

Chapter 2

New Research Perspectives on Managing Diversity in International ICT Project Teams

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2.1 Introduction

Nowadays, ICT projects are often characterized by high internationalization. Consequently, project managers of international ICT projects face certain challenges: geographic distances, different time zones, specific regulations or laws, and intercultural teams. While project management methodologies provide clear guidelines for dealing with the first three aspects, intercultural project teams are given little attention in existing international standards.

Although technical and methodical skills are vital for managing international ICT projects successfully, competencies in managing diversity aspects in intercultural project teams should be of an equally high interest. This is because the impact of culture on the success of management is acknowledged in theoretic management literature. However, international project management standards do not provide a comprehensive, methodical approach in the field.

2.2 Team Diversity

Discussions about “diversity” often lead to the insight that the term creates various images for different people. Several researchers tried to define the concept of diversity. Wagner and Sepehri (1999), for instance, describe diversity as visible and subjective differences between people. Visible aspects in international teams refer

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to ethnicity or related symbols. Subjective differences, on the other hand, are different values, attitudes, or experiences.

Several definition attempts share their focus on the individual. According to Aretz and Hansen (2003, p. 9) diversity aspects are “dissimilarity, variety, and individuality that emerge from various differences between people.” A vital component in this aspect is that individuals need to be in interaction or connection with other people to establish diversity. In social systems, such as project teams, the individuals’ identities and characteristics create a variety of perspectives aiming to solve a problem or task in team collaboration (Fleury 1999; Egan 2005).

Various authors elaborated several possible perspectives of the factor “diversity.” Aretz and Hansen (2003) defined levels of diversity based on previous research: a primary dimension and a secondary dimension. While the primary dimension includes aspects such as age, gender, ethnicity, race, and physical abilities, the secondary dimension also takes educational backgrounds, income, marital status, religious beliefs, and work experience into account (Loden et al. 1991). Other approaches cluster diversity aspects into individual factors such as personality, group-relevant factors such as cultural differences, and relevant organizational aspects such as structural and informal integration (Cox 1993). Furthermore, diversity can be observed from demographic, psychological, and organizational perspectives. The demographic perspective focuses on aspects such as gender, age, or ethnicity, while the psychological level examines values, beliefs, and knowledge. Occupation, status, or hierarchical structures within organizations are summarized in the organizational perspective (Jackson and Ruderman 1996).

Clustering diversity into visible and invisible aspects is a recurring differentiation in existing definitions. Correspondingly, this distinction can also be interpreted more comprehensively as implicit and explicit levels. Implicit aspects can be defined as knowledge and information that is not explicitly expressed and/or unconscious (Horvath 1999; Busch 2008). In consequence, team diversity can refer to “explicit and implicit differences between individuals with the social system team.” Regarding international projects, many differences are not as obvious as gender or ethnicity. Implicit values such as ideologies or previous work experience only come to surface in open communication environments (Aretz and Hansen 2003). As the basic terms were defined in this section, in the following the impact of diversity aspects on project success will be examined.

2.3 Diversity as Success Factor in Projects

Several researchers agree on the important influence that diversity has on successful and effective ICT projects or IT system implementations (Ives and Jarvenpaa 1991; Shore and Venkatachalam 1995; Harris and Davison 2002; Markus and Soh 2003; Narayanaswamy and Henry 2005). From an organizational management perspective, “individual abilities, experiences, competencies, and qualifications of human resources build a success factor in organizations, which enable entrepreneurial strat-

egies of increasing flexibility and continuous learning” (Aretz and Hansen 2003). Creating a deeper understanding and interest for cross-cultural issues may further improve the effectiveness of project management practices (Narayanaswamy and Henry 2005).

Ignoring differences in teams and organizations may inhibit information systems’ implementations in global settings and increase the risk of project failure (Harris and Davison 2002). For example, transferring a software product from one geographic location to another cannot be achieved by simply translating content into the local language. The software product needs to be adapted to local needs, culture, and regional expectations. This implies a transformation on various levels. Neglecting local and cultural impact can decrease effectiveness and productivity. This can be caused by misunderstandings in communication, such as misinterpreting messages or statements, triggered by incomprehensive understanding of others’ motives and expectations. Such misunderstandings can be a “source of *ridicule*, *embarrassment*, or *offence* and in the worst case result in broken personal and economic opportunities” (Chroust 2008, p. 825).

Egan’s research (2005) examined the importance of diversity in leading creative teams. The study, performed with high-performing leaders, revealed that heterogeneous teams are more likely to develop creative ideas compared to homogenous teams. Different perspectives and knowledge can enrich the effectiveness and creativity of teams. This is best supported by providing opportunities for direct interaction and for building relationships between team members, as well as explicitly addressing diversity aspects within the team. “By developing a deeper appreciation of the interactions between individuals motivated towards creative team processes and creative outcomes, we can better understand teaming, the role of diversity in teamwork, and creativity in general” (Egan 2005, p. 208). If emerging conflicts caused by different expectations and perceptions are managed effectively, new and innovative ideas can emerge.

2.4 Culture in International Management

Regarding research on diversity in projects, the main approaches focus on one specific aspect of diversity: culture. In this section, theories that combine cultural aspects with management are presented. As Kroeblner and Kluckhohn (1952) stated:

Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (...) ideas and especially their attached values.

When different people from different cultural backgrounds work together in projects, team members’ diverse values and habits may cause conflicts in international projects. This requires that cultural diversity is included in business practices in order to avoid or reduce misunderstandings and disputes that are caused by interfering

culture-based expectations. Actively increasing understanding and acceptance between diverse cultures might be an attempt to approach such issues. Identifying differences, for example values and behavioral norms, can enhance acceptance and respect towards other cultures in international business practices.

Several concepts that explain the roots of cultural diversity and its measurements have been published. From all existing approaches, Geert Hofstede's study is most referred to in related research. In his view, one of the reasons why many implementations fail is that different thinking and behavioral patterns are ignored (Hofstede et al. 2010). He describes culture as “mental programs” that are influenced by experiences from early childhood and education as well as other experiences in individuals' personal lives within a specific community environment. These mental programs highly influence our practices as they are based on cultural values, which manifest not only in ritual and symbols but also national laws, country-specific organizational structures, language, or religious views (Hofstede et al. 2010). In his research, he elaborated the five main dimensions of national culture:

- The power distance index (PDI) measuring the inequality within a society
- Individualism (IDV) measuring the degree of individualism in society
- Masculinity (MAS) measuring the distinction of gender roles in society
- Uncertainty avoidance index (UAI) measuring the extent of threat by an unknown situation
- Long-term orientation (LTO)

A second approach dealing with cultural aspects in projects was established by the Dutch consultant Trompenaars. He described culture as “the way in which a group of people solves problems and reconciles dilemmas” (Trompenaars and Hampden-Turner 2010, p. 1). Similar to Hofstede's approach, he based his research on the “onion theory.” This theory shows various layers of cultures: an outer (visible, explicit) and an inner (invisible, implicit) layer. While Hofstede associates rituals, heroes, and symbols in the outer layer, Trompenaars assigns characteristics such as language, food, architecture, or religion to this layer. Underneath those visible aspects lies the implicit part of culture: norms and values.

Trompenaars and Hampden-Turner (2010) survey—conducted in 30 different international companies—was mainly focused on participants at managerial levels. He concluded not only that the effects of cultural diversity may be hard to measure by traditional criteria but also that they have a significant impact on international companies' success. Therefore, his approach emphasizes finding adequate solutions particularly in business situations. In this respect, he formulated the three categories and subdimensions (Table 2.1).

2.4.1 The Concept of “National Culture”

Comparing the two approaches, Hofstede has a stronger focus on structural aspects in his dimensions while Trompenaars highlights relationships and actions influenc-

Table 2.1 Trompenaars' categories and dimensions of cultural diversity in business. (Summarized from Trompenaars and Hampden-Turner (2010), pp. 8–10)

Categories	Subdimensions	Description
Relationships with people	Universalism versus particularism	Universalism describes how work life is influenced by societal codes. Particularistic cultures, on the other hand, put greater attention on relationships rather than strict appliance of societal codes
	Individualism versus communitarianism	This dimension equals Hofstede's individualism (IDV) index and measures the degree to which people focus on their individual achievements or—in contrast—on the community
	Neutral versus emotional	This dimension describes if emotions in business are expressed, tolerated, or even encouraged (emotional) or if objectiveness and few emotions in a work context are preferred (neutral)
	Specific versus diffuse	This dimension measures how important personal contact and relationships are in business settings. Diffuse cultures tend to build upon a personal, informal level before dealing with business facts
	Achievement versus ascription	Achievement describes the focus on past achievements within a society. In contrast, ascription measures a person's status by attributes such as gender, age, or educational background
Attitudes towards time		This category describes if people focus on achievements in the past or on planned development in the future. This category is not equivalent with Hofstede's dimension "long-term orientation" (LTO) as it primarily measures if planning is done in a short term or a long term
Attitudes towards environment		This category describes the relation between people and their environment. It examines individuals' tendencies to gain motivation within themselves or by outer incentives

ing international business situations. Both approaches emphasize the importance of understanding cultural differences and present significant findings regarding the relation between culture and management. Still, the concept of national cultures in a modern world seems too simplistic (Markus and Soh 2003). Besides the fact that cultures are not necessarily linked to national boundaries (Harris and Davison 2002), several researchers revealed bias in Hofstede's research (e.g., Huo and Randall 1991; Markus and Soh 2003). The strong focus on IBM-related organizations and demographic concentration regarding occupation and gender of the respondents are criticized. Although Hofstede's dimensions cover the main cultural components, some are not considered. Religious views, for instance, are not included in the cultural management approaches, even though they may have a high influence on values and behavior of a society. Further, religious aspects may be relevant in the planning phase of ICT projects.

The focus on "national cultures" in the survey results is another critical point. Clustering people based on country origin may lead to stereotypes as ethnic and

Table 2.2 Traits of the normative personality of an organization. (Fink et al. 2011, p. 13)

Domain	Trait
Organizational culture	Dependency on others versus autonomy
Strategy	Opportunity and change seeking versus reliance on organizational resources
Structure	Strong hierarchy versus loose hierarchy
Operations	Rule obedience versus pragmatism
Relationship to external environment	Extroversion versus introversion

religious groups are not considered within the borders of one country. If we take a closer look at Hofstede's country categories, one may recognize an inadequate clustering. For instance, while the European country Belgium is split into French and Dutch parts, African countries are mainly clustered into West, East, and South African countries. In the latter example, even national boundaries are not considered while in the former ethnic groups are. Here, the survey shows high levels of inconsistency. Further, reducing individuals to their citizenship does not seem adequate in a globalizing world. A passport or birth certificate might not fully describe the cultural background of a person. For example, a team member was born in Japan but grew up in Switzerland before studying several years at an US university. Which Hofstede cluster would apply to this person?

Even though Trompenaars describes organizational difference or diverse functional responsibilities within a company as influencing factors in international business, his dimensions also focus on countries. Given these critical points, it seems necessary to adapt existing concepts on culture to international management. Evaluating differences and similarities on a team level or organizational level rather than on a country level seems more appropriate. Fink et al. (2011) combined various concepts from organizational and corporate culture studies and formulated a generic model on an organizational level. This holistic, dynamic model of organizational culture presents five traits of normative personalities based on five domains (Table 2.2).

These traits could provide an adequate basis for further research on culture in social systems such as teams. The traits are collected from various models and approaches and combined in a generic model focusing on business systems. Based on this generic model, other dimensions could be specified, combined with practical situations, best practices, and particular measures.

2.5 Diversity Management Approaches in Organizations

Creating and applying effective diversity management concepts is one of the main challenges in modern organizations (Harrison et al. 2002). Comprehensive diversity management is a strategic approach and attitude towards understanding differences in organizations and teams. Diversity strategies use diversity as a strategic

resource for complex problem solving (Aretz and Hansen 2003). By planning and implementing corporate organizational practices in leadership and team work, potential advantages of diversity can be maximized and disadvantages, such as conflict potential, are minimized (Cox 1993). Implementing strategy-oriented diversity measures will not only raise the acceptance towards diversity but also increase the acceptance and appreciation of new perspectives (Aretz and Hansen 2003).

Strategic diversity measures act on various levels and are connected management measures based on four systems: a social system aimed at building trust and strengthening equality; an organizational system providing measure for managing different age and ability levels; a cultural system that is reflected in the corporate vision, mission, and values within an organization; and a psychological system that is characterized not only by education and personality but also by work style and mindsets of people (Aretz and Hansen 2003).

Successful implementation of adequate diversity management concepts can lead to higher creativity, better problem solving, and higher system flexibility (Aretz and Hansen 2003). Heterogeneous teams may generate more creative and innovative solutions and higher employee satisfaction due to intense and effective collaboration. Still, inefficient diversity management could trigger negative impacts and lead to manifestation of stereotypes, communication issues, and consequently lower efficiency and effectiveness.

As organizations and teams are both systems that depend on individuals working towards a common vision or goal, diversity management should not only focus on a management level but also on a project management level.

2.6 Inclusion of Diversity in Project Management Methodologies

The previous sections extensively examined how diversity and cultural differences impact business practice at the management level. Although the importance of diversity seems obvious in several research projects, international project management standards do not currently offer methods or tools for project practices. Comparably, the literature on project management recognizes the importance of culture in international projects but provides incomprehensive actions for project managers. Shore and Venkatachalam (1995, p. 5) stated the core reason for lacking methodical approaches in ICT projects as follows: “Culture’s influence may be indirect, difficult to isolate, and difficult to measure.” Instead of trying to explicate implicit cultural factors, project management builds upon measurable characteristics.

For example, the Austrian researcher Roland Gareis (2006) elaborated that temporary organizations such as projects also generate their own specific norms, rules, values, and a unique, project-specific culture. This “project culture,” in his view, can be fostered by building upon project identity and activity-oriented tasks or orders during the project initiation and controlling phase. Here, the measures are primarily addressing explicit aspects, although the definition of “project culture” reveals its

implicit nature. Other researchers (Litke 2007; Patzak and Rattay 2009) also value the impact of values, mindsets, and norms on a project member's behavior and on their identification with the project goals but do not provide implementation strategies. Similarly, diversity studies on teams and conflict potential or communication (O'Reilly et al. 1989; Williams and O'Reilly 1998; Pelled et al. 1999) primarily examine demographic or explicit diversity factors. But as described previously, individuals do not only differ in gender, age, or ethnicity but equally in professional background or affiliation to departments within an organization (Aretz and Hansen 2003; Cummings 2004).

Few publications provide practical solutions for managing diversity on a project team level. Grimheden et al. (2006) researched on establishing cohesion and trust—especially within distributed teams in an international context—through a culture coach. This role is part of the team and intervenes if difficulties arise. A cultural coach needs to understand cultural influences or organizational impacts in order to be able to facilitate the team in face-to-face meetings. This approach represents one method of dealing with cultural diversity in ICT projects but for generating a comprehensive diversity management concept similar methods need to be added. Such methods do not necessarily address technological support but rather methodical measures. Technology can—if appropriate—support ICT projects but technology alone cannot improve collaboration and teamwork (Grimheden et al. 2006).

2.6.1 Approaching Diversity in ICT Teams Individually and Flexibly

In summary, implicit aspects of diversity are currently not a central research focus in standardizing ICT project management. Hofstede's and Trompenaars' surveys are an appropriate foundation but their approaches need to be extended and developed in two aspects. First, diversity dimensions should also cover previous work experiences of project members and understandings of software development approaches as well as different work styles. Second, individuals should not only be reduced to tendencies in their behavior due to their citizenship as Hofstede's studies suggest. Preferably, individual experiences and attitudes toward work practices of team members should be included in ICT projects. In practice, any highly diverse environment needs to take cultural values, as well as distinct business practices and work styles into account (Tractinsky and Jarvenpaa 1995). Project managers are responsible for facilitating interactions between team members and foster an environment for open sharing (Cummings 2004).

Consequently, it needs to be questioned how implicit diversity aspects can be explicated, methodically integrated, and technologically supported throughout the project management process. Specific methods need to focus not only on explicating diversity aspects in teams but also on allowing a reciprocal sharing of team members' differences, similarities, expectations, and experiences. Every project

team is a unique, social system—methodologies should consider this fact and support approaches that enable managing project teams flexibly and individually. Further, if project managers refrain from the concept of “national cultures,” generalizations and potential for creating stereotypes may be prevented.

Research on intercultural ICT project management needs to include individual experience of team members as part of diversity. This could, for instance, be personal work experience in previous projects that may influence the current teamwork. A practical example demonstrates the relevance of including person-based experience: Person A works in a traditionally organized, hierarchical organization, and is used to approach projects with waterfall-based methodologies. In contrast, Person B is a developer in a small enterprise, which primarily uses agile methodologies in software development. If Persons A and B are cooperating in a project, their different approaches towards software development and their understanding of standard procedures and processes need to be considered as relevant diversity aspects.

2.7 Conclusion

International ICT projects and their success are linked to explicit and implicit diversity aspects. Every team member in an ICT project has different behavior, attitudes, values, and work styles—these are mainly unconscious. If individuals with different experiences work together on projects, discrepancies may lead to conflicts within the team. In these conflicts, different expectations and thinking patterns often are revealed. To prevent and reduce such conflicts—and consequently additional costs—explicating diversity factors in an early phase of the project may be beneficial. From an economical perspective, preventively reducing conflict would lower costs as employees’ energy is focused on completing tasks rather than on solving conflicts.

Current research on diversity in business has primarily focused on demographic or other explicit impacts and considerably less on implicit differences (Avery 2011). It is suggested that more effort should be invested in researching implicit diversity aspects and on methods that support explicating project-related differences between team members. Such methods need to be flexibly usable and embedded in existing standards and process in ICT project management. Further, new research attempts should focus more on individuals and on teams than countries. Diversity management theories at organizational levels provide an appropriate basis but specific measures, methods, and implementation strategies need to be elaborated. Enabling practical implementation of diversity measures at a project team level could help to control effects of diversity in teams (Jackson et al. 2003). Future research should aim at improving project success through increasing flexibility and effectiveness of team work in international ICT projects by reducing conflict potential throughout the project management process.

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