country to the initial country of comparison;

I_{ij} – index for i-cultural dimension and j-country;

i - cultural dimension;

j – country of comparison;

k – initial country of comparison;

n – the number of cultural dimensions;

V_i – variance of the index of i-th dimension.

In overall, cultural distance index was calculated over six Hofstede's cultural dimensions (Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long-Term Orientation and Indulgence).

The primary interest of this research was an evaluation of project challenges and opportunities through the lens of cultural characteristics of team members. However, the researcher admits that other aspects could have influenced the project results.

P1 - Project is characterized by substantial cooperation between sub-teams working by virtue of distributed engineering between Norway and India. On that account, the project could be taken as an example of successful collaboration between two offices.

This project example is related to the project sub-team of nine people, responsible for the most critical project deliverable within the tight schedule. The team consisted of representatives from the following nationalities:
- Norway
- Eastern Europe Cluster
- India
- Mexico

Project challenges:
- Execution phase had a very short timeframe to complete programming and test of software deliverable. Execution time was limited due to delays caused by the design project phase and strict obligations to hand over the delivery to commissioning phase on time.
- Coordination of distributed project teams between Norway and India is considered as challenging activity.

Cultural dimension scores
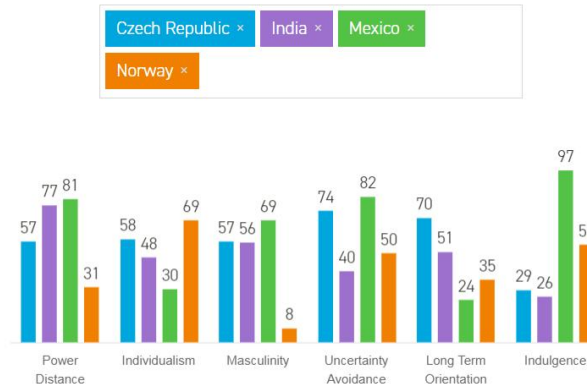
Figure 4.3-5 P1 - countries' scores. Source: (Hofstede Insights, 2018)

Cultural Distance Index

	Norway	East. EU Cl.	Mexico
India	1,37	0,95	2,15

Evaluation through the lens of cultural characteristics
Coordination of team located in India was done from the office in Norway, which had responsibility for entire delivery. Coordination was handled by project participants having relatively small cultural distance index with India 0.95, which made cooperation more balanced and possibly reduced number of misunderstandings.   Considering cultural perception of project leaders provided in the previous chapter and supported by the official values of Hofstede's cultural dimensions, the assumption could be made about the type of task and leadership skills expected by the Indian team. Relatively high power distance indicates an expectation of stronger leadership style. Rather lower individualism indicates that team required an increased level of guidance and communication.   The project used time difference between Norway and India as an advantage to deliver on schedule.   As explained by the project leader, strong leadership guided the team in India over entire execution. Project documentation shows that all test activities were highly documented, which provided an opportunity for India-team to work independently, while the team in Norway was out of business hours.   By the beginning of the business day in Norway, the team in India was finishing up testing and preparing input for correction activities performed by colleagues in Norway. "Progress handshaking" was done daily via communication application.   Another important aspect is related to rather high Masculinity values in the team. This possibly benefited the delivery, when people working under pressure strived to show that they are "the best" and can handle this task and take responsibility. Project data shows that the key team participants were able to work relatively long hours, giving priority to the goals and activities of the project.

Reflection
The success of this project demonstrates that globally distributed engineering can help to deliver within tight schedule.   The thoroughly assembled team, leadership and task allocation can help team in achieving high productivity.

P2 - Project was going through a critical phase where tight schedule could be compromised. Assumed cultural attributes of some of the team members benefited the project delivery.

The team consisted of representatives of the following nationalities:
- Norway
- Eastern Europe Cluster
- Spain

Project challenges:

The project leader explained that engineering progress uncovered that the estimated time of delivery to the client, provided during bid phase, was not realistic. The project required extensive test activities. Unfortunately, client relationship did not allow postponing the delivery. Engaging more workforce would not help due to the limitation of the equipment required for the test activities.

Cultural dimension scores
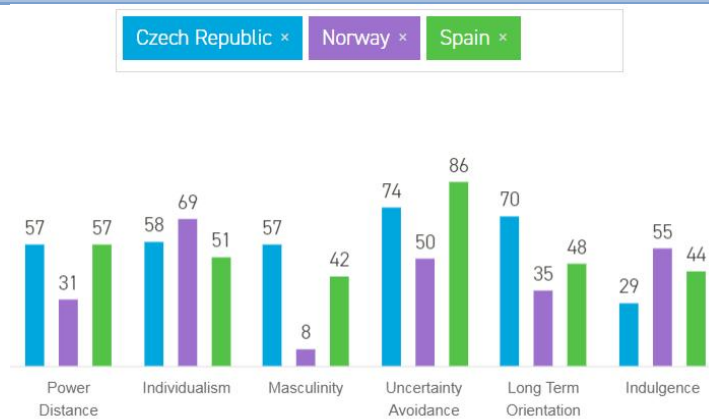
Figure 4.3-6 P2 - countries' scores. Source: (Hofstede Insights, 2018)

Cultural Distance Index

Not applicable in this project case

Evaluation through the lens of cultural characteristics
The project leader decided to take a discussion with the team about the possibility to make testing process faster in order to meet the deadline. The project leader was relying on solving some technical aspects by the team, which could speed up the process. However, that did not seem feasible. Instead, the leader was surprised to hear that some of the project resources suggested working in shifts and taking the night shift duties.   Considering that all project members were young, not having family obligations, the project leader assumes that this problem-solving approach could be related to some cultural factors.   When the researcher had a closer look at the team dynamics, it was discovered that representatives of rather higher Masculinity and lower Indulgence values volunteered for the task. With reference to the cultural perception of project leaders, provided in the previous chapter, and the definition described by Hofstede (2010), high Masculinity values are associated with competition, focus on work achievements and results. Lower Indulgence is associated with control over desires, focus on work, when leisure activities are underprioritized.

Reflection
This project example shows different attitudes towards work and problem-solving, where some of the nations can sacrifice their comfort for work-related interests.

P3 –Project delegation from one Siemens entity to another, where presumed large cultural differences caused certain challenges.

This project example focuses primarily on cooperation between two offices. The project team was represented by a variety of nationalities. However, the challenging establishment process was handled by project management and administration team, consisting primarily of local representatives from both sides:

-   Norway
-   Qatar

Project challenges:
Smooth delegation process from Siemens entity in Norway to Siemens entity in Qatar.

Cultural dimension scores
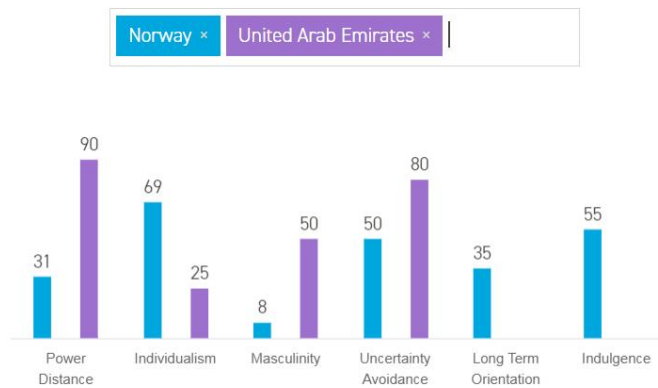
Figure 4.3-7 P3 - countries' scores[1]. Source: (Hofstede Insights, 2018)

Cultural Distance Index

	Norway[2]	Germany	China	USA	Eastern Europe Cl.	India
Arab cluster[1]	5,74	5,31	4,23	4,81	3,03	2,1

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[1] No official data is available for Qatar; similar values to UAE are assumed as representatives of the same cultural cluster, refer to clarification in chapter 4.3.1 Hofstede's Framework Application.
[2] For demonstration purpose, Cultural Distance Index for the Arab cluster was calculated with some other countries in addition to Norway.

Evaluation through the lens of cultural characteristics
"On overall project was a success. However, […project…] had a bumpy start", commented project leader (R2). From the project manager experience, the researcher learned that project delegation personnel were sent to establish local support team for a local customer and transfer project knowledge and skills to the local team. This "*business transaction*" meant that Siemens Qatar would acquire know-how which was not available in the local office from before and secure long-term stable income from the life cycle business giving the support to the local customer. However, to the surprise of Siemens Norway delegation team, local Siemens management had many doubts about the value of the project for the local business. Two entities spent in total four months in discussions about the significance of the project to bring everyone to a common understanding. Values which were strongly supported by delegation entity were alien to beliefs established in local Qatari office. This affected project execution caused by confusion of delegation team executing project tasks, slow decision-making process and effort spent on internal issues which could be otherwise utilized in bringing the project to the common goal. With reference to official data for cultural dimensions' scores between two countries, we can witness that values present nearly polar national characteristics: Norway having quite low acceptance of hierarchy, while Qatar is presented as a relatively high hierarchical society. Norway is characterized as an individualistic society, while Qatar is positioned closer to collectivistic values. High feminine nature of Norway versus relatively high masculine values in Qatar, etc. All these characteristics can assume rather polar way of thinking, work and decision-making practices. With reference to calculated Cultural Distance Indexes, we can witness that the Arab cluster and Norway have one of the highest distance values, compare to other countries used as an example.

Reflection
This project example shows that misunderstanding can happen anywhere when working globally, what is intuitive in the perception of one social group could contradict with values and practices established in another. This can cause a certain level of resistance from one group even if this group would benefit from the venture the most.

4.4 Project Performance through the Lens of Cultural Diversity

The theoretical and empirical insights into research questions, directed this study to the area of research related to the cultural diversity of project team as one of the variables of project performance. Consequently, this part of the report is dedicated to the central research question of this thesis attempting to identify performance patterns in connection to the studied phenomenon. The outcome is summarized and presented in the following section 5. Summary and Recommendations.

How to achieve improved project performance in the global environment, on the basis of national cultural diversity?

4.4.1. Project Team Performance Patterns

Due to the fact that project team is considered as one of the most influential constituents of the project, it is essential to understand how to increase performance within a team to extend probability of favorable project results. Four out of seven respondents pointed out that productive team should be a diverse team from personality, gender, seniority and as well as cultural perspective.

Theory	Findings
Team Diversity	
The theoretical research of this study explains that team's cultural diversity can enhance creativity and help to be more flexible in the complex, challenging environment, refer to chapter 2.1.4.5 Global Team Performance.	*"[…] The best is a good mix of cultures. The perfect mix depends on a task, choice of resources. Homogeneous group doesn't work well. The ratio I cannot tell you but I can tell you it needs to be a mix,"* R1. *"If one always works in the same environment he is comfortable and not challenged, don't need to be brave. With international experience people appear to be curious, brave, not following an easy path - this looks promising for the projects,"* R2. *"Person who works internationally has bigger overview and can bring more insights into project execution,"* R6. *"It can give new impulses. When you don't have international experience you just assume how things are [….] It develops you. It also makes one more open to changes,"* R3

Using the definition of productive team proposed by Kirkman and Rosen (1999) and presented in the Literature review section, the interviewees were asked to elaborate on essential attributes

correlated to the productivity of global teams. The results are summarized in Appendix B – Scoresheet 1, Respondents' Data.

Additionally, respondents provided team qualifications which, according to their opinion, are essential to consider specifically in global projects. In this relation, team qualities were mapped against Hofstede's cultural dimensions, highlighting only the critical cultural attributes. Results are summarised in Table 4.4-1.

Table 4.4-1 Global team productivity, respondents' data

	PDI	IDV	MAS	UAI	LTO	IVR
Cooperation						
"Collaboration and communication within the team," R7.	NA	Low	Low	NA	NA	NA
"Be cooperative," R2.						
"On job training of Junior Engineer by Senior "know-how" transfer," R5.						
Transparency						
"Honest / open communication," R3.	Low	High	NA	NA	NA	NA
"Not afraid to point out what is not working," R3.						
Task ownership						
"Ownership (task, activity)," R4.	Low	High	High	NA	NA	NA
"Team members express ownership," R6.						
Robust performance						
"Willingness to work overtime if necessary," R6.	NA	NA	High	NA	NA	Low
"Ability to work long hours," R5.						

Evidently, no agreement about universal cultural characteristics defining team productivity had been achieved. Cultural dimensions of Masculinity and Individualism received opposite ratings for different team qualifications.

Additionally, interviewees were asked to grade by the level of importance Hofstede's cultural characteristics which could be beneficial for the increased performance of project team. Results are summarised in Table 4.4-2.

Table 4.4-2 Cultural profile of increased team performance, respondents' data

Hofstede's Cultural Dimensions	MEAN[1]	STDEV
Power Distance	3	1,26
Individualism	3	0,95
Masculinity	3	1,25
Uncertainty Avoidance	3	1,11
Long-Term Orientation	3	1,07
Indulgence	2	0,98

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[1] 5-point Likert-type scale, where 1 represents 'not important' and 5 is 'very important'.

The results revealed that highly performing teams in the view of interviewees are teams combining all cultural qualifications with no distinctively strong dimension, except for that project would benefit from rather Restraint project team. Power Distance and Masculinity dimensions have relatively high standard deviations, which indicate misaligned viewpoints of informants from different cultural backgrounds. This confirms once again different preferences in values and practices of representatives of dissimilar national cultures.

Generally, respondents' experience on team performance can be summarized in two categories: "team and project activity" and "team and project leadership".

Theory	Findings
Team and Project Activity	
The theoretical research of this study indicates that the majority of the scholarly literature associate team performance rather with task orientation when it comes to the cultural attributes, refer to chapter 2.1.4.5 Global Team Performance.	*"One of the criteria is that I have diversity in my group. I have different project tasks and some nations are better in doing some tasks than the others,"* R6.
	"It, of course, comes to the task requirements when building a team," R4.
	"I am a manager who is not time-oriented but target-oriented. Engineer should be used at the best of his abilities and situation. I look at qualifications and experience and try to fit it in right requirement. You need to get the best out of people," R1.
	"Team will benefit the most from task assignments which team members are best at," R3.
	"Some people because of the cultural background like to do documentation work and they will do it in very professional way. The PM or lead selecting a team has to measure that: what people…with what cultural background…. can do what. People who like to work in field… I will send those people at the later phase of the project, to do commissioning work… For programming part you need to have a right mindset. Culture plays a role how we can assign different tasks to different people," R5.

Respondents' comments in regard to activity focus were commonly related to skills and experience. Cultural diversity and nation were referenced by four out of seven respondents with respect to task orientation. However, all respondents admitted that in choosing between team participants with equal experience and education, when candidate's personality is unknown, the cultural belonging plays an important role for considered project activity. "*If I don't know people, I use the best available information. Since I know some patterns of behavior which are more common for one culture, I would use this information for my decision making,*" commented one of the informants (R3).

Theory	Findings

Team and Project Leadership

Theoretical research confirms the importance of cultural intelligence in contemporary managerial practices, when more than a manager is needed to lead the team and achieve favorable project outcomes; refer to chapter 2.1.4.3 Project Leadership and Cultural Intelligence (CQ).	*"Teams are persons. The personal motivation of each engineer is normally handled by instruction, but it needs to be reinforced by higher management in order to be effectful," R7.* *"Along with fulfillment of task requirements. I also need to verify whether there is a harmony in the team, binding in the team. It also affects communication level if there is no binding. We need to make sure that team works in collaboration way," R5.* *"When it comes to having a successful team, I think... when you motivate a team it is important to know that different things are driving their members...," R2.* *"Important [...for global team...] to build good atmosphere because global projects are usually run by the people who never worked before together. So, you need to build good identity in the team," R3.* *"On the global team level it is important to adjust project management for different teams, for example, to have more frequent communication calls, video conference, daily progress discussions around 15 min," R4.*

Reflection
Respondents' experience confirms that the team diversity would benefit project delivery when it comes to availability of different resources for a variety of tasks where the best of each person's abilities can be utilized. The empirical evidence failed to identify cultural patterns most valuable in achieving high team performance. However, the empirical data, supported the theoretical research and showed that characteristics of global team performance should not be taken in isolation from project activities. Additionally, respondents highlighted that increased team performance is likely to be aided by befitting project leadership, with focus on team values rather than project management routines. Informants pointed out that there is no one unified style; project leadership should have an adaptive nature depending on a team construct.

4.4.2. Project Activity Patterns

The research question was approached from an angle of diverse tasks and activities in a project. To generalize the findings, project phases which are common for almost any project type in any industry were chosen as a base for investigation.

The concept, proposed by Turner (2009) and Svein-Arne Jessen (1992) and deliberated in the theoretical section 2.1.4.6 Cultural Profile of Project Life Cycle, was used as a foundation to shed light on cultural preferences for different stages of project life cycle.

The original concept was slightly updated by researcher due to specifics of the company used for the case study. Feasibility phase, initially proposed by Turner (2009), was replaced by sales and bid preparation phase as it suits better Siemens business model as a product and service supplier company.

In the effort to adapt project life cycle to the oil and gas business at Siemens, commissioning and site work was added to evaluation, in addition to feasibility, design, execution and close-out phases. Due to specifics of activities, different qualities are believed necessary during the commissioning phase. Moreover, as a service support provider, Siemens executes many projects and assignments typically related to stand-alone commissioning activities.

Furthermore, the concept needed modification as the number of Hofstede's cultural dimensions was increased from four to six since the time the theory was initially suggested (refer to chapter 2.1.4.2 Hofstede's Cultural Dimensions). The researcher added the fifth dimension of Long-Term Orientation to improve the assessment. Indulgence is not considered as it is perceived as not applicable for this type of evaluation.

Firstly, obtained results are presented in comparison to theoretical data. Table 4.4-3 and Table 4.4-4 summarize theoretical and empirical values, followed by discussion and reflection of these values. The differences in respondents' and theoretical data are highlighted by cell shading in the tables summarizing the results. For empirical data, represented as mean values and standard deviation between respondents' scores, refer to Appendix D – Scoresheet 3, Respondents' Data.

Table 4.4-3 Project leader's cultural profile in the project life cycle, adapted from Turner, 2009[1]

	Feasibility	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	High	Low	Low		High
Individualism	High	Medium	Medium		Low
Masculinity	Medium	Medium	Medium		Medium
Uncertainty Avoidance	Low	Medium	Medium		High
Long-Term Orientation					

Table 4.4-4 Project leader's cultural profile in the project life cycle, respondents' data[1]

	Sales / bid prep.	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	Medium	Medium	Medium	High	Medium
Individualism	Medium	Medium	Low	Medium	Medium
Masculinity	Medium	Medium	Medium	High	Medium
Uncertainty Avoidance	High	Medium	High	High	Medium
Long-Term Orientation	High	High	High	Medium	Medium

Theory	**Findings**
Feasibility / Sales / Bid preparation Phase	
Power distance should be High, indicating that manager must give priority to the requirements and be actively involved in decision making; Individualism should also be High, as there is a need for creativity and innovative thinking during this stage; Masculinity does not appear to be significant; Uncertainty avoidance should be Low, as feasibility demands the ability to think in new directions and uncover new solutions, which often means risk, change, and unpredictability. (Turner, 2009)	Uncertainty avoidance and long-term orientation seem to be important as this is the initial phase where entire project is being prepared for a start; therefore, it is essential to try to avoid uncertainties from an early stage with a focus on the future. The rest of the dimensions do not appear to be significant.

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[1] *Legend:*

Does not exist in the original framework
Mismatch

Theory	Findings
Design Phase	
Power distance should be Low, as people, who do the work, should also be responsible for planning and executing it. The rest of the dimensions do not seem to be significant. (Turner, 2009)	When a project goes through the design phase, one of the essential focal points should be long-term focus.
Execution Phase	
Same as design phase.	Project leaders have rather polar opinions compare to the theory. Uncertainty avoidance appears to be significant, meaning structural approach and defined rules are expected when the established scope of work is being implemented. Phase should be characterized by rather High Collectivism, indicating that entire team, including project leader, should work as one unit in order to succeed.
Commissioning	
NA	Power distance, Masculinity and Uncertainty avoidance seem to be important, as this phase requires strong project leader, fast-decision making and strive for excellence. Since commissioning is the last verification stage it should not allow any uncertainties, neither in project handling nor in project deliverable.
Close-out Phase	
Power distance should be High, as evaluation of the work done and results obtained are the responsibility of project leader. This process requires objectivity and overview of the entire project. Individualism should be Low for the same reason. Masculinity does not appear to be significant. Uncertainty Avoidance should be High, as the termination needs to be a well-structured process ending with the achievement of project's objectives and ensuing benefits. (Turner, 2009)	None of the dimensions seem to be significant.

Secondly, during interview discussion, it became evident that project phases possess different requirements for a project team and a project leader, with regard to cultural attributes.

One of the interviewees (R6) confirmed by saying: *"For some of the project phases you need stronger leadership skills. While for another it is mainly preferable an individual work of the team to complete certain tasks"*.

Along with standard project business, Siemens is involved in life cycle activities. The business of life cycle projects provides support and maintenance services over the lifespan of a delivered system or product. These projects primarily deal with site assistance work, where the client frequently requires only one engineer to troubleshoot the problem, in this case, an engineer sent on site cannot rely on extensive support and he or she is exposed to pressure from the customer side. *"Therefore, in my team, I require personnel with robust personality, which could be expressed by high individualism, if we consider Hofstede's cultural dimensions,"* explained one of the project leaders (R1) responsible for life cycle activities.

Another interviewee (R3) added: *"We have ongoing discussion in our department, where we have development phase with very challenging work, which would require working under pressure for a long time and we are considering sending it to the team in Germany. They are used to work under pressure and take responsibility and decisions quite quickly. While we always run in circles in our decision-making process, in Germany, they know how to work with deadlines and stick to them"*.

One of the interviewees (R6) shared his experience: *"At my current work, I work mainly with Indian and Filipino technicians. And I can observe big difference and certain pattern in the way they work, how they approach the task. Indian technicians will try to do task to the best of their abilities, but they will not try to think a bit outside of the box and try to come up with new approach on how to solve certain problems and tasks. While Filipino technicians… they are more relaxed in completing their tasks, however, they are able to think outside of the box and look for different solutions. Indian technicians in my team are very good in simple tasks which need to be done efficiently. While more complex tasks, which don't have a big time pressure and require a certain level of creativity, I try to delegate to Filipino technicians"*.

Table 4.4-5[1] and Table 4.4-6 highlight the cultural profile differences between project leader and project team; the discussion follows right after.

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[1] The content of Table 4.4-4 and Table 4.4-5 is the same. Table 4.4-5 is given for demonstration purpose to highlight different cultural attributes in comparison to project team's cultural profile.

Table 4.4-5 Project leader's cultural profile in the project life cycle, respondents' data[1]

	Sales / bid prep.	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	Medium	Medium	Medium	High	Medium
Individualism	Medium	Medium	Low	Medium	Medium
Masculinity	Medium	Medium	Medium	High	Medium
Uncertainty Avoidance	High	Medium	High	High	Medium
Long-Term Orientation	High	High	High	Medium	Medium

Table 4.4-6 Project team's cultural profile in the project life cycle, respondents' data[1]

	Sales / bid prep.	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	Medium	Medium	High	Medium	Medium
Individualism	Low	High	Medium	High	Medium
Masculinity	Medium	Medium	Medium	Medium	Medium
Uncertainty Avoidance	Medium	Medium	High	High	Medium
Long-Term Orientation	High	High	High	Medium	Medium

Findings - Project Leader	Findings - Project Team
Feasibility / Sales / Bid preparation Phase	
Uncertainty Avoidance is High, encouraging project leader to think about future and try to clarify as many uncertainties as possible.	Most of the decision-making in this phase is done by a project leader. Little involvement of a project team is expected. Relatively few team members, compared to the rest of the project phases, are involved in this phase. This involvement should have more collectivistic character.
Design Phase	
The phase where a significant project part is dependent on project team rather than manager when it comes to design.	After project passes through initiation phase, most of the technical responsibilities are within a project team where everyone should try to be more inventive to come up with the best technical solutions and design. The design phase supports rather High individualistic values.

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[1] *Legend:*

        Mismatch

Findings - Project Leader	**Findings - Project Team**
Execution Phase	
The phase does not require strong leadership. This is the phase where project runs by collective efforts when all complex decisions have already been made and what is required is the collective group effort to complete the task.	Execution phase usually has the most extended lifespan. Therefore, it is essential to keep respect for authorities when it comes to a project team. The individualistic level is lowered down compare to design phase, where most of the decisions about execution are made.
Commissioning	
This phase requires fast decision-making and precision level, where leader handling site acceptance and commissioning should show strong leadership skills, hardworking attitude and strive for excellence.	This phase presumes independent work from a team side in most of the cases, where the hierarchical relationship does not seem to be significant. During commissioning activities, a project team is reduced or represented by fewer individuals, who have to manage independently with limited support from the rest of the team. This supports fairly High individualistic values.
Close-out Phase	
This phase does not seem to require any distinctive cultural characteristics.	This phase does not seem to be very important in the project team perspective.

Reflection

The empirical data allows drawing a conclusion that different cultural patterns suit different project phases. Moreover, in addition to different project leadership's cultural profiles, highlighted in theoretical concept, diverse team qualifications are beneficial for various project phases, as demonstrated by the field experience of target interview group.

A project involves different phases requiring specific work practices which can find their beginning in cultural aspects. On that account, for a project to go successfully through different phases would benefit to have people from various national cultures, enriched by different experiences and skill set. While everyone understands cultural differences, only three out of seven project leaders admitted that they use it when distributing tasks and forming project teams. Several informants commented that not always project leader has *"a luxury of choosing the best-suited resources to the tasks,"* but when this possibility pops up the best available information, including cultural origin should be used to achieve the best results.

Project leaders find the concept of cultural diversity as a very useful instrument. However, established managerial practices in the company do not account for use of this phenomenon.

5. Summary and Recommendations

Supported by theoretical research, empirical data evaluation revealed that project team represents one of the primary project success variables. Global project teams are characterized by cultural element, which, if not managed correctly, can impose certain challenges in a project. Guided by research, this study intends to propose a framework which could help to turn the challenges of cultural diversity into project's favor.

It has been empirically confirmed that each nation can be defined by a set of cultural attributes and that the work environment differentiates largely between societies in Asia, the Middle East, Scandinavia and the rest of the Western World, refer to chapter 4.3.1 Hofstede's Framework Application. This information can have practical usage in constructing a balanced team.

Global project execution could be enhanced by matching culturally-related strengths of a project team to project requirements. Different cultural backgrounds can allow different teams or sub-teams to perform better at specific stages of a project, helping to complete successfully a variety of project activities. This concept can help effectual resource allocation, as well as activity delegation to compatible entities.

5.1 Proposed Framework

Team diversity expands team's possibilities for handling a variety of tasks during project execution. However, when it comes to a task assignment within the group, it is advantageous to have rather smaller diversity in a sub-team handling one task.

Recommendation 1. Attention to Cultural Distance
Splitting an entire project into activities, characterized by different cultural preferences, and splitting project personnel into sub-groups / cultural profiles with the lowest cultural distance within the group are beneficial.

Building a team handling one task by principle of the smallest cultural distance can reduce chances of complications experienced by project leaders in global projects related to communication, misunderstandings and lack of trust (refer to chapter 4.1 Global Projects - Opportunities and Challenges).

Empirical data demonstrated that a rather lower cultural distance enhances team cooperation which can consequently result in an increase of team efficiency, driving project to better results (P1 project example, refer to chapter 4.3.2 Cultural Analysis of Global Projects).

P3 project example showed that a rather high cultural distance increases probability of misunderstandings in a team, which can disturb smooth project execution (refer to chapter 4.3.2 Cultural Analysis of Global Projects).

Recommendation 2. Consider allocating **project activities** among global participants with regard to cultural attributes. This can help managers effectively place project members of multicultural teams on compatible tasks; delegate projects, project phases and other project activities to compatible company units and offices.

For various types of assignment, a parallel can be drawn with cultural preferences in different project phases, discussed in chapter 4.4.2 Project Activity Patterns, and summarized in Table 4.4-6. The principle can provide useful guidance for activity assignment in global teams (co-located or distributed). However, project phases provide only generalized perspective and cannot be adapted for all project activity cases. If found valuable more detailed framework of activities can be developed for individual project needs.

Recommendation 3. Apply **culturally agile project leadership** in relation to project teams and project activities to ensure project synergy throughout entire execution. Agile leaders have an ability to think in a number of different ways and to lead in the context of new, changing and ambiguous situations (Joiner, 2009).

As pointed out in chapter 4.1 Global Projects - Opportunities and Challenges, one of the biggest challenges experienced in global cooperation is unconscious bias. Studying and learning about different cultures is essential when working in the global environment.

Project Team:
Cultural intelligence is one of the key sources of success in navigating cross-cultural relationships. It reflects the ability of a leader to recognize cultural differences, adapt to the norms and expectations of another culture and act accordingly. Cultural intelligence can direct managers in adapting a leadership style that matches with the country-specific context. Global project leaders can take advantage of cultural comprehension and direct this knowledge on achieving the leadership that encourages better team performance, as summarized in chapter 4.4.1 Project Team Performance Patterns.

Project Activities:
Project leadership, as a collection of certain practices and values of project leader, can be expressed by cultural attributes. Findings and discussion presented in chapter 4.4.2 Project Activity Patterns indicate that different project phases require some of the cultural qualities of a project leader to be stronger or weaker. Consequently, the cultural patterns summarized in Table 4.4-5 confirm the benefit of the use of adaptive leadership throughout entire project life cycle in relation to the considered project tasks. This indicates that not only a project team but also project activities would benefit from agile project leadership.

All provided recommendations are summarized in one practical framework. The graphical representation of the proposed framework is given in Figure 5.1-1.
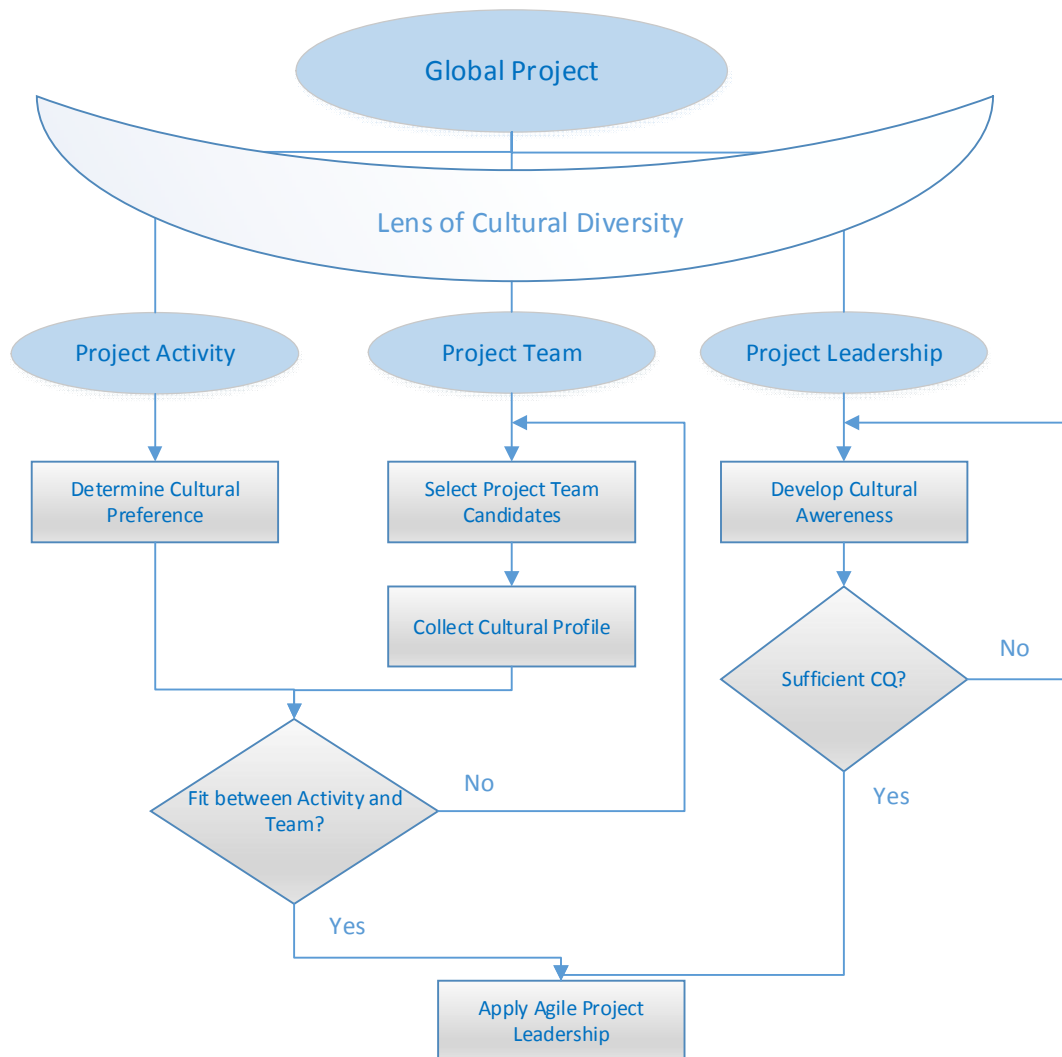
Figure 5.1-1 Proposed framework for improved global project performance

From experience of senior professionals at Siemens, we can learn that project leaders operate with the best available information to compose a team: education, experience, skills and cultural origin. On that account, the proposed framework, related to practical application of cultural phenomenon, should not be taken in isolation. It is recommended to be used in addition to evaluation of required skills, experience and education, as it was defined in the theoretical part of the thesis by McKinsey 7-S framework. The framework can be especially valuable when no information about team member's personality is available.

This concept might be applied to multicultural teams co-located or distributed across different entities around the globe. The applicability of the framework increases with the volume of the project and size and availability of the resource pool.

5.2 Framework's Application - Example

The framework requires the following prerequisites:

- Cultural profiles of available project personnel are defined.
- Cultural preferences for project activities are specified.
- Project leader has sufficient level of cross-cultural awareness.

Description of framework and recommendations are provided alongside with example to demonstrate the applicability. This thesis did not encounter possibility to put the proposed framework to practice. Therefore, the idea is demonstrated on simplified example created by the researcher:

Assumedly, a project team consisting of three team members is required to cover the activities of Commissioning phase for a project delivery in Africa. The activities can be executed by specialists from three regional offices: in Norway, Eastern Europe and China. The resource availability does not allow sending an entire team from one location. Therefore, the team should be combined with available resources from the following company locations: the USA, the Middle East, Germany and China. Candidates have an equal level of experience and skills. Design a team which would foster the best results.

Input is taken from empirical data of this study:

- Team cultural profiles, defined by respondents in the chapter 4.3.1 Hofstede's Framework Application.
- Project phase's cultural profile preferences, defined by informants in the chapter 4.4.2 Project Activity Patterns.

I. Following the Recommendation 1, available resources are grouped by the least index of cultural distance.

For each of the three considered countries evaluation is done to find the most compatible candidate from Norway, Germany, China, the USA, the Arab Cluster, the Eastern European Cluster or India.

Table 5.2-1 Team 1 - cultural distance index, personnel availability

Team 1	Norway	Germany	China	USA	Arab Cluster	Eastern EU Cluster	India
Norway	0	4,59	12,39	4,02	9,3	6,91	7,43

4,02	Norway	USA
Personnel available	2	1

Table 5.2-2 Team 2 - cultural distance index, personnel availability

Team 2	Norway	Germany	China	USA	Arab Cluster	Eastern EU Cluster	India
Eastern EU Cluster	2,89	0,54	0,84	0,51	1,11	0	0,81

0,54	Eastern EU Cl.	Germany
Personnel available	2	1

Table 5.2-3 Team 3 - cultural distance index, personnel availability

Team 3	Norway	Germany	China	USA	Arab Cluster	Eastern EU Cluster	India
China	6,72	3,06	0	2,88	1,22	1,12	0,47

0,47	China	India
Personnel available	2	1

II. Following the Recommendation 2, team's cultural profile preferences for chosen project activities are mapped with actual project teams' profiles.

Table 5.2-4 summarizes team's cultural profile preferences in Commissioning phase, defined in chapter 4.4.2 Project Activity Patterns. Each dimension is given a numerical preference range (max, min). Cultural profiles for each team are calculated as the average of cultural values of team participants.

Table 5.2-4 Project team's cultural profile - preferences and actual values

	Preference, ref. Table 4.4-6	Min Preference	Max Preference	Team 1	Team 2	Team 3
Power Distance	Medium	35	64	33	59	88
Individualism	High	65	100	76	55	31
Masculinity	Medium	35	64	41	67	64
Uncertainty Avoidance	High	65	100	52	72	56
Long-Term Orientation	Medium	35	64	53	59	44
Indulgence	Low[1]	0	34	69	46	42

The most convenient way to visualize and evaluate the results is considered to be a graphical representation by "spider-chart" in excel. The graphical representation of "project activity – project team" cultural profiles is provided by Figure 5.2-1.

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[1] Indulgence characteristic was not initially considered to be significant for project life cycle activities. However, the results from chapter 4.4.1 Project Team Performance Patterns, showed that rather Low Indulgence benefits team performance.
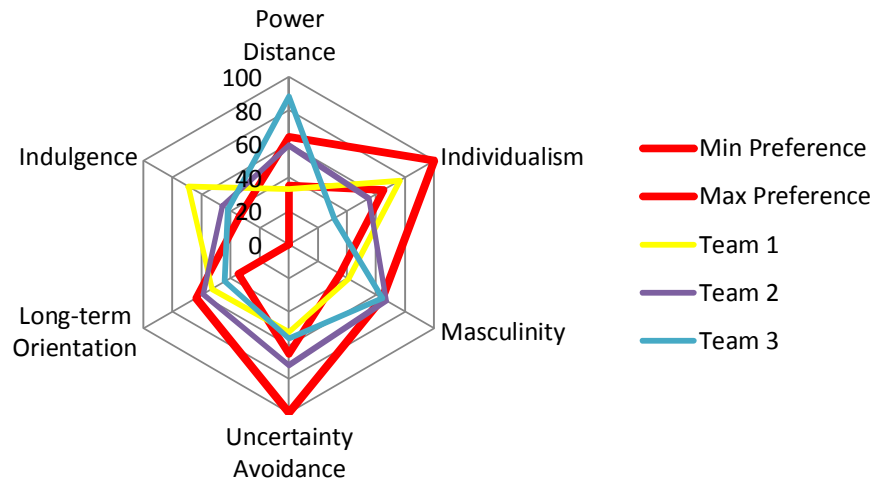
Figure 5.2-1 Project team's cultural profile – preferences and actual values

From the overall cultural outline demonstrated in the example, we can witness that Team 2 has the best fitting profile to the considered activities. Moderate misalignment with activity can cause some reduction in performance; this may be acceptable for non-critical activities. Fairly high misalignment is likely to lead to significant reduction in overall performance.

This framework could help a leader to understand whether the misalignment risk is acceptable for entire performance. If the risk is not acceptable, then it would be reasonable to make a re-evaluation of team candidates and sub-team construct (if resource pool allows this), refer to framework sequence in Figure 5.1-1. The completed cultural profile will help to strategically apply project leadership most suited for team needs.

III. Following the Recommendation 3, project leader's cultural profile preferences for chosen project activities are mapped with selected project team's profile.

Along with chosen team profile, Table 5.2-5 and Figure 5.2-2 summarize project leader's cultural profile preferences in Commissioning phase, defined in chapter 4.4.2 Project Activity Patterns.

Table 5.2-5 Project leader's cultural profile preferences

	Preference, ref. Table 4.4-5	Min Preference	Max Preference	Team 1	Team 2	Team 3
Power Distance	High	65	100		59	
Individualism	Medium	35	64		55	
Masculinity	High	65	100		67	
Uncertainty Avoidance	High	65	100		72	
Long-Term Orientation	Medium	35	64		59	
Indulgence	Low	0	34		46	
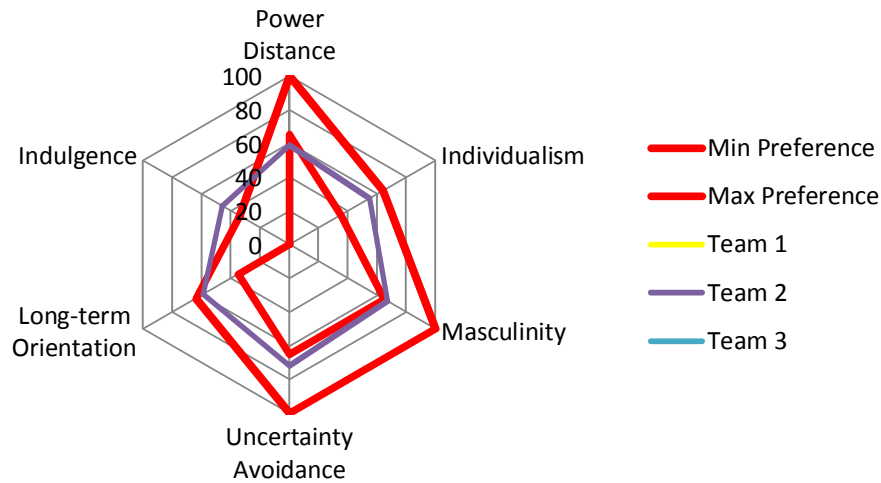
Figure 5.2-2 Project leader's cultural profile preferences

From the overall culture outline encapsulated above, we can witness that leadership preference does not contradict largely with project team's cultural profile of this example. Diagram provides information that rather strong leadership suits project activities as well as a project team. Medium level of Individualism, rather stronger Masculinity and Uncertainty Avoidance and relatively weaker Indulgence level are advantageous for improved project performance.

Using this information as guidance, a leader can adapt the leadership approach and managerial practices best suited for project team as well as project activities to ensure balanced project execution.

Generally, this framework could allow project leaders to design teams that could prospectively deliver better results as well as provide guidance for the choice of the most relevant leadership strategy for a particular project.

The suggested framework supports the following proposition:

Improved global project performance with reference to national cultural diversity can be achieved through the balance between project activities, project team and project leadership.

6. Conclusion

6.1 Concluding Remarks

Globalization has an impact on the business environment. Leading global projects does not appear to be the same as managing projects of the traditional construct. By completing this thesis, the researcher sought to understand how to achieve improved project performance in the global setting.

There is no formula for the absolute right way of attaining the successful project outcome. However, the key concern of project leaders is related to something everyone working globally experienced but which is hard to put into routines and procedures – national cultural traits. Theoretical evidence confirms the concerns of the practical experience with risk factors related to the cultural diversity.

However, besides challenges brought by global project execution in the cultural context and related to conflicts, communication issues and misunderstandings, one should consider opportunities and use competitive advantages of culturally diverse teams in reaching project goals in the most efficient manner.

This thesis uncovered that the cultural awareness at Siemens among people leading projects is on the relatively good level. However, as it was admitted by company representatives, that there is no framework in place to incorporate cultural awareness into existing managerial practices. Decision-making in the cultural context is done somewhat intuitively, based on the individual experience of the executives.

Evidentially, findings related to the definition of national cultural attributes and their fit to specific project activities / phases uncovered the possibility to use cultural awareness in practice.

Moreover, in the discussion related to project team performance, there was no certainty about what cultural aspects would be the best to drive a team in achieving project goals. This is related to the evaluation of team performance rather by project activities it intends to complete, where various skills, experience, personal and cultural characteristics are utilized.

It became evident that each project activity and each project team can require specific leadership characteristics expressed by cultural patterns. This sets a preference for more agile project leadership supported by stronger cultural intelligence among project leaders.

Following the theoretical framework, empirical evidence expressed by project data and experience of project leaders, this thesis established the framework which has a potential of contributing to improved global project execution with regard to cultural diversity. This framework could allow project leaders to establish teams that have perspective of better performance, driving projects through successful execution. The framework is supported by the following proposition, also illustrated in Figure 6.1-1:

Improved global project performance with reference to national cultural diversity can be achieved through the balance between project activities, project team and project leadership.
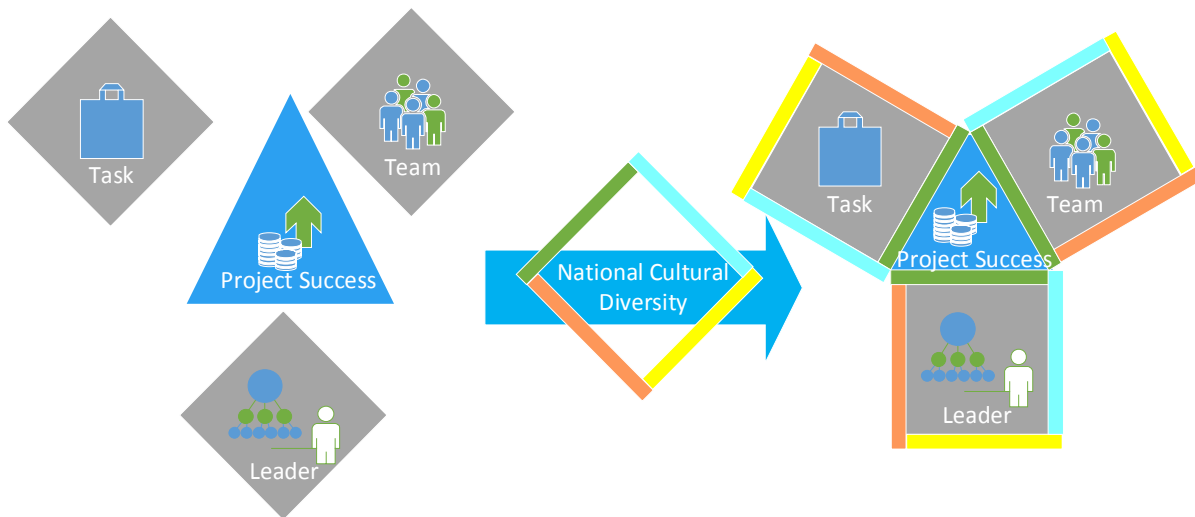
Figure 6.1-1 Improved global project performance through the lens of cultural diversity

The conceptual idea of this study is to demonstrate that cultural differences affect business practices. There are no right or wrong cultural attributes. Cultural diversity can be utilized to benefit different project activities, complementing project execution globally.

6.2 Theories, Methods and Future Research

This study strives to enrich traditional practices of project management by insights from cross-cultural management literature. In constructing the theory-guided framework for the study, the researcher relied on outcome of Geert Hofstede's studies, Kogut and Singh's index calculation and Turner's project phase's cultural concept.

The results of the study provide further insights into the complexity of global projects with regard to national cultures of global business participants. The thesis seeks to provide comprehension for those who work cross-culturally in the global environment.

This study uses a mixed-method approach to the data collection and the evaluation of interview results. Experience of interviewees from different cultural backgrounds and various managerial positions in projects of one of the biggest multinational conglomerates in the world can add to the objectivity of the findings. However, this is generally qualitative case study, based on the sample size of seven interviews and three projects. Therefore, care should be taken in generalizing the results. Future research could aim for further quantitative validation of this study's results. Possibly, the proposed framework of improved global project performance could be further developed and incorporated into a management tool used for effective task distribution and allocation of personnel for globally managed projects.

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Appendix A - Interview Guide

Introduction

How long have you worked at Siemens? How many years of professional experience do you have in general?
What role do you usually take in the project execution at Siemens?
What projects do you usually work on: domestic or international?
What project types are you involved in (LCM, new development, upgrades, Automation / Electro, O&G)?
What is the project size in terms of the order value, team size and project duration?

Meaning of globalization

How can you describe the trend of globalization in Siemens terms?
What means globalization to you?

Global project experience

To what extent are you involved in global projects at Siemens?
Do you have an experience working in international teams? Do you have an experience leading international team?
What nationalities did/do you have in your teams?
Do you have experience with the collaboration of different offices? Which countries do you have the most business relationships with?
What type of contract that had been used between affected Siemens entities?
What work practices are usually used for global project execution? Do they have sufficient guidance for global operation?
Do the other regional offices in shared projects follow the same practices and use the same tools?
If we assume that in Siemens all entities work according to same procedures, follow the same work practices and have the split of responsibilities clearly defined in the contract. What will project success depend on?

Opportunities and challenges in global projects

What challenges have you experienced working globally?
Have you experienced any challenges working with other regional Siemens offices with reference to cultural differences?
What do you think can help successful global project execution?
Can you name opportunities which we can explore with global project execution?

Team qualifications

How can you define efficient team performance? What attributes highly performing team should have?
Can you define which of proposed attributes of the productive team are relevant in your opinion, refer to Scoresheet 1? Can you add additional attributes in empty fields which you consider as important with the focus on global team characteristics? Could you give a grade using scale 1-5 for each of the relevant attributes?
Have you ever been involved in the hiring process?
If you think of global projects, which candidate qualifications are the most important?

Is international experience important when considering a person for a position? Why yes / no?
How is project resourcing process conducted? What kind of preferences do you set when choosing resources for your project?
Let's suppose you run into a situation when personalities in a project team are unknown, education/experience between candidates are equal ….Can cultural aspects play a role when it comes to considered project activity?
Can you say that some cultures could perform certain project activities differently than others?
Can you specify on examples?
Do you consider cultural factors when building your team?

Practical application of cultural theory (Hofstede's framework).

Can you think of any cultural characteristics when you work with representatives of other cultures? Is there something that distinguishes the member of one group from another?
Are you familiar with Hofstede's cultural dimensions?
(After explaining theory)
Is something similar used at Siemens in some context? If yes, where?
Can you grade using scale 0-100 cultural dimensions for countries you have most cooperation with?
Please refer to Scoresheet 2.

Could you say that some of the project phases would benefit from some stronger cultural attributes?

Could you map preferred cultural attributes towards various project phases (sales / bid preparation, design, execution, commissioning / site work, acceptance / project closure). Please refer to Scoresheet 3.

Can you define which of the Hofstede's cultural dimensions are important for better team performance?
Can you give a grade using scale from 1-5? Please refer to Scoresheet 3.

Could you provide a practical example of a project, where success or challenges, connected to cultural specifics, possibly affected the project outcome?

Appendix B – Scoresheet 1, Respondents' Data

Team productivity (Kirkman and Rosen)	MEAN[1]	STDEV
Meets or exceeds team goals	5	0,38
Completes team tasks on time	5	0,49
Makes sure that products and services meet or exceed production standards	4	1,07
Responds quickly when problems come up	4	1,72
The productive team measured by the amount of produced output	3	0,98
Successfully overcomes problems that slow down work	4	0,82

[1] 5-point Likert-type scale, where 1 represents 'not important' and 5 is 'very important'.

Appendix C – Scoresheet 2, Respondents' Data

Hofstede's cultural dimensions, MEAN values

Mean Values[1]							
Cultural Dimension	Norway	Germany	China	USA	Arab Cluster	Eastern EU Cl.	India
Power Distance	21	54	91	58	81	61	87
Individualism (vs. Collectivism)	76	64	28	75	59	51	33
Masculinity (vs. Femininity)	30	57	79	62	78	72	57
Uncertainty Avoidance	48	81	57	60	43	68	56
Long-Term Orientation (vs. Short-Term Orientation)	59	69	49	42	41	54	41
Indulgence (vs. Restraint)	74	59	38	59	52	40	44

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[1] Scale 0-100, where 0 – 'not important', 100 – 'very important'.

Hofstede's cultural dimensions, STDEV between respondents

STDEV between respondents							
Cultural Dimension	Norway	Germany	China	USA	Arab Cluster	Eastern EU Cl.	India
Power Distance	10,2	24,3	2,2	11	11,4	9,3	4,9
Individualism (vs. Collectivism)	29,8	15,4	19,2	16,6	23	9	26,9
Masculinity (vs. Femininity)	18,3	25	17,5	32,7	16,4	9,9	30,9
Uncertainty Avoidance	29,4	18,6	33,8	15,8	24,9	9,9	30,3
Long-Term Orientation (vs. Short-Term Orientation)	31,3	21,9	34,7	16,4	27,5	17,2	23,2
Indulgence (vs. Restraint)	26,7	19,8	30,5	19,5	32,1	8,2	29,8

Hofstede's cultural dimensions, STDEV respondents vs. official data

STDEV respondents vs. official data							
Cultural Dimension	Norway	Germany	China	USA	Arab Cluster[1]	Eastern EU Cl.	India
Power Distance	7,1	13,4	7,8	12,7	0,7	2,8	7,1
Individualism (vs. Collectivism)	4,9	2,1	5,7	38,9	14,8	4,9	10,6
Masculinity (vs. Femininity)	15,6	6,4	9,2	2,8	18,4	10,6	0,7
Uncertainty Avoidance	1,4	11,3	19,1	21,2	17,7	4,2	11,3
Long-Term Orientation (vs. Short-Term Orientation)	17	9,9	26,9	31,8	#DIV/0!	11,3	7,1
Indulgence (vs. Restraint)	13,4	13,4	9,9	24,7	#DIV/0!	7,8	12,7

[1] No official data is available for Long-Term Orientation and Indulgence of the Arab Cluster.

Appendix D – Scoresheet 3, Respondents' Data

Project leader's cultural profile – MEAN values[1]

	Sales / bid prep.	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	3	3	3	4	3
Individualism	3	3	2	3	3
Masculinity	3	3	3	4	3
Uncertainty Avoidance	4	3	4	4	3
Long-Term Orientation	4	4	4	3	3

Project leader's cultural profile – STDEV values

	Sales / bid prep.	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	1,21	1	0,98	1,11	1,57
Individualism	1,11	1,53	0,95	1,29	0,98
Masculinity	0,76	1,21	1,29	0,49	0,9
Uncertainty Avoidance	1,25	0,9	0,49	0,69	1,13
Long-Term Orientation	1,41	0,9	1,13	1,21	1,11

Project team's cultural profile – MEAN values[1]

	Sales / bid prep.	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	3	3	4	3	3
Individualism	2	4	3	4	3
Masculinity	3	3	3	3	3
Uncertainty Avoidance	3	3	4	4	3
Long-Term Orientation	4	4	4	3	3

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[1] 5-point Likert-type scale, where 1 represents 'not important' and 5 is 'very important'.

Project team's cultural profile – STDEV values

	Sales / bid prep.	Design	Execution	Comm. / Site work	Pr. Accept. / Closure
Power Distance	1,21	1	1,46	1,11	0,76
Individualism	0,76	0,98	1,35	1,27	0,82
Masculinity	1,38	1,25	0,9	0,53	1
Uncertainty Avoidance	0,98	1,07	1,21	0,82	0,9
Long-Term Orientation	1,89	0,82	1,4	1,25	1,15