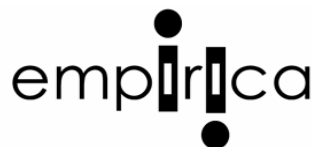

Collaborative work: Globalisation and New Collaborative Working Environments



Del 2.1: Framework and Operational Design of case Study Research: Collection Analysis and Validation of Evidence"



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1 Management Summary

This deliverable summarizes the research framework for case studies and cross-case analysis of the study "Collaborative Work: Globalisation and New Collaborative Working Environment". The research framework was developed within WP2. It is based on major findings from the previous work package.

In the first part of the deliverable the most important definitions and findings from the previous work package and the interim report are summarized. They provide input for the development of the case study research framework.

Major results applied from the previous work packages are the identified specific chances and challenges of globalisation and the role of collaboration settings as major enablers and key success factors of globalisation strategies. Four different kind of global CWEs that involve support by information and communication technology were identified: global supply chains, global open innovation, global virtual teams and global communities of practice. These four types of global CWE will be major objects of observation in the case studies.

A research approach consisting of three steps will be applied: 1) definition of selection criteria and selection of suitable cases, 2) gathering of empirical case information, 3) analysis and extraction of commonalities, best practices and key success factors.

Relevant cases are European companies that operate or have established relations either "globally", near off-shoring to neighbour countries of the European commission and to specific regions in Europe. Further characteristics of relevant companies are: global collaborative work settings that involve different time zones, organisations, culture, and mobile employees.

The goal of the case study research is to describe and analyse global collaboration environments in as many different settings as possible. Thus, global collaboration working environments in large and small companies will be considered. In addition, the cases should be spread over different industries. If possible, companies from the same industries involved in the empirical survey will be considered.

The case studies will consider three different levels of analysis: globalisation at the strategic company level, at inter-company level, and at the specific global collaboration working environment level.

In general explorative and descriptive case studies will be considered. The goal is to describe specific ways of organising global CWEs, their drivers, barriers and way of working.

It is expected that large companies as IBM, SAP, Nokia and similar have several or even all four kinds of global CWEs in place. Hence, with regards to large companies embedded cases are planned. This means several different global CWEs will be considered in one company.

Data about the case companies will be gathered from both secondarily and primary sources. Most important secondary sources are: company documents, online sites, press releases, publications. Primary sources will be gathered through semi-structured interviews with company representatives. The following aspects are of interest: features of the global CWE, task and goal of the CWE, drivers and motivation for establishing it, obstacles, and positive achievements, problems due to global spread, technologies used and experiences with technology. The interviews will be recorded, transcribed, and summarized.

The cross-case analysis will compare common features of the case studies within the single categories of global CWEs and also provide more aggregated findings on a general level. Another aim of the cross-case analysis is the identification of best practices.

2 Introduction - Goals of the Deliverable

This section summarizes the goals of the case studies and cross-case analysis. The aim of the case studies is to:

- Provide in-depth description of different global collaborative working environments. The description should include a description of globalisation strategies at strategic-company level and on the specific team level.
- To identify specific characteristics of global collaborative environments. In particular key drivers, barriers, obstacles, processes, issues, technology used and contextual factors for the companies and value chains involved.
- To identify best practices in organising global collaboration environments.

The goals of the cross-case analysis are:

- To compare cases describing the same kind of collaborative environments among each other and to aggregate findings regarding the aspects mentioned above.
- To identify best practices in each category of cases and on a more general level for global collaboration environments in general
- To identify and summarize input to policy recommendation from each cases
- To illustrate findings regarding lessons learned and best practices for a broader audience.

3 Summary of Relevant Results from Previous Work Packages

This section summarizes the most important definitions and findings from the previous work package as input to the research framework:

Globalisation in general is a process of growing integration of economies and societies around the world, leading to increasing connectivity, integration and interdependence in the economic, social, technological, cultural and political spheres. It is characterized by the increased mobility of goods, services, technology, capital, and – to a lesser extent – labour around the world.

Economic (or industry) globalisation is the process of internationalisation of competition. Driving factors of economic globalization are shifts in technology, buyer needs, government policy, and country infrastructure. These shifts create major differences in competitive position among firms from different nations or make the advantages of a global strategy more significant (Porter, 2005). Firms must respond strategically to such changes.

In New Global, **globalised working environments** focus on how, within and across companies, and across regions and countries, people work together using ICT-based **collabora-**

tion tools and infrastructures that is collaboration technologies to accomplish common goals. Forms, in which globalised working environments become visible are, for example, project teams (e.g. design and engineering teams), knowledge communities (e.g. Shell, Unilever) and (formal/informal) collaboration networks. The wider context of collaborative working environment is the **value network for collaborative value creation** and, through that, **collaborative business**. Key dimensions of how globalised collaborative working environments cross boundaries are:

Time: People in teams may work together in synchronous or asynchronous modes often temporary. People may collaborate across time-zones (-> handover problem).

Place: people and teams work together across locations (multi-site collaboration) and from multiple places (physical mobility).

Organisation: working across organisational boundaries, within a company (multi-unit, multi-site collaboration) or within a business network of suppliers and customers (extended, or networked, enterprise, could take the form of virtual enterprise).

Technology: People and teams who collaborate might use their own methods, tools, processes and technologies. In some way these “technologies” will have to work together as this is critical for successful collaboration across the other dimensions mentioned.

Globalised working environments denote the situation where companies create a global strategy to cope with the opportunities and threats of globalisation based on work organisation for establishing global teamwork. Different activities of the company value chain can be carried out at different locations according to location-based advantages; even the same activity can be carried out by teams dispersed across the globe (24-7 model, e.g. design and engineering teams). Global strategy first deals with location of value activities. Second, it deals with coordination of the dispersed activities. Globalised working environments address coordination of value activities carried out at different locations as well as distributed teamwork focusing on particular activities.

The specific form of relationships and collaboration in global environments might vary and can be classified as follows (c.f. 1):

- **Process oriented collaboration**, for example within global supply chains. The goal of this type of inter-company collaboration is an efficient orchestration of global value chains. The emphasis of process oriented collaboration is on efficient and smooth exchange of information, documents and collaborative planning. It is applied by companies that pursue an efficiency-seeking globalisation strategy.
- **Knowledge oriented collaboration**, for example within various knowledge networks and communities of practice. The goal of this type of inter-company collaboration is integration of external knowledge resources and innovation capabilities into the own company. The emphasis of knowledge oriented collaboration is on knowledge and idea-generation and interaction among experts. This type of collaboration is suitable for companies pursuing a market-seeking and/or resource-asset-seeking globalization.

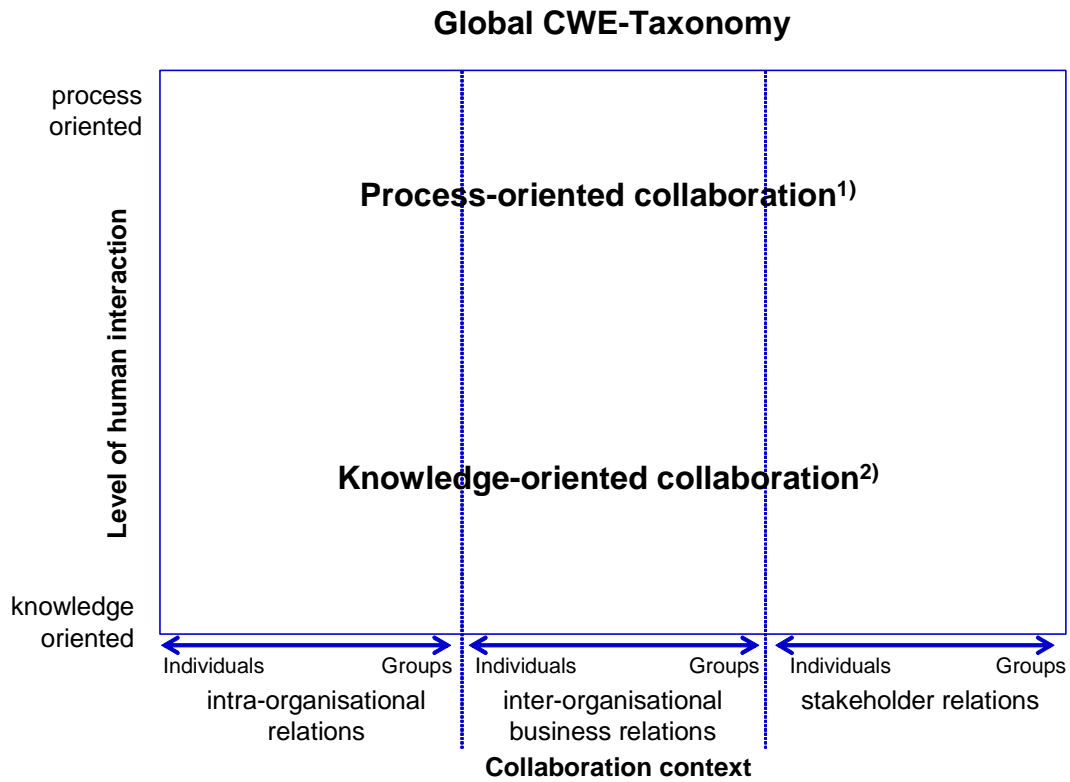


Figure 1: Framework for classification of global CWEs

Another important feature of global CWEs considered in the study is the support by information and communication technology. Based on the literature review, the following types of technology enabled global CWEs were identified (c.f. 2).

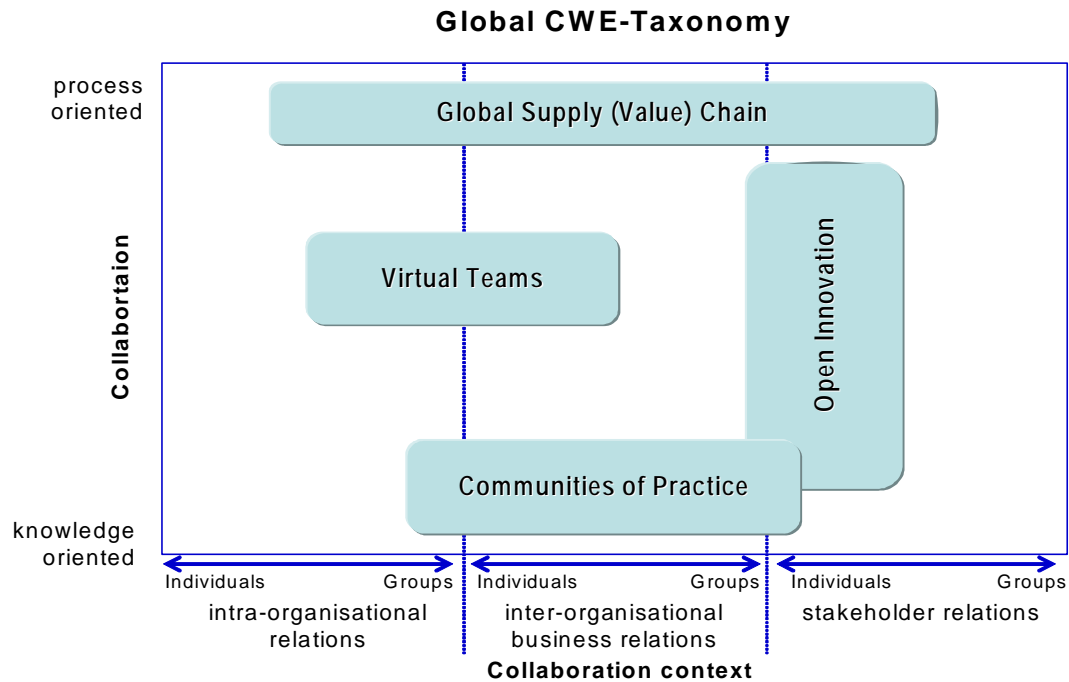


Figure 2: Overview of the global CWEs under consideration

- Inter-company virtual teams
- Inter-company communities of practice
- Global supply chains, which reflect the highly structured inter-company collaboration. New technological developments as remote frequency identification (RFID) are currently transforming this type of collaboration processes. Key aspects of collaboration among companies within global supply chains are: interoperability of the ICT-infrastructure, existing and emerging process and product description standards, exchange of knowledge among involved companies.
- Global open innovation is resulting in innovative collaboration settings in the B-C and B-B area. Collaboration supported by innovative collaboration technology suitable to support contributions of many participants is a key prerequisite for open innovation. Key aspects of open innovation are: support and coordination of many participants, creating communities and trust among participants, intellectual property rights.

The above four different categories of global CWEs will be the main object of observation in the case studies.

4 Research Approach

The case study analysis will include the following steps:

- Step 1: Selection of case companies
- Step 2: Gathering of case information from companies
- Step 3: Analysis of the information and extraction of best practices with reference to coping with globalization challenges on different level

4.1 Description of Relevant Cases and Definition of Criteria for Case Selection

The main goal of this study is to analyse global collaboration environments. Based on the definitions for globalisation in section 1 of this document the following criteria have been identified for delimiting global CWEs:

- **Geography:** Work activities are carried out at different locations that are in different countries (at least two different countries should be involved). Depending on the location of the countries involved the following type of global CWE will be differentiated:
 - Collaboration within Europe, for example including collaboration with countries as Ireland, or the new member states.
 - Near-offshoring - At least one country involved is outside of Europe, but not in an other continent - for example Russia, and other countries outside Europe
 - Off-shoring, where at least one country involved is on an other continent (Africa, Asia, South America)
- **Organisation:** Global CWEs can emerge among employees of the same company that are working at different locations and in an inter-company manner. As far as possible inter-company CWEs will be considered.
- **Time:** Global CWE should cover different time zones. Of interest is in particular how work is organised in teams that work across different time zones. How is synchronous and asynchronous work organised.
- **Culture:** One important dimension of global CWE is culture and cultural diversity (work styles, languages, habits, processes, procedures, strategies). Of interest are CWEs where different cultures are involved.
- **Interaction mode:** Face-to-face or virtual. Of interest are cases of CWE that are supported by technology and where significant part of the work is done in a virtual manner.
- **Mobility:** to which extent are involved employees also mobile and are locations of involved employees changing during participation in CWEs.

Besides the above criteria, further criteria that will be considered, to get a broad spectrum of representative case studies are:

- **Size of the company** - small, medium or multi-national company.
- **Industry** - the cases should be from different industries. If possible companies from industries that will be considered in the online survey will be selected.

The goal of the case studies is not to get many cases from the same kind of global CWEs, but to cover in a descriptive way as many as possible different types of CWEs.

4.2 Level of Analysis

The case studies will consider three levels of analysis:

- At the strategic company level
- At the inter-company level
- At the level of the specific global collaboration environment.

4.3 Different Approaches for Large and Small Companies

A goal of the study is also to analyse cases representing the different kind of global CWEs that were identified in the previous sections of this document: virtual teams, communities of practice, global supply chains, and global open innovation. Given the broadness of the topic of the study, the study will apply Explorative and descriptive case studies at different companies and industries (Yin 1989).

Analysis Approach at Large International Companies

Large international companies are expected to have several of the four identified global CWEs in place. Given this at large companies as many as possible different kind of global CWEs will be considered as presented in figure 3.

Analysis Approach at Small Companies

First pilots show, that small companies usually have only one or mostly two specific global CWEs in place. Therefore, the analysis at small companies will be simplified.

Structure of embedded case studies in global collaboration

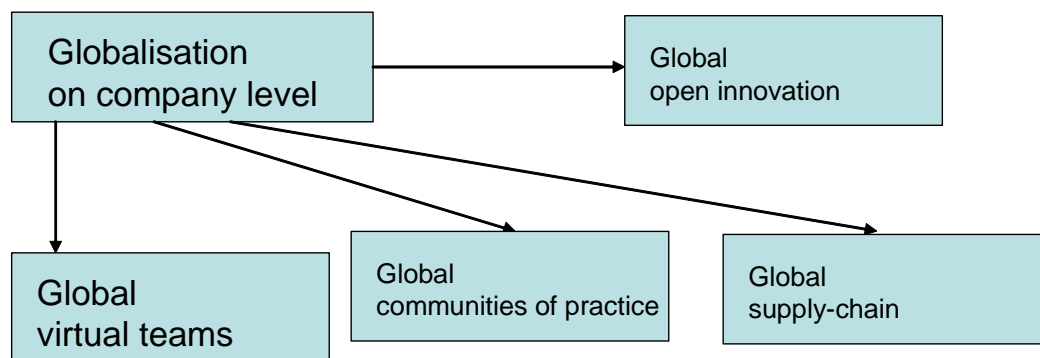


Figure 3: Structure of embedded case studies

5 Structure of the questionnaire for case interviews

The case studies will be based on semi-structured open interviews with representatives of the company at different level. At the company level managers or business developers will be interviewed. At the level of the specific CWE team leaders and team members will be interviewed.

Even though objects of observation will be different global CWEs, there are some common features and elements. This will be addressed with standardized questions (c.f. 4).

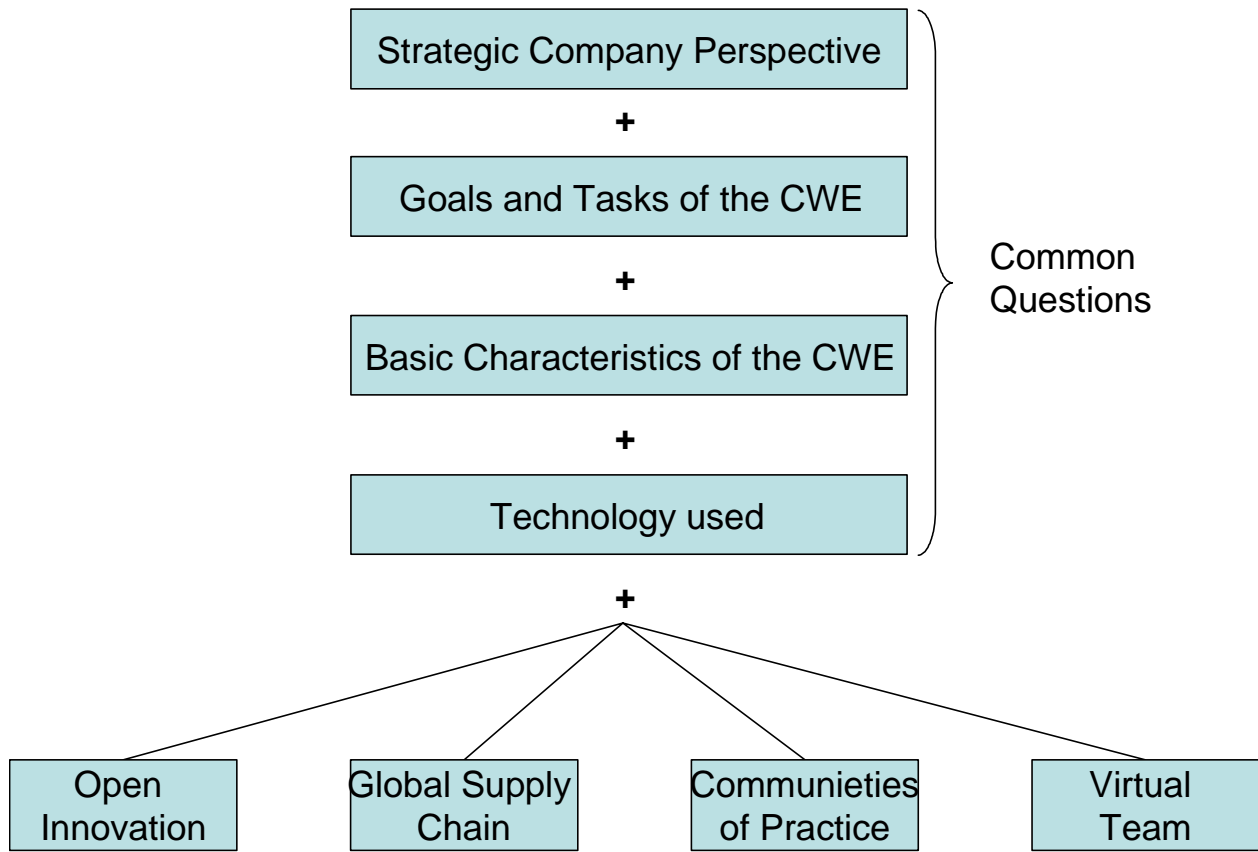


Figure 4: Structure of the case study questionnaire

For each type of CWE the questionnaire will consist of common questions and specific ones. The common questions are related to the following aspects:

- Questions regarding the strategic company perspective
- Questions regarding the goal and tasks of the CWE
- Questions regarding the basic characteristics of CWE
- Questions regarding the technology used

In addition, specific question about the way of working in each CWE will be added. The questions for each part are listed below.

Questions regarding the strategic company perspective

Persons to be interviewed: Managers or Business Developers

1. Please describe the current international operation of your company?
2. How is globalisation considered at your company?
 - Threat
 - Opportunity?
3. How does globalisation affect your company?
4. Which globalisation strategy do you follow?
 - Market-seeking globalisation
 - Resource-seeking globalisation
 - Efficiency-seeking globalisation
 - Combination
5. What are the main activities of that are organized on a global scale?
6. Which organisational changes resulted from globalisation?
7. Which global collaboration strategies do you follow?
 - Alliances
 - Off-shoring
 - Direct investment
 -
8. What are your experiences so far?
9. Are there any obstacles to globalisation resulting from the regulatory environment?
10. Are there any obstacles to globalisation resulting from technology and infrastructure?
11. Do you have improvement suggestions?

Questions regarding the goals and tasks of the CWE

Persons to be interviewed: Team leader

- Context (why: industry, description of the need for collaboration, task, structuredness and task interrelationship)
- Goal of the task (goal: how were goals defined and achievements measured)?
- Please describe the tasks?

Questions regarding the goals and tasks of the CWE

Persons to be interviewed: Team leader

- Level of globalisation: how many sites, business units, teams, projects, companies, countries, nationalities, cultures are involved?
- Organisational structure: formal, informal

Questions regarding technology used

Persons to be interviewed: Team leader and/or team member

- Which tools are available for collaboration in the company?
- Which tools did you chose for collaboration? How do you choose them?
- How often are the tools used
- Are there any problems regarding technology?
- How is security aspects handled? Have there been security problems?
- Do you have improvement suggestions?

Additional specific questions will be added regarding each CWE. In the next sections the specific questions for communities of practice and virtual teams are explained in more detail.

5.1 Questionnaire for Communities of practice¹

Organisation of Knowledge Management

1. Is there a Corporate Knowledge Officer or a comparable role in the organisation? If yes, please specify main tasks and responsibilities?
2. Are there special departments and/or staff members for knowledge management support?
3. What activities are organised to stimulate knowledge sharing across geographic boundaries?
4. What is the willingness of employees to share knowledge?
 - Are there global opportunities for exchanging knowledge?
 - Are there global barriers for exchanging knowledge?
5. What is in general the culture concerning cooperation and knowledge sharing?
6. Are there global Communities in the organisation? If yes, why are they organized on a global scale? For what purposes?
7. How many of the employees are a member of a Community? Can employees be a member of more than one community?

¹ Provided by Robert Verburg and Laurence Rook

8. How strong is the interest of top management for Communities and any other communities that your company may have?
9. How are Communities organised, i.e. what structure, main rules and activities?
10. Are platforms, tools and/or groupware available to support knowledge sharing?
 - communication tools (from email to video links, synchronous and asynchronous),
 - co-operation and co-ordination groupware such as Lotus Notes, LiveLink;
 - knowledge repositories: Intranets, knowledge databases,
 - tools to find expertise: yellow pages; skill inventories and other referral systems
 - To what extent are these systems available for and integrated in the daily work processes?

Community issues

1. What is the composition of the Community? Does it consist of experts only, or does it contain a mix between juniors – experts?
2. To what extent is the composition of the Community based on an equal distribution of members according to geographical location? Or not at all?
3. Is community membership and active participation a formal part of annual performance appraisal?
4. What is the amount of time people spend on Communities
 - as a part of their normal working hours?
 - in addition to their normal working hours?
5. What degree of freedom do participants have within the Community?
6. Do members have to justify their participation in the community to their direct supervisor? Or to any other supervisor?
7. How often do the following activities happen in your community?
 - (1) Meetings with discussions
 - (2) Talks about experiences
 - (3) Presentations by members
 - (4) Presentations by non-members
 - (5) Workshops
 - (6) Team building activities (such as informal outings)
 - (7) Members writing reports or other publications together
 - (8) Doing internal company projects
 - (9) Preparing for new projects for customers
 - (10) Brainstorming
 - (11) Writing project proposals
 - (12) Exchanging e-mails to find solutions to problems
8. In general, are there problems concerning the global community meetings, such as language problems, and issues relating to time zones (i.e., windows of synchronicity)?
9. Specifically, how exactly do language problems and time zone issues occur during the following activities?
 - (1) Meetings with discussions
 - (2) Talks about experiences

- (3) Presentations by members
- (4) Presentations by non-members
- (5) Workshops
- (6) Team building activities (such as informal outings)
- (7) Members writing reports or other publications together
- (8) Doing internal company projects
- (9) Preparing for new projects for customers
- (10) Brainstorming
- (11) Writing project proposals
- (12) Exchanging e-mails to find solutions to problems

5.2 Specific Questions for Virtual Teams²

Virtual work

- Describe your work in this dispersed team.
- What are the reasons for virtual mode of work in your team?
- How does the virtual work differ from co-located work?
- How the 6-dimension model actualizes in your team?
- How does these dimensions affect your working (*complicates, makes it easier*)

Competencies

- Which special competencies and characteristics do you and your team mates need in a virtual setting?
- Which leadership competencies and characteristics the team leader needs in a virtual setting?
- How would you improve leadership in this team?

Well-being

- How the virtual setting affects to the well-being in your team?
- What are the stressors in your work? How do you cope with them? (e.g. competency, social support...)
- (Helping questions: How much the following things affects to your well-being: Independency / loneliness, social support, social climate, open communication, competency, skill use, development opportunities, trust and mutual respect, leadership, company policies and practices, working conditions and tools, responsibilities, work load, goal clarity, job control, job security)

Final Evaluation

- Which have been the 3 most important lessons learned from this project?
- How would you develop the virtual teamwork for future teams/projects?

² Provided by Matti Virtiainen

5.3 Specific Questions Regarding Open Innovation

Open innovation are specific global work environments, where collaboration with customers and among customers takes place. Persons relevant for the interviews are the responsible community managers or employees that take active part in the customer community.

Questions of interest are:

- How frequent do customers take part?
- Which possibilities for interaction are available?
- How do you establish trust?
- Have there been specific problems with customer's comments and replies?
- Which interaction and communication patterns exist?
- Are there any incentives for participants?

5.4 Specific Questions regarding Global Supply Chains

The specific question will consider the cooperation of employees of partner companies involved in the global supply chain

Questions of interest are:

- Which processes are involved in the supply chain CWE?
- Which data are exchanged?
- Is there exchange of knowledge?
- What are the experiences with exchange of knowledge?
- Do you meet in person with employees from partner companies? How frequent do you meet?
- Are there any trust issues

6 Analysis and Presentation of the Data

All the interviews will be recorded, transcribed and analysed. For each case a report will be prepared with the following components:

1. Executive summary (500 words)
2. Short description of data collection approach
3. Description of globalization context
4. Description of task:
5. Description of team:
6. Collaborative tools and efforts (what: how was collaboration enabled and performed)
7. Barriers, opportunities, critical success factors for global CWEs
8. Summary of findings:
9. Conclusion (input for further research?)

7 Methodology of cross-case analysis

The cross-case analysis will consists of two steps:

- In a first step cases that are related to the same category of global CWE will be compared
- In a next step the findings will be compared on a more general level

The findings of each case will be compared along the following criteria:

- Globalisation strategy
- Level of globallity
- Tasks and goals
- Involved employees
- Drivers
- Barriers
- Obstacles
- Technology used
- Proposals for improvement
- Suggestions regarding policy and regulation

The main goal of the cross-case analysis is the identification of best practices as input to developing guidelines for practice.

8 Next Steps and Time Schedule

The case studies will be carried out in two waves:

- In the first wave the case studies with larger companies will be considered. The consortium is currently in contact with the following companies: SAP, KONE, Unilever and Shell.
- In the second wave case studies with smaller companies will be carried out. First contacts have been established with Swiss small and medium sized companies investing in Asia.
- In addition, several case studies will be considered with regard to emerging global CWEs, that are not initiated by companies, as for example Wikipedia and Second Life.

The time schedule for the next activities is given in figure 5 below:

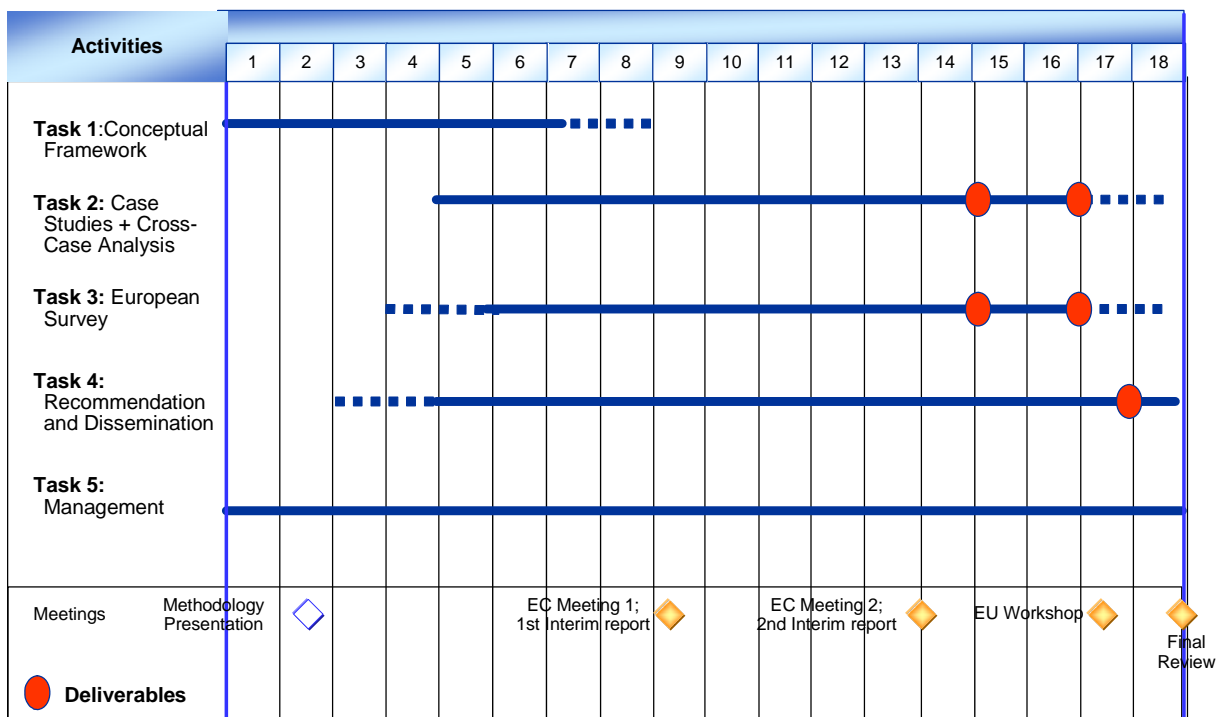


Figure 5: Time schedule of case study analysis

The deliverables that will be prepared are:

- D2.2 Second Interim Study Report, Part A: Initial Findings From Case Study Research (February 2008)
- D2.3 Draft Final Study Report, Part A: Complete Findings from case Study Research (April 2008)