

# Analysis of collaboration and communication challenges

Case: Liike Akatemia

Minenko Anastasia

Bachelor's thesis of the Degree Programme in Business Administration

Bachelor of Business Information Technology

TORNIO 2014

## ABSTRACT

LAPLAND UNIVERSITY OF APPLIED SCIENCES, Business and Culture

Degree programme:	Bachelor of Business Administration
Writer:	Minenko Anastasia
Thesis title:	Analysis of collaboration and communication challenges -Case Liike Akatemia
Pages (of which appendices):	67 (29)
Date:	30 May, 2014
Thesis instructor:	Vladimir Ryabov
<p>The main objective of this research is to find out effective tools for communication to be used by the case company Liike Akatemia for discussions and sharing files between teams and partner organizations.</p> <p>Based on the research questions the exploratory research methodology was used. In addition to literature review, interviews were conducted among students and coaches of Liike Akatemia. This research compares the software market of collaboration tools and user needs of the case company. In this research, the concept of Computer Supported Cooperative Work is used as the theoretical model for identifying user collaboration needs for cooperative learning work.</p> <p>The research focuses on challenges in collaboration work of the case organization Liike Akatemia. More specifically, collaboration needs of students and coaches in Liike Akatemia were identified for the purpose of suggesting a software tool for improved communication in Liike Akatemia.</p> <p>This thesis research provides a set of recommendations focusing on the evaluation of some software tools for improved communication and their usage. According to the analyses of the interviews, there is no need for a new software tool in Liike Akatemia. Recommendations made for the case company cover the solution of the requirements of the interviewees in collaborative work.</p>	
<p>Keywords: collaborative work, software for collaborative work, communication, Computer Supported Cooperative Work</p>	

## CONTENTS

ABSTRACT

FIGURES

TABLES

ABBREVIATIONS

CONTENTS

ABSTRACT .....	2
CONTENTS .....	3
1 INTRODUCTION .....	7
1.1 Motivation and background .....	7
1.2 Objectives.....	8
1.3 Structure of the thesis.....	8
2 RESEARCH SCOPE, QUESTIONS AND METHODOLOGY .....	9
2.1 Research scope .....	9
2.2 Research questions .....	9
2.3 Methodology .....	10
3 CONCEPT OF COMPUTER SUPPORTED COOPERATIVE WORK.....	12
3.1 Defining CSCW .....	12
3.2 History of CSCW .....	13
3.3 Early experiences with CSCW systems .....	14
3.4 Types of collaborative work.....	16
3.4.1 Time/space Groupware Matrix .....	17
3.4.2 Collaboration methods .....	18
3.4.3 Main types of collaboration activities .....	19
3.5 Basic Support for Cooperative Work software for improved communication .....	20
4 TECHNICAL COMMUNICATION TOOLS .....	21
4.1 General description of software tools for collaboration.....	21
4.2 Files sharing tools .....	21
4.3 Email as communication service.....	23
4.4 Cloud services used for data storage .....	24
4.5 Social media tools .....	24
5 THEMATIC ANALYSIS OF THE EMPIRICAL DATA.....	26
5.1 General description of the case company-Liike Akatemia .....	26

5.2 Collaboration and communication challenges in Liike Akatemia .....	27
5.3 Software requirements .....	28
5.4 Comparing software used in Liike Akatemia according to the requirements .....	30
5.5 Students' and coaches' knowledge about CSCW .....	31
6 CONCLUSIONS .....	33
REFERENCES .....	35
APPENDICES .....	39

## FIGURES

<b>Figure 1:</b> The time/space groupware Matrix.....	20
---	----

## TABLES

<b>Table 1:</b> Collaboration challenges and solution types.....	20
--	----

## ABBREVIATIONS

CSCW	Computer Supported Cooperative work
BSCW	Basic Support for Cooperative work
CSCL	Computer-Supported Collaborative Learning
HCI	Human Computer Interaction
IT	Information Technologies
Email	Electronic Mail
SaaS	Software as a Service
HTML	Hyper Text Markup Language

## 1 INTRODUCTION

The choice of the topic is justified, the objectives of the research work are introduced, and the general structure of this thesis work is described in this chapter.

### 1.1 Motivation and background

Keen interest in identifying communication challenges by defining user needs is related to the background of the researcher's practical training. The practical training was completed in Liike Akatemia (hereinafter Akatemia) and the researcher as a trainee was assigned to find an answer to the question of if ~~is~~ it was possible to find out a device or software which can facilitates interaction between the members of Akatemia and their customers.

Liike Akatemia is a unit of entrepreneurship education of Lapland University of Applied Sciences in business academy. The academy consists of 15-20 students who are shareholders in a team company. The aim of studies is to learn teamwork, have group workshops and projects. Projects usually concentrate on marketing, communication, sales, event organizing, graphical design, project management, innovation and utilization of computing skills. Students in Liike Akatemia are assigned projects by their client customers. Customers of Liike Akatemia are small enterprises that need help in innovating and sales.

In managing the projects assigned by enterprises, the role of communication is emphatic. Today, there are a lot of good examples of collaboration software. Challenges in collaboration between stakeholders take a prioritized place. In a few years there probably will be new software which facilitates collaboration challenges.

The topic of this research work involves a problem of collaboration requirements. Through this research identify user needs were identified for suggesting a software tool for improved communication in Liike Akatemia. That was done by Computer Supported Cooperative work (hereinafter CSCW). CSCW is the concept of Collaborative Learning work.

As in most business companies the main user need in Liike Akatemia is constantly be in all time cooperation with customers. The researcher uses the time/space Matrix (hereinafter CSCW Matrix) to identify a model of the collaborative work in Liike Akatemia. The Matrix was first introduced in 1988 by Johansen and then was studied by Baecker in 1995 (Whitaker 1996). Work in Akatemia concentrates most on the collaboration, which is co-located or geographically distributed. The use of this Matrix allows users' simultaneous and multi-location work which means remote interaction, which relies on videoconferencing, real-time groupware and messaging, i.e. instant messaging, email, and chat. In addition, remote interaction means cooperation, i.e. ability to exchange information between collaborating group members.

## 1.2 Objectives

The main objective of this research is to find effective tools for communication to be used by Liike Akatemia for students' and coaches' cooperation, share files between teams and partner organizations. Thus, in order to achieve this objective, user needs of coaches and students of Akatemia in collaboration work were identified. Identification of user requirements was done by analyzing interviews with coaches and four students from Akatemia. Interviewees were two coaches and four students from Liike Akatemia. After all collected interviews were analyzed, a set of recommendations according to user requirements of members in Liike Akatemia was given.

## 1.3 Structure of the thesis

Chapter 2 defines in details the scope, the research questions and the research methodology of this thesis. Chapter 3 introduces the CSCW concept, defines CSCW collaboration models and provides the reader one popularized example of software tool for improved communication-BSCW. Chapter 4 presents technical communication tools and introduces a definition and categories of technical communication tools. Moreover, examples of software packages available for users were presented. Chapter 5 illustrates identified user communication requirements in Like Akatemia by analyzed interview session of the students in Liike Akatemia and their coaches. Chapter 6 discusses conclusions of this thesis research work.



## 2 RESEARCH SCOPE, QUESTIONS AND METHODOLOGY

The research scope of this research work is discussed in this chapter. In addition, the research questions are illustrated and discussed. Finally, the methodology of this research is discussed.

### 2.1 Research scope

The research work consists of the practical part only. The thesis research focuses on finding solutions for communication challenges which be identified during this research. A set of recommendations made only for the case company, and for other organizations result of research could be different. Software solution for more than one business organization can be taken into consideration later. According to the requirements of students and coaches in Liike Akatemia, the researcher made a choice about what kinds of recommendations were needed to the case company. Recommendations were given after analyzing the software available on the market and identifying cooperation needs of students and coaches in Liike Akatemia.

### 2.2 Research questions

This research addresses the following research questions:

1 What is CSCW? What is the aim of system classification of CSCW?

Computer Supported Cooperative Work (hereinafter CSCW) is the concept of Cooperative-Learning work. Cooperative work includes sharing one's own experiences, responsibilities and goals (Pei-Ju Liu & James M. Laffey & Karen R. Cox 2008, 505.) System classification helps the researcher identify user needs of the chosen case company.

2 What are the needs and challenges of users in Liike Akatemia in the collaboration work?

This question attempts to present solutions, i.e. tools for communication between students and customers on the basis of analyzing the needs and challenges of students and coaches in Akatemia. As was previously discussed, there is a particular interest expressed by the case company in the final recommendation satisfy case company's needs and will not affect their cooperative work in the future.

3 What kinds of solutions are there at the market that can be constructed for the case company?

The output of the research question three is to find out of type of the final recommendation, in case there is a need for software use in Akatemia, then the result is following. Collaboration tool which includes more advanced features for improved cooperative work. User collaboration needs were compared with software available on the market for making the right recommendation.

### 2.3 Methodology

The case study is used to facilitate the researcher's knowledge of the particular fact related to the researcher's study (Yin 2003, 1). As the work is entirely practical, the research method used in this work is exploratory research. Exploratory research is a methodological approach that is concentrated on finding and creating theory (Davies 2006). The method choice is based on the literature analysis and qualitative data. Baxter and Jack state: "Qualitative case study is an approach to research that facilitates exploration of a phenomenon within its context using a variety of data sources" (Baxter & Jack 2008, 544).

According to the chosen case study method, an interview session with students and coaches of Akatemia was hold with the following purposes. Firstly, to identify user requirements. Secondly, to identify the type of the final suggestion. This research work helps to find out effective tools for communication taking into consideration communication and collaboration challenges in Liike Akateemia. Further, to achieve this objective, user requirements in collaborative work are identified. All analyzed examples of software available on the market shown as a final practical output of the research.

The output of this research is mainly practical; it contains a set of recommendations which concentrated on the evaluation of some software tools and their usage. Recommendations cover the solution of the requirements of users in collaborative work. On the basis of the chosen research method, a recommendation of the software was provided to the case organization for the use of collaborative software. The aim was to compare the relation between the market of software collaboration tools and user needs.

Firstly, the researcher has chosen relevant literature for this research work. The literature choice based on the research method of this thesis work. Secondly, analysis of data from the interview session was conducted. Thirdly, literature was analyzed and compared with the information from interviews.

### 3 CONCEPT OF COMPUTER SUPPORTED COOPERATIVE WORK

The concept of Computer Supported Cooperative Work (hereinafter CSCW) is defined and discussed first. In addition, history of CSCW, advent of CSCW and early experiences with CSCW systems are discussed.

The team work is the aim of CSCW. CSCW concentrates on the collaborative environment, team discussion processes, changes and creating processes in the environment in general. (Kraut & Fussell & Brennan & Siegel 2002.)

#### 3.1 Defining CSCW

CSCW is related to the computers, people and cooperation process between people. From the collaborative perspective, CSCW is the way to understand cooperative work in details with the aim of the designing computer-based technologies. (Bannon & Schmidt 1989.) In other words, CSCW is the way to understand cooperative work as a single form of work by intercalation acceptable technology (Schmidt 1991).

The concept of CSCW is close to the concept of Computer-Supported Collaborative Learning (hereinafter CSCL). As pointed out by Wilson (1991), the main difference between CSCW and CSCL is “CSCW is a generic term, which combines the understanding of the way people work in groups with the enabling technologies of computer networking, and associated hardware, software, services and techniques.” In other words, CSCL concentrates on the study process of how people can learn together by using information technologies (hereinafter IT technologies), i.e. laptops (Stahl & Koschmann & Suthers 2006). CSCW focuses on the study of the software and tools of the groupware according to their requirements. Succinctly, both CSCW and CSCL focus on understanding how new knowledge is compared with the help of the computers’ work in social situations. Furthermore, the next factor separates CSCW and CSCL as follows: in CSCL accent goes on the learning process and learning factors are affecting the outcomes, while in CSCW the research can be conducted with workers who need to take care of routines and the acquisition of the new knowledge is not expected as the output of their work process. (Schmidt 2001, Heath & Luff 1996.)

It becomes very important to understand how the new knowledge can be created, how problem-solving process can be supported, because knowledge work and the distance teamwork are increasing day by day (Stahl 2006, Tynäjä & Häkkinen 2005, Leinonen & et al. 2005, Bromme, Jucks, & Runde 2005).

### 3.2 History of CSCW

The term CSCW was created by the computer scientists Irene Grief and Paul Cashman in 1984. Firstly this name was combined by those scientists for the small workshop about computer systems, its development. This workshop joined scientists from different IT fields: distributed information systems, hypertext, etc. Most of the participants were well known in the research areas where they work, but the work of those scientists was never focused on the development of the software to support people in the work on the distance. (Bannon 1993, 4.)

A conference about CSCW was organized in Texas in 1986. As on the first workshop there were people from different fields, but the amount was about 300 people. Topics related to the CSCW field were discussed: development and usage of the computer conferencing systems, human computer interaction, computer science, etc. Later the interest to the CSCW field was growing; the conference on the related topic was organized in Portland, Oregon. In 1989 the first European conference was organized. (Bannon 1993, 4.)

Today, the area of CSCW is characterized and established, the number of researchers in the particular field grows day by day. Moreover, the support of many software manufactures and developers was increased. (Bannon 1993, 4.) The interest of readers grows to the fact how the field CSCW was developed. That was the reason for the researcher to describe changes in the information systems practices. Moreover, how technology and social factors can affect to the factors which create new modern practices according to design and usage of the computer systems in organization units.

Information systems field is changing all the time: changes cover information systems practices, information technologies and the structure of IT organizations. All those

modifications attract a keen interest to the CSCW field. Organizing and coordinating work activities of the organization are increasing the competitiveness and environment where business operates. Activities include hosting tasks in the group, development a compliant communication structure. (Bannon 1993, 5.) As a consequence, a need was formulated: a requirement of up-to-date information, better confluence and access to the information available everywhere and all the time (Johansen et al. 1992).

The successful corporation for the chosen case company as for many organizations in the future will be an organizational unit which makes a virtual, net-working company real work organization. CSCW work activity plays the first role in the development process as a conjunction of the collaboration and coordination work. (Bannon 1993, 5.)

The number of computer users increase all the time, computer field develops all the time. There have been created a lot of studies in this particular area, one of them is human computer interaction (hereinafter HCI). HCI covers the design of the computer interface of the computer systems. The next factor shows the importance of HCI according to CSCW: there is a requirement in expanding computer interaction to help in coordination process activity and support in problem-solving. (Bannon 1993, 4-5.)

Today, even commercial IT and software organizations are interested in CSCW. It was due to the fact of increasing development software for the groupware work. The support for the group work became more demanded than personal. From the technology perspective, network plays an important role: it support connectivity between people from the local and global factors. (Bannon 1993, 5.)

### 3.3 Early experiences with CSCW systems

In this subchapter commercial and non-commercial CSCW applications are briefly analyzed. The purpose is to show in practice what CSCW is by giving some useful examples of the developed software, study failures and successful aspects of the given examples. There are a lot of examples of applications which are focuses on coordination, communication and meeting support, here are listed and described in details some of them: electronic mail, the Coordinator system, Domino Office Procedure System, Lotus Notes.

Electronic mail (hereinafter email) is the most used application in the groupware work. Nowadays, for people working in business organizations, who are connected to the network via a local network it is a big opportunity to send messages electronically for improved remote collaborative work. Some consider email system as only CSCW application which was admitted on the marketplace (Grudin 1991.) Basically this application was developed before the CSCW field was created and cannot be proposed as success of CSCW field. (Bannon 1993, 14.)

The Coordinator system is a commercially system which focuses on the research community and is the best known application in the CSCW area. The system can be characterized as a mixed combination of email and project-management system. The disadvantage in use is the system supposes to exclude a negotiation process while including the ability to link messages in electronic messaging systems. One more disadvantage can be the fact of caution in the creation of tools in order to achieve the system's work without any hindrances that include untenable assumptions about the nature of collaborative groupware. (Bannon 1993, 15.)

The procedure Domino System focuses on the finding nature of the office work and providing the maintenance of work activities. The prototype model of the Domino System was developed for the research organization to achieve their studies. Primarily the system was criticized from its work activities point of view as unofficial communication was not allowed because of the lack of the confluence with other electronic applications, i.e. email. The point is people do not follow the procedures during their office work. It means those systems must be flexible in usage; otherwise procedure systems have no future. (Bannon 1993, 18.)

Lotus Notes groupware product is a commercial product which made a tremendous interest immediately after it was developed. Lotus Notes focuses on the ensure client-server with the aim of development the communication based applications. User allows performing several number of tasks-sharing information, sending emails, commenting files, developing databases on the general level. It is important to be familiar with the fact of challenges in the discussion of the general aspects of success and failure of Notes because of the Lotus Notes is externally focused environment. Success or failure

depends of the quality of the software tools built on the top of the Lotus Notes mount. (Bannon 1993, 19.)

### 3.4 Types of collaborative work

In this subchapter terms cooperation, collaboration and team are identified for the purpose of clear understanding the collaborative work. According to CSCW matrix, types of the collaborative work are written. In the end three main types of collaboration activities and several examples about types of collaborative arrangements are discussed.

The community lives in the world full of collaborative activities which depends on groupware work all over the world. The modern world is rich of communications and interaction activities. Term cooperation means a work process of the group to achieve common goals. As a general example can be listed the cooperation between mother and daughter who are making a cake and discuss the recipe for it. (Penichet & Marin & Gallud & Lozano & Tesorieroa 2007, 1.)

Collaboration is a cooperation business oriented process focused on tasks in the organization. As an example of the collaboration can be mentioned the thesis work process of the student who plans to be graduated from the university. To achieve a goal which is the written diploma, student cooperates with the supervisor of the thesis. Collaboration process varies from few minutes to long term, time depends from participants. Collaboration can be one-to-one and many-to-many via email, video conferencing, etc. (Penichet & Marin & Gallud & Lozano & Tesorieroa 2007, 2.)

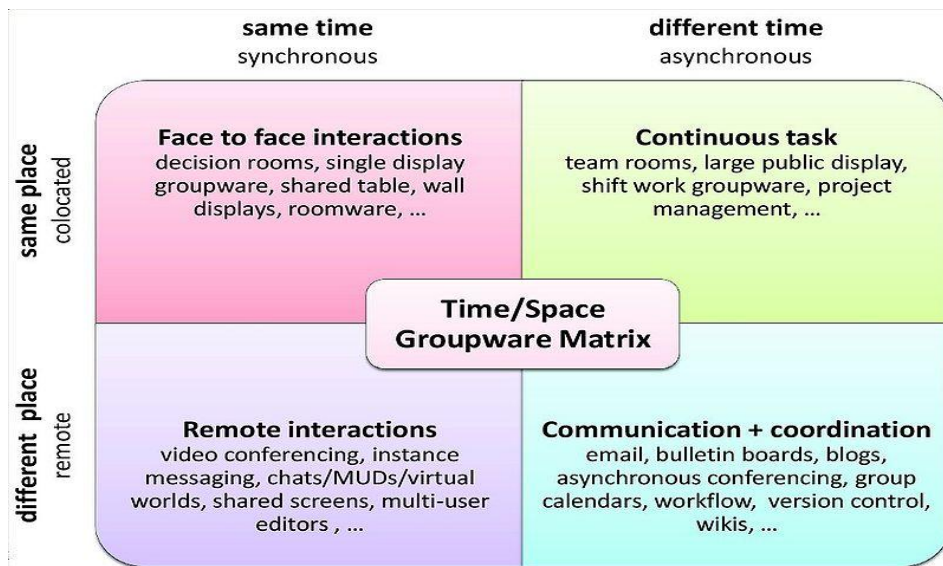
Teams are an important part in business structure of the particular organization. Aim of teams is to achieve a concrete task received from someone in the business. For the support the level of the work, team members need to collaborate with each other in order to achieve their goals. Usually teams creates for a short term to complete one task, it depends of the type of the problem which the groupware need to solve. (Penichet & Marin & Gallud & Lozano & Tesorieroa 2007, 2-3.)



### 3.4.1 Time/space Groupware Matrix

In this subchapter CSCW Matrix is examined, the approach of the Matrix to the collaboration and collaborative tools are revealed. Previously in this research work it was discussed that CSCW Matrix focuses on time and space, i.e. when there is a need for cooperation between two individuals located in different time zones or locations and without possibility to meet at the same time.

To choose the right software tool for the particular business company, the time/space Matrix needs to be studied. The Matrix focuses on four main types of time/space scenarios as follows: same time/same place, i.e. face-to-face interaction, same time/different place, i.e. remote interaction, different time/same place, i.e. continuous task and different time/different place, i.e. communication with coordination. Figure 1 describes two dimensions, i.e. whether collaboration is located and whether individuals collaborate, synchronously or asynchronously. (Penichet & Marin & Gallud & Lozano & Tesoriero 2007, 18-19.)



**Figure 1.** Time/space groupware Matrix. (Penichet & Marin & Gallud & Lozano & Tesoriero 2007)

According to Figure 1, face-to-face interaction used for personal cooperation where can be located in rooms or similar solutions suitable for real time cooperation during offline meetings. Continuous task is used for different time work located in the same place. For

this cooperation model team rooms or large public display are used. Remote interaction means cooperation between stakeholders goes in one time, but in different place. The best solutions for this model are video conferencing or instance messaging.

To find out software, which satisfies the requirements of the particular company, tools need to be analyzed as solutions of challenges regarding time and space. Table 1 illustrates four types of time/space scenarios which were discussed previously in this chapter and shows the optimal solution for each scenario.

SCENARIO	SOLUTION TYPES
Same time/same place	Face to face meetings; decision rooms; whiteboards; telepresence
Same time/different place	Remote interactions; video conferencing; IM and Twitter; telepresence \$5/project/month for premium service.
Different time/same place	Continuous tasks, digital team rooms; project management; asynchronous communication
Different time/different place	Asynchronous communication and coordination; workflow; project management tools; blogs; wikis

**Table 1.** Collaboration challenges and solution types (Penichet & Marin & Gallud & Lozano & Tesorieroa 2007)

### 3.4.2 Collaboration methods

Today there are a lot of different types of collaborative work. This subchapter illustrates a set of denominations used to find out the nature of collaborative work and an attitude between members of the team. The main illustrated methods for collaborative work are networks, alliances, coalitions, partnerships and full collaboration.

Network participants are communicating with non-hierarchical relation to each other. Networks were created the aim of furtherance the sharing information process, software tools and recourses inside the organizational unit. The main advantages of Networking are increased communication and cooperation between members of the company, increasing quality of the service, progress in development models of service. Sucessfull network comprises management and coordination. (Ontario Healthy Communities Coalition 2014.)

Alliances include more formal relationships between participants and focused on the specific task. The aim of creation alliances is to affect to a policy in case of creation a respond to policy which is seen as a threat. (Ontario Healthy Communities Coalition 2014.)

A coalition is a relationship between a number of organizations which can include individuals as well and focuses on groupware work on a specific mission. Main coalition include grassroots coalitions, i.e. political decisions-makers, professional coalition, i.e. lead organization responsible for financial resources and the last one is community-based coalition, i.e. lead agency finds the support and activities for coalition. (Ontario Healthy Communities Coalition 2014.)

Full collaboration means companies collaborate fully with on their own initiative. In this type the new created organization has its own budget, rules and plan of work. In the business field a partner is an individual who shares the risks and business income from this risk. Partnership is a formal relationship which is followed by the signed contract. (Ontario Healthy Communities Coalition 2014.)

### 3.4.3 Main types of collaboration activities

Collaboration concerns to the following three main types of activities: creative collaboration, connective collaboration and compounding collaboration.

The aim of creative collaboration is to develop, create something. This collaboration type involves team assistance with concrete goals. The objective of the creative collaboration is to figure out what cannot be reached by individual. As concrete output can be mentioned a coefficient of the groupware's productivity. Software tools, i.e. document management system, blogs, forums for discussions are supporting creative collaboration by providing those workspaces listed above. (Product four 2010.)

Connective collaboration concern on the connection with the community entirely. In other words, this type demands on a broad community which supports activity and use technology to encourage "vital activity" by finding relevant resources and relevant information. The aim is to do as much as possible to achieve the best result for the work

which already has been done. To reach the goal there is a need to be infatuated in the work process completely. In this case work is not about documents, it is about how this document was created and which resources were used. (Product four 2010.)

### 3.5 Basic Support for Cooperative Work software for improved communication

Information technologies are develop and becoming increasingly advanced and oriented towards programming techniques. Virtual learning becomes additionally progressive. There are a number of tools which support online learning, Basic Support for Cooperative Work (hereinafter BSCW) is one of them.

BSCW Shared Workspace System is a software tool used for cooperation which is performed through shared workspaces. BSCW Shared Workspace System is an extension to the WWW server. In other words, BSBW provides an ability to transfer files to BSCW server from a local file system and ability to download files after publication. In other words, main functions of the system are that users can upload files, hold discussions, and make changes in the uploaded files. All the changed activities can be controlled by all the users by entering the user name and password. BSCW is a structured platform; all kinds of activities are separated from each other, i.e. documents from messages and links. This structure gives to user more leadership and more opportunities for improved communication. (Bentley & Appelt & Busbach & Hinrichs & Kerr & Sikkel & Trevor & Woetzel 1997, 5.)

The aim of BSBW Web server which has BSCW extension is to control all the shared workspace, data storage and user access. In other words, BSCW leads a workspace for different groups with a separated workspace. BCSW software tool is a property of FIT spin-off company OrbiTeam Software GmbH & Co. KG. Platform is accessible at <http://www.bscw.de/english/> web site where everyone can develop own workspaces and use it in purpose of collaborative work. (Fraunhofer Institute for Applied Information Technology 2014.)

## 4 TECHNICAL COMMUNICATION TOOLS

This chapter describes software tools which are typically used by users in collaboration. All examples of tools are analyzed in details: all described tools are categorized according to user requirements which they cover. Main characteristics and advantages with disadvantages of each tool written in this chapter.

### 4.1 General description of software tools for collaboration

Computer technologies became streamlined, i.e. communication via the internet became every day used as essential part of people's communication. In other words, usage of software tools for communication was increased as a demand of collaboration via tools for online communication was also increased. Technical communication tools are based on computer technologies. Those tools give users a right to create and edit documents with a communication purpose. There is no concrete list of tools which are used by all people who prefer online collaboration. Each technical communication tool was created with its own purpose and contains own limitations different from others. (Candelario 2012.) Today, a lot of people are used of term online collaboration. Different business oriented companies use different software tools according to their requirements in collaboration work.

In this subchapter tools for sharing documents, email as communication service, cloud services used for data storage, social media tools are described. At least one example for each category is illustrated and analyze. The following tools used for collaboration such as Skype, Adobe Technical Communication Suite 3.5, Goggle Drive, Google Docs, Facebook, and email as a communication source are described.

### 4.2 Files sharing tools

Today the usage of file sharing tools is increasing and become more demanded of users who are familiar with online collaborative work. Term per-to-per networking which fundamental of file sharing became more common. This term can be defined as a type of communication where all the participants have the same rights and possibilities. Files can be shared with two following purposes: personal and sharing files containing huge

amount of data with other users. Personal sharing means user share own files which can be used for personal purposes, i.e. user makes a computer backup to collect all data in case if computer will have some failures in the future. Sharing files with others means user share some files with other users by use a software tool for sharing data.

The advantage of using file sharing tools is those tools provide users the easiest way for collaboration by the providing place for sharing files with easy access to them and without any requirements for the used information. The disadvantage can be mentioned the following fact: because of ability of easy access and sharing files process, it become complicated to control information which was shared inside the network. (SANS Institute 2003.) Most used tools for sharing files are Skype, Google Docs, Adobe Technical Communication Suite 3.5. Features of each tool listed above are described.

Skype is a communication platform which was created under Microsoft support who is the owner of Skype. Skype contains several numbers of features for improved communication as even business organizations can use it with purposes of online meetings provided by group video calls and files sharing place, i.e. chat feature with ability of sharing files with different formats. From the business side Skype provides next features, firstly it is ability to send even huge files without any cost. It can be done by real time messaging or during video or audio conferencing. Secondly, there is a feature of free audio and video conference with ability to make a conference with maximum 25 people for low cost. Thirdly, there is a possibility to have electronic money on the Skype account called Skype Credit. It is used when there is a need to make calls on mobile phones without any limitations for the call distance. Fourthly, Skype has following sharing feature which is similar to TeamViewer application: an ability of screen share during video conferences. (Bizzuka, Inc. 2014.) Advantages in using Skype are an ability of free online communication and low cost calls all over the world, even advanced features of Skype are low cost. Disadvantages are that Skype as most software tools need an internet access and there is no feature of language translating which can be useful during international video conferencing calls.

The aim of Google Docs is to collect in one place all the documents shared from the particular group of users. All the shared documents can be accessed any time by the owner or users who have permission from the owner. It is a real time work process in Google Docs and all the participant users can follow all the changes which were made by any participant in time when those changes were made. Moreover there is an ability to have this application on mobile phones and tablets what means any time access. One more advantage is ability to share different content, i.e. images and possibility to make modifications in the shared picture. Those modifications are similar to features of software tool Adobe Photoshop: crop the picture, apply masks and add borders. (Levee 2014.) Furthermore, Google Docs is a good shared workspace with an ability to create and share presentations. As disadvantages of using Google Docs can be mentioned that some users find the usability of this tool complicated i.e. compared to other simpler software tools it is not very easy to learn how to use Google Docs. Another disadvantage is Google Docs is does not have support from all browsers.

Adobe Technical Communication Suite 3.5 is a single-source tool which has several publishing capabilities. There are several types of this tool: Adobe FrameMaker 10 used for developing content, Adobe RoboHelp 9 used for publish in different formats and Adobe Captivate for collaboration with reviewable PDF documents. The main advantage is this package includes a set of tools used for different purposes. In other words it covers all user needs and can be a best software solution for users who would like to have advanced features in one package. Disadvantage is that package is professional oriented and users need to have a knowledge about its usage.

#### 4.3 Email as communication service

A mail server is an application that receives incoming e-mail from local users, i.e. people within the same domain and remote senders and forwards outgoing e-mail for delivery. Email system is the most demanded source for communication between network users which represents a written form of communication. It can be used for personal and business sides. From the personal side email has easy usage and the following usage purposes. Users can send messages to other individuals or groups with an urgent deliverance: receiver gets an instant notification about received message. Moreover, email system supports users' subscription to the newspaper or magazine. The

most collaborative services are connected to email with the aim of user identification or user's data connection with the purpose of restoring data from the social media service, i.e. passwords or login. From the business side email is used for collaborative work in small organizations who are working with businesses from the local area. Email also used in huge corporations by employees and employers to be communicative connected with each other. Advantages of email usage are messages send by email are delivering to the receiver instantly. Messages can be send any time and any amount of email can be sent per day from one person to a group of people. First major disadvantage is failures in email systems, i.e. failures in messages delivery or instant notification. Second disadvantage can me mentioned that email does not have any other usage features, it can be used only as writing-based form of communication.

#### 4.4 Cloud services used for data storage

Today Google Drive is one of the most used services for data storage. The aim of this service is to collect all the user's files to one place. There is integration with Google Docs service what means all data from Google Docs is automatically saved on Google Drive. Google Drive allows users to collect data on 15 GB which accessible after login to Google account. That can be mentioned as a small disadvantage: users are not allowed to use this cloud service until they have not registered Google account. Once the user setup his account, Google Drive recently integrate with user's Google calendar and YouTube if those services are used under one login ID. In other words, the space of the cloud service is automatically shared between integrated services. Advantage of the Google drive is simple interface similar to other clout storages what provides users a simple navigation. Disadvantage is Google Drive cannot provide any extra storage or possibility to add storage through linking user's account to the social media. (Casserly 2014.)

#### 4.5 Social media tools

Social media tools are applications which are used for social communication. Typically social media tools are used for creating and sharing files and for communication by using instant messages. Today social media has mostly electronic format and give users an opportunity to cooperate with each other via electronic devices, i.e. computers or



mobile phones. The main used social media tool today is Facebook, about 1 billion people are using it in personal or business purposes. For the personal purpose it can be used as a best communication solution with friends or family. From the business side Facebook usually used to creating business public pages or creating business groups.

Major characteristic of Facebook include possibility for users to create a profile picture with use of business and personal oriented features listed above. Moreover, this social media community is used for adding other users in the friend section of the community. Facebook gives user ability for online video conferencing with one user and sharing different format files, i.e. music, pictures, photos via the instant messages or in the news line of the Facebook community. Furthermore, it provides users possibility to choose a type of messages: private, semi-private or public. Private messages include simple messages chats individual to each "Facebook friend." Semi-private messages include status posts or users' comments with limitations which can be provided by the profile owner about who can see the posted information. Public messages include public status posts or public comments. Another feature for users is ability to join Facebook groups with similar interests with purpose of communicate by sharing files about similar interests even with unknown users. Moreover, Facebook users are allowed to use different applications attached to the Facebook community. Those applications can include games or planning events and some activities. (Walker 2014.) Advantages of the described social media platform are firstly, this community is simple in usage. Secondly, a lot of modern developed business organizations prefer to use Facebook as it combined opportunity tool which can be used both for personal and business purpose. As a disadvantage can be mentioned that there is no ability to have group video conferencing call, only individual.

## 5 THEMATIC ANALYSIS OF THE EMPIRICAL DATA

The empirical part of this research includes six interviews, of which two were conducted with coaches and four with students in Liike Akatemia. There were six people chosen for the interview in order to identify collaboration user needs and members' challenges in cooperation from different points of view. The numbers of students selected for the interview based on the fact that today about ten people in total are working in Liike Akatemia. Coaches Joonas and Jukka were selected for the interview as they are two coaches who are all the time present in Akatemia. Students were selected mostly from different team companies. One interviewed was Jusso, a graduate student from Like Akatemia who works there as a project manager. The permission for the interview recording was asked from all the questionnaire participants. After the interview was made and recorded, analyzing started from the interview transcript. Each interview was written word by word from the first face. Thematic analysis technique was used to analyse the collected data. During interview analyzing next themes were identified: general description of the case company, collaboration and communication challenges in Liike Akatemia, software requirements of all members in Liike Akatemia, comparing software used in Liike Akatemia according to the requirements, students' and coaches' knowledge about CSCW.

### 5.1 General description of the case company-Liike Akatemia

From the questionnaire the main responsibilities of each student were found. From the students point of view goals are profit from the sell advertisement and marketing ideas, organization seminars for Lapland University of Applied Sciences (hereinafter LUAS), event organization for the Kemi-Tornio companies. Moreover a research for the local business companies was done by students in order to the relation of Swedish companies to Finnish from the business side. From the coaches' point of view the aim of studies in Liike Akatemia is to establish a real business oriented company and learn organizational issues of how big events need to be hold. Moreover the main goal for students is to create business contacts in order to have them as a future working links.

All interviewed students mentioned that they do not need to be in all time cooperation with their customers, only in the beginning of the project. In case of short terms projects

members of the Liike Akatemia are working all the time with their clients, i.e. during the fair season. Coaches are in all time cooperation with their students: teachers meet them every day in Liike Akatemia. Outside of the study time cooperation goes through email, communication platform Facebook and learning environment Moodle.

To achieve the goals listed above, all the members of Liike Akatemia specifically are focusing on the cooperation and collaboration between students who play the role of an employee and their client customers. In other words the aim of the studies is to achieve the most profitable team work by working in informal environment.

All students mentioned that during collaboration they are focusing on achieving their business results. In order to be self organized a time table for each student was created. Another point is money, all the students are focusing on the profit from each project, but the most important is improved teamwork which supports better profit of the company.

From the coaches' point of view students collaborate with a purpose getting knowledge in the particular field. To achieve the most effective learning communication environment all the students need to be in one place at the same time, i.e. during meetings.

## 5.2 Collaboration and communication challenges in Liike Akatemia

The aim of the interview was to estimate all the answers given by the students and coaches and to find out the main collaboration challenges from the students' and coaches' point of view. From the empirical data analysis the following collaboration challenges were identified.

From the students' point of view, the following issues were found to interfere their team work. The email system is not working correctly, i.e. students cannot receive important messages instantly. This issue was raised from the interview with interviewee 2. Secondly, interviewee 2 also mentioned that Facebook community is halting sometimes, i.e. communicative connection with a team is lost. Another problem mentioned by interviewee 2 was intractability in communication, i.e. when there is an urgent situation, some students are not available because of some reasons and there is no possibility to

contact them the mobile phone. As interviewees 4 and 5 and mentioned, absence of some members from the team meetings makes the whole team work complicated. However, there are number of students who work under the projects at home. The problem with the email or Facebook systems are of technical nature, i.e. systems cannot work all the time without any failures. While problems with students' participation have an organizational nature, Interviewee 4 mentioned that work in Liike Akatemia need to become more efficient.

The two coaches stated that Facebook is useful, but it is an application only for real time communication. The number of disadvantages is appear in case of using a platform in the past for sharing documents, i.e. all the files shared more than one month ago is impossible to find when there is needed. Moreover, the most important challenge for improved communication is created by students themselves by the absence from meeting. That fact entails lack of necessary information about the particular project and students' non-acquaintance about responsibilities for the given task. Furthermore, coaches argue that students do not focus enough on the duties and tasks at hand which reduces their work efficiency. The reason is students forget to write down important information and submit it on Facebook for the group analysis.

### 5.3 Software requirements

Each group of students works a short term under each project as their studies last in two and a half years, what means each project from one customer takes a short term from moth to several months, not more than one year. The cooperation process with each customer realizes by the following scheme: students send an email to the particular customer and meet him personally in order to exclude misunderstandings about what the customer wants. During the meeting with a consumer a student or the team writes down all the details about the given project. There is a big possibility of the following fact: students from one team do not have any contacts with the same customer anymore once they have finished the project.

All the participants have found Google docs and Facebook community as the best software tools for communication. The reason for this preference is that those applications are shared workspaces where they can have text discussions, have

videoconferencing on Facebook and use Facebook for the personal purposes. Interviewee 3 mentioned that a recommended tool can have also more advanced features, such as easy access to older files, i.e. simple database contains all the data for the last semester. Furthermore, some students made a conclusion that there is no need to have a new software environment as Liike Akatemia is used to having customers for a short period of time and all the customers are mostly from the Tornio area. For communicating with customers from the longer range students use email to contact them.

The main requirements of each team of students regarding communication are meetings, sharing documents and the project discussions. That is the reason of the final recommendation to provide a tool for the improved communication. Previously it was mentioned that students do not cooperate with their customers all the time. From the professional point, the suggestion does not need to be professional oriented, it suppose to be easy from the usability point of view. Simple in usage can increase the profitability and competitiveness of Liike Akatemia because of the following fact. The most employees from the customer companies and in Liike Akatemia itself are people who do not use a lot of software tools. In other words, students want to have an environment similar to one they use, i.e. Moodle, but without any system failures, i.e. slow working process of the system, receiving messages without any announcements in case if all the students are not logged in to the system. Moreover, as one more solution of the collaboration challenges students see the features of WhatsApp tool. This solution was found because in an urgent situation the message sent to the other communication side provides immediate notification about the received message without any delays. Another solution can be an open source application which includes an open schedule to make visible for all the participants who will attend the next meeting and who will be absent.

Coaches see as the solution an application where students can collect their working hours during the semester and update the written information when there is a need, i.e. real time data update. The best application from both coaches' and students' side is the one which consists of a database, and all the students can upload this tool on their mobile phones and share information in real time when everybody can receive it.

Liike Akatemia is ready to pay an amount of money in case all the students and coaches see an advantage of the suggested application to the students compared with the tools used in Akatemia. For students, the suggested software can be free of charge or low cost or have a low cost. Despite the fact listed above, for the business learning students see the next model as a good one. From the purpose of communication the suggested software tool can be without any cost. As a professional oriented tool suppose include some advanced features. Those features are the possibility to have a shared video conference with several people simultaneously or the option of making call feasibly with the lower cost compared to the cost of the phone call. In other words, students would like to see an application with the features that are familiar to one of the well known application for cooperation-Skype.

As the conclusion of this section, the analysis of the main software requirements needs to be mentioned as the following fact. From the researcher's point of view the students and coaches of Liike Akatemia do not need any particular software. The reason for the conclusion drawn was as pointed out by the students that there is no urgent need of any software tool. However, some software tools can be advised in case students and coaches take them into consideration for the future needs. The students and coaches of Liike Akatemia do not have a customer with whom there is a need to cooperate every week. Cooperation process goes only during the time when a consumer assigns a project, students complete the given project. The students receive the salary for their work once the assignment is completed. The students of Liike Akatemia need a simple software tool for discussions and possibility of sharing documents. They have use a number of non professional in usage tools, i.e. Google docs, Skype and WhatsApp and most of the students are satisfied by the used software.

#### 5.4 Comparing software used in Liike Akatemia according to the requirements

In the previous sections all the requirements of the software solution were discussed in details. Examples of applications, used in Liike Akatemia by students for improved communication were listed above.

The following tools are typically used in Liike Akatemia: Outlook, email system, Moodle learning environment. WhatsApp, Facebook and Google docs are used by the

students' initiative. All the members found out tools which they use the most effective in collaboration work, but they would like to have a shared workspace with ability of creation timetables and personal working diaries.

However, there were listed several problems in usage of tools listed by members. Problems include failures in the applications' work, i.e. emails' or messages' notifications cannot be received in time when the message was sent. Furthermore there were some problems in accessing files shared certain time ago. From the coaches' point of view students do not have strong aspiration to use Google docs all the time.

All the interviewers mentioned the fact they did not try other more professional oriented software tools as it can be a disadvantage to learn it. Moreover students do not see any concrete software solution to improve their collaboration work. There will be a software solution for students only in case if the suggested application will be similar in work as WhatsApp software tool. Students prefer to use simple software communication tools, even mandatory created learning environments are not very used by teams. From one of the interview sessions was figured out that from time to time students need only few sentences discussions to receive the main points of the working process.

Another interview finding is software tool used for cooperation process between students during the planning of the project. As most of the customers are small local entrepreneurship companies collaborating during a short term with students. Therefore, there is no need to have special software tool to keep in contact with a consumer, email or simple phone call is everything what students need. That was one of the main reasons of the conclusion regarding the software solution described in the end of the previous section.

### 5.5 Students' and coaches' knowledge about CSCW

All the interviewed people are not familiar with the CSCW concept. During questionnaire session an interviewer was need to explain a term of CSCW, few examples of CSCW systems were mentioned on order to make this term more clear. In order to understand the cooperation model between students and students with their customer clients, a term CSCW Matrix was explained. During analysis was found that

mostly students have face-to-face interaction, i.e. meetings with customers arranged in Liike Akatemia or at the customer's place, what corresponds to the model number one-same time and same place cooperation. Furthermore, coaches mentioned the fact of the cooperation with customers via email what is a remote interaction and corresponds to the model number two-same time and different place cooperation.

Only are two points which students would like to improve. The first one is communication with other business companies outside the Liike Akatemia. The second one is 100% students' participation on meetings as some of groups prefer a distance work at home. In consequence of the listed problem, a communication platform similar to Facebook could be useful as even during cooperation where one group is located in the same room there can be some challenges in cooperation work between members. Coaches mentioned that they are interested to receive few suggestions of software tools and prepared to learn the most effective in order to see how the suggested tool can improve their communication. In fact must be said that members of Liike Akatemia are almost satisfied by software tools which they use. Students and coaches have few more examples which tools used in Liike Akatemia cannot comprise.

Moreover, the researcher found some examples of software solutions available on the market which covers most of requirements of members of Liike Akatemia. Furthermore, all of them are professional oriented and there can be some challenges in usage for students, because of their lack of usage of software tools.



## 6 CONCLUSIONS

This research focused on the challenges of user requirements in Liike Akatemia. The problem involves cooperation between students of Liike Akatemia and small entrepreneurs-customer clients. To achieve results in finding out collaboration challenges two coaches and four students from Liike Akatemia were interviewed. The aim was to analyze different points of view in order to make a final solution which involves a set of recommendations.

The main objective of this research was to find out collaboration requirements of stakeholders of Liike Akatemia in order to find a scenario of the given set of recommendations. Two possible scenarios included the following: there is a need of stakeholders of Liike Akatemia in software tool for improved communication according to their communication requirements. If there is a need, what kind of software solution is available on market which satisfies all requirements of stakeholders of Akatemia? There were two possible outputs of this research. Firstly, the interviews were to reveal if there was need for software tool. Secondly, the interviews were to inform the researcher which type of tool can be used by students and coaches in Liike Akatemia for improved communication. Another possible output was, through interview was identified that students and coaches do not need any professional oriented software tools and they are satisfied with software which they have now.

After the interviews were analyzed a conclusion was made. There is a set of recommendations provided to the case company about how collaboration work can be improved because students do not need a new software tool for cooperation in Liike Akatemia. This decision was made according to the fact that stakeholders of Liike Akatemia are satisfied with the tools which they use today despite the fact there are some points to improve in the collaboration work. Moreover, most customers of Liike Akatemia are small entrepreneur companies which are located in the Kemi-Tornio region. One In addition, most of students are not familiar with the term CSCW and did not use any professionally oriented collaborative platforms, i.e. BSCW application. All the members in Liike Akatemia are using simple software environments which can be used also for personal purposes. As was previously mentioned, there is no need for the

new software in Liike Akatemia. However, the coaches and students want to receive a set of recommendations.

As a final outcome of this research, the following recommendations were made. Problems in collaboration of the case company are organizational in nature, i.e. there is a particular need in changing organizational way of work and discipline in order to make collaborative work more efficient.

This thesis was presented with the assumption that the outcome could not be used in other organizations; an exception could be another small enterprise that may have similar user requirements. In other words, this research work about identification of collaboration requirements is relevant to the organization with the aim of finding challenges in cooperation work between members and customers of the particular company. Moreover, the goal of the particular company is need to be as follows: find possible solutions how those problems can be solved and how collaboration work can be improved.

However, after a few years some software tools can be used in Liike Akatemia because of the fact that some user collaboration requirements could be changed according to the technical progress and company's improvement in collaboration work. However, software market is in a constant change. That can be a reason why the applicability of the results may diminish.

## REFERENCES

- Ahola Simo 2014. Interview with a student in Liike Akatemia. Interviewed May 16, 2014.
- Bannon Liam J. 1993. Scandinavian journal of information systems. CSCW: An initial exploration. Downloaded May 14, 2014.  
<[http://iris.cs.aau.dk/tl\\_files/volumes/volume05/no1/01\\_bannon\\_p3-24.pdf](http://iris.cs.aau.dk/tl_files/volumes/volume05/no1/01_bannon_p3-24.pdf)>
- Baxter Pamela & Jack Susan 2008. Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers, 544. Downloaded May 29, 2014.  
<<http://www.nova.edu/ssss/QR/QR13-4/baxter.pdf>>
- Bentley R. & Appelt W. & Busbach U. & Hinrichs E. & Kerr D. & Sikkil K. & Trevor J. & Woetzel G. 1997. International Journal of Human Computer Studies: Special issue on Novel Applications of the WWW, Spring. CSCW Group, Institute for Applied Information Technology (GMD FIT) German National Research Centre for Information Technology. Downloaded May 19, 2014.  
<<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.42.1292&rep=rep1&type=pdf>>
- Bizzuca Inc. 2014. Skype: Useful Tool for Online Meetings and Group Communication. Downloaded May 26, 2014.  
<<http://bizzuka.com/company-blog/skype-useful-tool-for-online-meetings-and-group-communication>>
- Candelario Angel 2012. Tech writer news. Technical Communication Professional Tools. Downloaded may 25, 2014.  
<<http://angelcandelario1.wordpress.com/2012/11/19/technical-communication-professional-tools/>>
- Casserly Martin 2014. 7 best cloud storage services-2014's best online storage sites revealed. Downloaded May 27, 2014.  
< <http://www.pcadvisor.co.uk/features/internet/3506734/best-cloud-storage-services-review/>>
- Ciolfi Luigina & Fitzpatrick Geraldine & Bannon Liam 2008. Settings for Collaboration: the Role of Place. Downloaded March 2, 2013.

- <<http://link.springer.com/article/10.1007/s10606-007-9074-z>>
- Davies Pamela 2006. The SAGE Dictionary of Social Research Methods. EXPLORATORY RESEARCH. Downloaded May 29, 2014.  
<<http://srmo.sagepub.com/view/the-sage-dictionary-of-social-research-methods/n75.xml>>
- Dittrich Yvonne & Randall Dave W. & Singer Janice 2009. Software Engineering as Cooperative Work. Downloaded March 2, 2013.  
<<http://link.springer.com/article/10.1007/s10606-009-9106-y/fulltext.html>>
- Franklyn Chukwunonso 2010. Journal of Language, Culture and Communication (JLCC). Computer Supported Cooperative Work (CSCW): Some Comments.  
<<http://itc.scix.net/data/contrib/att/c314.content.08311.pdf>>
- Fraunhofer Institute for Applied Information Technology. Downloaded May 18, 2014.  
<<http://www.fit.fraunhofer.de/en/fb/cscw/projects/bscw.html>>
- Hellam David 2005. Desktop Publishing (DTP). Download May 25, 2014.  
<<http://www.ictspecialist.com/dtp.php>>
- Jirotko Marina & Procter Rob & Rodden Tom & Bowker Geoffrey C. 2006. Special Issue: Collaboration in e-Research. Downloaded March 2, 2013.  
<<http://link.springer.com/article/10.1007/s10606-006-9028-x>>
- Jukka Lauri, 2014. Interview with a coach in Liike Akatemia. Interviewed May 20, 2014.
- Koivumaa Joonas 2014. Interview with a coach in Liike Akatemia. Interviewed May 20, 2014.
- Koschmann Timothy 2008. Introduction to Special Issue on Learning and Work. Downloaded March 2, 2013.  
<<http://link.springer.com/article/10.1007/s10606-007-9069-9>>
- Leinonen Piritta 2007. Interpersonal evaluation of knowledge in distributed team collaboration. Downloaded February 20, 2013.  
<<http://herkules oulu.fi/isbn9789514285974/isbn9789514285974.pdf>>
- Levee Brian 2014. New mobile apps for Docs, Sheets and Slides-work offline and on the go. Official Google Blog. Downloaded May 26, 2014.  
<<http://googledrive.blogspot.fi/>>
- Liu Pei-Ju & Laffey James M. & Cox Karen R. 2008. Operationalization of technology

- use and cooperation in CSCW. In proceeding of: Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work, 505.
- Mørch Anders I. 2012. Lecture presentation where it is argued that social media is new CSCW: Computer-supported cooperative work: An introduction. Downloaded March 4, 2013.  
<<http://cslab.di.unimi.it/files/morchslides/IntroCSCW-Milan-April2.pdf>>
- Ontario Healthy Communities Coalition. Types of collaborations. Downloaded May 17, 2014.  
<<http://www.ohcc-ccso.ca/en/courses/community-development-for-health-promoters/module-three-community-collaboration/types-of-col>>
- Penichet V.M.R. & Marin I. & Gallud J.A. & Lozano M.D. & Tesoriero R. 2007. A Classification Method for CSCW Systems.  
<[http://wps.prenhall.com/wps/media/objects/14071/14409392/Learning\\_T\\_racks/Ess10\\_CH02\\_LT2\\_Collaboration\\_and\\_Teamwork.pdf](http://wps.prenhall.com/wps/media/objects/14071/14409392/Learning_T_racks/Ess10_CH02_LT2_Collaboration_and_Teamwork.pdf)>
- Piri Tommi 2014. Interview with a student in Liike Akatemia. Interviewed May 16, 2014.
- Procter Rob & Rouncefield Mark & Balka Ellen & Berg Marc 2006. Special Issue: CSCW and Dependable Healthcare Systems. Downloaded November 15, 2013.  
<<http://link.springer.com/article/10.1007/s10606-006-9037-9>>
- Product four. The Reinvention of Work and Marketing. ITS NOT THE SAME THING – THE 3 TYPES OF COLLABORATION. Downloaded May 18, 2014.  
<<http://productfour.wordpress.com/2010/03/20/its-not-the-same-thing-the-3-types-of-collaboration/>>
- SANS Institute Reading Room site, 2003. A New Generation of File Sharing Tools. Downloaded May 26, 2014.  
<<http://www.sans.org/reading-room/whitepapers/threats/generation-file-sharing-tools-926>>
- Strand Jaana 2014. Interview with a student in Liike Akatemia. Interviewed May 16, 2014.
- Tasmanian Institute of Agriculture. Collaborative Business Models. Downloaded May 12, 2014.  
<<http://dpiptwe.tas.gov.au/Documents/Collaborative-Business-Models.pdf>>

Vaaraniemi Juuso 2014. Interview with a project manager in Liike Akatemia.

Interviewed May 16, 2014.

Walker Leslie 2014. Learn Facebook Tutorial-How Facebook Works. Downloaded May 27, 2014.

< <http://personalweb.about.com/od/howtofacebook/ss/Learn-Facebook-tutorial.htm>>

Walker Leslie 2014. Social Media Definition: What Are Social Media? They Are the Tools People Use to Share Information. Downloaded May 27, 2014.

<<http://personalweb.about.com/od/socialmedia101/a/Social-Media-Definition.htm>>

Whitaker Randall 1996. Computer Supported Cooperative Work (CSCW) and Groupware. Overview, Definitions, and Distinctions. Downloaded May 28, 2014.

<<http://www.enolagaia.com/UMUArchive/CSCW.html>>

Yin, R. K. 2003. Case study research: Design and methods (3rd ed.). Thousand Oaks, CA: Sage, 1. Downloaded May 29, 2014.

<<http://faculty.washington.edu/swhiting/pols502/Yin.pdf>>

## APPENDIX 1

QUESTIONNAIRE FOR ASSESING COLLABORATION REQUIREMENTS OF  
MEMBERS IN LIIKE AKATEMIA

According to your personal opinions and experiences please answer the following questions regarding your collaboration and communication problems in cooperation between members of Liike Akatemia and your customers.

What are your main business ideas?

---

---

Who are the main customers of Liike Akatemia?

---

---

How often do you need to cooperate with your customers and students?

---

---

What kind of cooperation support do you have? Do you use any software tools to cooperate with your customers?

---

---

Are you familiar with term Computer Supported Cooperative Work?

---

---

What are the main collaboration needs in Liike Akatemia?

---

---

Do you have similar examples of what kind of software students of Liike Akatemia would like to use to improve their collaboration?

---

---

What is your CSCW Matrix model? Do you have a cooperation with your customers at the same time and same place or same time/different place, or different time/same place, or different time/different place cooperation?

---

---

According to CSCW Matrix model choice, how do you think what kind of challenges are you facing in your communication?

---

---

Does the suggested software solution for you is it suppose to be free or it can be low cost software?

---

---

Do you use collaborative working environment such as video conferencing or blogging, email?

---

---



How do you think the suggested application need to be more business oriented or only for communication support?

---

---

What are the main principles on which you focusing on in collaboration work?

---

---

What are the main points in your team work? What helps you to reach your goals?

---

---

How do you think will my suggestion help you in focusing or increasing your business profitability and competitiveness and sustainability of Liike Akatemia? Please, tell more detailed how my suggestion will help you to achieve those goals?

---

---

Can you work with your business partners in a short, medium and long term to benefit each other?

---

---

How long time do u usually work with each customer?

---

---

Are members of Liike Akatemia prepared to learn new software tool?

---

---

## APPENDIX 2

TRANSCRIPT OF INTERVIEW FOR ASSESSING COLLABORATION  
REQUIREMENTS OF MEMBERS IN LIIKE AKATEMIA

According to the number of working students and coaches, four students and two coaches were interviewed. Anastasia is the interview holder, Simo, Jaana, Tommi, Juuso, Joonas, Jukka are the interviewed people.

Interview with a student in Liike Akatemia Simo Ahola

Interviewer: - Let me start. I am here to have an interview session with one of the student in Liike Akatemia. Please introduce yourself.

Interviewee: - Ok, I am Simo Ahola. I am CEO of the “Frost Pro” team. It is a company. It was established by five students in Liike Akatemia and we are doing marketing and innovating and that kind of stuff to Kemi-Tornio area companies. I am from Salla and I have been lived here three years.

Interviewer: - Let me shortly introduce the topic of my studies, so it will explain the reason why I have an interview session with you. My topic is “Analysis of collaboration and communication challenges in Liike Akatemia”. I would like to start from the first question:

What kind of work is in Liike Akatemia? I mean what kind of projects do you have now? Can you say your main business ideas?

Interviewee: - Ahh, main business ideas. We are now doing innovating work for bank OPKK. In Finnish it calls Osuuspankki, you know it? We do sell projects for Kemi-Tornio area companies. Like we are selling their old furniture which they do not need, we are selling those. And now we have only two weeks left and then we will go on summer holiday or summer jobs. I am going to Rovaniemi. I have work there.

Interviewer: - So most of the students will be available here during two weeks? Did I understand correctly? Because I think I finish my thesis very soon and the main task received from Mirva Juntti was to test the final suggestion, the software tool in case to explain how it works and ask do you like it or not.

Interviewee: - I did not understand the question.

Interviewer: - I mean how long time most of the students still will be available in the school?

Interviewee: - I think about two or three or my group will be here available in summer and most of the students will not be available, because they have their summer work in different locations.

Interviewer: - Who are the main customers of Liike Akatemia?

Interviewee: - The main customers usually are small companies in Kemi-Tornio area and we have some customers from the school. There are some teachers who are project leaders in their own projects. They contact us and we help them if they have any problems like if they are organizing art fair and we help them.

Interviewer: - How often do you need to cooperate with your customers, like to be in all time cooperation or some times?

Interviewee: - I think it depends what kind of project we have. Like that project where we are now selling old stuff of some company, so we not need cooperate with them all the time. Cooperation goes in the beginning and it's on projects where we are like in helping them in fair then we are cooperating all the time when the fair is open.

Interviewer: - In this case it will be nice for you to have for example software tool which will help you to be in all time cooperation with your customers.

Interviewee: - Yes.

Interviewer: - How do you cooperate with other students? Is it only personal cooperation or do you use some software tools?

Interviewee: - Yes, I have found that Facebook community is the best way to keep in touch with other students. I think it's the best way, because almost everyone is in Facebook and everyone have their applications on phones, so if someone send me a message, I receive it instantly.

Interviewer: - What about your customers. How do you cooperate? What kind of cooperation support do you have?

Interviewee: - Cooperation support. I only send them a message or I call them.

Interviewer: - I would like to know, do you familiar with CSCW? Do you know something about Computer Supported Cooperative Work?

Interviewee: - Computer?

Interviewer: - Computer Supported Cooperative Work. It is about collaboration and ways how people can communicate with each other by using different software tools.

Interviewee: - Software tools.

Interviewer: - For example, the main is Basic Support for Cooperative work. It is a tool which can be used by different groups and you can have any time access to your files. I mean if you have some projects, so you can have any time access to it. Even if you did not download this application and you create different documents, make appointments and also make a list of contacts and tasks which you need to do there and different notes. It seems like it is very nice to learn that and maybe I will use as advice of the software tools.

Interviewee: - I am using Google docs.

Interviewer: - My next question will be: How do you think what are the main collaboration needs in Liike Akatemia? And do you have any ideas what kind of software will be the most suitable for you and what it suppose to contain? Like what are the main points? Or do you have similar examples of what kind of software the Liike Akatemia would like to use to improve their collaboration?

Interviewee: - I do not know what kind of software, because we are in Liike Akatemia between different companies, we have four companies here. I have found that Facebook community is the best way and we are using only Facebook community to be in touch with everyone.

Interviewer: - How do you think, what is your CSCW Matrix model? Do you have a cooperation with your customers at the same time and same place or same time/different place, or different time/same place, or different time/different place cooperation?

Interviewee: - Almost every time we have cooperation in the same place, we arrange a meeting in some place like here or their company, so always we are at the same place, same time/same place.

Interviewer: - According to this choice, how you think what kind of challenges are you facing in your communication?

Interviewee: - No problems when I am speaking Finnish, but in English I have to change on English mode, so it is hard to find words and I have strong Finnish accent.

Interviewer: - I guess the best solution for you is to find one place and one room where can the group work together.  
How do you think if I will find the best software solution for you, does it suppose to be free or it can cost something?

Interviewee: - I think because I have founded that Facebook and Google docs are affective and they are free, so I think if I pay money, it should be much better than those applications. So if it is really good and it is better than those than I will pay some money.

Interviewer: - What about other collaborative working environments like video conferencing or blogging, email? Are you using some of them?

Interviewee: - No, because we have our customers are in short range, so it is easier for me to go to them or them to come here. If there are customers are in Helsinki or Tampere or in longer range, then email system will be useful.

Interviewer: - How do you think the suggested application need to be more business oriented or just to support communication?

Interviewee: - I think for supporting communication it will be better.

Interviewer: - In collaboration work in Liike Akatemia what are the main principles on which you focusing on? For example most companies focuses on the achieving their business results and on what are the main threats which they can face in collaborative work and also promote high standards for discussion, dialog.

Interviewee: - Most goals.

Interviewer: - Those goals can also be from organizational, social and technical issues to achieve the most affective collaborative learning environment. What are the main points in your team work? What helps you to reach your goals?

Interviewee: - I think the main is timetable about what I need to do. I am scheduling them, because I am a bit lazy, so I make those time schedules, so I might not to do it and do it later. If I make a schedule that today I make this and this and this, then I will do it. I think our main goal is achieving business results

Interviewer: - How do you think will my suggestion help you in focusing or increasing your business profitability and competitiveness and sustainability of Liike Akatemia? If they will be a software tool which will help you to cooperate with your customers, will it help and how?

Interviewee: - Yes, if usability is good and it should be easy to use, because many leaders of Kemi-Tornio companies have older people, so they do not use electronic that much, so it have to be easy to use.

Interviewer: - The last question: Can you work with your business partners in a short, medium and long term to benefit each other? How long time do u usually work with each customer?

Interviewee: - Yes, sometimes we have several projects and we are aiming to long range customer relation.

## APPENDIX 3

## Interview with a student in Liike Akatemia Jaana Strand

Interviewer: - Let me start from the explaining why I have an interview with you. I am writing my thesis now and I am a student of Lapland University of Applied Sciences. My topic is “Analysis of collaboration and communication challenges in Liike Akatemia”. I had a very short part of my practical training here and I received a question from Mirva Juntti is it possible to find any software tools which will help you to cooperate with each other and with customers during your projects. That was the motivation for me to start this thesis work and choose this topic.

Could you please start from introducing yourself and telling what are you doing, what are your main responsibilities in Liike Akatemia?

Interviewee: - I am marketing and sales manager in our company Dimante and my name is Jaana. Do you want to know what actually our company does?

Interviewer: - Yes, actually it is my first question: what kind of projects do you have now? What are your main business ideas?

Interviewee: - Of course we sell our services like marketing ideas for companies and we organize events like seminars and now we have bought some personal alarms for ladies and we sell them already during two last months.

Interviewer: - Who are the main customers of Liike Akatemia?

Interviewee: - School, for example. They have many seminars, so they need our help to organize them. And of course the local companies, small companies who do not have enough energy to focus on their marketing or something like that, so we help them.

Interviewer: - Could you please tell more detailed about school seminars?

Interviewee: - We organized Nordpraktik final seminar last fall and we collected all the participants and then we did some pre-organizing for the seminar and then guests came and we gave them the cards with their names and everything.

Interviewer: - How often do you need to cooperate with your customers? I mean do you need to be in all time cooperation or it is enough for you just to call sometimes the customer whenever you need?

Interviewee: - We usually send emails to our customers. And of course now we are selling those alarms, so we meet our customers, because we book some place and we are there to present some products and they come there, but usually email.

Interviewer: - How do you cooperate with other students?

Interviewee: - Here?

Interviewer: - Yes. May be do you use some software tools which help you to cooperate?

Interviewee: - Facebook is the main tool here, because it's the fustiest channel for us, because everyone has Facebook on their phone, so they get an announcement immediately. And of course sometimes if there is much to tell then email. And of course because they in here in the same premises, so we meet every day.

Interviewer: - Do you know something about Computer Supported Cooperative Work? Have you ever heard about any professional used applications which you can use for your communication, i.e. Basic Support for Cooperative Work? This is an application where you can share all the documents which you need, make appointments and also it is possible to have an access to your documents without installing this application.

Interviewee: - No, not much.

Interviewer: - How do you think what are the main collaboration needs in Liike Akatemia? What do you need in cooperation or do you have any examples of software tool which will help you to cooperate with students and customers?



Interviewee: - Facebook. We don't have customers that we cooperate with them every week, because they give a project, we do that, they pay us and then it is over. We do not keep in touch anymore. May be some marketing letters we email.

Interviewer: - Have you ever any problems in cooperation?

Interviewee: - Any problems. Well, sometimes Facebook doesn't work or something is very urgent and I try to call and they do not answer or someone is sick and I can't contact her or something like that. Of course there is always something challenging.

Interviewer: - There is a definition of CSCW Matrix. There are four different types of cooperation: same time/same place, same time/different place, different time/same place and different time/different place. How do you think which model you use in Liike Akatemia?

Interviewee: - Usually first email and then we meet, so we can discuss about the details and everything. It's much easier, because via email or phone there might be some misunderstandings, so it's easier to write everything down when we meet face-to-face.

Interviewer: - How do you think what kind of solutions are available for you to solve those challenges in communication? Exactly will be helpful my suggestion of the software tool if it will include those kinds of solutions, so you can use it where you can share all the documents, presentations, make a calendar, everything about meetings like timetables. Will it be helpful?

Interviewee: - Yes. If we think like Moodle, we have that, but we don't use it, because it's kind of slow and we don't get the announcement. If I send something there my colleagues don't get that messages I have sent so soon, so they have to go there and register and watching that.

Interviewer: - Is it an application?

Interviewee: - Moodle? It is a learning environment like Ilink. You can send some tasks there and our courses are there.

Interviewer: - What kind of learning environment do you use? You said that you use emails. Do you use blogging or only this document management system which you described before?

Interviewee: - Only it. Because I am not very good with technologies, so everything new is complicated, so I trust the old one. Of course Facebook is fast, but we have used sometimes the message thing that I make a message, I text message and I send it to my friend, she put her name there after my name, so that she had read it and then she send it to the next one. It's like the circle, but it's slow. And Facebook, sometimes if it doesn't work well, so there should be some other.

Interviewer: - How do you think, my final suggestion should be free or it can be low cost?

Interviewee: - Free of course is much better, but if the cost is low, so it's ok, but if it's very high may be its challenge to invest. So maybe that is free one.

Interviewer: - It also depends of that most applications are oriented on the amount of people, so it depends how many people will use it. How many people in Liike Akatemia are working now, i.e. coaches and students together?

Interviewee: - Company has around ten people, so four companies only and the teachers, two or three.

Interviewer: - How do you think does my suggestion need to be business professional oriented or it can be simpler and not very professional in usage?

Interviewee: - May be the simple one. Easy to use and easy to access and there is not any feelings like I have to do this before that and then some other things, it might give up.

Interviewer: - What are the main principals for collaboration in Liike Akatemia? What are you focusing on during your cooperation process?

Interviewee: - Of course the money is the thing because we do one to make money, but our team because there are ten girls and we have a good spirit between us and want that everyone have fun and we make some progress and we don't lose money. It doesn't matter do we have money after this, but we want to learn some team work and we want to make contacts the local companies, because they might be our working place after school, so networking.

Interviewer: - How can my suggestion help you in focusing or increasing your profitability and competitiveness, I mean will it increase the profitability of Liike Akatemia?

Interviewee: - What should I say? Of course it's easier when communication is easier, so it helps to make money and everything happened it's efficient.

Interviewer: - How long time do you work with one customer? Do you have several projects from one customer or its usually one time project?

Interviewee: - Both actually. So we have a customer who works with us half a year, we have a customer who works with us one month or customer who uses our services few times during the year.

## APPENDIX 4

Interviewed with a student in Liike Akatemia Tommi Piri

Interviewer: - First let me start from the introducing my thesis work, why do I have an interview with you. My topic is “Analysis of collaboration and communication challenges in Liike Akatemia”. I had a very short part of my practical training in Liike Akatemia and I received a question from Mirva Juntti is it possible to find any software tools which will help you to cooperate with each other and with customers during your projects. That was the motivation for me to start this thesis work. Could you please start from introducing yourself and telling what are you doing here?

Ok. I am Tommi Piri and I am the accounter of First Pro consulting. I mainly handle the financial side of the company.

Interviewer: - What kind of projects? What are the main business ideas?

Interviewee: - Well, we have made some research to the local businesses about how Swedish companies see Finland as a business product company. We have done some gift cards. On the Christmas we sold them in Rajalla kauppakeskus and in the internet.

Interviewer: - Who are the main customers of Liike Akatemia?

Interviewee: - May be some big projects and may be the city. We have done some research to the city and Team Botnia. It is a local business. There are a lot of businesses in that Team Botnia and we did a research for them.

Interviewer: - How often do you need to cooperate with your customers and with students? Do you need to be in all time cooperation with your customers or it's enough to send an email or call them?

Interviewee: - We communicate with each other almost daily, but with customers we have sent some emails and made calls, but it's not daily business that we communicate with other businesses.

Interviewer: - How do you think do you need a software tool which will support your cooperation, i.e. when some of students are not available to come in case if he or she is sick, but you have a mandatory meeting and you need to be all together and contact each other?

Interviewee: - Well, yes. It would be good. We have used Facebook and sometimes WhatsApp and I think they are good, because you can use them on your free time too, so maybe you don't always check your email, but on meetings you may be go on Facebook and see there are some messages in your group, but there is better solution for that, we don't know.

Interviewer: - Do you use any other software tools to support your improved communication?

Interviewee: - We haven't used any other tools.

Interviewer: - Do you know something Computer Supported Cooperative Work?

Interviewee: - Not really.

Interviewer: - The topic is about collaboration, how people can cooperate with each other via internet. For example, one tool for cooperation work is Basic Support for Cooperative Work. This is the software tool where you can share your documents, make different appointments, and create a timetable, everything in one place, even if you didn't download it.

Interviewee: - I use Google drive. It's a bit same thing.

Interviewer: - How do you think what are the main collaboration needs in Liike Akatemia? Do you have any requirements in cooperative work? May be something to improve?

Interviewee: - Well, like communicating with other businesses outside the Liike Akatemia.

Interviewer: - Are there any problems in communication in Liike Akatemia?

Interviewee: - I am not really sure. I think others can say more.

Interviewer: - There are four different models of cooperation. It calls CSCW Matrix. It includes face-to-face interaction, i.e. same time/same place, remote interaction, i.e. same time/different place, different time/same place, i.e. continuous task and different time/different place, i.e. communication + coordination. How do you think which model is the most suitable for you?

Interviewee: - it's more face-to-face interaction with customers, so usually we have personal meetings.

Interviewer: - So you are not using online meetings?

Interviewee: - No, we haven't used that, but I think we are living in a small area, so it's not that needed.

Interviewer: - You are facing some challenges in cooperative work. Will some software tools help you to improve your communication?

Interviewee: - I don't know any software that could help. May be something that on the phone that helps. We could send text message and if it's some urgent and you need to communicate, I think WhatsApp is good.

Interviewer: - How do you think are the members of Liike Akatemia prepared to learn new software environment?

Interviewee: - I guess so. At least I can.

Interviewer: - I will suggest an application in the end of my work and how do you think will the chosen application need to be free or it can cost something?

Interviewee: - I think in the business side it could be free test use, but like in Skype you can pay to use its better stuff. I think for the business its good model.

Interviewer: - That is why my next question will be does suggested application need to be more business professional oriented or it need to have a very simple usage level?

Interviewee: - Well, it could be both. I mean Skype can be used in both and TeamViewer can be used in both and Google plus can be used in both.

Interviewer: - You said you use email, Facebook, but have you ever used some document management system or blogging or video conferencing?

Interviewee: - Not really. We have blogs and Moodle, but they are not really used.

Interviewer: - How do you think what the main principles for collaboration in Liike Akatemia are? What are the main points on which you are focusing on?

Interviewee: - I think contacting the business side of Tornio and may be that we become better in team work, and know something about this area of business, like I joined Liike Akatemia, because I like accounting and I think it was most suitable place for me to practice it in the school.

Interviewer: - How can the suggested tool help you? Will it increase your profitability and competitiveness or sustainability, i.e. will it help you somehow?

Interviewee: - Of course if its better side communication, it helps, but I think other businesses need to use it to be that we are more competitive like outside businesses.

Interviewer: - You have different projects. How long time usually you are working with your customers? Is it one time project or you can have several projects from one customer?

Interviewee: - Well, we have had few with just one, but we are doing like a series of projects with OPKK.

## APPENDIX 5

## Interview with project manager in Liike Akatemia Juuso Vaaraniemi

Interviewer: - First let me start from introducing my thesis work, why do I have an interview session with you. My topic is “Analysis of collaboration and communication challenges in Liike Akatemia”. I had a very short part of my practical training here and I received a question from Mirva Juntti is it possible to find any software tools which will help you to cooperate with each other and with customers during your projects. Could you please start from introducing yourself and telling what are you doing here?

Interviewee: - My name is Juuso Vaaraniemi. I was a part of “Frost Pro”, but not anymore. I work here as a project manager.

Interviewer: - What kind of projects do you have in Liike Akatemia? What are the main business ideas?

Interviewee: - It’s hard to say right now, because I am not a part of team, but we had some sales projects: other companies had outsourced their sales to us and many other small projects. That was the main thing I did here.

Interviewer: - What are your main responsibilities now?

Interviewee: - Now I am working for the Lapland University of Applied Sciences as a project manager.

Interviewer: - Who are the main customers of Liike Akatemia?

Interviewee: - May be the small business, entrepreneurs who do everything by themselves and don’t have a lot of employees, so they need to do some marketing or sales and they get help from here. I think they are the main customers.



Interviewer: - How often do you need to cooperate with your customers and with students? Do you think you need software tools which will support your cooperation, i.e. when some of students are not available to come in case if he or she is sick, but you have a mandatory meeting and you need to be all together and contact each other?

Interviewee: - Basically we use Facebook for sending messages or sharing documents. With other groups we usually meet here, but mostly we do not need to meet all the time, we use Facebook.

Interviewer: - Do you know something Computer Supported Cooperative Work?

Interviewee: - Not much.

Interviewer: - The topic if the field about collaboration, how can people cooperate with each other via the internet. One tool to support collaboration is Basic Support for Cooperative Work. This is the software tool where you can share your documents, make different appointments, and create a timetable, everything in one place, even if you didn't download it. How do you think what are the main collaboration needs in Liike Akatemia? Do you have any requirements in cooperative work? May be something to improve?

Interviewee: - May be one problem is that not all the groups are always here. Some students are doing their job from home. May be some kind of platform like Facebook will be useful, because even if one group is in one room, but still there are difficulties in cooperation.

Interviewer: - There are four different models of cooperation. It calls CSCW Matrix. It includes face-to-face interaction, i.e. same time/same place, remote interaction, i.e. same time/different place, different time/same place, i.e. continuous task and different time/different place, i.e. communication + coordination. How do you think which model is the most suitable for you?

Interviewee: - I think it is face-to-face interaction. This is a small community, so it's easier to meet face-to-face.

Interviewer: - What kinds of solutions are available now? Will some software tools help you to improve your communication?

Interviewee: - May be open schedule will be useful in case to see who will be here on Monday and who will be not, may be setting up some meetings. We can do that by "Outlook", but no one really uses it.

Interviewer: - To make it clear I will ask are you familiar with some collaborative working environment? Have you ever used document management systems or blogging or video conferencing?

Interviewee: - Not really.

Interviewer: - I will suggest an application in the end of my work and how do you think will the chosen application need to be free or it can cost something?

Interviewee: - May be it can be low cost.

Interviewer: - My next question will be does suggested application need to be more business professional oriented or on a very simple usage level?

Interviewee: - It doesn't have to be very professional level.

Interviewer: - How do you think what the main principles for collaboration in Liike Akatemia are? What are the main points on which you are focusing on?

Interviewee: - Obviously the money, but still think that the most important thing here is to have an experience from things you may not do in other jobs. By working here we have a lot of experience in sales managing.

Interviewer: - What are the main technical, social and organizational issues which you are focusing on to achieve the most affective working environment?

Interviewee: - It's hard to say even that I have been worked here, but my job now is not related to Liike Akatemia now.

Interviewer: - How can the suggested tool help you? Will it increase your profitability and competitiveness or sustainability?

Interviewee: - I don't see any reason why not. Working here is not always so efficient, so may be increasing the efficiency of work will help us to make better profit.

Interviewer: - You have different projects. How long time usually you are working with your customers? Is it one time project or you can have several projects from one customer?

Interviewee: - We usually have only one project for each customer, but the previous groups had some longer relations with customers. They had a lot of projects. For example, we had one project with "Team Botnia", we did it last year and now the same customer gave the project to the new group, so it's that kind of relationship.

## APPENDIX 6

Interview with a coach in Liike Akatemia Joonas Koivumaa

Interviewer: - First let me start from the introducing my thesis work, why do I have a an interview session with you. Actually my topic is “Analysis of collaboration and communication challenges in Liike Akatemia”. I had a very short part of my practical training here and I received a question from Mirva Juntti is it possible to find any software tools which will help you to cooperate with each other and with customers during your projects. My first question will be: What kind projects do you have? What are the main business ideas?

Interviewee: - This spring they have had one of the biggest projects “Ravintola Päivät.” Its one day when everyone can be as a restaurant leader without licenses. I don’t know was this project with a company or individuals, but it was quite big. Then we had “Mother Day’s gift cards”, we made cards for mothers few weeks ago on Sunday. Also students are selling some advertisement or “Joppari” during the summer time when people can take that train and go. There are a lot of things, but those are the biggest one, at least they took most of the time.

Interviewer: - Who are the main customers of Liike Akatemia?

Interviewee: - The main customers are for example “The mother’s Day gift cards”. It is of course a consumer in that sense. So like normal consumers have been our customers this time. We have had also some big companies in Finland like real estate agent. I would say that mainly consumers.

Interviewer: - How often do you need to cooperate with your students?

Interviewee: - With students of course it’s all the time, but with the customers it depends of the project, it can be seldom, i.e. one per week or more often. As a coach I do not know all the contacts students make with the customers.

Interviewer: - How do you cooperate with your customers?

Interviewee: - Through email is the easiest way if it's not an urgent problem. For urgent cases we have meetings or make phone calls.

Interviewer: - Do you cooperate with students only personally? In case if some of students are not available to come if he or she is sick, but you have a mandatory meeting and you need to be all together and contact each other?

Interviewee: - Facebook. They have their own Facebook group for the company and they put messages there. Of course as for a coach for me the easiest way to contact them through email, so if I put a message there I know that they will receive it.

Interviewer: - Do you know something Computer Supported Cooperative Work, i.e. how it works and is that in general?

Interviewee: - No.

Interviewer: - The topic if the field about collaboration, how can people cooperate with each other via the internet. One tool for improved communication is Basic Support for Cooperative Work. This is the software tool where you can share your documents, make different appointments, and create a timetable, everything in one place, even if you didn't download it. There are four different models of cooperation. It calls CSCW Matrix. It includes face-to-face interaction, i.e. same time/same place, remote interaction, i.e. same time/different place, different time/same place, i.e. continuous task and different time/different place, i.e. communication + coordination. How do you think which model is the most suitable for you?

Interviewee: - If I understood the question correctly, then it is different time/different place, because students are here from 9am to 3pm, from Monday to Friday. But after hours or if they have some case or some of them are working with the case in some other place. I would say we use them all, because 9 to 3 its same time/same place and with customers it can be through email, then it's like is it same place and different time.

I don't know, it's really hard to say. I think for coaches it the same like the students have. They work with projects and they know the best way how it works.

Interviewer: - How do you think what are the main collaboration needs and challenges in Liike Akatemia? Do you have any requirements in cooperative work?

Interviewee: - As from coach point of view I can say that we need files, excel files, for example they write down their hours in it, so we need to share that a lot. That could be great if they have some platform to do that like Google drive where they could update their own excel there about how many hours did they work. Because now these days it works like they fill an excel file and send it to me 2-3 times per year, but it would be better if it will be real time update. And of course with projects they might need some help and they have some ideas as I also have some ideas, so they ask what I feel about those ideas and how it works. Those might be the subjects what we discuss. Usually it is just Facebook communication and just few sentences are all you need. Main communication challenges are that somebody is missing from a meeting and he or she doesn't get the information which she or he would need. Somebody forgets to put it on Facebook or somebody doesn't see what somebody was said. So usually some people don't know what she or he needs to know, because of missing some important meetings.

Interviewer: - What kinds of solutions are available now? Will some software tools help you to improve your communication?

Interviewee: - Of course we have Moodle environment and emails, but we have noticed that Facebook is the easiest way to get the contact, because students use it also in their free time. If I put some information on Moodle, it requires that students would be logged in to Moodle and go to check out that information. Basically when they want to know some information they go there and see and with email is the same. But they don't use it that often that they should use it. I and students were thinking that the best application for us will be if we can upload it on our phones and when

somebody put information everybody will get it right now, but if they noticed that they received something, and may be they don't need to read it immediately.

Interviewer: - To make it clear I will ask are you familiar with some collaborative working environment? Have you ever used any document management systems or blogging or video conferencing?

Interviewee: - We use the blogging, students are blogging their books, so coaches or other students can go and read them, but I wouldn't say that it's interactive in my opinion.

Interviewer: - I will suggest an application in the end of my work and how do you think will the chosen application need to be free or it can cost something?

Interviewee: - I know that for students it should be free, but they would be able to pay few Euros for it. But as for school I would say that we would put some money in investing if it would be good, but it will be nice if it will be an open source.

Interviewer: - My next question will be does suggested application need to be more business professional oriented or on a very simple usage level?

Interviewee: - May be simpler. There would be some area where you can share documents, but the main thing would be that it will be simple discussion.

Interviewer: - How do you think what the main principles for collaboration in Liike Akatemia are? What are the main points on which you are focusing on?

Interviewee: - From the coach point of view for students as a team the main thing why do we collaborate is to learn. In that sense we are a little bit different from the "normal" company.

Interviewer: - What are the main technical, social and organizational issues which you focusing on to achieve the most affective working environment?

Interviewee: - Of course the communication. If the communication works, then it is good for students and coaches. Issues in communication as I said when somebody is missing from the meeting it's always harder to communicate.

Interviewer: - How can the suggested tool help you? Will it increase your profitability and competitiveness or sustainability, i.e. will it help you somehow?

Interviewee: - Yes, if I see that there is a good suggestion for us and I hope that it will give us better tools to communicate and make more profit to companies. What we are thinking if students can learn more and after the graduate from here they might even use those tools in their own working life.

Interviewer: - How long time usually you are working with your customers?

Interviewee: - A lot depends of the project. Some takes one year and some takes few weeks. One year is the maximum time for the project, because our total study time is 2.5 years and half of year from this is thesis. So basically if you run the company during 2 years, you cannot have customer`s project which will take more than 1 year usually.

Interviewer: - Last question. How do you think are coaches and students prepared to study new software tool?

Interviewee: - Personally I would if I see there is an advantage to Liike Akatemia, and then we learn it. I think it`s the same with students, if they see some advantages for them like this tool will be useful now and in the future working life, then they will learn it.



## APPENDIX 7

Interviewed with a coach in Liike Akatemia Jukka Lauri

Interviewer: - First let me start from the introducing my thesis work, why do I have an interview session with you. My topic is “Analysis of collaboration and communication challenges in Liike Akatemia”. I had a very short part of my practical training here and I received a question from Mirva Juntti is it possible to find any software tools which will help you to cooperate with each other and with customers during your projects. My first question will be: What kind of projects do you have in Liike Akatemia? What are the main business ideas?

Interviewee: - I don't know if we have one business idea, may be the main goal is to run real business and to learn entrepreneurship and business administration at the same time.

Interviewer: - Who are the main customers of Liike Akatemia?

Interviewee: - Local entrepreneurs.

Interviewer: - How often do you need to cooperate with your customers and with students? Do you need to be in all time cooperation with your customers or it's enough to send an email or call them?

Interviewee: - Every day.

Interviewer: - In case if some of students are not available to come if he or she is sick, but you have a mandatory meeting and you need to be all together and contact each other?

Interviewee: - In fact we are on Facebook. It is a good tool to keep in contact or email, but it is not so good.

Interviewer: - Do you know something Computer Supported Cooperative Work, i.e. how it works and is that in general?

Interviewee: - No.

Interviewer: - The topic if the field about collaboration, how can people cooperate with each other via the internet. One example of software tool for communication is Basic Support for Cooperative Work. This is the software tool where you can share your documents, make different appointments, and create a timetable, everything in one place, even if you didn't download it.

Interviewee: - It could be useful in fact, something like that.

Interviewer: - How do you think what are the main collaboration needs in Liike Akatemia? Do you have any requirements in cooperative work?

Interviewee: - Meetings, sharing documents in fact what we do and keep on discussions on the projects about what's going on.

Interviewer: - Do you have any examples of the software solution which can cover all those requirements?

Interviewee: - No. Facebook is not so good in sharing documents, but otherwise you can work online with students, it has its limits. It could be something else.

Interviewer: - There are four different models of cooperation. It calls CSCW Matrix. It includes face-to-face interaction, i.e. same time/same place, remote interaction, i.e. same time/different place, different time/same place, i.e. continuous task and different time/different place, i.e. communication + coordination. How do you think which model is the most suitable for you?

Interviewee: - Number one, face-to-face interaction.

Interviewer: - To make it clear I will ask are you familiar with any collaborative working environment? Have you ever used some document management systems or blogging or video conferencing?

Interviewee: - Yes we do. When students read books they are blogging them. We don't have exams, essays, we call them blogs. Everybody has their own blog.

Interviewer: - I will suggest an application in the end of my work and how do you think will the chosen application need to be free or it can cost something?

Interviewee: - May be it could cost something, but not much. If possible it would be free.

Interviewer: - My next question will be does suggested application need to be more business professional oriented or on a very simple usage level?

Interviewee: - I would say simpler, it doesn't have to be business oriented.

Interviewer: - How do you think what the main principles for collaboration in Liike Akatemia are? What are the main points on which you are focusing on?

Interviewee: - Difficult to answer, because it's not only about business, it's almost about learning. We need to keep a discussion with students, meetings, and plan projects in the same room.

Interviewer: - How can the suggested tool help you? Will it increase your profitability and competitiveness or sustainability?

Interviewee: - Yes it would.

Interviewer: - You have different projects. How long time usually you are working with your customers? Is it one time project or you can have several projects from one customer?

Interviewee: - Most of them are short period, from 1 to 3 months. Our goal is to find some customers for a long term relationship.

Interviewer: - How do you think are coaches and students prepared to study new software tool?

Interviewee: - If it is easy. Even if for some of them it will be a bit complicated, they are clever I think.