Social Networking Services:
A Case Study in the Failure to Facilitate Knowledge Sharing in Organizations

A Case Study of Enterprise 2.0 Taolin Platform

Bachelor’s thesis within Informatics

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Abstract

Social networking services are relatively new phenomena and they have attracted so much attention around themselves. These services have been seen by many organizations as a potential tool to facilitate knowledge sharing. However, very few have successfully adopted such services. Many problems which lead to failures arise when it comes to developing and implementing social networking services with the goal to facilitate knowledge sharing.

The purpose of this thesis is to investigate the failure of one social networking service to satisfy the knowledge sharing needs of the organization that has developed and implemented it in-house.

Interviews with three employees of the company were arranged. The interviews were done with time intervals in between. This gave us the opportunity to rearrange the questions that were going to be asked to the next interviewee. The interviews were really helpful and gave us a good insight of the problem with the development and implementation of the social networking service that the organization was facing. After the interviews were conducted, a questionnaire was elaborated and sent out to the employees in the organization.

The results we came up with were really interesting. A table with failure factors for the social networking service used in the organization was made and a model suggesting the steps an organization should follow for the successful development and implementation of a social networking service that facilitates knowledge sharing internally was developed.

We found out that the failure was not in the social networking service itself but in the way it was presented, positioned and communicated to the employees of the company. They never took the service seriously for its intended purpose which was knowledge sharing within the organization and that led to the cancelation of the project.
Definitions

Social Networking

Jothi and Neelamalar define social networking as grouping of individuals into specific groups, like small rural communities or a neighborhood subdivision.

Social networking services (SNS)

These are the services that connect people online based on common interests, causes or hobbies. SNS enable users to create a profile and become friends with others who are using the SNS (Cook, 2008).

Knowledge Sharing

Knowledge sharing is a deliberate act of making knowledge reusable by transferring it from one party to another (Lee & Al-Hawamdeh, 2002).

Knowledge Management

Knowledge Management (KM) is defined broadly, encompassing any processes and practices that are related to creation, acquisition, capture, transferring, sharing and use of knowledge skills and expertise (Quintas et al., 1996).

Knowledge Management System

Knowledge management system (KMS) is a class of information systems applied to managing organizational knowledge. (Alavi & Leidner 2001)

Key words: Social networking; Social networking services; Knowledge sharing; Knowledge management systems.
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I. Introduction

1.1 Background

Enterprises and organizations these days are facing variety of challenges related to communication and interaction between the employees. With the advent of enterprise 2.0 organizations are spending considerable amount of resources and time to improve the information and knowledge diffusion, communication and collaboration and insuring up to date information available to employees (Ferron, Massa & Odella, 2011). Online social network sites like Facebook and MySpace are well established and known among wider audience. These sites were initially developed for personnel communication and interaction between the younger audiences. Its success has now attracted many users that are interested in professional networking within and outside the boundary of the organization.

Recently “social networking service” has become a buzz word. Large and small organizations are adopting these services to change and enhance the way employees interact with each other and share information and knowledge. Social networking tools have encouraged the sharing of information and knowledge inside the protected walls of organizational intranet (Joan, D., David, R.M., Werner, G., Casey, D., Beth, B., & Michael, M. 2008). By effectively stimulating the knowledge sharing an organization a high degree of competitive advantage can be maintained, as well as an increase in the level of organizational knowledge which will lead to synergistic advantages in the marketplace (Brown & Duguid, 1998). Recent studies on the usage of Facebook among the college students showed a link between the use of service and students social capital (Ellison, N.B., Steinfeld, C. and Lampe, C. 2007, Steinfeld, C., Ellison, N.B. & Lampe, C. 2008). This social capital is helpful in providing the support to individuals which are associated to that particular social network. This support is very important for organizations critical processes, such as knowledge sharing.

In this context, the spread of specialized social network sites that address particular targets suggests the advantages and the value social networking can provide to specific contexts, such as workers inside an organization (DiMicco et al., 2008). Despite the benefits carried by social networking services, fewer organizations have developed and deployed their own internal social networking services. Recent study on social networking has shown that, it is difficult for the people to decide on how much time they should spend on the networking services. Users may not feel comfortable in creating new ties and integrating in the social network. Yet decades of research on social networks in the organization argues that informal relationships among coworkers are important conduits through which organizational knowledge and expertise can be shared (Ferron, Massa & Odella, 2011).
1.2 Problem Discussion

By the application of the technologies in work environment, employees can exploit the knowledge and relations in the working environment (Kostakos & Little, 2005). Social networking websites and other IT related technologies have proven to be very effective in improving knowledge sharing and collaboration (Cited in Ferron, Massa & Odella, 2011). According to McAfee (2006) there is an increase in use of emergent social software platforms or Enterprise2.0 by the companies to induce innovation, knowledge sharing and collaboration (Cited in Ferron, Massa & Odella, 2011).

With the advancement in the technological research, enterprise software is becoming more and more complex. Organizations are spending millions of dollars in deploying information and knowledge management systems to improve the business processes and harness innovation. Yet organizations are facing difficulty in persuading the employees to use a particular system. A study performed by Standish Group in 1998 showed that almost one third of the information system related projects (28%) were cancelled. This shows a considerable amount of resource and time loss in implementing the software. One of the reasons can be the focus on the buyer rather than on the user itself. Coordination and networking among people working in the same organization is not a trivial activity: competences, positions, and the structural characteristics of the company together with communication preferences and group assets may prevent a positive flow of knowledge and decrease opportunities for collaboration. Social networking services are as well information system related projects. Therefore it is very important to explore the reasons why social networking services implemented to improve the knowledge sharing fail to deliver the results.

1.3 Research Question

The research question that the authors of this thesis want to explore is:

*Why some Social Networking Services failed in facilitating the Knowledge sharing within organizations?*

The diffusion of more friendly and adaptive instruments which consent to perform activities within the tool itself such as with Web2.0 technologies, mainly user participation, is also creating the environment for the emergence of new forms of social interaction in the working environment. This research question can be follow by two sub objectives.

*What are the factors that affect the diffusion of such social networking services within organizations?*

Organizations when implementing IT enabled technology overlook many factors which have potential impact on the success and failure of that particular technology. Our study will focus on identifying the factors that directly or indirectly impact the employee’s decision to use or to avoid the use of social networking service.

*How to improve the diffusion and acceptability of social networking tools within organizations?*

We believe our work is relevant in two ways; firstly because it investigates a topic which is relatively unknown, and secondly because it will act as guidline for the organizations wishing to implement social networking service to leverage on their knowledge which is scatter in the organization. In fact, as (Steinfield et al., 2009) acknowledge, “few companies have reported deploying their own internal Social Networking Sites” (Cited in Ferron, Massa & Odella, 2011). Two notable exceptions are IBM with Beehive (Steinfield et al., 2009) and (Brzozowski, 2009) HP with WaterCooler (Cited in Ferron, Massa & Odella, 2011). The
platform which is under scrutiny in our study – Taolin – has been released as open source and this can give our initial analysis more interest because the experience we report here can be easily replicated in other organizations and research findings compared.

1.4 Purpose

The purpose of this thesis is to investigate the failure of one social networking service to satisfy the knowledge sharing needs of the organization and to come up with the eventual failure factors and suggestions in form of lessons learned or in other words what an organization should try to do while developing and implementing a social networking service within it.

1.5 Delimitation

This thesis will focus on a social network service that is implemented within an organization for the purpose of knowledge sharing and management. More specifically the focus will be on users’ experience about the implemented social network service for knowledge sharing and management. As this is a single case study and we use an inductive approach the results cannot be generalized.

1.6 Interested Parties

This paper may be in interest for companies that would like to implement social networking services for sharing the knowledge within their organizations. It may also be in a great interest for the case organization itself because eventually it will outline several mistakes or wrongly done things that will help the organization to learn because as we know – we learn from our mistakes. The paper is written in English so it will be available for a broad audience and is not concentrated only on just the Swedish speaking.

1.7 Disposition

Fig. 1: A model of the structure of this paper

1.7.1 Introduction

In this chapter the background of the paper’s topic is described and why this topic was of interest for the authors is explained. Then the problem itself is discussed and the research question and objectives are presented. A statement of the purpose of the thesis follows. Then a description of the delimitations and the probable interested parties is provided. Finally, the disposition of this paper is presented and explained.
1.7.2 **Methodology**

In this section a presentation of the research approach is made and the data collection techniques that are going to be used are described. Further on, the research design is examined and the selection of the respondents and the trustworthiness of the study are discussed.

1.7.3 **Frame of Reference**

In this part an overview of different theories that are somehow connected to the topic of this paper is made. The reader can get a better understanding of the terms used in the thesis e.g. social networking, social networking service, knowledge sharing etc.

1.7.4 **Case Findings**

This chapter presents a detailed description of the case of our study. It explains how everything has began, the phases through which the project went and the decision to cease development of the social networking service.

1.7.5 **Discussion**

In this section the results of our study are presented. The failure factors and the suggested actions for developing and implementing a social networking service in an organization with the aim of sharing knowledge internally are discussed. Finally, the results from the questionnaire are shown and interpreted.

1.7.6 **Conclusions**

This part comprises the conclusions of the authors about their work on this paper, the shortcomings, the relevance of the topic to the Informatics and the suggestions for future studies.
2 Methodology

2.1 Research Approach and Strategy

There are two main research approaches – inductive and deductive – and there is a third type not so widely used – abductive (Saunders, Lewis & Thornhill, 2003). The two main approaches differ in that induction is based on empirical evidence and deduction is based on logic (Ghauri & Grönhaug, 2005).

General conclusions are made from observations through induction. These empirical observations give a background for the findings and later on theory is built on that background. The theory is what the research produces (Bryman & Bell, 2003). The inductive research is often connected with qualitative type of research.

Conclusions are drawn based on logic reasoning through deduction (Ghauri & Grönhaug, 2005). The data for this kind of research is collected from the already existing knowledge e.g. literature review. The information the researchers retrieved is used for the formulation of hypotheses that are later on checked empirically and are being proved or disproved. The deductive research is of the connected with quantitative type of research.

If there is a need of combination of inductive and deductive approaches the abductive approach is used (Ezzy, 2002). An abductive approach is really useful if the researcher’s aim is to discover new things – other variables and other relationships (Dubois & Gadde, 2002).

For our research we are using an inductive approach. It is inductive because this field is quite new, there is not a lot of literature on this topic and there are not many studies done on how social networking services facilitate the knowledge sharing in organizations. Our research is going to be exploratory.

We are focusing on a single case and we will try to find out why it has failed and as a result to come up with suggestions what companies should do in similar cases. When there are no other cases available to be replicated or the case is rare, the researcher can go for a single-case study (Zainal, 2007). Zainal continues that the weakness of the single-case study design is in its inability to ensure generalizing conclusion, especially when it is a rare case. So the way to overcome this is by triangulating the study in order to confirm the validity of it.

2.2 Data Collection

The process through which the information is gathered and the choice on how the information will be organized and interpreted depend upon the general philosophy and the theoretical approach the research is based upon (Merriam, 1994). In this thesis literature studies, interview and questionnaire will be used. Inductive research approach requires pre-understanding of the given case under investigation. Choice of the data collection will be followed by discussion on respondents’ selection, design and procedure of interviews, design of questionnaire and how the collected data will be interpreted and analyzed. Information is divided into three types primary, secondary and tertiary. Some researchers divide it into two information collection categories of primary and secondary information. Primary information is gathered by the researcher personally and Secondary information which consists of sources of data and other information collected by others and archived in some form. These sources include government reports, industry studies, archived data sets, and
syndicated information services as well as the traditional books and journals found in libraries (Saunders, Lewis & Thornhill, 2003).

Thus, normally primary data or information is first collected through questionnaires, observations and as in the case of this thesis through interviews and questionnaires. There are two advantages of using multi-methods in our research. First, by conducting the interviews we will be able to recognize the key issues in the research. These issues then can be further investigated through questionnaire. Second, it will enable the triangulation to take place. Triangulation ensures that data is telling you what you think it is telling you (Saunders, Lewis & Thornhill, 2003). Secondary data is collected through literature (Kumar, 1999) which will be the theoretical foundation of the thesis.

### 2.3 Secondary Data

Secondary data will be gathered through literature study and case study description.

#### 2.3.1 Literature Study

The prime purposes of the literature review, discussed by Ghauri & Grönhaug (2005) are:

- To frame the research problem;
- To identify relevant concepts and facts;
- To position the study – find the gap in the existing knowledge and concentrate on it.

Sharp and Howard (1996) argue that there are two major reason exist for the literature study. The first reason is to generate and refine the research ideas and the second is to critically review the existing knowledge on the particular area one is interested in to do the research. In this thesis literature study will be used to gain the understanding of the pre-existing knowledge and direction of the ongoing research. Gill and Johnson (1997) showed that literature review is of utmost importance as it demonstrates awareness of the current state of knowledge in the given subject area, its limitations and how one’s research fits in wider context to others’ research (Saunders, Lewis & Thornhill, 2003).

The chosen research topic involves review of different concepts in order to increase the understanding of the topic. Scientific journals, books and conference papers etc will be used. Both recent and old literature will be reviewed to comprehend the development of the knowledge and theories in the research field.

#### 2.3.2 Case Study

In order to understand the phenomena, case study description provided by the organization will be used. This case study will provide initial insight into the case and will help at creating a solid understanding.

### 2.4 Primary Data

Interviews and questionnaire will be used to collect the primary data.

#### 2.4.1 Interviews

Interviews are helpful in gathering reliable and valid data that is relevant for the research question and objectives. The nature of the interviews should be consistent with the re-
search question and objectives, purpose of research and the research strategy adopted (Saunders, Lewis & Thornhill, 2003). Interview can be defined as ‘Any person-to-person interaction between two or more individuals with a specific purpose in mind is called an interview.’ (Kumar, 1999, p. 109). According to Saunders, Lewis & Thornhill (2003) Interviews can be highly formalized and structured, in which standardized questions are given to each respondent, or it may be informal and unstructured involving discussion between the researcher and the interviewees. Interviews may be categorized as:

- Structured interviews
- Semi-structured interviews
- Unstructured interviews

**Structured interviews** use questionnaire containing standardized and identical set of questions. There is an interaction between the researcher and the interviewee but it is limited to reading and explanation of the questions, which must be done in same tone of voice to avoid any biasness. **Unstructured interviews** are informal in their nature, this type of interviews are used in an exploratory research of a given research area. In this approach interviewees are allowed to talk freely about their beliefs and experiences about the given research area. This is also known as *informant interview* as the interview is guided through interviewee perceptions. In **Semi-structured interviews** researchers have certain pre-determine questions that need to be covered (Saunders, Lewis & Thornhill, 2003).

In our study we will be using semi-structured interviews as a source of collecting qualitative data. This approach is a combination of both structured and unstructured interviews. Our objective is to ask questions and have an open discussion with the interviewee. Unstructured interview can be used to have a discussion with the interviewee but it can lead us away from our specific research objective. A pre-determine list of questions will be used to make sure that all the relevant areas in the research question are covered. This approach will result in more understanding of the research question that is under investigation. We believe that by this approach a better understanding of the issues will be possible which will increase our knowledge base. In our study the semi-structured interviews will help us to have an in-depth understanding of the issues, which can be used to create a more specific questionnaire related to those issues.

### 2.4.2 Questionnaire

According to deVaus (2002) a questionnaire is a data collection technique in which each respondent is asked with the same set of questions in a predetermined order (cited in Saunders, Lewis & Thornhill, 2003). Survey data collection techniques involve the use of a questionnaire. Many authors (for example Bell, 1999; Oppenheim, 2000) argue that it is not easy to produce a good questionnaire. The most important aspect in designing a questionnaire is to ensure that it will gather the precise data which is required to answer the given research question (Saunders, Lewis & Thornhill, 2003). In our study a questionnaire will be design after conducting the interviews. In this way, we will be able to ensure that all the relevant issues are covered. Thus this will increase our validity of the interviews through triangulation. In this study the questionnaire will be send electronically to all the employees and researchers who took part in this project, regardless whether they were the champions or have been invited by the champions to become a user of Taolin. The reason for sending the questionnaire to all the employees is to maximize the response and to take the point of view of the whole organization.
2.5 Selection of Respondents

Respondents are selected on the basis of their involvement in the development of Taolin tool in FBK. In order to get an overall view of the Taolin tool and its development process, respondents were selected from different fields and also from different research groups in the organization. We have selected a respondent from the top management, a user of the platform and a developer of the Taolin project. The reason to select the respondents from different areas of the project is to understand the viewpoints of all the employees involved in the project. The following criteria have been used to select the respondents:

Table 1: Criteria for selecting respondents

<table>
<thead>
<tr>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Respondent is involved in the project and actively participated in providing feedback.</td>
</tr>
<tr>
<td>2. Respondent should be the champion in the project.</td>
</tr>
<tr>
<td>3. Respondent is involved in the development of the Taolin tool.</td>
</tr>
<tr>
<td>4. Respondent is at a top management position in the organization.</td>
</tr>
</tbody>
</table>

2.6 Data Analysis

According to Elo and Kyngäs (2007) qualitative data analysis is a process of bringing structure, meaning and order to collected data. For this research qualitative analysis will be used to analyze the data collected. According to Seidel (1998) qualitative analysis consist of three fundamental steps (1) to notice things (2) collect things and (3) think about things

Notice things: This involves identification of familiar pattern emerging in the text.

Collecting Things: This stage involves the sorting of the data into coherent and relevant category.

Think about Things: In this stage the collected things are examined. According to Seidel (1998) the goals of this stage are “(1) to make sense out of each collection, (2) to look for patterns and relationships both within a collection and across collection and (3) to make general discoveries about the phenomena.”
2.7 Design of Research

Our study starts with a research question which has further two sub questions. The goal for these research questions will be to find the answers as well as come up with the improvement suggestions for research questions. In order to gain the understanding about the research field conceptual framework will be develop through literature review. Choice of the method to collect the data depends on the research question chosen and goals set for the study. In our research inductive approach will be the most suitable approach for the research as the research question requires an examination of a phenomenon which is relatively new and fewer studies have been conducted in the past. The data obtained will be validated through triangulation and will be examined to ensure that the research questions set before the study has been answered.

2.8 Trustworthiness of Research

2.8.1 Reliability

Semi-structured interviews lack standardization which raises the issue of reliability of the research. According to Saunders (2003), reliability is concerned with whether similar results of the research can be obtained if it is conducted by another researcher. According to Robson (cited in Saunders, Lewis & Thornhill, 2003), there are four threats to reliability. The first one is Subject of Participant error. Here the participants or subject can give different answers depending upon the time of the interview and enthusiasm. We have taken care to choose a time that suits best to the interviewees in order to avoid the participant or subject error. The second threat is Subject or participant bias which is concerned with the fact that the interviewee may tell what their superiors want them to tell. In our study the interview-
ees are themselves researchers working in a research organization and are open in discussing the information related to our study.

The third and fourth threats are observer error and observer bias. Interviews conducted by different researchers may result in different approaches for eliciting and interpreting the data. Both authors were present at the time of the interview and analysis of the interviews and thus this threat was controlled in our study.

2.8.2 Validity

Validity is concerned with whether the research findings are really about what they appear to be about (Saunders, Lewis & Thornhill, 2003). Validity is important regarding the accuracy of data of the research. According to Patton (2001), validity of the research findings can be increased by choosing interview method that is most suitable to obtain the desired data and information. According to our nature and topic of the research semi-structured interview is the most suitable way as it allows discussion and follow-up questions during the interview. These follow-up questions will be helpful to gain deep understanding of the problem.
3 Frame of Reference

3.1 Social Networking

Jothi and Neelamalar define social networking as grouping of individuals into specific groups, like small rural communities or a neighborhood subdivision. Nowadays this term is often misinterpreted and used only for Internet based activity. However, social networking is not necessarily done online, it is possible in person and we do it almost every day when we go to school, university, workplace etc. Admittedly, these days the social networking is mostly done through websites. It is quite easy because in Internet there are a lot of people online who are seeking friendship and people with common interests and hobbies.

Social networking is considered to have the most significant development in business as it added another dimension to the way people are communicating all over the world (Bennett, J., Owers, M., Pitt, M. & Tucker, M., 2009). Social networking provides numerous ways to people to communicate with others, this include chatting, webcam, profiles and discussion groups.

According to Granovetter the strength of ties within a network defines the strength and quality of relations He differentiates between two types of ties – strong and weak. Granovetter (1973) and Burt (1992) suggest that networks consist both from strong and weak ties because they influence the structure and operation of the networks.

Social networking, especially inside an organization is really worth much if the company values the individual effort but wants to encourage knowledge sharing and connection with others(Cook, 2008). Cook continues by suggesting that internal applications of social networking which represent a mixture of personal and professional interests are assumed to be highly successful.

3.2 Social Networking Services

Social networking services (SNS) help people to connect online based on common interests, causes or hobbies. SNS enable users to create a profile and become friends with others who are using the SNS. Very often each of the users should confirm that they are friends before the SNS link them and share their profile information and contacts. Additionally, the users can create sub-networks via group affiliation or other common interests (Cook, 2008).

Nowadays SNS are widely used by the individuals because the Internet is filled with millions of people who are willing to meet others and share their experiences and emotions for example about their favorite sports teams, about the stuff they like to do, about their hobbies etc. One of the most important aspects for success at work is to network and maintain contacts through life, but in many organizations this is one of the most overlooked areas. Nardi et al. (2002) argue that once these contacts are in a network, they often require “care and feeding”. They further point out that while undeveloped contacts may be activated after long periods of time, many people feel the need to foster relationships.

There are few SNS that are used internally in organizations (Steinfeld et al., 2009). Two exceptions are IBM with Beehive and HP with WaterCooler (Ferron, Massa & Odella, 2011). Even WaterCooler is mostly blog based which is not a complete SNS. As we have mentioned before in social networking there are both strong and weak ties (Granovetter, 1973). However, the usage of SNS within organizations helps the individuals to realize a third type
of ties, namely “potential ties” (Ferron, Massa & Odella, 2011). Basically, these are people that the individual does not know but they can potentially be from value to the employee because of their experience, work and skills. These are people who can help with their knowledge in urgent situations and when there are huge obstacles in a project similar to the one they have already run. The SNS help the employees to find such “potential ties” and make their work more productive and efficient (Ferron, Massa & Odella, 2011).

3.3 Human and Technological factors in KMS adoption

Initiatives regarding knowledge management systems (KMS) implementation are escalating across all types of companies and organizations worldwide (Ribière, Bechina Arntzen, & Worasinchai, 2007). Information Communication Technologies (ICT) use as an enabler for knowledge management practices have been delineated in number of research studies, but still there are open questions regarding the socio-technical factors influence on success of knowledge management implementation (Chua & Lam, 2005; Kaweevisultrakul & Chan, 2007). Recent realization of knowledge management initiatives are based on exceedingly advanced information technologies, but this field still holds number of challenges to ensure the effectiveness and efficiency of knowledge management initiatives (E&Y, 1996; Knowledge Management Review, 2001; Tuggle & Shaw, 2000).

Davis, Bagozzi and Warshaw (1989) state that computer systems are not able to improve the productivity in the organizations if they are not utilized. However, it is quite common that the users tend to resist the implementation of such new systems. The acceptance of a new computer system depends on the users’ intentions, and the ability to explain their intentions in terms of their attitudes subjective norms, perceived usefulness, perceived ease of use, and related variables (Davis, Bogozi and Warshaw, 1989).

According to Davis (1989) ease of use and system usability are one of the important factors in considering information technology tools. Agarwal and Prasad (1999) point out the importance of individual distinctions as predictors of perceived ease of use, specifically indicating previous experience, level of education and role with regards to IT as factors of influence. Chau, M., Wong, C.H. (2009) alluded in their research that the general idea to make the information technology tool is to develop an initiative and self explaining user interface, so that the user does not have to go and check guidelines for usage to complete simple tasks.

Communication plays a central role in implementation of any technology. According to Laulmann et al, (1991), within organizations different segments of people shares an interest in the realization of new technologies. They further observed that despite the common interests in implementation of the new technologies; engineer and consultants, scholars, work managers and union representatives do not often talk and meet. Leadership holds an important role in implementation of KMS’s. Leadership is comprised of managers, executives and professionals. Learning and training is an important part in the adoption of the systems and Laulmann et al, (1991) states that training is to be consider a necessity for successful implementation of KMS.
3.4 Knowledge Sharing in Organizations

In today’s world knowledge alone has no value unless it is shared within the organization to create a better understanding. Knowledge in the organization is one of the most valuable competitive assets (Haas & Hansen, 2007; Zack, 1999; Wegner, 1998; Nanoka, 1994; Kogut & Zander, 1992). The recognition of knowledge as the key asset of today’s organizations requires processes that can facilitate the creation, sharing, and leveraging of individual and collective knowledge (cited in Ipe, 2003). There can be a similarity in the knowledge contents among the different units in the organization. These units can benefit from the existing knowledge to solve the related problems effectively and efficiently (cited in Hendriks, P., 1999). Knowledge sharing is considered as a major focus area for knowledge management. The relevance of this theme particularly derives from the fact that it provides a link between the level of the individual knowledge workers, where knowledge resides, and the level of the organization, where knowledge attains its (economic, competitive) value (Hendriks, P., 1999). A lot of technologies have been developed to improve the flow of the knowledge within the organizations’ different units. Still there are barriers to knowledge sharing which include people attitude towards the knowledge sharing. If people are not willing to share knowledge then no technology can improve the flow of knowledge in the organization.

Knowledge sharing is an important part of a knowledge management system. First, it is important to define what knowledge sharing is and what it means. Knowledge sharing can be linked to communication. It is different but also related to information distribution (Huber, 1991; Nelson and Cooprider, 1996). Knowledge sharing is a deliberate act of making knowledge reusable by transferring it from one party to another (Lee & Al-Hawamdeh, 2002). Knowledge in strict sense cannot be transfer easily like a commodity because it is attached to a knowing subject (P.Hendriks, 1999). Hendriks continues by saying that an act of reconstruction is required to learn something from someone else, i.e. by sharing the knowledge among people. Knowledge sharing takes place between two parties, one party transfers the knowledge willingly and other party captures the knowledge and makes sense of it (P.Hendriks, 1999).

According to Haldin-Herrgard (2000) Organizational knowledge resource is like an iceberg. An explicit knowledge constitutes the visible top part of the iceberg. Knowledge that is in explicit form is more easily shared compared to knowledge that resides in minds of people. Such knowledge is called tacit knowledge which is one of the most distributed knowledge and valuable knowledge repository in the organizations. Such knowledge sharing demands a frequent social interaction among the parties (Ipe, 2003; Kogut & Zander, 1992). Social interactions not only help in using the existing knowledge but also create new knowledge. Nanoka (1994) explained that relevant knowledge can be created through creative dialogues among individuals and groups.

3.5 Knowledge Management and Knowledge Management System

Knowledge Management (KM) is defined broadly, encompassing any processes and practices that are related to the creation, acquisition, capture, transferring, sharing and use of knowledge skills and expertise (Quintas et al., 1996). According to this definition Knowledge Management is about harnessing social capital of individuals to improve organizational learning capabilities, recognizing that it is not simply the information but the
knowledge is the primary source of innovative capabilities of an organization (Marshall, 1997 & Castells, 1996). The objective of knowledge management is to exploit, capture, transfer and deploy the existing knowledge in similar situations or exploration of existing knowledge to create new knowledge (Levinthal & March, 1993). Through exploitation an organization can solve complex problems without re-inventing the wheel again by using the existing knowledge. But it is the exploration of knowledge that is the main source of creation of new knowledge and ideas.

Knowledge management system (KMS) is defined by Alavi & Leidner (1999) as information system designed specifically to the sharing and integration of knowledge. Alavi & Leidner (2001) redefined knowledge management system (KMS) as a class of information systems applied to managing organizational knowledge. This means that they are IT-based systems developed with a goal to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application. According to Drucker (1998) an information process with knowledge workers will restructure the firms in the future to achieve competitive advantage or even survive in the global business environment. Availability of KMS to the employees will result in access to quality information and better decision based on information.

According to the research in organizational knowledge practices there are two viewpoints in design of effective KMS. One is knowledge as object which can exist independently of human actions and perceptions (cited in Wasko & Faraj, 2000). This perspective focuses on the converting the knowledge that resides in the minds of the people into structural assets. Such structural assets can easily be stored in the organization’s KMS. Knowledge can than easily be transferred to other employees regardless of their geographical location and the organization can retain the knowledge even if the people who contributed that knowledge leave. The second perspective is the knowledge embedded in people and it suggests that knowledge resides only in the minds of the people. It is the people who ‘know’ and convert ‘knowing’ into something that is of more value to the organizations and during this process new knowledge is created (McDermott, 1999). This perspective sees knowledge as a resource that is difficult to codify, thus the goal of KMS should be to connect the knowledge seeker with the experts (Wasko & Faraj, 2000).

3.6 Knowledge Sharing with Social Network Services (SNS)

Recently organizations started to move towards implementing internal social networking services to capitalize on their social capital. Social capital is define by Lin (1999, p.39) as “investment in social relations by individuals through which they gain access to embedded resources to enhance expected returns of instrumental or expressive actions”. This definition implies that people get benefits from the network and also give back to the network (Charles, S., Joan, M.D., Nicole, B.E. & Cliff, L., 2009). SNS can be useful in creating and maintaining the social capital, which is made possible through the SNS’ feature of enabling the interaction and creation of large social network connections. As described in section 3.1 this large social network will more likely contain “weak ties”, such as cross group employees with whom the interaction is not frequent. These “weak ties” are of great importance in providing new information. Putnam calls it as “bridging social capital”. Granovetter (1973) argued that weak ties as opposed to strong ties provide the opportunity of connecting with new individuals. Granovetter further argues that if the tie is weak there is much better chance of individuals’ social circles not to overlap and therefore there is the opportunity to access new resources, information and contacts. If employees are provided with right environment and tools, there will be increase in collaboration and cooperation of employees.
with unknown colleagues and potential contacts. This can be useful in achieving the organization’s overall strategic goals (Fraser and Dutta, 2008). Dutta (2008) argues that, by the implementation of SNS expertise and solutions to problems can be uncovered and actively sought out and exploited.

An informal network among workers carries social capital within it, which researchers consider to be knowledge management issue. Earlier approaches to knowledge management have focused on expert systems to classify, store and retrieve organizational knowledge (Huysman, M. & Wulf, V. 2006). The problem with earlier knowledge management systems was that the information was de-contextualized and it was difficult for people to relate it to an actual problem. Social relationship between the people is required to share information and expertise when needed. Nardi et al. (2002) argues that the earlier knowledge management systems failed in representing the dynamic qualities or communication-centric nature of social networks. They further argue that if the organizations want to gain competitive advantage in the industry, employees must be provided with the tools that allow social networking: i.e. employees should be able to organize their work around active contacts, access to the information that the contact carries and also techniques should be available to identify which aspects of the network needs reactivation. At the level of organizations, diversity of the workers can be recognized by these technologies. These include contractors, consultants, alliance partners and regular employees. These can enhance communication and access to information across boundaries which are dependent on the relationship of worker with the company and with the fellow workers (Nardi et al., 2002).
4 Case Findings

This case is based on the organization Fondazione Bruno Kessler. For this chapter a paper that was presented at the 4th and 5th UK Social Networks Conference written by M. Ferron, P. Massa and F. Odella is used as a case study description. The authors of the paper are employees at FBK and the paper is called Analyzing collaborative networks emerging in Enterprise 2.0: the Taolin Platform.

4.1 Fondazione Bruno Kessler

Fondazione Bruno Kessler (FBK) is a research institute located in Italy. It has approximately 400 employees. The research areas that FBK covers differ and include Information Technology, Materials and Microsystems, Italo-Germanic studies and Religious Sciences. FBK is also making research in the area of theoretical nuclear physics, networking and telecommunications and public policy effectiveness. As we can see the competences and the professional interests vary and FBK wants to take leverage on this. The employees are divided into around 35 research groups and there is almost no communication between the groups.

4.2 Goal of Taolin

Except from testing the applicability of Enterprise 2.0 tools within FBK, the goal of Taolin is clearly stated by the researchers working in FBK as:

The goal of Taolin was to provide an internal platform for FBK employees acting as a central hub for all their daily job needs. The platform integrates internal services such as those for booking rooms for meetings or for checking personal timetables.

One requirement for the platform was to make employees and their competences visible to other employees within the company. The aim of this was that the collaborations between people that posses the necessary skills and knowledge for a job to be done will be encouraged.

The mission of Taolin was communicated through the homepage where the users had to log in. The text is as follows:

Welcome in desktop.fbk.eu!
If you are a Champion, please enter your FBK username and password in the form below.
If you are not a Champion, please read the rest of the page.

What is desktop.fbk.eu?
It is an internal web platform whose goal is to increase the collaboration and knowledge sharing inside FBK.
Really? I would love to try it. What should I do?

At the moment, desktop.fbk.eu is under testing with a small number of Champions, colleagues who volunteered in order to help us improve the application.

Ah ok, then I would really like to be a Champion!

We're glad you do and thanks! ;)
If you would like to help us in testing the system, provide feedback and give suggestion about new features, please, do send an email to sonet@fbk.eu saying you want to be a Champion! We will reply in few minutes.

Who is working on desktop.fbk.eu?

Happy you asked! The answer is "the Sonet group", you can find info about the Sonet group on the project Web page.

4.3 The Initiation of Taolin Platform

Taolin is an open source Enterprise 2.0 platform that is deployed inside FBK. Nowadays the science is becoming more interdisciplinary, and the management is willing to encourage collaboration and knowledge sharing between the groups. That is why FBK is considered as a really good test organization for the implementation and analysis of such Enterprise 2.0 tools.

So an internal project, called Taolin, was started in April 2008. Its aim was to test the applicability of Enterprise 2.0 tools within the organization. A review of the existing open source licensed tools was made by the developers. Their conclusion was that no one of these tools meets the FBK needs and the development team took a decision that they should start and build a Web Enterprise 2.0 application from scratch. Taolin has been released as open source, so other organizations can have an access to it and further develop it for their specific needs.

One of the interviewees reveals how it all began:

*It was an effort to exploit web2.0 inside FBK in order to improve knowledge sharing, collaboration and make the workplace more pleasant and easy.*

4.4 Development of Taolin

The chosen strategy for the development of Taolin was “always in beta”. This means that in April 2008 a working prototype with minimal functionality was released by the developers. Since then the team of developers started working continuously and did incremental changes on the platform by adding new functionalities according to the received feedback by the employees and the people who were testing the tool. A screenshot follows where you can see the interface of Taolin.
On the left side you see the profile, in the center there are the widgets and bottom right there is a chat window opened.

### 4.5 User Interface of Taolin

The interface of Taolin has two main regions, one is user and social region, and other is widgets region which located on the center as can be seen in Figure: 1. As described in the case study:

*The central region of the interface consists of a personal dashboard customizable by adding micro-applications called widgets. Each widget offers a different service that can be provided as a view over internal services or repositories (e.g. access to papers repository) or as a communication service (e.g. web chat) or as an external resource (e.g. Google search). Widgets are the way in which the mashup concept is implemented in Taolin. A widget can be added, removed or even moved around the platform simply dragging and dropping it in the desired place.*
As it can be seen the interface is quite customizable with the widgets of one’s choice. As one of the interviewee said:

*I think the platform is nice in a sense that the interface is quite simple; it is highly customizable thanks to the widgets, so you basically can choose what to have in the interface.*

An essential part of the user and social region is the possibility for users to see each other’s profiles, which is also one of the main goals of this SNS. These profiles contain information about users’ competencies, skills and areas of interests. As one of the interviewee said:

*There are some useful features let’s say like the search, so you can for example search the profiles of the other persons, so you can look for a person which has similar hobbies or research interest as yours, searching by a key word basically. You can also check new comments, so you can have a list of the new people coming, so you can see how people change in your organization and there is also a possibility to post and read the announcement made by some other users like announcement for looking for selling a car or stuff like that.*

A Chat function is available in Taolin. Chatting is a really significant feature enabling communication between the users. This is also one of the most used features in Taolin. Another essential feature in Taolin is webcam canteen to see the queue in the canteen. This feature helps employees to make a decision upon when to go for lunch or coffee. As mentioned by one of the interviewee:

*The functionalities most used are see photo of colleagues (we are around 400 in FBK), check the queue for the canteen (there is a web camera that can be accessed only through Taolin) and some people use the internal chat.*

This is confirmed by other interviewee as:

*…one of the main use that we do is to check the length of the queue in the canteen, there is an application there on which you can see the webcam of the queue in the canteen and it gives you an information whether it is appropriate let’s say to go to lunch at that time or to delay it.*

### 4.6 Implementation of Taolin in FBK

Having in mind the always in beta nature of the development, it was decided that the usage of the ongoing platform will be restricted to a limited number of users called champions. The champions were involved in the creation process of the tool and they knew that the platform was always in beta, meaning it is not finished. As mentioned in case study:

*First champions were chosen for their strategic position within the working environment or for their propensity to use and try new Web technologies. Moreover, champions were asked by developers to send bug reports and especially to provide any kind of suggestions so that developers could consider them for integration in the platform. The choice to deploy always in beta and to introduce Taolin in FBK to an increasing number of champions
is also motivated by the fact that Enterprise 2.0 should emerge from users and real requirements and not imposed top-down from the top management level. Practically, this means initially in June 2008 the first two champions were enabled to login and had access to the platform and this number has been growing ever since and, at June 2009, it now counts more than 120 employees, out of around 400 working for FBK.

With the time the project become known in FBK and employees started to ask to become champions, the main reason was curiosity. Later on the developers gave the opportunity of champions to invite employees that were not using the system yet. So the recruitment process changed to voluntary bases. As described in the case study:

The platform instance deployed within FBK is accessible with a web browser at the address http://desktop.fbk.eu. The served web page contains a form where users can enter their usual FBK login and passwords: champions have their logins enabled and are able to enter and use the platform, while non-champions receive as response a web page explaining the purposes of the platform and giving the opportunity of asking to be included as champions.

A figure showing the acquisition of champions through the time follows:

![Champions acquisition](image)

Fig. 4: Champion acquisition  
*source: FBK*

The developers from FBK have measured the activities viewing profiles and chat messaging of the champions that belong to a group and compared if the champions tend to view more profiles of people outside their group or of members of their group, same was done with the chat messages. The analysis of the activities was restricted to a two months period from April to May 2009. Groups included in the analysis were consisting from 4 or more
members. In this measurement was included the group of the developers (group #80). And from the table below you can see that this group has done some substantial activity

Table 2: Profile view and chat messages activity

<table>
<thead>
<tr>
<th>Group</th>
<th>Profile view</th>
<th>Chat messages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal messages (average)</td>
<td>External messages (average)</td>
</tr>
<tr>
<td>37</td>
<td>0.1667</td>
<td>0.0844</td>
</tr>
<tr>
<td>44</td>
<td>0.7500</td>
<td>0.0991</td>
</tr>
<tr>
<td>46</td>
<td>0.1250</td>
<td>0.0345</td>
</tr>
<tr>
<td>80</td>
<td>3.5000</td>
<td>0.4692</td>
</tr>
<tr>
<td>49</td>
<td>0.3500</td>
<td>0.0710</td>
</tr>
<tr>
<td>18</td>
<td>0.0333</td>
<td>0.0467</td>
</tr>
<tr>
<td>19</td>
<td>0.1500</td>
<td>0.0953</td>
</tr>
<tr>
<td>25</td>
<td>0.2500</td>
<td>0.0505</td>
</tr>
</tbody>
</table>

After doing the analysis the team concluded:

*From this initial analysis, we can derive that Taolin platform is used primarily as a medium for keeping in contact with and investigating users of your own group. In interpreting these results we suggest that the specific social context - Taolin virtual features - may activate imitation dynamics or social control inside one's own group, i.e., especially in this initial phase it is common for a champion to look at the profile of her group colleagues in order to see how they describe themselves and possibly adopt a similar pattern and keywords. Also, we foresee that the increase of interactions among participants may facilitate instrumental expertise and trust building among users, who can see the evolution of shared norms about advice exchange, tips and curiosities concerning their work activity.*

Another interesting analysis that was done in FBK was the one for the seniority levels of the champions. The champions were divided in three groups according to their length of stay in FBK (seniority level). For each group an average betweenness centrality index of the users was calculated. The chat messages and the viewing of profiles were used again as a subject to be measured. This time it is not checking the activities between and in the groups, rather than the activities made by a champion himself/herself. Then according to
the seniority level of the champion, the results are averaged for the level he/she belongs to. The results are shown in the table below.

Table 3: Chat and profile view networks indexes by seniority class

<table>
<thead>
<tr>
<th>Organizational position</th>
<th>Chat messages</th>
<th>Profile view</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seniority class 0 (new arrived)</td>
<td>68.0344</td>
<td>131.217</td>
</tr>
<tr>
<td>Seniority class 1 (middle)</td>
<td>51.0459</td>
<td>93.405</td>
</tr>
<tr>
<td>Seniority class 2 (senior)</td>
<td>34.6833</td>
<td>66.080</td>
</tr>
</tbody>
</table>

source: FBK

The results show that the newly arrived employees viewed more often profiles and used more the chat feature. As from FBK say “the index increases as the length of stay in the organization diminishes.” The results are interpreted from the organization as follows:

First, newly arrived have more incentive in testing and using Taolin social features in order to get net connections and to get a feeling of the working environment (making sense of their presence and experiencing their role). Second, senior staff tend to have their own established interaction, have already built personal networks aside of Taolin space and have less need to "find new people" or connect with newly arrived.

4.7 Usage of Taolin Tool

Several are the features that were mostly used in Taolin. They are: the webcam for the canteen, viewing the profile of the other employees that are using the platform, the chat feature, sharing of some files and comments and sending out announcements for meetings and other purposes.

The general impression is that the mostly used feature is the Webcam for the canteen. As it was mentioned above it is a feature that gives an access to a webcam positioned in the canteen of the organization and it gives you a live footage and can actually help you about making a decision when to go to the canteen. The interesting fact is that this feature became so successful that it was surprising for the developers as one of the development team says:

….adding a webcam (showing the queue for the canteen) was easier than developing most of the other widgets but this is the main reason people asked to enter in Taolin and use it. There is a peak of users around 12:00-14:00. So, often adoption is driven by non-anticipated things. Sometimes very simple things from a tech point of view.
Viewing other users’ profiles is another common action performed by the users of Taolin. As one of the employees we have interviewed shares:

There are some useful features let’s say like the search, so you can for example search the profiles of the other persons, so you can look for a person which has similar hobbies or research interest as yours, searching by a key word basically.

This is typical for a SNS and is one of the basic characteristics it has which makes them really useful and interactive. However, with the time a small problem has risen as an interviewee mentioned:

In the beginning some users described themselves (probably copying the behavior of early adopters, i.e. us developers). My profile description is 40 lines long. Later more and more users just wrote the name of their department and few words about their work (around 5). Following users started to copy this behavior.

Which with the time becomes a bigger problem because this basically hinders the knowledge sharing process when you are not able to find the people you need because of lack of description?

Other feature that some of the employees of FBK use is the internal chat. It is an easy way to communicate with your coworkers and can help in the knowledge sharing process. One of the developers that we interviewed introduces the chat as follows:

The chat behind Taolin is a jabber server. The people can use it with a normal client. The chat status is used as asynchronous system to exchange information between the users.

Lastly, but not least the FBK employees used Taolin to share some files and comments and to send out announcements. This is the biggest part that is helpful for the knowledge sharing within the organization but it was not very good exploited. One of the interviewee mentioned:

You can also check new comments, so you can have a list of the new people coming, so you can see how people change in your organization and there is also a possibility to post and read the announcement made by some other users like announcement for looking for selling a car or stuff like that.

Another interviewee said:

…posting comments on other users’ pages, there is a possibility to set your status and your mood message, like in Skype, so a lot of people were commenting on this mood/status message. Other things were related to posting of announcement. So if someone was posting an announcement on the board with announcement, it occurs that people are replying to that with comments

Another interviewee said:

There are nice stories in which some cats have found a home or some more professional where many people have found suggestions solutions for software development.
4.8 Effects of Taolin Tool in FBK

Many employees in the organization found Taolin as an interesting project to use and work with it. According to one of the interviewees Taolin tool improves the working environment by allowing the employees to suggest improvements. As mentioned by one of the interviewee:

“...some about organizational proposals for improving the workplace, about tips at work, funny sentences to improve humor between co workers”

4.9 Ceasing Development of Taolin

When everything looked like a success and going on track as planned, in the beginning of 2011 a decision was taken that the group developing the Taolin platform should cease their work on it and no more money will be invested any more in this project. It was declared as unsuccessful because it has not reached its goal and objectives and the employees were taking the tool more like a game instead of a powerful mechanism that is improving their work at FBK.

It is interesting that the tool is still available to be used from the employees; however its development is stopped. From the interviews we can see that the employees of the organization actually do not think it is a failure and continue to use it mostly for the features they have used before – the webcam for the canteen and viewing of profiles.

From developers’ perspective the tool has been a failure because it has not reached the goal it had. However, they do not think that it is a failure of the system itself to facilitate the knowledge sharing; rather it has more to do with the communication of the tool and that FBK could not inspire the employees to use it for the right purpose. As one of the interviewees says:

Everybody declare that it is an interesting project, but the users are connected to the system just to see the queue of access to the canteen. It takes a lot of energy to have someone (a community manager) always ready to encourage the others to find the application comfortable.
5 Discussion

5.1 Failure Factors of Taolin

This section will provide description of the failure factors found in the study. The factors may relate to the tool or to the way it has been implemented and used in the organization. In the study these factors are classified as Technological factors and Human factors. Technological factors relate to the problems in the tool and human factors relate to the way Taolin tool was implemented and used by the employees in FBK. The focus will be to emphasize the key issues in each factor that accounted to the failure of the tool in the organization.

Table 4: Failure factors of Taolin

<table>
<thead>
<tr>
<th>Factors</th>
<th>Key Issue/s</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User Interface</strong></td>
<td>Complexity</td>
<td>User interface complicated to use for sharing information.</td>
</tr>
<tr>
<td></td>
<td>Non Compelling Widgets</td>
<td>A lot of widgets added more functionality that is not used.</td>
</tr>
<tr>
<td><strong>Top Management Communication</strong></td>
<td>Work Relationship</td>
<td>Employees are not clear about Tool relation to work improvement.</td>
</tr>
<tr>
<td></td>
<td>Support, Guidance and Motivation</td>
<td>No mediator to provide the support for use. Lack of guidance and motivation to use the tool.</td>
</tr>
<tr>
<td><strong>Positioning of Tool</strong></td>
<td>Management/Employee Tool Perception</td>
<td>SNS use perceived by the employees is different than the management.</td>
</tr>
<tr>
<td><strong>Information Sharing between Ties</strong></td>
<td>Week Ties</td>
<td>Relatively less information sharing across groups in organization</td>
</tr>
<tr>
<td><strong>Behavior Imitation</strong></td>
<td>Profile Description</td>
<td>Not providing the complete description of personnel work related experience.</td>
</tr>
<tr>
<td></td>
<td>Use of Tool</td>
<td>Employees joining the platform to use the e.g. webcam as others were doing the same thing.</td>
</tr>
</tbody>
</table>
5.1.1 Technological Factors

5.1.1.1 User Interface

According to Davis (1989) ease of use and system usability are one of the important factors in considering information technology tools. Chau, M., Wong, C.H. (2009) mentioned in their research that the general idea to make the information technology tool is to develop an initiative and self explaining user interface, so that the user does not have to consult manuals to complete simple tasks. In our research we found that the user interface of the Taolin tool is complex, as mentioned by the interviewees, it was sometimes difficult to find the functionality that can be used to share the information.

Graphical user interface in the form of Widgets was used in the development of Taolin to provide a user friendly experience to the employees. In order to improve the Taolin functionality, feedback from the user of the Taolin was considered to be an important factor in the development phase. This feedback involves sending improvement request form the users to the development team to add new or improve the existing widgets and functionalities. We found in our research that this feedback added in complexity to the tool as new widgets and functionalities were added as the development of Taolin proceeded. It was found that many added functionalities and widgets were not used even though they have been added through feedback suggestions.

5.1.2 Human Factors

5.1.2.1 Top Management Communication

In our study we were able to identify two factors related to the top management role in the developing, implementing and usage of the tool.

Social networking tools are implemented in the organizations to improve the work of employees by providing them access to up-to-date information, networking with other employees and sharing of information across groups. It has been seen that through social networking services the employees’ social network can play important role to accomplish projects and team related work (Nardi et al. 2002). The success of such services can only be realized if they can bring improvement in daily task and employees can relate it to their work. In this study it was found that employees were not able to achieve positive results in their work with the use of Taolin. It was seen as an entertaining tool in sense of chatting with the fellow employees and using of webcam for checking the queue in the canteen.

The implementation and use of SNS require proper support from the top management in the form of guidance and motivation. In this study it was found that development team and the implementing team failed to provide the support to the users of the tool in the form of guidance and motivation. Most of the employees still preferred to use the old system for information sharing with the fellow employees. There was a lack of motivation among the employees to use the tool.
5.1.2.2 Positioning of the Tool

It is a key issue to motivate the employees of the company to really start using the tool. That is why it is very important that the tool is positioned right in the mind of the employees. It is crucial that they perceive the tool in a way that it will improve their work and will make it time and effort efficient, it will give them support and unique opportunities to do their job in a better and more attractive way. Once the employees have this perception of the tool it will have a central place in their work and will be used by all of them. In the study it was found that the tool was not positioned in such way in the employees mind. They mostly perceived it as an entertainment and not work related which led to the point that a critical mass of users was not attracted to use it.

5.1.2.3 Information Sharing between Ties

The reason for developing and implementing the social networking service Taolin in FBK was to connect the employees with the weak and potential ties across the groups so they will benefit from the dispersed knowledge within these groups and it can be realized in terms of new ideas being generated. As argued by Granovetter (1973) weak ties are the important source of new information and knowledge and this new knowledge can be captured through implementing a technology that helps employees to connect with each other in an informal way. In the study we found that many employees use the Taolin tool mostly for connecting with other employees with whom they have strong ties. This was the opposite of what the organization wanted to achieve before implementing Taolin.

5.1.2.4 Behavior Imitation

One of the most important features of the SNS is users profile describing the user’s interests, hobbies, expertise and the information related to his or her work. This description is useful when employees do not have formal connections with other employees. This information also acts as a self introduction to other employees. In the study it was found that the champions, those who were the early adopters of the tool, had a long profile description showing their research interests and expertise. However, later on when new employees, invited by champions, joined the Taolin tool, they provided little information on their profiles in order to get the access to the tool. This behavior of the employees was than imitated by other employees while describing their profiles. This resulted in a profile description that did not provide enough information about the employees’ interests and expertise which is also referred as social capital. This kind of behavior is also seen in the usage of Taolin. One of the most interesting features of Taolin was the webcam canteen which allows you to see the queue in the canteen. As it is the most used feature in the Taolin platform many employees joined the platform just to use the webcam canteen feature. This behavior imitation resulted in that some of the features being used more frequently than the others, especially the one’s related to knowledge sharing.
5.2 Interpretation of Questionnaire Results

This section includes interpretation of the results obtained from the questionnaire. These results will be use for the triangulation of our study. The results and their interpretation are presented here in the Discussion chapter after the Failure factors because they are used to support and verify our findings.

Online survey was created on Kwiksurveys (http://www.kwiksurveys.com/). The survey was sent out to 200 employees who have used Taolin. We received 21 responses which makes a rate of 11% answering on the survey. The authors are satisfied with this respondent’s rate given the facts that the questionnaire was only used to triangulate our study and is not our primary source of data, most of the employees were on a vacation when the survey was sent out and there was a problem with the internal network of FBK at that time.

Table 5: Responses for question 2, 3, 4, 5 and 13

The majority of employees who pointed out that they are using Taolin for knowledge and information sharing think that Taolin improves their work. However, those employees disagree that the interface is easy to use and find it intimidating. They also point out that it was not easy for them to share knowledge/information via Taolin.

On the other hand, the majority employees that use the platform mainly for the webcam canteen and for viewing other users’ profiles think that Taolin does not improve their work, but the interface is easy to use and is not intimidating.

The failure factors that were presented in the previous section are concerned with why the knowledge sharing failed. The breakdown of the results favors that the user interface is not easy to use and intimidating when it comes to knowledge/information sharing.

Table 6: Responses for question 7 and question 8
Half of the employees think that the goal of Taolin was not clearly communicated to them. This leads to the conclusion that it is not enough the goal of the SNS to be stated only on the entering screen of the platform. 66% of the respondents say they were not given a proper guidance of how to use Taolin.

These results support that there is a problem in the communication strategy of the tool and prove the correctness of most of the human factors that were pointed as failure factors in the section above.

Table 7: Responses for question 9

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Responses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>14%</td>
<td>33%</td>
<td>52%</td>
<td>21</td>
<td>100%</td>
</tr>
</tbody>
</table>

85% of the employees that filled in the questionnaire agree that they do not read the e-mails from the platform.

This shows that the organization failed in motivating the employees to use Taolin as an e-mailing tool and supports the failure factor positioning of the tool that was pointed out.

Table 8: Responses for question 11 and question 12

<table>
<thead>
<tr>
<th>Question 11</th>
<th>I used Taolin extensively</th>
<th>Question 12</th>
<th>Most of my colleagues used Taolin extensively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>0%</td>
<td>10%</td>
<td>67%</td>
<td>14%</td>
</tr>
</tbody>
</table>

From the table with responses for question 11 and question 12 it can be seen that the majority of the respondents do not use Taolin extensively and they do not think that their colleagues use it extensively as well.

These results show that the organization failed in motivating the employees to use the tool which is supporting the Behavior Imitation failure factor.
5.3 Model for Developing and Implementing a SNS for KS

In this subchapter the suggestions about how to develop, implement and create necessity to use a SNS that facilitates knowledge sharing within an organization are discussed. These are the guidelines the authors of this paper suggest to be followed. These guidelines are a result of analyzing the case of Taolin, identifying the failure factors and deliberating about how to provide a model to follow which will help an organization to go through all the phases without repeating the mistakes that were already made. Because these suggestions are based solely on this single case, the guidelines show how an organization should go through the whole process, however the SNS that is going to be used is developed by the organization itself.

The final result is a model that guides an organization that develops itself a SNS that facilitates knowledge sharing internally. The colors show the grouping of the processes. The arrows in the model show the consequence of the actions. In the model there is one “decision” arrow which indicates a decision that has to be made in order to proceed to the next action. An explanation of the model follows after it.
Identifying organizational need for SNS that facilitates Knowledge Sharing

Involve Top management

Develop mission and vision of the SNS

- Development Strategy
- Identify key user requirements
- Key system requirements
- Develop around “key functionalities”
- Test with Focus groups

Communication Strategy

Communicate mission and vision and position the SNS

- Educate and train employees
- Create a necessity for using the SNS
- Reward based mechanism

Use of the SNS for Knowledge Sharing

Future application development

Fig. 5: Model for developing and implementing SNS for KS
**Identifying organizational need for SNS that facilitates Knowledge Sharing**

As we have discussed in the Frame of Reference, the organizations in these days need to share knowledge internally, so they can be able to sustain a competitive advantage. SNS which are used within the organization can provide really smart solutions to the problem with knowledge sharing. However, before moving through the suggested steps in the model, the organization should realize the need for knowledge sharing via a SNS.

**Involve Top management**

Once the need is identified, the next crucial step is that the Top management of the organization should be involved in each of the forthcoming activities. It is quite “healthy” when the executive power of the company supports such ambitious projects. Of course, on later stages of the implementation processes the idea that the Top management is involved, supports and stands behind the implementation of the SNS it will be really helpful.

**Develop mission and vision of the SNS**

When the involvement of the Top management is ensured a discussion about what the mission and the vision of the SNS will be started. This could be done by discussion meetings with the development team and the Top management team. However, before moving to the next step there should be a clear mission and vision statement.

**Development Strategy**

The next step is the elaboration of a development and communication strategies. Although the both strategies should be prepared simultaneously a discussion about the communication strategy will follow later on. In the process of elaboration of development strategy, again the development team and the Top management should be involved. Some key points of the development strategy are discussed as next actions in the model. However, one the most important things is that in the development strategy there must be a milestone which when reached a decision is taken to invoke the communication strategy and to start implementing the SNS for the whole organization and all the employees to start using it.

**Identify key user requirements**

One of the crucial things to be done is the identification of key user requirements. At first, this should be done by the Top management team with the help of the development team. The development team can give good comments on most of the user requirements suggested by the Top management team and as well, tell which one of them are feasible and can be realized in the SNS.

**Key system requirements**

Once the key user requirements are defined, they need to be broken down into key system requirements. Basically these key system requirements are statements, diagrams or models that describe what the system, in this case the SNS, must do to achieve the key user requirements.

**Develop around “key functionalities”**

Then the real development of the SNS begins. After conducting the interviews with members of the development team of Taolin, we came to the conclusion that it is better to develop the SNS around “key functionalities” as the developers suggest from their personal experience with Taolin. After the key requirements are specified, they have to be turned in-
to the key functionalities and the development of the SNS should start to circle around them.

**Test with Focus groups**

For all development processes testing is a vital part. After there is some development made it should be tested by selected employees from the organization which have formed several focus groups. When they have spent time with the SNS, a feedback from the focus groups should be received. Eventually, this feedback may lead to the identification of new key user requirements that have remained unseen by the Top management and the development team. Then the process of transforming these requirements into key system requirements and developing around the new “key functionalities” repeats itself.

The feedback can be useful to detect user interface problems, bugs etc. The repeating of these actions continues to the point when the milestone in the development strategy is reached and a decision made by the Top management, the development team and the focus groups is made. This decision is the communication strategy that is developed until this moment to be invoked and the SNS to be made central and available for all the employees in the company.

**Communication Strategy**

As it was mentioned before the communication strategy is incessantly elaborated with the development strategy and its elaboration continues during the development and testing phase of the SNS. When the decision for invoking the strategy is made, it comes into action. The following activities from the model are suggested components of the communication strategy that the authors think will be really helpful in trying to motivate the employees to start using the SNS.

**Communicate mission and vision and position the SNS**

The mission and vision statement of the SNS that were defined in the first steps of the model now should be clearly communicated to all the employees. It can be done on general meetings with the employees of the company where the SNS will be presented or it can be send via an e-mail to the whole organization and the e-mail should come from the Top management, preferably the CEO of the company. While the vision and mission are clarified, how the SNS will be positioned in the organization and in the daily work of the employees must be communicated too. The SNS has to be positioned in way that it is perceived by the employees as a necessary part of their job, as a tool that will help them to do their work better, for less time and by putting in less efforts.

**Educate and train employees**

Education and training are the most important thing in almost every work, action etc. The education and training make a person professional in a particular field. Education and training is needed if you want any success at all. So it should be provided for the employees, no matter in what way. It can be done via workshops, tutorial videos, written guidelines etc. While educating and training the employees there is a really good opportunity window to explain again why the implementation of the system is done and how it will help the employees. This clarification will be really helpful for the following action in the model.

**Create a necessity for using the SNS**

By creating a necessity for using the SNS it is taken in mind that the SNS should contain some unique features that cannot be accessed from anywhere else in the organization. This
and the previously mentioned positioning of the SNS (improving the work, time efficiency, less efforts etc) in the mindset of the employees should create the need for them to use the tool in their daily work.

It may have been a lucky shot, but in Taolin there was such a feature which was unique and actually attracted a lot of employees to register in the SNS and this was the webcam in the canteen. However, because of lack of other components the necessity for using Taolin was not created.

**Reward based mechanism**

The reward based mechanism always helps when it comes to motivating people to do something. In this case it will help the organization to make the employees use the SNS. Different kind of rewards can be invented. For example if the employee shares some useful idea or suggestion, he or she might be rewarded with recognition etc.

**Use of the SNS for Knowledge Sharing**

If an organization have managed to go through all the steps so far, the authors of this paper think that it will have a successful development and implementation of a SNS that is used by most of the employees in their daily work. This will result in a useful SNS that facilitates knowledge sharing within the organization.

**Future application development**

Now when the organization has a full functioning SNS that facilitates knowledge sharing within it, this SNS should be maintained and further developed in-house. The comments and feedback that is received from the employees may lead to changes in the SNS. For example new key user requirements may be pointed out. So the development team should always be ready to face future challenges and to shape the SNS in a way that it would adopt the future needs of the organization.
6 Conclusions

The purpose of this thesis was to investigate the failure of Taolin to satisfy the knowledge sharing needs of FBK. At the end the result was supposed to be the eventual failure factors and suggestions in the form of lessons learned.

The investigation of the failure was achieved through interviews with employees at FBK and questionnaires to verify our findings. The results are reflecting our two objectives:

- What are the factors that affect the diffusion of such social networking services within organizations?
- How to improve the diffusion and acceptability of social networking tools within organizations?

A table with the failure factors of Taolin was prepared and presented. The authors suggest that most of the time the failure of SNS to facilitate knowledge sharing in an organization is not a failure of the tool itself but an unsuccessful implementation and rejection of the SNS by the employees.

A model about how to develop, implement and create necessity to use a social networking service that facilitates knowledge sharing within an organization was elaborated and presented. The model represents the “lessons learned” and guides an organization through the steps that have to be made so it will not repeat the negative experience from our case organization.

This paper has focused on a social networking service called Taolin that was implemented in FBK for the purpose of knowledge sharing and management and in particular on the users’ experience with Taolin. The study is conducted on a single case and the approach used is inductive, that is why the results of the research cannot be generalized.

6.1 Shortcomings

When we conducted the interviews, the first one was done according to plan. We have started the second interview as planned too, however there was a connection problem and we had to send out the questions and they were answered with text and sent back to us via e-mail. The third interview was done the same way as the second one, this time by request from the interviewee. So we have sent our questions, they were answered and sent back to us. For both, the second and the third interview, there was an option for us to contact back the interviewees with new questions or questions about their answers. So it would have been better if we could have done face-to-face interviews instead but the resources were limited and we had to stick to Skype interviews and e-mails.

It would have been great if we had the time and access to successful SNS that are used internally in an organization. By investigating it, we could have given even a more detailed suggestion for a model and a comparison between failure and success factors. However, we were able to find an extreme case and we think it fits the time and scope limitations we had.

6.2 Relevance to Informatics

Social networking services are relatively new phenomena. It was enabled with the introduction of Web 2.0. The authors of this paper are convinced that it will be a huge area of interest in the Informatics field in the future and a lot of research will be done in this area in
the coming years, so the SNS will be enabled to reach their full potential, especially in the area of knowledge sharing within an organization. We are happy that our research can contribute to this area by giving an interesting view of the misfortune of such a service.

6.3 Future Research

Due to the limitation of time we were not able to touch upon all the factors connected to the human side of the implementation of SNS. It would be interesting to see a future research on topics like how to motivate employees to use SNS for knowledge sharing within an organization or how to better communicate and create a necessity for using SNS for knowledge sharing within an organization etc. As it was said in the previous section, we believe that a lot of research will be conducted in this area because a lot of organizations are realizing the power of the SNS and they will try to adopt such SNS for internal knowledge sharing. So finally, it would be really exciting if the model that was elaborated in this thesis can be tested in practice and further developed.
Appendix I: Interviews

Interview 1: Marco Rospocher

Q: We are writing thesis on Taolin tool and that’s why we would like to have this interview with you and basically in connection with this we are trying to find out why Taolin has failed and the knowledge sharing within the organization. So we have from 10 to 14 questions we would like to ask you. First we would like you to make a short introduction of yourself, like what are you working in the company etc

A: Ok, my name is Marco Rospocher and I am research scientist here, so I am basically working in a research unit which deals with a data and knowledge management, so we are doing research also in the area of semantic web, knowledge representation, knowledge acquisition, development of tools for knowledge acquisition and several other stuff.

Q: What was your connection with the Taolin platform?

A: Well it is a platform that we sometimes use to internal sharing let’s say information or actually one of the main use that we do is to check the length of the queue in the canteen, there is an application there on which you can see the webcam of the queue in the canteen and it gives you an information whether it is appropriate let’s say to go to lunch at that time or to delay it.

Q: Ok, so what was your overall impression of the platform?

A: I think the platform is nice in a sense that the interface is quite simple, it is highly customizable thanks to the widgets, so you basically can choose what to have in the interface. There are some useful features let’s say like the search, so you can for example search the profiles of the other persons, so you can look for a person which has similar hobbies or research interest as yours, searching by a key word basically. You can also check new comments, so you can have a list of the new people coming, so you can see how people change in your organization and there is also a possibility to post and read the announcement made by some other users like announcement for looking for selling a car or stuff like that.

Q: So did you find it easy to work with it?

A: Yes, I think it is quite easy to use it, I mean it is a web interface so at the end if one is familiar with that it is quite simple, yeah I would say it is quite simple.

Q: OK, so was there anything you didn’t like in Taolin?

A: I don’t know. Nothing relevant I would say, in a sense that sometimes there were some issues like I don’t know technical things and there is the possibility for me to send some comments or feedback to the people developing the platform and every time basically the thing was fixed after the warning, the suggestion let’s say. Sometimes it is a little bit to slow the interface to load but I don’t know if it depends on my machine, the server or something let’s say intrinsic in the technology, some of the widgets get some time to load, but probably it is quite normal.

Q: Do you think Taolin was helpful, in a way like knowledge sharing and sharing of information within the organization?
A: I think it was useful, let’s say on a personal basis because as I see it, it is very oriented towards a personal use in a sense that there is a lot of information you can use to contact other people, to look to the profiles of other persons. For the work itself, I would say, I haven’t used it very much, so I don’t know if it is just a matter of the usage or it is a limitation of the tool.

Q: Did you have an impression that other users, other employees of the company, were using it as well?

A: Yes, I think there were quite a lot of people using it regularly. There is a sidebar in the system where you can check what are the latest changes, comments etc. And you can see that there was a group of users which were doing quite a lot of activities, so I think there were some people that were using it very extensively.

Q: What were the activities? Can you name some? Were they chatting with each other or were they sharing files?

A: It was something more like posting comments on other users’ pages, there is a possibility to set your status and your mood message, like in Skype, so a lot of people were commenting on this mood/status message. Other things were related to posting of announcement. So if someone was posting an announcement on the board with announcement, it occurs that people are replying to that with comments. And feedback was traced, so it was possible to see if someone was sending feedback, but it was not possible to see the specific feedback send to the system developers.

Q: Then, do you know why do you want to have Taolin application at first place and what was the target before implementing it was it group or personal?

A: I have no idea about it or why they have chosen Taolin. I know that the idea was to put together a system for the whole company, so for around 400 people. I don’t know if actually now all the employees can use it, and are registered users, but at the beginning it was just a test case with around 50 people and then they extended it to other users after the test phase.

Q: So I would like to ask you personally what do you think are the main reasons of failing in Taolin?

A: I cannot probably make a general statement, what I can tell you is why I am not using it that much. And the reason is that personally I am not an user of other social networking tools, so I don’t use Facebook, I don’t use Twitter, I don’t use any other kinds of social network. On the organizational level if I want to contact a person, I probably pick up the phone and call him. We have already the official website which provides information, more or less in which unit this person is working, which are his contacts, details. So if I have to look for the phone number for example of a person, I go to the website also because I don’t have to log in the system. As I said the main feature I used was the webcam for the canteen, because that was really useful. But apart from that I have posted some comments, probably 10 times in a year or something like that. I don’t know. As I said I am not a big fan of social networking tools, so that’s why I haven’t used it very much.

Q: Did you have any other technology or software for knowledge sharing before Taolin in your organization?

A: I don’t think we had something at the level of the whole organization. At the level of research unites we sometimes use google documents for sharing documents for example.
We also have SVM technologies and wikis sometimes, but apart from that no, it was the first attempt.

Q: So this Taolin tool was for sharing information between the groups within the organization?

A: Yes, I think the reason was to have some kind of tool to share knowledge among the whole organization.

Q: Yes, but on group or on personal level?

A: On personal. Yes, you log in personally, so you are let’s say you versus the rest of the organization. For example I don’t see a place in the system where to upload, to share documents. I don’t see it! So it was sharing information but not probably… I know there is a wiki associated to the tool but it was not really within the tool, so I don’t know if we can call it part of the tool or not.

Q: So you mean the interface wasn’t done really good in terms of for example sharing these documents?

A: I mean, I don’t see a place within the interface where to upload or share documents, I know there was a wiki external to it, where you can put information in a wiki style.

Q: What is your opinion about the user friendliness of this tool?

A: Interface was quite simple to use and it was a web browser

Q: Feedback sent personally about the unable to find the documents sharing section on the tool?

A: I sent feedback related to bugs and suggestions, e.g. there was a bug at a certain point you were not able to put in the search field a year like a 1980 and you were able to see the employees date of births which is for privacy is not very common and I submitted the feedback which was taken in consideration and the problem was fixed. Other things was misalignment between information showing different widgets e.g. in a widget you were able to see certain list of publications for a user while in the other one the list was different but they explained me that they were accessing different equation of the database and they fixed it.

Q: What kind of information being shared on the tool.

A: I sent a couple of announcement to the board of the announcement for the students looking for the flat. Mainly I used it for the announcement.

Q: Are you still using some functionality in the tool or you have stopped using the tool.

A: I am still using the tool just for webcam to see the queue in the canteen.

Q: Was it officially announced that Taolin failed to achieve the desired goals?

A: It is not announced in the organization at least I have not heard of it. Even now I see people they use Taolin for commenting on other profiles.

Q: Do you think using the social networking tool like Taolin has a negative effect on the productivity of the employees?
A: I don’t think so! I found it quite useful in certain aspects like board announcements webcam some time to search for people with similar profiles and some use to see a photograph of the other people who sent the emails to see the person actually the name referring to.

**Interview 2: Paolo Massa**

Q: Can you make a short introduction of yourself?

A: My name is Paolo Massa. I have been working in FBK since 2001. I got a Phd in Computer Science working on trust networks from University Trento in 2006. I have been leading the Sonnet group in FBK since 2008.

Q: What was your connection with Taolin?

A: It is the first thing we developed as SoNet (http://sonet.fbk.eu). The goal was getting hands-on experience on what does it mean to introduce web2.0 and social networking inside the enterprise and since we were working at FBK we did it in FBK. It was four of us working on Taolin: Paolo Massa and Maurizio Napolitano were thinking mainly about requirements. Marco Frassoni and Davide Setti were mainly developing the code. http://taolin.fbk.eu has screenshots and videos. And also the source code, the source code is open source.

Q: What is your overall impression with Taolin?

A: The goal was to move away users from email for internal communication. It didn't work very well. It is too complicated. We didn't know what could be successful so we added lots of functionalities. This is too complicated and does not have a "precise" identity and functioning.

Q: Did you found it easy to work with Taolin? If not then why?

A: From a technological point of view, coding Taolin was mainly done by Marco and Davide and they were skilled, so for them working was ok. If you mean, working in FBK by exploiting Taolin, since Taolin did not attract a critical mass, it is not too useful per se. The functionalities most used are: see photo of colleagues (we are around 400 in FBK), check the queue for the canteen (there is a web camera that can be accessed only through Taolin), some people use the internal chat. I use a lot a widget for sending request to technical support and to secretariat but few people do it because they prefer to use email.

Q: What did not you liked in Taolin?

A: There were too many things you could do. And so nothing was the right thing to do. As a developer, I enjoyed working on it and I think we learnt a lot from the failure in adoption. For example, adding a webcam showing the queue for the canteen was easier than developing most of the other widgets but this is the main reason people asked to enter in Taolin and use it (There is a peak of users around 12:00-14:00). So, often adoption is driven by non-anticipated things, sometimes very simple things from a technical point of view.

Q: What do you think are the main reasons Taolin failed?
A: The interface is too complicated and it was not clear how this should improve your job in FBK.

Q: Was the user interface too complicated for you to use?

A: YES. Too many options, buttons, widgets, it was intimidating for most users.

Q: Do you think Taolin was helpful? If yes, in what way?

A: As a user, it could have been with larger adoption. Now it is useful mainly for seeing the face of your colleagues. As a developer, it was very useful since we learnt a lot by developing it.

Q: Was the feedback useful?

A: The feedback we received was very very useful. Still, as it is known in literature, often what you say is different from what you really think. For example, a user might say "add functionality A", we add it, and then A is never used.

Q: Did you feel comfortable in sharing information via Taolin?

A: I did. But probably other users didn't. Possibly, it was too playful and not too much "work-related" but this was our choice since we wanted to drive adoption through sociality and also to make the work environment more playful and relaxed, more 2.0 so to speak.

Q: Were you able to get information and knowledge shared by others in the system? If yes was it easy to understand and interpret the information and knowledge share by others?

A: There was not too much info shared by other users, so the answer is: "no, I was not able".

Q: What was the attitude of the users regarding to sharing information and knowledge with Taolin?

A: In the beginning some users described themselves probably copying the behavior or early adopters, i.e. us developers. My profile description is 40 lines long. Later more and more users just wrote the name of their department and a few words about their work – around 5. Following users started to copy this behaviour.

Q: Why did you want to have the Taolin application to be developed?

A: It was an effort to exploit web2.0 inside FBK in order to improve knowledge sharing, collaboration and make the workplace more pleasant and easy.

Q: Where did you think were the main problems for Taolin?

A: We should have devoted more time speaking face to face to potential users and less developing. More focus groups. Still it is hard to get "real" requirements from users. Probably we should have bet on 1 or 2 functionalities, no more, and make the website around them, with fewer buttons and possibilities.

Q: Was the failure related to Taolin tool inability to share knowledge or failure in the system itself?

A: In the system itself I would say. Few users used it.

Q: What kind of information have you shared through Taolin?
A: My descriptions, even personal and chat messages.
Q: When did you stop using it?
A: I'm using it much less since five months, more or less.
Q: How was the mission of the tool communicated?
A: In the homepage where users had to login. This is the text:

Welcome in desktop.fbk.eu!
If you are a Champion, please enter your FBK username and password in the form below.
If you are not a Champion, please read the rest of the page.
Login
Username: 
Password: 
Login

What is desktop.fbk.eu?
It is an internal web platform whose goal is to increase the collaboration and knowledge sharing inside FBK.

Really? I would love to try it. What should I do?
At the moment, desktop.fbk.eu is under testing with a small number of Champions, colleagues who volunteered in order to help us improve the application.

Ah ok, then I would really like to be a Champion!
We're glad you do and thanks! ;) If you would like to help us in testing the system, provide feedback and give suggestions about new features, please, do send an email to sonet@fbk.eu saying you want to be a Champion! We will reply in few minutes.

Who is working on desktop.fbk.eu?
Happy you asked! The answer is "the Sonet group", you can find info about the Sonet group on the project Web page.

Q: How was the tool used for cross-group knowledge sharing?
A: It was not used and honestly, we were waiting larger adoption before introducing tools for knowledge sharing. There was also an internal wiki but this has reached even smaller adoption.
Interview 3: Maurizio Napolitano

Q: Short Introduction of the respondent.
A: Maurizio Napolitano, technologist FBK. Co-founder of the research group SoNet (short for Social Networking), FBK Foundation (Trento, Italy).

Q: What was your connection with Taolin?
A: One of the SoNet missions is the applied research on social networking. Among the issues that we study there is the Enterprise 2.0. The first goal of Taolin was to be an Enterprise 2.0 application. I'm one of the developers.

Q: Why did you want to have the Taolin application to be developed?
A: The idea was to create a living lab where to learn and study the problems, to create and manage this kind of software. After an initial investigation did not find open source software that can offer a dashboard (in the style of igoogle or netvibes) with social functions adaptable to the information infrastructure of FBK.

Q: How was the mission of the tool communicated?
A: Improve the aggregation, collaboration, sharing and dissemination between the FBK colleagues. Look this presentation: http://www.slideshare.net/napo/introduce-the-sonet-project-presentation. The instance name of Taolin in FBK is desktop.fbk.eu. This is because of the goal and that FBK users recognize desktop.fbk.eu as work space to meet others.

Q: What is your overall impression of Taolin? (user and developer perspective)
A: A failure. Everybody declare that is an interesting project, but the users are connected to the system just to see the queue of access to the canteen. It takes a lot of energy to have someone (a community manager) always ready to encourage the others to find the application comfortable. To the developers' side, it is hard to keep up to date with the information system of FBK. We are not part of the staff that takes care of FBK infrastructure, so all the new applications are created outside the control of Taolin. This isn't good to develop a strategy.

Q: Explain your experience from working with Taolin? (Was it easy to work etc…)
A: Taolin is my idea so... I love it and I use it. For me it is useful to find more information about my coworkers but that isn't the same idea of the other coworkers because, to the first impression the people can't understand this power and search this information by other ways and forgot the Taolin features (Not use = forgot) In any case, the first solution to ask internal information is always the email or the direct knowledge of some “hub” people.

Q: What didn’t you like in Taolin?
A: The interface.

Q: What do you think about the user interface of Taolin (Was it too complicated or easy to use etc…)?

A: Too many windows.

Q: Tell us something more about the chat feature in Taolin.

A: The chat behind Taolin is a jabber server. The people can use it with a normal client. The chat status is used as asynchronous system to exchange information between the users.

Q: Do you think Taolin was helpful? If yes or no, explain in what way?

A: It can be helpful if the people know better the application and can read the email from the platform. It is helpful to know: the queue of access to the canteen, birthdays, faces and phone numbers.

Q: Was the feedback useful? (Was your opinion heard and taken in consideration) Please elaborate.

A: During the development time, it was very useful to improve the features.

Q: Tell us about your experience with sharing information/knowledge via Taolin.

A: I’m one of the developers, and I stay everyday as welcome to the other people. I’m not the right person for this answer, because I do everything to improve the users’ experiences. There are nice stories in which some cats have found a home or some more professional where many people have found suggestions solutions for software development.

Q: What kind of information have you shared through Taolin?

A: Personal and professional. Some about “civic sense” (like suggest a petition), some about organizational proposals for improving the workplace, about tips at work, funny sentences to improve humor between co workers...

Q: Elaborate on how were you able to get information and knowledge shared by others in the system?

A: Very easy: there is the research function in Taolin and the timeline area shows all the last information created by the users in the application. So: watch and read.

Q: Was it easy to understand and interpret the information and knowledge share by the others?

A: The traffic generated by the users wasn't so big, so no confusion. Most of the information is auto generated by the system by reading information from the FBK database updates and by the users’ actions. The user generated information is little, but clear and direct to understand.
Q: What was the attitude of the users regarding to sharing information and knowledge with Taolin?

A: The user fill the personal information to the first login in the “Taolin life” later the attitude is very slow. Sometimes, some users update the personal information and others by reading the timeline area repeat the action.

Q: How was the tool used for cross-group knowledge sharing?

A: Not so much. Sometimes it is used to contact directly some “hub” people, head of groups, expert people recognized as such by most users.

Q: Was the failure related to Taolin tool inability to share knowledge or failure in the system itself? Please explain.

A: It is hard to say. I think the real problem is the lack of truly useful tools where to find information about life in FBK. The first problem of the users is to solve their needs. If the administration decides to put all the FBK information inside this instrument, perhaps people would stop using e-mail for information.

Q: What do you think are the main reasons Taolin was not successful?

A: A few users. Poor usability in the interface. Too many alternatives to find information outside of Taolin.

Q: Are you still using Taolin. If yes, which features you are using?

A: I use it because it is my project so I know perfect its power. I can repeat again that the most common use is to check the queue of the canteen during the lunch and find people's name to associate the face.
Appendix II: Questionnaire

1. How did you start using Taolin?
   a) I was a developer of Taolin
   b) I was chosen to be a champion
   c) I was invited by the champion
   d) I was willing to become user in Taolin
   e) Other (Please specify_____________________________)

2. I am using Taolin platform mostly for
   a) Searching and looking at other users’ profiles
   b) Webcam canteen
   c) Chat
   d) Knowledge and information sharing
   e) Other (Please specify_____________________________)

3. Taolin improves my daily work in FBK
   Strongly agree    Agree    Disagree    Strongly disagree

4. Taolin user interface is easy to use
   Strongly agree    Agree    Disagree    Strongly disagree

5. Taolin user interface is intimidating (a lot of functionalities, increasing complexity)
   Strongly agree    Agree    Disagree    Strongly disagree

6. Taolin interface has inadequate widgets and features
   Strongly agree    Agree    Disagree    Strongly disagree

7. The goal of Taolin was clearly communicated to me
   Strongly agree    Agree    Disagree    Strongly disagree

8. I was given proper guidance for how to use Taolin
   Strongly agree    Agree    Disagree    Strongly disagree

9. I read the e-mails from the platform
   Strongly agree    Agree    Disagree    Strongly disagree

10. I used Taolin to find information about my coworkers
    Strongly agree    Agree    Disagree    Strongly disagree
11. I used Taolin extensively
   Strongly agree  Agree  Disagree  Strongly disagree

12. Most of my colleagues used Taolin extensively
   Strongly agree  Agree  Disagree  Strongly disagree

13. It was easy for me to share the knowledge/information via Taolin
   Strongly agree  Agree  Disagree  Strongly disagree

14. What didn’t you like in Taolin?
___________________________________________________________________
List of references


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