

Chapter 7

Practical Insights on Managing Diversity in International ICT Projects

Christina Böhm

7.1 Introduction

It is well proven from literature and empirical studies that diversity has a major impact on the success of international information and communication technology (ICT) projects. Conflicts arising from diversity differences can lead to lower effectiveness, decreasing efficiency, and productivity (Böhm 2013). Project managers as well as team members are required to deal with diversity aspects in their international environments. Being aware of differences and commonalities, creating an understanding for diversity as well as supporting respectful cooperation reduces the risks for conflicts and can make projects more efficient (Böhm 2013). Although the effects of diversity in projects were revealed in several studies, neither project management standards nor cultural studies developed a comprehensive concept for dealing with diversity in dynamic, flexible environments such as ICT projects. Thus, the practical solutions are very individual and highly dependent on the project manager's attitude, approach, as well as his or her personal experience. Practitioners in the international ICT project field often have to rely on personal experience and learning "on-the-job."

In this chapter, a qualitative study illustrates the practical application of diversity methods in international ICT project. The study is based on a literature study on managing diversity in ICT projects (Böhm 2013). Existing research on diversity in global management situations (i.a., Hofstede 2001; Hofstede et al. 2010; Trompenaars and Hampden-Turner 2010) provides high-level concepts and country-based cultural studies, but partly contradict with modern, humanistic management approaches (i.a., Highsmith 2004; Cockburn and Highsmith 2008). There is a clear gap between recommendation from literature and actual business practices in international environments that demand a high degree of flexible application. Therefore,

C. Böhm (✉)

Faculty of Computer Science, University of Vienna, Vienna, Austria

e-mail: christina.boehm01@gmail.com; e-mail: christina.boehm@univie.ac.at

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this chapter presents a study that reveals the relevant challenges and success factors from experienced practitioners' perspectives. Further, this chapter shows which diversity aspects actually impact ICT projects in practice, and provides an overview of necessary attitudes, skills, and possible measures.

The study consists of semistructured interviews with experts from various cultural backgrounds as well as with professional experience all over the world. The dispersion of the study participants around the globe allows a comprehensive insight into current issues and solution strategies in practice regardless of cultural affiliation. The study's results emphasize the importance of intercultural and diversity aspects in practice, and specifies success factors and diversity impacts in international ICT projects from a practitioners' perspective. Further, the study reveals the variety of approaches and techniques used by project managers for managing diversity in their projects.

Before presenting the study, this chapter will examine the current state of the art in international project and diversity management with a special focus on success factors and managing techniques. Further, the research design of the conducted study will be presented with explicit information on the participants' background and experience. Through the qualitative study, this chapter also provides a practical perspective on the topic. To conclude, the consequences for international project management—in research and practice—will be elaborated.

7.2 Diversity in International Projects

In the globalized world, people from different cultures have to work together in international projects, but often their diverse values and habits cause problems and conflicts. Several studies indicate the importance of diversity on the effectiveness of ICT projects (Dunavant and Heiss 2005; Harris and Davison 2002; Ives and Jarpenpaa 1991; Markus and Soh 2003; Narayanaswamy and Henry 2005). Also, the risk of project failure is highly linked to effective diversity management in international projects (Harris and Davis 2002). Unawareness of diversity aspects—on an interpersonal but also methodical and technical level—can increase misinterpreting and misunderstandings, which may negatively affect personal relationships, economic opportunities, and successful project implementations (Chroust 2008; Hofstede et al. 2010). Creating an understanding and acceptance for differences in culture or behavior, misunderstandings and disputes in business situations can be avoided or reduced.

7.2.1 *Research on Diversity in Business*

Among the published approaches—examining cultural diversity in business situations—the studies by Hofstede and Trompenaars are referred the most. While Hofstede (2001) described cultures as “mental programs”—which are influenced by

personal experiences—and researched on dimensions of national culture, Trompenaars and Hampden-Turner (2010) elaborated the high impact on international companies' success in surveys with 30 different international companies. Further, whereas Hofstede's five dimensions (Hofstede et al. 2010)—power distance index, individualism, masculinity, uncertainty avoidance, and long-term orientation—focused on differences, conflict potential, and structural aspects, Trompenaars and Hampden-Turner examined how people solve problems and find solutions in business situations based on their cultural background and relationships (Böhm 2013). Although these two concepts are widely researched, various researchers revealed bias in Hofstede's studies (i.A., Huo and Randell 1991; Markus and Soh 2003). Further, the concept of national culture in both approaches seems inappropriate in a globalized world as a person's origin may not match the actual cultural values one holds (Böhm 2013). Moreover, the tendency to generalize and cluster people according to their nationality contradicts with modern, humanistic management principles.

Further, research on diversity management and intercultural interactions mainly focus on demographic aspects; whereas, diversity facets regarding organizational aspects such as affiliations or functional positions are rarely examined (Böhm 2013; Cummings 2004). Also, diversity management emphasizes cultural differences rather than using diversity as a source to form new knowledge within organizations, and to resolve issues in international projects and collaborations (Holden 2002).

7.2.2 Diversity Techniques and Trainings

In order to avoid failures and enhance success in projects, being able to manage cultural differences and professional responsibilities is vital. Managing cultural differences does not only mean understanding other cultural behaviors but also being able to apply frameworks to understand cross-cultural interactions and gaining intercultural communication skills (Bennett et al. 2000). On the other hand, understanding how business is handled in other countries and how people normally work is equally important. Various approaches provide guidelines for trainings or specific techniques. Fowler (2006) differentiates between intercultural trainings—aiming at preparing people, especially those who move to another culture, for interactions with other cultures—and diversity trainings, which aim at improving social problems, intergroup relations, and workplace settings. As behavior “is affected not only by culture but also by factors such as organizational norms, education, age, social class” (Fowler 2006, p. 404), it seems necessary to have both aspects included in effective diversity trainings.

Diversity trainings would typically combine cognitive processes with experiential learning that enables practice-oriented, cross-cultural experiences (Landis et al. 2004). Comprehensive trainings need to cover four major components: culture, behavior, perception, and communication (Fowler 2006). Whereas understanding and respecting cultural differences, its behavioral manifestation, and the individual perception is important, “communication is the heart of intercultural trainings” (Fowler

2006, p. 409). Communication is essential as it is the key to demonstrate respect and build trust with people of diverse backgrounds. “Without trust, it is very difficult to motivate, supervise, negotiate” (Bennett et al. 2000), and sustain successful cooperation. According to Bennett et al. (2000), not only communication but also team work and collaboration serve as the basis for building trustful relationships.

Numerous techniques to analyze or manage cultural aspects exist. For instance, Köster (2010) provides two techniques particularly tailored to international projects. The author suggests a cultural gap analysis that gives the opportunity to assign relevant project management activities to a two-dimensional cultural pole system. It does not aim at precisely measuring, but on raising awareness for cultural differences that might impact the project manager. Further, Köster (2010) suggests a diversity–complexity assessment. In the assessment certain factors—i.e., the number of national, organizational, or functional cultures; the number of languages; the degree of physical distance; the degree of heterogeneity of stakeholder interests—are analyzed and their importance is evaluated by categorizing their impact (e.g., from “low” to “high”). “The stronger the cultural diversity, the higher the complexity, the more efforts have to be made in terms of managing the international project” (Köster 2010, p. 91). This method can be understood as a basic source for communication strategies and risk management.

Although countless techniques seem to exist, no researcher has yet integrated these separate techniques into a comprehensive diversity management framework for project management. The following study will confirm the high impact of diversity as a success factor in ICT projects, and reveals the large variety of techniques used and specific measures in practice that may demonstrate the need for a standardized approach.

7.3 Description of the Study and Research Design

This section gives information on motivation of the study, background of the study participants as well as the research design and procedure used.

The basis of the study is a series of semistructured expert interviews conducted between December 2011 and December 2012 in various countries. The interviewees were practical experts in the field of project management and global management. The interviews were primarily performed via face-to-face interactions with an average duration of 1 hour. In total, ten experts were interviewed for this study.

7.3.1 Sampling

As the research focuses on diversity in a global field, it seemed important that the study participants also represent various regions and cultural background. Figure 7.1 illustrates the diverse cultural mix of the interviewees from four different continents.

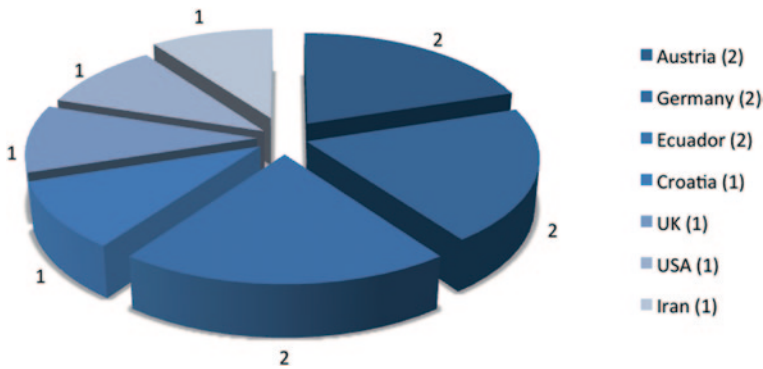


Fig. 7.1 Cultural background of interviewees

Further, the study participants' experience was vital for the relevance of the findings as well as profound and comprehensive results. All participants had more than 5 years of work experience, six interviewees were working in the field for more than 9 years, and two participants had more than 19 years of experience in project environments. In order to provide a comprehensive and generic picture, independent of cultural bias, it was important for the study that the participants had a wide range of experience in diverse cultural and geographic regions. Figure 7.2 illustrates the global experience of the participants divided into continental regions and the associated countries. All participants worked in at least five different countries located in two different continents.

The field of experience ranged from international project management—which was a precondition for participating in the study—to intercultural team management, program and portfolio management, process management, and management education. The interviewees' project experience derived primarily from ICT projects such as software development projects or network system projects. Some participants had additional experiences in organizational development projects, outsourcing projects, core banking projects, construction projects, international development and governmental projects, or marketing projects. Although all participants work in international environments, none of them ever received a formal, cross-cultural, or diversity training before their first international assignments.

7.3.2 Research Method

In addition to the participants' background regarding their global work experience, the study aimed at finding out:

- In which aspects international ICT projects differ from local ICT projects.
- Which aspects are particularly challenging in international ICT projects.
- Which aspects are perceived as success factors for international ICT projects.

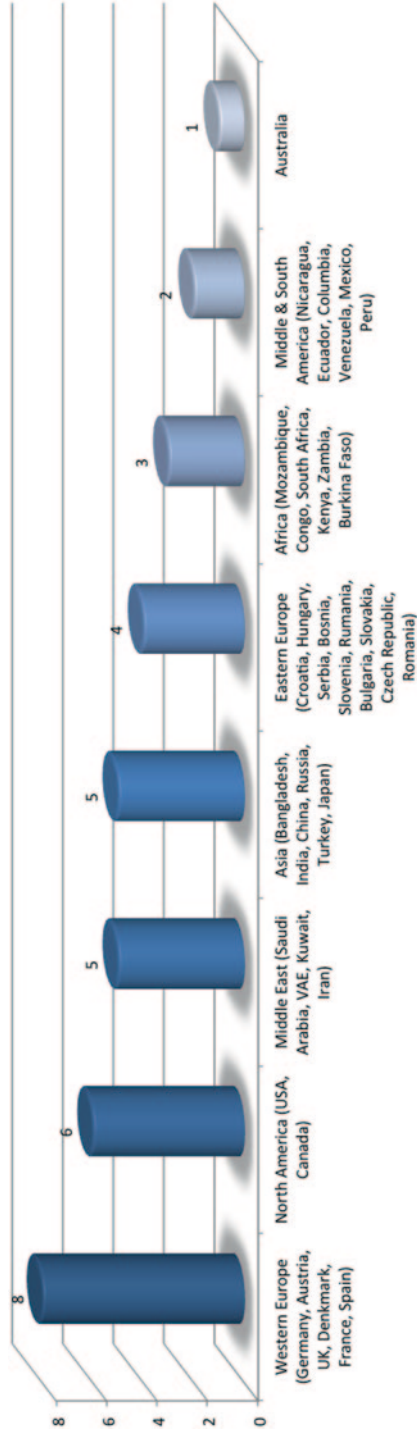


Fig. 7.2 Interviewees' global experience (multiple answers possible)

- Which diversity aspects directly influence ICT projects in an intercultural setting.
- Which steps and measures were used by the experts in practice to deal with diverse teams and intercultural environments.

The semistructured interviews were recorded, transcribed, and analyzed by applying a structured content analysis according to Mayring (2008). This research procedure demanded defining categories upfront. During the data analysis, significant parts of the transcripts were allocated to those predefined categories according to certain coding rules. These categories were derived from the interview guideline. The following categories revealed significant information: background information, challenges in international ICT projects, success factors in international ICT projects, diversity aspects relevant in ICT projects, and steps toward dealing with diversity in projects. After categorizing the interview content, the data was simplified, partly quantified, and summarized to reduce complexity for the presentation of the findings.

7.4 Study Findings

The results of the study are presented in four categories: challenges in international ICT projects, success factors in international ICT projects, diversity aspects relevant in ICT projects, and steps toward dealing with diversity in projects.

7.4.1 Challenges in International ICT Projects

This category shows which aspects the interviewees perceived as challenging in international ICT-related project environments. Figure 7.3 illustrates that 28% of the identified factors (13 out of a total of 46 identified factors) concerned diversity.

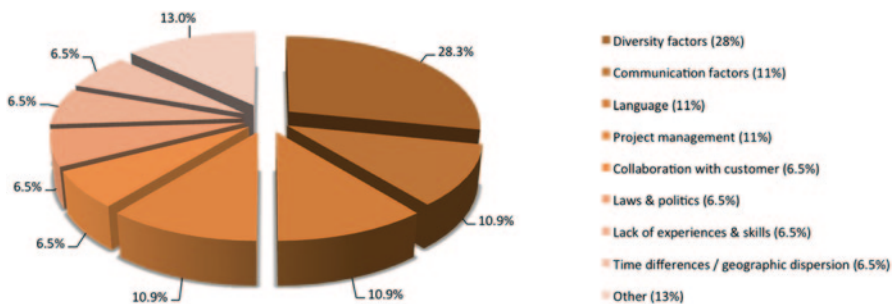


Fig. 7.3 Challenges in ICT international projects (multiple answers possible)

Such diversity factors were for instance “low cultural awareness,” “prejudices,” “religion,” “different education,” and “different ways of doing business.” Communication (i.a., “virtual communication” or “lack of face-to-face communication”), language and project management factors (such as planning, scope or responsibilities) were mentioned five times (equals 11 %) by the study participants. Further, collaboration with customers, regional laws and politics, time differences and geographic dispersion, and a lack of skilled staff were stated as challenges.

7.4.2 Success Factors in International ICT Projects

The study participants were asked what—in their opinion—is needed to ensure project success in diverse environments. Figure 7.4 provides an overview of all factors (in total 119) that were perceived as needed for effective project management in an international context. The largest category with 19 statements (equals 16%) regarded communication, while soft aspects (e.g., “be open-minded,” “transparency,” “flexibility,” or “meeting people on eye-level”) were mentioned 16 times (equals 13%). Diversity aspects (e.g., “get rid of prejudices,” “know people’s background,” or “cultural awareness”) were mentioned ten times. Further, frequently mentioned success factors were experiences and skills (8%), good project management (meaning the effective application of project management techniques), the role of the project manager, and the type of collaboration within the team (i.a., “sharing ideas together” or “build consensus within the team”).

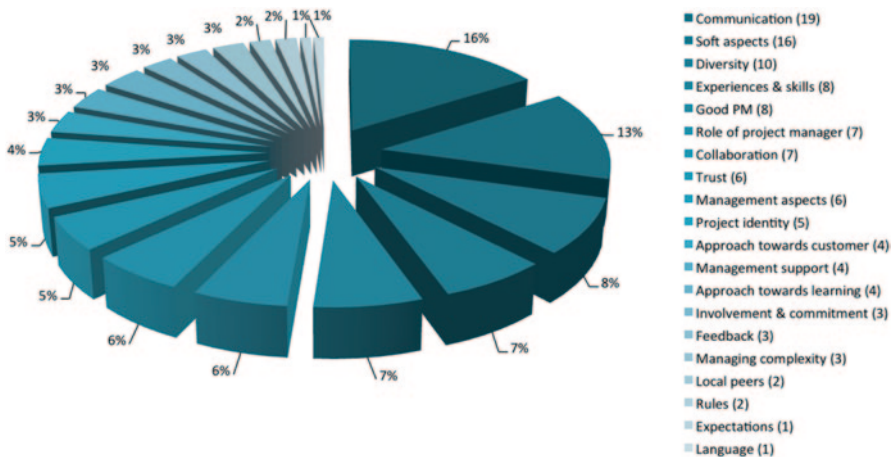


Fig. 7.4 Success factors in international ICT projects (multiple answers possible)

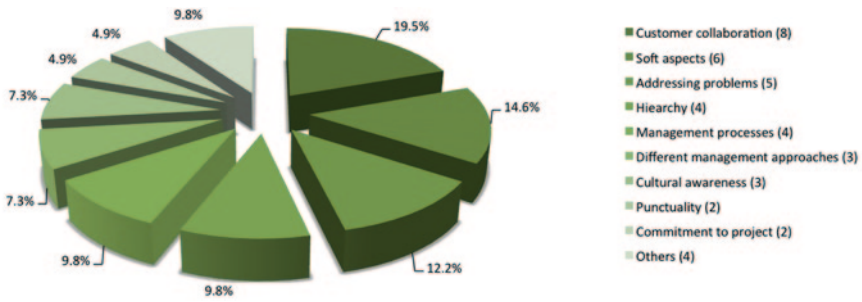


Fig. 7.5 Diversity aspects directly influencing project success (multiple answers possible)

7.4.3 Diversity Aspects in ICT Projects

In the interviews, the experts also described how diversity aspects affect the success of ICT projects. Many interviewees perceived customer collaboration (8 statements out of 41 statements), managing soft aspects (6 statements), the way how problems are addressed (5 statements), hierarchical structures (4 statements), and project management processes as most affected. Further, ICT projects are exposed to different management approaches and the level of cultural awareness of people (Fig. 7.5).

7.4.4 Steps Toward Dealing with Diversity

When participants were asked about how they deal with diversity in their business practices, they revealed over 50 steps necessary for managing diversity. Those steps can be categorized in two groups: necessary skills and attitudes (22 out of 57) and specific measures (35 out of 57).

The major part (16 out of 22 statements) concerned cultural skills and attitudes. The required skills and attitudes are listed in Table 7.1.

The interviewees identified 35 particular measures to manage diversity in their project practices. Table 7.2 gives an overview of measure categories.

Raising cultural awareness (e.g., by addressing communication and cultural issues directly), collocating the entire team for a certain period of time, applying good project management practices and techniques were perceived as an effective way to deal with a diverse team. Also, cultural assessments (e.g., “steering new team members on intercultural aspects,” “using profiling assessments,” “using cultural translators,” and “developing a guideline with best practices”), translating relevant documents or laws, and building trust were perceived as effective measures. Other measures that were shared by the participants were frequent and fearless communication at eye level, building personal relationships and a project culture regardless of team members’ nationalities, and choosing particularly open-minded partners for collaboration.

Table 7.1 Cultural skills and attitudes required in practice

Attitudes	Number of statements
Respect	3
Tolerance	3
Show understanding	2
Do not differentiate where people are from (also not gender)	2
Focus on individual personalities rather than on nationalities	1
Patience	1
Reduce prejudice	1
Same rules for all people and countries	1
Adjust to other cultures	1
Do not praise your own nationality	1

Table 7.2 Specific measures toward managing diversity in ICT projects

Measures	Number of statements
Raise awareness	5
Collocation for certain time	5
Effective project management	5
Cultural assessments	4
Translations	4
Build trust	4
Communication	3
Build personal relationships	2
Build project culture	2
Collaborate with open-minded partners	1

7.5 Conclusion

The results of the study illustrate the complexity of international ICT project environments from a practitioners' perspective. The variety of challenges and success factors identified demonstrate that there is no standard method or technique for managing diversity. One participant confirmed this interpretation: "There is no general recipe for a country or a cultural region." Also, depending on the project manager's cultural background, his or her personal attitude, and the individual approach, specific measures toward diversity management varied and there was not a clear consensus that all interviewees used a specific technique.

Further, the majority of the interviewed experts never attended a formal diversity or intercultural training or referred to the techniques provided in literature. This may be due to several reasons: lack of dissemination of existing diversity assessment techniques or lack of guidelines on how to use existing techniques. In each case, this fact shows that there is a clear gap between research and practice, and that

there is need for a new way of approaching diversity. Further, the results may also indicate that rigid cultural management approaches are not applicable in today's (international) business environment as these concepts primarily help to reveal cultural differences, but do not support practitioners in applying that information into practice.

This implies that project management standards—which are frameworks and guidelines for practitioners—may need to focus more on the practical application of diversity management and adjust to the complex situation in international projects. As it seems that managing diversity cannot be solved as easily and generically—compared to measurable aspects of project management such as scheduling or structuring a project—there is a demand for a comprehensive approach that allows flexible application of techniques depending on the environment. Further research needs to be conducted to provide an adequate and adaptive framework in combination with a set of practice-proven techniques and tools to deal with diversity in international ICT environments effectively.

Finally, the interviews reveal clear tendencies on the importance of so-called “soft facts.” 50 percent of the challenges regarding diversity and communication aspects (including language), and at least 53 % of all success factors can be summarized in the cluster “soft facts”: communication, soft aspects, diversity, experiences and skills, trust, involvement, and commitment. Further, the identified intercultural attitudes and skills also show the importance of those topics in practice. As one participant stated: “I have never seen that a project failed due to technical or content differences—never! It were always those interpersonal aspects on a socio-cultural level.”

The presented study should be understood as a starting point for further research. As the study was conducted with ten experts in the field with an explorative, qualitative research design, the study results cannot be generalized on a larger scale. Still, the study reveals tendencies that provide impulses for deeper examination and future research.

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References

- Bennett R, Aston A, Colquhoun T (2000) Cross-cultural training: a critical step in ensuring the success of international assignments. *Hum Resour Manage* 39(2/3):239–250
- Böhm C (2013) Cultural flexibility in ICT projects: a new perspective on managing diversity in project teams. *Global J Flex Syst Manage* 14(2):115–122
- Chroust G (2008) Localization, culture, and global communication. In Putnik GD, Cuhna MM (eds) *Encyclopedia of networked and virtual organizations: volume II*. Information Science Reference (IGI Global), Hershey, pp 829–837

- Cockburn A, Highsmith J (eds) (2008) *The software project manager's bridge to agility*, 1 edn. (UnterMitarbeit von Stacia Broderick und Michele Sliger). Addison-Wesley, Upper Saddle River (The Agile Software Development Series)
- Cummings JN (2004) Work groups, structural diversity, and knowledge sharing in a global organization. *Manage Sci* 50(3):352–364
- Dunavant BM, Heiss B (2005) *Global diversity 2005. Diversity Best Practices*. Washington, DC
- Fowler SM (2006) Training across cultures: what intercultural trainers bring to diversity training. *Int J Intercult Relat* 30(3):401–411
- Harris R, Davison R (2002) Anxiety and involvement: cultural dimensions of attitudes toward computers in developing societies. In Tan F (ed) *Global perspective of information technology management*. IRM Press, Hershey, pp 234–259
- Highsmith J (2004) *Agile project management: creating innovative products, the agile software development series*. Addison-Wesley, Boston
- Hofstede G (2001) *Culture's consequences: comparing values, behaviors, institutions, and organizations across nations*, 2nd edn. Sage, Thousand Oaks
- Hofstede G, Hofstede GJ, Minkov M (2010) *Cultures and organizations: software of the mind—intercultural cooperation and its importance for survival* (3rd revised and expanded edition). McGraw-Hill, New York
- Holden NJ (2002) *Cross-cultural management: a knowledge management perspective*. Pearson Education Limited, Edinburgh
- Huo YP, Randall DM (1991) Exploring subcultural differences in Hofstede's value survey: the case of the Chinese. *Asia Pac J Manage* 8(2):159–173
- Ives B, Jarvenpaa SL (1991) Applications of global information technology: key issues for management. *MIS Q* 15(1):33–49
- Köster K (2010) *International project management*. Sage, London
- Landis D, Bennett JM, Bennett MJ (eds) (2004) *Handbook of intercultural training*. Sage, Thousand Oaks
- Markus ML, Soh C (2003) Beyond models of national culture in information systems research. *Adv Top Global Inf Manage* 2(2):14–29
- Mayring P (2008) *Qualitative In Halts Analyze: Grundlagen und Techniken*, 10th edn (Qualitative content analysis: basic principles and methods). Beltz-Verlag, Weinheim
- Narayanaswamy R, Henry RM (2005) Effects of culture on control mechanisms in offshore outsourced IT projects. In: Moore JE, Yager SE (eds) *Proceedings of the 2005 ACM SIGMIS CPR 2005, ACM SIGMIS CPR conference on computer personnel research*. ACM Press, New York, pp 139–145
- Trompenaars F, Hampden-Turner C (2010) *Riding the waves of culture: understanding cultural diversity in business*, 2nd edn (repr. with corr.). Nicholas Brealey, London