“Considerations for the design of Social Software for the Enterprise: How to support social interaction in the work environment?”

A qualitative analysis from an interaction design perspective

Thesis in Interaction Design
Bachelor Degree

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Content

Introduction .............................................................................................................6

Nevesi .........................................................................................................................6

Background .................................................................................................................7

Generations of the intranet .........................................................................................7

Social Software Enterprise 2.0 today- the fourth generation .....................................7

Prior research of SSE usage .......................................................................................9

Research Question ......................................................................................................9

Purpose .......................................................................................................................10

Limiting Research ......................................................................................................11

Selection .....................................................................................................................11

Company A ..................................................................................................................11

Company B ..................................................................................................................12

Company C ..................................................................................................................12

Financial Crisis .........................................................................................................12

Research Context .......................................................................................................13

Prior research on social media ....................................................................................13

User motivation ..........................................................................................................13

Participation ...............................................................................................................13

Designing for Social ...................................................................................................15

Individualized technology and de-massification .......................................................16

Tunnel vision and design .............................................................................................17

Social as resource or constraint in design .................................................................17

Background is the practice? .......................................................................................18

Network of practice ....................................................................................................18
Knowledge Management
Organization Memory and Organization Learning
Organizational knowledge
Meaning Through Context and Narratives
User attitudes towards KMS
Organizational Culture

Method
Semi-structured interview
Interviewees
The interviews
Transcription
Validity
OCAI – Organizational Culture Assessment Instrument
CVF - Competing Value Framework
OCAI
Culture Types – in OCAI
Approach
Distribution
Paper Prototype Interview

Results and Design
Limiting
Data
Company A
Management
Employees
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilemma</td>
<td>33</td>
</tr>
<tr>
<td>Design Concept – Company A</td>
<td>33</td>
</tr>
<tr>
<td>Description</td>
<td>33</td>
</tr>
<tr>
<td>User testing</td>
<td>34</td>
</tr>
<tr>
<td>Validity</td>
<td>34</td>
</tr>
<tr>
<td>Test – Paper Prototype Interview</td>
<td>35</td>
</tr>
<tr>
<td>Chosen Screenshots (2/participant):</td>
<td>36</td>
</tr>
<tr>
<td>Screenshot 3</td>
<td>36</td>
</tr>
<tr>
<td>Screenshot 6</td>
<td>37</td>
</tr>
<tr>
<td>Design Iteration – PSST</td>
<td>39</td>
</tr>
<tr>
<td>Company C</td>
<td>40</td>
</tr>
<tr>
<td>Management</td>
<td>40</td>
</tr>
<tr>
<td>Employees</td>
<td>41</td>
</tr>
<tr>
<td>Dilemma</td>
<td>41</td>
</tr>
<tr>
<td>Design Concept Company C</td>
<td>41</td>
</tr>
<tr>
<td>Description - “Burst the Bubble”</td>
<td>42</td>
</tr>
<tr>
<td>Generic Design Concept for social interaction at the work place</td>
<td>43</td>
</tr>
<tr>
<td>Design for awareness</td>
<td>43</td>
</tr>
<tr>
<td>“Coffee Button”</td>
<td>43</td>
</tr>
<tr>
<td>“Coffee Room Activity”</td>
<td>44</td>
</tr>
</tbody>
</table>

**Discussion** ........................................................................................................45

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Organization</td>
<td>45</td>
</tr>
<tr>
<td>Transparency and Control</td>
<td>45</td>
</tr>
<tr>
<td>Anchorage In The Organization</td>
<td>46</td>
</tr>
<tr>
<td>The Value of Social Interaction</td>
<td>47</td>
</tr>
</tbody>
</table>
Introduction

This study is motivated by several factors. First, the current increase in the number of products developed for business labeled “social software” to support social networking at work. Secondly, there is a great deal of skepticism and question marks concerning social software’s usefulness, usability and added value to the corporate world. There is also uncertainty of the side effects and how these factors can be measured and concerns if a SSE can act as an integrated part of the daily routines for employers work or not.

Online social networking is slowly making its way into the enterprise world for two main reasons. First, many large enterprises are located at different sites and there are issues in communication and cooperation between teams and employees spread over the world that have to communicate. Incitements for using social software in enterprise are also closely related to the strategy of a one business system for the whole enterprise. Secondly, as an employee generational shift takes place and established ways of socializing in private life often include using Social Network Services (SNS).

There is skepticism towards Social Software (SS) and (SNS) in the corporate world concerning its value, use and Return on Investment (ROI). There have been measuring and analysis of quantitative data derived from SNS activity that can display interconnections between nodes but reflects nothing of the nature of the content shared between these nodes. This technical approach in creating incitements for investing in SS does not seem increase credibility for Social Software Enterprise (SSE).

Nevesi

Nevesi is an IT consultancy located at two sites; Copenhagen and Malmö. Nevesi develop their own IT-solutions for companies and organizations as well as they are a business partner with IBM. This thesis has its origin in the Nevesis’ need for information about how their customers think of SSE and in what way this type of software could be of interest for them. Nevesi wanted a working routine analysis to identify sale incitements for the IBM product Lotus Connections™.
Background

Generations of the intranet

The first intranets in organizations appeared in 1990-1991 and were established as a term in 1992. First generation intranet web applications displayed static information and fixed content with slow and tiresome updates (Copeland & Hwang, 1997). The primary problem with this first generation was to get the employees to use it in the first place and in the long run to share and publish information. Studies at the time addressed it as cultural resistance against new technology (Reamy, 2004). The second generation allowed interaction from its users towards external databases using queries to search for content (Copeland & Hwang, 1997). Third generation intranets fed dynamic content from databases into static html format web pages and meet the corporate need for daily updated information better than previous generations and maintenance is now done from the database (Copeland & Hwang, 1997).

Social Software Enterprise 2.0 today- the fourth generation

SSE makes it possible for employees to take control of their own personal presentation and add more information e.g. work experience, education and interests and so on. Today's intranet is no longer one-way information feeds with news from the leading group or by chosen contributors.

A traditional way of present employees in an intranet can be compared to an address book: name, title, contact information and sometimes with a photo, and is often generated by the administrators. Our research shows that it varies between different social software how much and what kind of personal information one can share. Also, depending on the software, users can e.g. write blogs, share bookmarks, upload photos, create groups, share activities/calendar, comment on other peoples content, and make list or surveys.
The software included in our study was Lotus Connections, Lotus Live, Beehive, SharePoint, Moli and SelectMinds.

Overview and comparison of SSE software

<table>
<thead>
<tr>
<th>Activities/Events</th>
<th>IBM</th>
<th>Lotus Live</th>
<th>Moli</th>
<th>SelectMinds</th>
<th>SharePoint</th>
</tr>
</thead>
<tbody>
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<td>X</td>
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<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>Meeting Room</td>
<td></td>
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<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal profiles</td>
<td>X</td>
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Social networks can also be stretched outside the organization. IBM describes their social software Lotus Live™ as an “essential collaboration services to simplify and improve your daily business interactions with customers, partners and colleagues”. This is similar incitements to how other social software developers, mentioned above, promote their social products. SSE is described as tools to increase productivity and innovation, find information effectively, find competence or just a specific person, and improve the interaction and collaboration between co-workers.

The main difference between Social Software (SS) and Social Software Enterprise (SSE) is that the latter also offers tools for collaboration and other work related tasks.

There are two types of technology solutions for social software today. Social software can be installed at the company’s local server or on the employees’ computers. Secondly as Software as a Service (SaaS), which means delivering software over the Internet (Microsoft, 2009). It is a service one can subscribe to and easily connect with wherever there is access to the internet. A similar type of technology applied to social software is “cloud computing” which is web-based and offers services from different locations collected in an interface, in the “cloud”, and presented as a unified web-application.

For social software it is essential that people contribute and use it frequently for sustainability, but what if the majority does not want to participate? The success and
sustainability of a social network is highly dependent on the user’s contribution level (Farzan et al. 2008:563).

**Prior research of SSE usage**

There are many articles, blogs and papers on the Internet concerning SSE. A great part of the prior studies are performed by people from IBM and describes their own products e.g. Beehive (DiMicco et al, 2008). There are also other authors that writes about SSE, but few focus on the business context and looks more into how to motivate users to engage in SS and how to make them contribute more. The lack of articles describing the actual use of SS in an enterprise context and the effects of it makes us wonder if the corporate world is ready for a SS. And how many organizations that have implemented a SSE remain unanswered.

**Research Question**

“Considerations for the design of Social Software for the Enterprise: How to support social interaction in the work environment?”

Our research question is to come to an understanding of which mechanisms that are present when it comes to social interaction in the work environment and how to design for them. It is a qualitative analysis from an interaction design perspective.

As a research team we found ourselves researching in a “gap” with discrepancy between the fast pace of software development of social software, stubborn employees and their social practice and the question of social software’s usefulness. We are in a time of awaiting indication of usefulness and Return On Investment (ROI) where no one wants to try the new flavor of doing business first.

In researching the usefulness of social interaction in a work environment earlier research states clearly the need for a shared social context and background. In order to do so location pays a major role for social interaction to have any meaning and make sense (Brown & Duguid, 2006). With the phenomena of a non-localized and representative online virtual context, the description Social Network as a concept of context could be regarded as deceptive in what it implies to delivers back.
In the beginning of formulating our research question we asked ourselves – “What is the added value and side effects of a large in-house social network, accessible for everyone providing the possibility for communicating over team, department, company and geographical boundaries, attempting to personalize the employees and their knowledge? Does this type of social “boosting” of the enterprise really connect with what employees’ value and associate with the concept of social interaction within a work environment and what is lost and gained in the virtualization?

As enterprises strive for effectiveness as a whole the question arises: what articulated common needs or goals do the social network addresses in a business context? Or rather: what is common ground for employees concerning cultural and practice aspects?

This thesis explores the entry of a new paradigm or discourse in interaction design for social interaction both in the physical working contexts and computed context. It’s a qualitative analysis of the concept Enterprise 2.0 from an Interaction Design perspective. This perspective suggests that we as interaction designers take a step back and start to ask the more difficult questions with concern of the end users as well as challenges the business faces in such an enterprise. These questions concerns firstly the practical impact on everyday work and secondly the power symmetry and control such a system suggests.

This leads us to design and how we best conceptualize and meet the articulated desire from management of more social interaction among employees, and the employees practice of social interaction with their robust structures, very much on a face to face level. And what kinds of social interaction could be relevant and what function does it have?

**Purpose**

The purpose of this study is to explore the concept of social software and social networking and the possible use and user attitudes towards them. It is also to investigate the possible upcoming and need of a new paradigm, discourse or framework within the field of Interaction Design. We want to try to capture the
aspects of designing for social interaction in a business context with emphasis on what design of social technology needs to consider.

This study primary explores the personalization of the employee in SSE. This is what distinguishes SSE from its predecessors in intranets. Early interviews with management also showed that the organizations in this study highly valued close social relations among employees and goal of “we-ness”, in order to make work more efficient, and confirmed the importance of more personal social interaction to reach this. There are also the collaborative aspects of SSE where research shows that social relations and the aspects of personal context are of importance in order to make collaboration work. SSE as a concept offers features such as profiles in order to build more personal relationships in the business context. But what are the mechanisms behind building relationships between people and does design of SSE consider them?

Limiting Research

Selection

Four companies were chosen to be a part of the study. The Companies A, B and C are all customers to the IT-consultancy "Nevesi" and therefore our primary choice in order to get access (which later will be shown to be a deceptive conclusion). Our interviewees from these companies were the ones "Nevesi" had as contact persons, and these were all some sort of IT-manager.

Company A

Company A is owned by a Norwegian enterprise with ca 1300 employees at five sites in Sweden. Main office and two factories are situated in Eslöv, Sweden. Company A develop, promote and sell drinks and food with famous Swedish brands. They have about 1300 employees at five sites in Sweden. Main office and two factories are situated in Eslöv.
**Company B**
Company B have about 600 employees around the world, of these 165 are situated in Sweden at six locations. Main office is placed in Malmö Sweden. It is the parent company and together with the daughter companies they work with products for industrial automation divided in three fields; Automation, HMI (Human Machine Interface) and IDC (Industrial Data Communications). Automations sells products from other manufactures, HMI develops and sells operator panels and IDC develops and sells data communication solutions.

**Company C**
Company C is a supplier of on-board railway systems such as air conditioning solutions, platform screen doors, moving steps, interior doors and more. They are situated at 42 sites in 20 different countries with the main office in Paris France. Company C employs about 5000 people.

**Financial Crisis**
An article from the website of Dagens Industri, shows the result of a survey done by SEB about what Swedish finance managers thinks about the financial crisis we have today. About 60 % of the managers, participating in the survey, believe that their company will decrease the numbers of employees. Ebba Lindahl, analytic manager at SEB, says in the article that a sign of a tougher business climate is when enterprises increase their focus on savings and employee cutbacks (Dagens Industri, 2009).

The financial crisis seemed to be of great influence for our project. The feedback we got when presenting the project plan where that it was too time consuming. None of the IT-Managers believed that our study was executable due to the need of prioritize work related task over research because of the crisis. At company A it was also close to a product launch, and time was something they did not have. Even though we re-designed the test in order to significantly reduce test time, none of employees or contact person, at the companies had the time to take part in a study.
Research Context

Prior research on social media

User motivation
Social networking in the context of the enterprise could lead to several things according to what intensions people have. DiMicco et al describes three types of motivation for engage in an Enterprise Social Software, *caring, climbing* and *campaigning*.

*Caring* refers to strengthening the bonds with weak ties, maintaining relationships with co-workers that one cannot meet in persons or you often do not have time to socialize with. *Climbing* and campaigning are focused on career advancement of the individual where building relationships with persons higher up in the hierarchy can serve a purpose in the long run if a career opportunity shows up. *Campaigning* for ones projects and draw people’s attention to it can generate interest and maybe more resources (DiMicco et al, 2008: 716-717).

Donath & Boyd speaks about a specific behavior that can be associated with “social climbers”. They display a “impressive but imaginary resume’” of themselves by dropping names of famous friends within their social network and take advantage of the fact that it is difficult for the receptors to evaluate the truth in the stories (Donath & Boyd, 2004:72).

Even if there is a difference between in what DiMicco et al (2008) and Donath & Boyd (2004) describes, there is also a connection; people wants to be seen using the social network either for climbing in career or social status.

In the article *Virtual social climbing* Mariana Krakovsky writes that connecting through online networks might be less valuable than meeting face to face. Social software might speed up connections but will the connection have the same validity as if people met in real life (Karakovsky, M, 2004).

Participation
Social network systems are complex communities, which depend upon its users for sustainability and quality. So in order for SSE to truly reflect the organizational
culture and effectively be a part of everyday work it must engage a majority of its members. Otherwise it would mean that a small number of its members indirectly represent and therefore greatly influence the whole community.

Nielsen (2006:1, 3) writes on participation inequality where studies show that participation in online social networks often can be described as a 90-9-1 rule. It means that 90% of the members so called “lurkers” do not contribute, only reading and observing, and 9% only contribute from time to time leaving 1% to contribute 90% of the content.

When it comes to blogs and wikis the case of inequality goes deeper and active participation are as low as 0.1% respectively 0,003%. Nielsen also takes an example of Amazon where only 1% of the customers review books (Nielsen, 2006:2).

Nielsen points out several problem areas as an effect of this inequality such as misleading customer feedback, search engine result pages since 0,1% of the users do the most linking relevance for the remaining 99.9% of users and the decreasing quality of postings with the increasing number of posts made by same users with little left to say (Nielsen, 2006:3).

So what can be done to the unequal participation the whole community? You cannot, according to Nielsen, but he suggests few pointers to at least make participation less unequal such as:

Lower thresholds for contribution.
E.g. rating with stars rather than written review.

User participation could be effortless but with visible side effects. Design for visible side effects can be seen in “read wear” and “edit wear” a term coined by Hill describes how users reading and editing of shared documents “wears off” and are visualized for coming users to view how the use of a document leaves marks (Hill & Hollan 1992:3). The same idea has been used by iBlogVis to visualize the entries in a timeline and comments in a “read wear” manner (Indratmo et al. 2008:2-3).
Editing in existing templates which provides a gentler learning curve.

Rewarding participation to motivate but moderately to avoid domination by very active users. Farzan et al researched on a rewarding system of participation with a point-based system in an enterprise context, where users ended up in different status classes based on the points gained. It showed that the point system works as an incentive for increase in participation by the members in the community. It also showed that the increase in participation is only temporary and takes place in the beginning of three weeks of the introducing of the reward system. Later the overall participation rate flattens out to the previous level (Farzan et al. 2008:569). The data was derived the participation of a control group, which did not see the point system and an experimental group who saw the points. But even in the experimental group the majority (72%) of it members did not notice the point system. Even so, Farzan et al (2008:570) conclude that members in the experimental group who did notice the point system participated more anyway.

This result points out two things. First, if a reward system is implemented it do not have a full impact on the community as a whole if it is not made visible. Second it makes it hard, if not impossible, to draw a valid conclusion from the result and can only be interpreted as tendencies.

Promote quality contributions that have proven their value through reputation ranking. Cheng & Vassileva’s researched on a rewarding system in the “Comtella” community with implemented incentive mechanisms with ratings on the quality of contributions. It showed that members contribute more ratings and material more quickly in the presence of such a system (Cheng & Vassileva, 2006:342). The question if the ratings indeed improve the quality in contributed material still remains unanswered (Cheng & Vassileva, 2006:346).

**Designing for Social**

“Social” seems to be the latest hype of IT-business development in a time of exceptional fast technology development. It addresses very rigid and robust institutions of human life which implicate that the design of such technology has to adapt to the social worlds of humans rather than the opposite.
Brown & Duguid’s (2006:85) standpoint is that the design of technology for enterprises has not taken adequate account to the demands of working life. Instead, design has often come from an idealized scenario of the ways employees work. Designs often underestimate their target and do not take on the more difficult challenge of designing for the resourcefulness of people, deeply embedded in the ways of practice and what the users really care about (Brown & Duguid’s, 2006).

**Individualized technology and de-massification**

The idea of every worker as an island, more or less physically isolated, heavily dependent on the internet or intranet as the channel to the working world implies freedom to choose with whom, how and when to interact, attend conferences and meetings instantly and remotely. It raises questions of what it is that tie people together in a conventionally office and how do we avoid designing for an idealized scenario of working (Brown & Duguid, 2006:66-67).

Another consideration to SSE is what Toffler (1980) describes as the “third wave society”. Second wave managers learned that effective ways of reaching organizational goals are centralization, maximization, synchronization and concentration (Toffler, 180:241). In the third wave society employees come to work with a heighten sensitivity of their own ethnic, religious, sub cultural and individual differences and their unique characteristics as an individual (Toffler, 1980:242). Many second wave organizations are now struggling with the third wave society where employees refuse to be treated as interchangeable and are not easily assimilated. There is often a conflict in the third wave society for second wave managers who were taught that the “masses” of employees are alike and “...can be motivated by uniform incentives” (Toffler, 180:241).

Toffler describes the problematic aspect of heavily institutionalized second wave organization in the third wave society as; ”...forces that made mass society have suddenly been thrown into reverse.” (Toffler, 180:243).
Tunnel vision and design

“Attending too closely to information overlooks the social context that helps people understand what that information might mean and why it matters” (Brown & Duguid, 2006:5).

The social periphery is what frame human activity in our daily work: communities, organizations and institutions. The social periphery is often not included in the design. Instead it is the target for design and not viewed as a resource for design (Brown & Duguid, 2006:5). Brown & Duguid (2006) uses the metaphor tunnel vision for describing how design of IT-technology narrows its view and neglects the vital social activities in the periphery of daily life. Too much attention to the information and the immediate demands of everyday life tends to create this tunnel vision in design. Well functioning resources of living gets lost creating a purblind design called tunnel design (Brown & Duguid, 2006:2). Brown & Duguid (2006) argues that tunnel design produces technology that creates as many problems as they intend to solve and refers to E. Tenner ’s description of unintended consequences of design that comes from neglecting resources outside the scope of information. It is easy to write of old institutions and practice as old fashioned, but looking into the future according to Brown & Duguid (2006) means really learning from the past and ask; why certain ways of working and socializing is not abandoned in favor of new technology (Brown & Duguid, 2006:3)

Social as resource or constraint in design

In an era of new ways of socializing emerges we as interaction designers need to ask ourselves what resource or constraint these social tools constitute and how this can be used in designing technology for the enterprise.

Brown & Duguid suggests that design of IT-technology should reflect the complex and sometimes overlapping characters of resources and constraints in the organizations. The aim of design is often to address a constraint at the surface “without appreciate their submerged resourcefulness” (Brown & Duguid, 2006:243-244). This often leads to design failure revealing the resistance and stubbornness to abandon the social resources workers developed around what designers recognize as a constraint. The challenge for designers here is to recognize constraints as
resources and understand how they point out way for design (Brown & Duguid, 2006: 244-245).

**Background is the practice?**

In order for information to have meaning and make people care information needs to stick to something. Brown & Duguid (2006:138-139) refers to this as the background. The background is made up of who we are at the same time as we as individuals develop the social identity we are learning to be creating grounds for reception, interpretation, judgment and understanding.

Brown & Duguid (2006) also point out trends of uniformity within the workplace. Employees are encouraged to think of themselves as members of the “company community” striving towards “the team” and pull in the same direction. The uniformed identity though holds at least as many identities as employees and they in their turn compose different identities out of the many working groups which they are members of (Brown & Duguid, 2006:152).

**Network of practice**

Large organizational networks ties people together more indirect than direct through e.g. websites and bulletin boards etc., making them merely aware of each other. The social network concept could be an idealized one with a thought scenario where everyone is able to reach everyone in the network. It has been shown that collectively social networks produce little interaction among all its members due to little reciprocity (Brown & Duguid, 2006:142).

So what ties people at the workplace together? Brown & Duguid (2006:143) argues for occupation, knowledge and practice. The network can be divided into small communities of practice that are subsections that in contrast to the large network are tightly tied groups that work together and know each other. These are usually face-to-face negotiating, direct communicating groups that work together in an implicit way who cultivates their own culture and ethics. For the design of social software it is these constraints of such a work practice that could be of interest.

In sum what Brown & Duguid points out is that when people do not share the same practice, occupation or knowledge the information shared between them doesn’t have
a clear background to stick to. How do we make sense of information about someone if we do not share any common ground geographical, in practice or private? And if we do not, do we really care?

**Knowledge Management**

SSE, in its present design, has from knowledge management inherited features like sharing information and knowledge among the employees and to tie this information to the employee.

Knowledge Management (KM) and Knowledge Management Systems (KMS) are generally described as processes for handling knowledge within the organization. KM view technical and organizational solutions holistically where KMS is to help to improve decision making both on an organization level as well as an individual. KM can also be considered as a strategy on multiple levels within the organization, individual, organizational, national etc, to accomplish organizational objectives and added value in form of positive results by expanding, cultivate and apply available knowledge within the organization (Jennex, 2006:4).

**Organization Memory and Organization Learning**

KM is built on two concepts, Organizational Memory (OM) and Organizational Learning (OL). OM refers to paste experiences stored in the organizational repositories and are the processes involved in identifying and capture critical knowledge with IT which provides the infrastructure for storing, searching and receiving knowledge artifacts (Jennex, 2006:4). OM is of interest for SNS since it has two approaches for representing knowledge. OM includes unstructured abstract knowledge that exist in the minds and cultures of its members that can be partially be represented by e.g. databases.

Secondly OM consists of structured knowledge that can be exactly represented and codified in systems. Jennex refers to Sandoe, Olfman (1992) & Morrison’s (1997) descriptions of these two forms of OM having two functions: representation and interpretation. Representation is a presentation of facts for a specific context whereas interpretation is used as guidelines and frameworks to use past experiences with new situations (Jennex, 2006:6).
OL can be viewed as an ecological system of individuals acting as agent which organizations learn through. Jennex refers to Sandoe’s et al in “Additional perspectives on organizational memory” (unpublished working paper); that only *individuals* learn through experiences and observation. By reflecting and analyzing these experiences workers change their perception on how work should be done and in the sense of influencing their co-workers the organization learns and paradigm of work gradually change (Jennex, 2006:5).

Since learning experience often involves mistakes in the process and is from Sandoe’s point of view done by the individual but judged and benefitted by the organization as a whole it reveals a paradox for individuals efforts and contribution of knowledge.

**Organizational knowledge**

So what does this knowledge consist of and how can it be used in the work environment?

Jennex defines Knowledge Management (KM) by exploring the concept of *organizational knowledge*. Organizational knowledge is something that is considered *actionable*. Knowledge, that members of an organization remember and use, is “something that users can retrieve and apply to organizational activities” (Jennex, 2006:6).

Davenport and Prusak’s definition of organizational knowledge is a mix of experiences, values, contextual information and expert insight which provides a framework for interpretation and use of knowledge artifacts which often manifest itself as documents, organizational routines, processes, practices and norms (Davenport & Prusak 1998:5).

**Meaning Through Context and Narratives**

This leads us to the question of how this complex organizational knowledge, described by Davenport & Prusak (1998) should be transferred from one employee to another in the most effective way. How to pass knowledge without losing crucial contextual information?

Earlier research argues for the importance of context to communicate knowledge and for effective transferring the narrative story delivered with feelings makes the
receiver more susceptible (Davenport, Prusak 1998:81-83).

Jennex refers to Nonaka’s statement that “knowledge is about meaning in the sense that it context-specific” which would mean that the receiver must have experience or understanding of the context with its conditions and influences in which the knowledge was generated to have meaning to the receiver (Jennex, 2006:2).

This does not argue against an organizational knowledge (Jennex M. 2006:2-3), but is it not possible for an organization of a substantial size (>100) to have a variety of contexts within the organizational context? There are challenges in making sense of organizational knowledge in different contexts. Are the Social Networking Systems capable of mediating a context with narrative qualities in order for organizational knowledge to have meaning?

**User attitudes towards KMS**

Chan & Chao (2008) research in small-medium enterprises reveals a number of aspects around attitudes to be considered when implementing and using KMS. Some members of the organization viewed knowledge as sacred and personal capital and there would have to be substantial reward for sharing. Other members feared more workload by having more knowledge that discourages them to generate and share knowledge. Another aspect is the one previously mentioned about resistance to share mistakes in favor of saving face and status. Experts within organizations can also hinder the usage of knowledge since they often worked a long time within the company and are highly regarded as resources and often less open to new ideas. There are arguments for a corporate culture where management act as role models for the employees, providing them with extra time for generating and sharing knowledge and reward systems to encourage workers to engage in KMS (Chan & Chao, 2008).

**Organizational Culture**

According to Cambridge online dictionary the word *culture* is described as the way of life, especially the general customs and beliefs, of a particular group of people at a particular time. And the concept *Enterprise culture* is explained as a society in which
personal achievement, the creation of wealth and the development of private business is encouraged (Cambridge online dictionary, 2009).

Culture is similarly defined by Charles Mitchell “as a set of learned core values, beliefs, standards, knowledge, morals, laws and behaviors shared by individuals and societies that determines how an individual acts, feels and views oneself and others” (Mitchell, 2000:4).

Jacobsen, D and Thorsvik, J writes about what distinguish business culture from general culture that we can find in our society. The difference is that business culture is developed in an already organized coherence. This is essential to be aware of when trying to understand what a business culture is and how it develops and how it effects the organization (Jacobsen & Thorsvik, 2008: 323).

When it comes to large enterprises as IBM, it could be hard to talk about as only one culture. Schein claims that there could be an overall corporate culture but also small subcultures. (Schein, 2004:20)

**Method**

**Semi-structured interview**

**Interviewees**
The interviewees where selected for their position in middle management of two reasons. First we wanted an understanding and overview of the company policies, attitudes and culture concerning communication and knowledge. This was perceived with understanding of the complexity and limitations for conclusions around these issues and was followed up by another method, concerning organizational culture, described later in the text. The management interviewed were all working within the IT-department of the companies with experience of technology and statistic knowledge of current behavior within company systems.

**The interviews**
Brinkmann & Kvale (2009) define semi-structured interviewing as an interview type with a script covering a number of topics with related questions. The questions act as
guide in conducting the interview but it is up to the interviewer how close to stick to
the guide and when to allow the conversation to take new directions.

On all interviews we participated both with predetermined roles with one researcher
being mainly responsible for taking notes (passive) and the other (active) mainly
responsible for the interviewing. We will return to the transcription and its validity
issues later.

The study’s interviews were structured semi-structured and where carried out in
the context of the company facilities according to the interviewees wishes. The
interview started with a brief of the purpose of the study recommended by
Brinkmann & Kvale (2009:128). During the interview led by the active researcher the
passive researcher could freely break in elaborate around a question.

The interview design with two researchers present was based on the fact that we were
interviewing an “Elite” and wanted to try level the power symmetry with our collected
knowledge around the interviewee’s area of expertise. When interviewing Elites it
needs to be taken into account the fact that they are used to answering questions and
often have ready-made answers or so called “talk tracks”. It could be fruitful to
challenge their statements with provocations that could lead to new insights and
knowledge (Brinkmann & Kvale 2009:147).

Some of the interviews questions themselves seemed to provoke some of the
interviewees because of their broad spectra and general description. E.g. when asked
what kind of corporate culture they considered the company to have several
interviewees got irritated and started to ask questions back rhetorically asking us
what we meant by corporate culture. Another area of irritation were when questions
were asked about knowledge management systems, which none of the company had.
This seemed to be an area they had not reflected very much upon but valued highly.

The interview conducted can also be considered as a “conceptual interview” trying to
clarify what the company lays in concepts such as socializing, knowledge and
collaboration and how they value behaviors associated with them (Brinkmann &
**Transcription**
The interviews were documented by taking notes mainly by the passive researcher and to some extent by the active. This validates Brinkmann & Kvale’s first requirement for transcription of interviews (Brinkmann & Kvale 2009:179).

As mentioned there was a clear distinction between different responsibilities of the researchers in the interview situation. The choice of not audio recording the interview was based upon on one hand to make the interview situation more informal hoping that the interviewee would feel more comfortable to express their personal opinion regarding their company. On the other hand the purpose with these first interviews were mainly to gain a contextual understanding of the company through the managers eyes and the in depth studies and understanding would follow in the design tests conducted later in the process.

**Validity**
From a anthropological view the transcription can be considered to give the transcription from oral statements low reliability and validity but as Brinkmann & Kvale also points out, depending on who transcripts, the resulting text is likely to be different and therefore interpreted differently (Brinkmann & Kvale 2009:184-185).

The chosen level of transcription for these interviews is based upon what Brinkmann & Kvale points out as a constructive question researchers should ask themselves namely:” What is a useful transcription for my research purposes” (Brinkmann & Kvale 2009:186).

**OCAI – Organizational Culture Assessment Instrument**
This instrument is established as a tool for diagnosing organizational culture and it was used mainly because of its capability of visually describing the organizational culture. We believe that the OCAI tool could give us valuable data in form of design guidance in what employees experience about different aspects of the organization such as dominant characteristics, leadership, management, criteria of success and what holds the organization together. We also wanted to get an idea of the control mechanisms used in the studied organizations and how employees experience power balance. Since design of SSE address the organization as a whole it is valuable to take
into account the experienced organizational culture in order to make relevant design decisions. The organizational goals and what is considered the “glue” that holds the organization together is of this study’s primary interest, which made the OCAI the method of our choice.

**CVF - Competing Value Framework**

The CVF framework represents what people value in the organizational performance as effective and defines what are considered good, right and appropriate (Cameron & Quinn, 2006:34-35).

The OCAI is based on a framework called Competing Value Framework (CVF) use for interpreting organizational phenomena (Cameron & Quinn, 2006:31). The CVF was developed through research to point out indicators of what people have in mind when the judge an organization to be effective.

This was then statistically analyzed by Quinn & Rohrbaugh (1983) where with four main clusters and two dimensions emerged. The result pointed to that different criterion for effectiveness differentiated among different organizations. Meaning: that one organization is viewed as effective if it is changing, adaptable and organic while other organizations are viewed as effective if they are stable, predictable and mechanistic. The second dimension views organizations as effective from criteria of internal orientation such as having harmonious internal characteristics, or doing things “our way”. On the other hand the measurement for effectiveness is judged from the interaction or competition with others outside the company boundaries.

These four clusters represents opposite and competing values (therefore the name) are put into four quadrants representing opposite and competing assumptions of what is considered effectiveness in an organization.
OCAI
Cameron & Quinn’s (2006:63) OCAI is a tool for plotting organizational culture. By focusing on some core attributes of an organization the OCAI can indicate what type of culture that is dominant within the organization and draw a culture profile.

The OCAI contains a questionnaire containing six items describing key dimensions of the organization that are answered by employees where they are rating the organization’s current state (Cameron & Quinn, 2006:23-24) By dividing 100 points between four alternatives for each item the employee rate the similarity to their own organization (Cameron & Quinn, 2006:25). Then an average score of all A alternatives are added together and divided by six, and then the same for B, C and D (Cameron & Quinn, 2006:29) The scores of the items are related to types of organizational culture which that can be plotted on to a chart to visually describe what kind of organizational culture that is dominant (Cameron & Quinn, 2006:30).

The six items rated in by the respondents can be individually plotted or there can be an overall plot concerning all aspects weight together.

Culture Types – in OCAI
The Hierarchy
This culture type is characterized by formalized and structured very much with the classic attributes of bureaucracy described by Weber (1978). The organization is effective through its rules, hierarchy, impersonal accountability, regulated salary and strict and unified working discipline and control (Weber 1978:220-221) The Hierarchy has characteristics of large number of standardized procedures and multi hierarchical levels (Cameron & Quinn, 2006:37-38).

The Market
The foundation for effectiveness of the Market culture lies in the transaction costs. It can be described as the market itself acting as a middle hand oriented towards the external environment and partners. The main focus for the Market is making profitable transactions to stay competitive with primary objectives such as bottom-
line results, market niches and secure customer bases. There is strong focus on external positioning and control (Cameron & Quinn, 2006:39).

The management’s major task is to drive the organization towards results in productivity and profit through aggressive strategy. Leaders are tuff and demanding in this result-oriented culture (Cameron & Quinn, 2006:40).

The Clan
This type is more the family-type of organization where shared values and goals, unity, participation and sense of “we” are emphasized. It comes from Japan and came to America in the late 1960s. The employees are viewed as extended family members and are driven by team work and rewarded as a team encouraged by the organization to suggest improvements to their work. The valued effectiveness lies in the employees shared common goals and values that help to quickly react to rapid environmental changes. The Clan views their customers as partners and the business is about creating a humane work environment where the management’s major task is to empower the employees and nurse their commitment, participation and loyalty (Cameron & Quinn, 2006:41).

“The Clan culture/.../ is typified by a friendly place to work where people share a lot of themselves.” (Cameron & Quinn, 2006:42).

Leaders are viewed as mentors and the organization’s glue is loyalty, tradition, long-term individual development, high cohesion and moral. Success is measured in internal climate and concern for people (Cameron & Quinn, 2006:42-43).

The Adhocracy
As the name implies the Adhocracy’s effectiveness is valued in its temporary, specialized and dynamic characteristics to as responsive as possible to hyper-turbulent world. The Adhocracy’s goal is to be adaptable, flexible and creative. It usually suffers from uncertainty, ambiguity and information overload. The organizations with this culture are mainly in the developing of new products and services preparing for the future on the “cutting edge”. The Adhocracy can be found mainly in the software industry, consulting, aerospace and filmmaking (Cameron & Quinn, 2006:43).
Instead of having centralized power Adhocracies lets power flow between individuals and teams depending on what task that is at hand. The employees are encouraged taking risks and predicting the future and are gets involved in almost every part of every matter concerning the project such as research, development, production and clients. Customer is treated like projects with a temporarily organization design that disintegrates on end (Cameron & Quinn, 2006:44).

Leaders are visionary and risk taking and the employees are encouraged to come up with innovative solutions to problems and generate new ways of providing services to customers. The Adhocracy holds together by the commitment to experimenting and innovation. It’s a highly entrepreneurial, dynamic and creative work environment with readiness for rapid change and meeting new challenges. Success is measured by the uniqueness and originality of its products and services (Cameron & Quinn, 2006:45).

Approach

• The questionnaires used from Cameron & Quinn were translated into Swedish and sent out to Company A, B and C in 10 copies per company and where distributed by our contact person.

• Additionally we added three questions concerning the social interaction, social behavior and attitudes.

Distribution

The choice of distribution gave us no control of the respondents and could mean that the result could reflect a subculture within the organization with different values and culture then the rest of organization as described by Cameron & Quinn (2006:44-45). This choice was due to the cooperative difficulties with these organizations and was our only option to collect data from them.
**Paper Prototype Interview**

Beyer & Holtzblatt (1998:46, 46-64) ethnographic interviewing technique called contextual inquiry is based on four principles.

- **Context** – The interview should take place at the user participant’s workplace.
- **Partnership** – Engage with them and try to make participants articulate uncovered ways of work.
- **Interpretation** – Try to develop a shared understanding with the participants of their work.
- **Focus** – Have a clear understanding of your focus as an interviewer and constraint the situation.

The simplest form of contextual inquiry is the contextual *interview* which is sufficient most of the time. A paper prototype interview is similar to a contextual interview in its attitude and principle in the sense that it is trying to uncover the user’s reasons for their actions. In the paper prototype interview the interviewer will try to accomplish a sense of shared discovery, interpret and design collaborative with the user (Beyer & Holtzblatt, 1998:396).

As an interviewer you should not let users drift away in talking about what they would like in a system but rather pursue real stories. The designer should also encourage partnership and co-design with the user and suggest design options and different solutions to a problem (Beyer & Holtzblatt, 1998:397). The user could also react to some part of the prototype or design ideas and the goal of the designer is to find out what the user want, why the user wants it and what they expected. This is done by discussing the user’s ideas in order to understand the underlying structure and what it proposes to the prototype. It is also important to have the right level of focus to keep the conversation on the right level in order to discuss relevant matters, e.g. instance, early prototypes test structure not an UI at a detailed level (Beyer & Holtzblatt, 1998:401).
The paper prototype interview starts with an introduction presenting you as an interviewer and the focus of the design. As test leader you should ask about what kind of work the interviewee do and how it relates to his or her work. Then there is a transition when the interviewer introduces the paper prototype and gives a brief summary. Now moving to interview itself it is important to invite them to explore the prototype and listen for “no” and respond to user wants and needs by re-design on the fly (Beyer & Holtzblatt, 1998:404). The test is finished with a wrap-up where it is important for the designer to check for emotional aspects and ask how valuable they think the system is (Beyer & Holtzblatt, 1998:406-407).

Results and Design

As earlier described under purpose this thesis focus on the aspects of personalization of employees in the organization and therefore our concepts and design is limited to reflect this aspect of SSE and not primary on the collaborative aspects.

Limiting

The design concepts presented in this section are limited to be for primary Company A and C since these represents two opposites. Company B is more ambivalent in its organizational culture and ways of work and share characteristics of both Company A and C. Therefore parts of the concepts developed for company A and C could probably be applied to company B as well.

We will also present more generic design concept applicable on a work environment where employees’ value social interaction in real life, like all three companies studied in this thesis do.

Data

The data from the organizations studied were collected and summed up. The data from the OCAI were plotted to visualize the current overall organizational culture profile. Additionally the “Item” 3 on the questionnaire, concerning what employees believe holding the organization together, was also plotted. The choice of picking out this item was because it reflects the employee’s more holistic view of the bonding
mechanisms in the organization as a whole (Cameron & Quinn, 2006:151). This can also be seen in the concept of SSE, bringing the employees closer together on a micro level and the company on a macro level.

The qualitative data from the three questions on current social interaction is presented were divided into these four categories:

- In office On working Hours
- In Office On Break
- Outside Office On working Hours
- Outside Office Spare Time

With this approach we want to point out the deeply embedded ways of practice when it comes to social interaction which Brown & Duguid speak of (2006:3).

From our interviews with middle management together with the data from the questions concerning current social interaction in the working context and the diagnosed corporate culture we will here propose design concepts for Company A and C and their individual situation.

**Company A**

Company A were plotted to have an emphasis on the overall organizational culture towards the Clan culture and plotted even higher towards the Clan in item three.
As earlier described “the Clan” is characterized by a strong culture of “we-ness” with common goals and values among employees who are willing to share a lot of themselves. The bonding mechanisms are loyalty, tradition and long term individual professional development. Success is measured in a good working climate and care for people.

Company A has also produced a document called “Communication Platform” describing characteristics for what values and ideal employee at company A should embody. This document also describes proposed ideal attitudes in the everyday work. “Curiosity is an incentive also internal in our company where we want to be open to new ideas, views and new ways of working” /___/ “Trust should permeate everything – our work, our relationships, our products and our role in society”.

Management
Management testifies of great resistant towards update of software and new technology among employees and a need for educating employees with updates of the systems. The manager interviewed also describes a very rigid way of doing work among most employees and difficulties in introducing collaborative software such as Lotus Sametime ™ due to low interest.

Since IT-support were introduced in the company management experience decreasing face to face social contact with colleagues which leads to difficulties in maintaining old contacts and getting to know new colleges prior to introducing IT-support. The manager interviewed states that “it´s more satisfying to help someone you know”. Some of the employees have a picture together with the contact information in the company contact-list and new employees are introduced on the company web.

Employees
The data collected from employees at Company A, concerning the current social interaction with fellow colleagues at work, shows the vast majority associate the concept of “social” with physical gatherings at different times and locations.
The majority of the employees at Company A also stated that they knew quite a lot of their closest colleagues’ private background, both when it came to location as well as time worked in the company. The employees' thoughts on when social interaction were important, the vast majority stated it to be important at all times because it has great influence on the working atmosphere.

**Dilemma**
There is a discrepancy between the proposed ideal ways of work described in the “Communication Platform” of company A and scenarios described by the employees and management. The curiosity for new ways of working collides with the fact that the vast majority of the employees are reluctant to change and adapt to new technology.

**Design Concept – Company A**
The concept strives to unite the institutionalized ways of working and proposed ways of social interaction from the organization, the organizational “Clan” culture of “we-ness” and the employee’s practice of social interaction weight together with the employees’ reluctance towards new technology. The concept proposed is a subscription service of employees, embedded in a desktop application, following familiar simple interaction idioms. The concern of additional workload on the employee should also be considered.

**Description**
The Personal Subscription Service Tool (PSST) is a service where all employees in the organization subscribe to. Every day employees receive a new randomly generated “PSST message” in the form of text, image or both which act as links to a different aspects of the profile of other employees in the organization.
**User testing**
The user testing of the PSST concept could not be performed at Company A which employees the design is intended for because of unwillingness from both the company and its employees. As earlier described the financial crisis stressed the studied companies and their employees because of potential cut downs and heavier workload to avoid the same. After several attempts including pitching the project to contact persons at the company, redesigning user tests to reduce test time and offering results for them to use we still did not come to terms on a solution to perform user test. The companies could simply not make time for anything than work related matters due to the current situation.

Therefore we decided to perform our user test with employees at Malmö University (MAH) which also is a large organization. The user test was done in MAH’s facilities in the participants work environment.

**Validity**
Since the paper prototype interview were performed in a similar work environment to Company A with both office landscapes and shared premises with participants randomly selected we believe that it is applicable and also valid as a user testing method for Company A too.

Instead of redesigning on the fly as recommended by Beyer & Holtzblatt (1998) the users were given alternatives to choose from. This might have perplexed users into focusing on what to choose instead of what they thought they needed. The users were also asked what they would like in a profile rather than initially pursue real stories which Beyer & Holtzblatt (1998) do not recommend. But our approach by asking them what they would like did evoke real stories when followed up with additional questions. Beyer & Holtzblatt (1998:404) also recommend conducting paper prototype interviews in pairs which we did not, due to shortage of time, but in favor of more data.

Since we have not performed an OCAI diagnosis of MAH the user test results might reflect a either false result or perhaps generic qualities of the concept if the organization culture at MAH turned out to be of a very different kind than Company A.
**Test – Paper Prototype Interview**

The participants consisted of four men and five women in ages between 34-62 working at MAH.

The test started with a presentation of us as interviewers and what aspects of their work our study was exploring.

In the first part of the user test the participants were given a background and context of the concept. It was described as a desktop application present on their work computer screen and that it was an internal system only accessible to MAH employees. Further, one piece of information would appear in the application on an every working day basis and the information would be about a different employee at MAH every day.

The participants were then shown six different screen shots of the application, each presenting different types of information about a colleague and asked to pick two capturing their interest (below).

**Screenshots:**

1. [Image of Screen 1]
2. [Image of Screen 2]
3. [Image of Screen 3]
4. [Image of Screen 4]
5. [Image of Screen 5]
6. [Image of Screen 6]
The participants were then asked to tell the test leader about their choice. They were then asked to articulate what their goal would be for interacting with the chosen screenshots and their thoughts on how the interaction would work.

**Chosen Screenshots (2/participant):**

Out of the six screenshots number 3, displaying a photo and a statement about the person’s hobby, “I enjoy fishing”, was the most popular. Second most picked, number 6 displaying the question “Who at MAH likes to build bottle ships?” was followed by number 4 displaying a photo, name, title, department and contact info (below).

![Bar Chart](image)

**Screenshot 3**

Participants’ comments on screenshot 3 were that the photo in combination with the hobby evokes interest to interact, and even more if it had been the same hobby as the receiver, because of the “fun way” of presenting the person. One participant started to talk about how the screenshot reminded him of how much he enjoyed fishing himself and that he hadn’t done it in a long time. Another statement was that it wasn’t important to recognize the person presented, it was still interesting.

If they were to interact with the screenshot 3 the participants expected one or more of the following things:

- A personal story of fishing or fishing in general.
- Tips on fishing. Photos of a fish the person caught. If the person arranged fishing trips there might some way to sign up.
• A more professional profile. Something personal though such as other hobbies.

• More information about the person. Save the profile in a list for interaction at a later time.

• Click would open a possibility to chat with him and save the profile for interaction at later time.

**Screenshot 6**

Participants’ comments on screenshot 6 were that it primary made them very curious and they really wanted to interact in order to find out more who it might be. On interaction with the prototype participants expected one or more of the following:

• A number of pictures of employees and you could guess who it is.

• You get to see everyone on MAH who builds bottle ships.

• Detailed info on how to build bottle ships with pictures of it.

• Photo of the person together with a more professional profile.

• Photo of the person together with a more professional profile together with more information about the statement.

In the second part of the test the participants were asked to freely name anything they thought should be included in an online presentation of employees at MAH. They were then presented fifteen cards with words of different type of information (title, personal photo, age, hobbies etc. from where they were asked to pick 5 and tell the test leader their thoughts of their choice.
The participants that picked personal photo, hobby and hidden talent commented their choice that it is something private and it tells a lot about a person. The personal photo also made it less formal.

In the last part of the test the participants were asked how they felt about the application and if they regarded it as valuable to their working situation. Participants thought that it would be valuable in both the sense of starting conversations at the workplace from other employee’s more personal information. Several of them also thought it valuable to find out about colleague’s language skills, links to published material and what subject someone taught through an application like the PSST. Several participants also thought it could work as a more personal complement to their existing register of competence or even replacing it with something like the PSST.
Design Iteration – PSST

The design iteration of screenshot 6 interaction resulted in three variants were the engaging employee could reach the full profile in one, two or three steps.

In screenshot 3 tests showed that users expected a narrative around the persons hobby which in then led to the full profile.
Company C

Company C were plotted to have strong emphasis on the overall organizational culture towards the Market culture and Item 3 was plotted higher both towards the Hierarchy and Adhocracy while the value in the Clan quadrant was not that significantly different.

**Overall culture**

Company C’s emphasis on organizational culture is in the Market quadrant. This is referred to a type of organization that functions as a market itself with focus on transition costs, results secure customer bases with core values of competitiveness and productivity. As earlier described there is a strong focus on external positioning and control. Management’s are to drive the organization towards results through aggressive strategy towards picky customers and a hostile external environment. It’s a tuff and demanding result-oriented culture.

**Management**

Management describes the overall organization culture at Company C as a non existence one. The company is run by local “Popes” where not everyone is interested in a common culture. The company’s structure is hierarchal with strong local cultures and anchorage. There is a strong resistance towards new technology and new ways of work and questioning regarding why and how new technology should be used. The competitive climate can also be seen according to management in the unwillingness to share knowledge and ideas. Management describes a culture where questioning
the organization or ways of doing work openly is associated with fear of getting fired. Dissatisfaction among employees is often briefed informally among trusted friends after meetings. It is very much about knowing the” right” people to feel safe of not getting fired and networking within the company is of great importance.

**Employees**
The data showed that employees highly associate the concept of “social” with physical gatherings of different kinds and times with an emphasis on social interaction at work on break.

![Pie chart showing distribution of social interaction]

Employees stated that they had a quite a complete background of their colleagues working experiences and that social interactions were most important when it came to solve a problem or when working with a task and need help.

**Dilemma**
The internal working climate is very much mirrored of the external environment with focus on profits, market positioning and result. The fear of consequence if questioning company standpoints and strategies generates informal social behavior where employees seek like-minded to express their dissatisfaction.

**Design Concept Company C**
In this concept we have decided to address the behavior of informal expression of dissatisfaction. Employees clearly need to sense if they are alone or not in their opinion and we also like to explore the mechanisms of collective risk taking.
Description - “Burst the Bubble”
The concept is built on the same frame work as a basic web-based forum with some significant differences.

As an employee “Burst the Bubble” offers a new way for employees to express an opinion in a context such as Company C. When an employee starts a thread or topic it is anonymous, displaying an icon followed by a randomly generated number to create the anonymous identity. The topic could engage other employees to contribute with comments, also anonymously, either for or against. The comments are visualized as supportive or unsupportive together showing tendency over time.

If a topic engages a certain number of other members of the community that agree or support via contribution with the topic supporters names and postings becomes public after a certain amount of time when the checkpoint are being passed. If a topic does not engage enough people on the supportive side the topic gets archived by the system, for future reference, e.g. if the same topic reoccur in the forum, without revealing the identity of the contributors.

The concept could explore the problem of individual risk taking and unify employees around delicate questions even in a working culture such as “the Market” that company C is characterized as.
Generic Design Concept for social interaction at the work place

Employees’ at all three companies conceptualized social interaction as a physical gathering at different locations, most occurring at the coffee/lunch room. With this in mind we came up with some propositions of generic design concepts to support and maybe offer a possibility for the employee to socially interact more frequently.

Design for awareness
In a work environment there are awareness mechanisms such as overhearing and overseeing what is happening and going on. Preece et al. (2002) talks about a specific type of awareness, peripheral awareness that refers to a person’s sense of what is going on in the physical and social context. Awareness mechanisms tells us when it is an appropriate time to interact with another and design can help us to determine when and where colleagues are open to social interaction. Besides from monitoring colleagues design can in the opposite way allow us to organize our work and work environment to allow ourselves to be monitored (Preece et al. 2002:124-125).

“Coffee Button”
The “Coffee Button” is a digital way to announce to subscribing colleagues that you are about to go and get coffee and invite them to join and socially interact. This concept uses the metaphor of going for coffee or lunch and when passing colleagues sticking ones head and ask them to join you before you move on. The “Coffee Button” could be integrated into existing Instant Messaging application or as a widget on the computer desktop or both linked together

When going to get coffee, employees can push the “Coffee Button” to broadcast their activity to make chosen colleagues aware of their activity of going to the coffee machine or room.

When someone in the “coffee network” pushes their “coffee button” a message will be shown in the application window.
The “Coffee Button’s” status is temporary and after a certain time it could automatically be shown as inactive or the user could turn it off when returning.

“Coffee Room Activity”
The Coffee Room Activity concept is digital visualization of how many and which chairs that are occupied in the lunch room together with a meter measuring the coffee machines activity. The concept aims to offer employees a way to see the amount and sort of activity in the lunch room, when it takes place, if colleagues go and sit down for a coffee break or just gets coffee and return to their office space.

When somebody sits down on a chair in the lunch room, the application indicates the percentage of chair occupied. The coffee machine indicator shows the amount of usage.

In addition to show activities in real time, there could be use of options to see trends of the usage of both chairs and coffee machine. For example: at which time are chairs most occupied and how long are they uses each time, their total use of the day, when is the coffee machine most frequent used and when is it not?
Discussion

The design of SSE is very much in its cradle and the future designs of them is in our opinion dependent upon three stakeholders. First, primary from an interaction design perspective, it is the end users, the employees, and their ways of doing their work and how that is affected by the organizational culture they work in. And in the other end how do the employee’s practices of work affect the organizational culture?

This leads us to the second stakeholder: the Organization. The companies are stuck with dilemmas of what can be considered beneficial and profitable and fit into the company budget in forms of figures and how it affects the organizational culture. But the social activity and its meaning do not seem to be easily measurable. The companies in this study highly value social interaction among employees. But in a SSE the companies have to value the social interactions both as an investment in a system and the time spent among employees on social interaction since it institutes social interaction as working. Were social interactions left out of the economic calculations before we knew it as SSE? This is a question we will discuss under “the Company”.

Thirdly, research and primary the interaction design community, who address the social interaction between people through artifacts, needs to get involved to ask the more difficult questions about the design of SSE. And for this the interaction design community might need to develop new frameworks and paradigm for interaction design. We believe that the discourse of SSE in the interaction design community needs to be articulated and separated from SS and SM found on the public web.

In the following section we will discuss from these three perspectives that we believe need play part in the development of SSE in order for this kind of software to gain credibility and become an integrated part of everyday work.

The Organization

Transparency and Control
SSE brings more transparency into the company, for managers this results better knowledge and greater control about what is going on in the organization. It can be easier to follow a process of a project and keep track of what the employees are up to.
It is a dilemma of control when employees freely can post, share information and express themselves with colleagues within the organization.

Eriksson-Zetterquist et al (2006:338) refers to what Sewell (1998) identifies as the most advanced form of control in organizations, namely the one colleagues practice on each other in terms of discipline and following of rules. In a social system such as a SSE, the community could be compared to members of autonomous teams with the common goal of the organization and the members would therefore indirect act as control agents.

Another form of control relevant to SSE that interest critical organizational theory is what has been called organization control. Organization control is the breaking point between the individual and the social structure that the individual act within. It is at this breaking point that power and ideologies manifests itself. Also the theories of consensus are relevant to SSE that describes a society more characterized by cooperation and a shared view among its members rather than conflicts and complementing perspectives which leads to underestimate control mechanisms of the society (Eriksson-Zetterquist et al. 2006:338).

The debate on SSE is very opportunistic and not very many critical voices are heard. Advocators do not speak of the control aspects of SSE. Pelle Ehn, Professor in Interaction Design at K3 Malmö University, believes that the ethical aspects and questions about power concerning social networks have become even more important to interaction design due to the up-scaling of social worlds (Ehn, 2009).

**Anchorage In The Organization**

A project is "the response to a need, the solution to a problem" (Heerkens & Formisano, 2001:10). A strong support for the project from the higher management is essential for its success. (Lock, 2007:19).

Our project took form with an expressed need from Nevesi to get information that would help them to create sale-pitch material for Lotus Connections™. An issue was that none of the companies in our study had prior to our study expressed any need to increase the social interaction between employees. At our interviews at the three companies we noticed a curiosity about Social Software, but at the same time
skepticism. How employees socialize today is not something they considered as a problem that needed to be addressed. But on the other hand all managers interviewed thought that work would benefit from employees socially interacting more. All companies expressed strive to unify the company as a whole and create "we-ness" and social software was considered to be something of the future. At the present there were other things to focus on.

As students, we find it hard to get into an organization to do ethnographic studies and design tests without anchorage in the company and management. If there is no specific problem articulated or an expressed need there is no budget to spend. And research comes at a price: the time we need from their employees for testing, cost companies money.

**The Value of Social Interaction**

With the entrance of SS and SN in the business context the obvious question arises: what does the company benefit from SS & SN? This engage many (especially advocates in the PR area) people in the social media blogosphere. But there are obvious difficulties in measuring and valuing human relations and interactions. Therefore it is consequently hard to trace back any specific factors for Return On Investment (ROI). But how can it be measured? Daniel Nüüd at Mindpark tries to formulate a discourse on the value of SM in terms of Return on Engagement (ROE) and Return On Attention (ROA). This is very much from a commercial and PR standpoint. ROE and ROA are parameters for evaluating the market value in the conversations about the company and its products on the public web. The idea is that the data of ROE and ROA is to be analyzed long term and in the end be valued as ROI (Nüüd, 2009).

Surely, we can see effects of human and social interaction in market and consumption but how can it be objectively evaluated and how can social media be recognized and a valid figure in the economical calculation of ROI?

How well are the ROI arguments tied to the business goals and strategies of the organization? If the usability goals of a product help to reach organizational goals or take them a step further it could demonstrate something organizations find very valuable (Dray et al, 2005).
This discussion leads us into the organization and behaviors in the work environment where an investment such as social software is under the loupe in term of profit.

Evaluation of long term human behavior must be seen in the light of the context it occurs in, such as a changeable world and society and even so, is it possible to point out particular social behaviors that the organization can benefit from? Dray et al (2005) points out the critical factor involving world events that affects business such as the global marketplace, the allocation of jobs and work to areas of the world where labor can be bought at lower cost, a generation of workers with skill shortage, and increasing life expectancy in many parts of the world (Dray et al, 2005).

**The End Users - Employees**

Is SSE really something users want or need? There are valid arguments for collaboration in a business context when there is great distances between co-workers and physical meetings are impossible. As SSE is presented today with emphasis to share personal content and information with colleagues it is taken for granted that this is something employees are comfortable with. How does the community view those employees that do not feel comfortable with posting their picture or personal information? Pelle Ehn (2009) thinks that the questions that were asked by participatory design (Shuler & Namioka, 1993), concerning the democratization and individual development of professional skills, is becoming important to ask again in the design of SSE. “One thing we might need to ask ourselves as interaction designers are: what happens to those minorities who gets marginalized by these platforms”.

**The Node - The relationship**

In context of the allocated and global enterprise with social interaction between the local and the global A. Giddins (1997:15) talks about the concept of “pure relationships”. Pure relationships are the prototype for the new social spheres and exists unbounded from external criteria such as traditional ties, social commitments or family ties. It only exists because of the benefits it offers. The pure relationships are nourished and mobilized by mutual trust and revealing. Pure relationships demands commitment as an integrated part of the relationship due to the trust mechanism it is built upon. The pure relationship could be viewed as shutting out the rest of the world, but according to Giddins (1997) these relationships are very much
affected by big social systems that organize these experiences within the sphere of the relationship. Pure relationship can be the source of strong moral support because of its foundation of trust an authenticity (Giddins, 1997:220).

Facebook, which SSE shares a lot with in terms of features, is voluntary and no one regulates who signs up or if users contribute or socially engage or not. SSE, on the other hand is something implemented through the whole organization and employees could feel pressure to participate. Having a personal profile where information must be updated and maintained regularly demands work from users. Those users who cannot see any usage of SSE or do not want to use it at all, what about them? Will their contribution be a ruining of the user experience or others or can they be forced to contribute?

**Generational issues**
Jacobsen & Thorsvik writes in "Hur moderna organisationer fungerar”, about the higher IT pressure on the company and that many people feel the stress having to answer all email, keep up with information published on the net and the need of contribute themselves. But they mean that this technology is relatively new and with younger generations on the labor market this will no longer be a big problem, because they will find this way of communicate natural (Jacobsen & Thorsvik, 2008: 323).

The CEO, at "Nevesi”, agrees with Jacobsen & Thorsvik. He believes that age is a part of the explanation of why SSE not yet is a natural part of the enterprise. He believes younger generations are used to this type of software and feel comfortable using it in a work related contexts. To give these people the possibility to work in the way they are used to, the company needs to supply them with software to support their way of working. But at the same time he believes is not just the age "problem”, it also depends on the personality, some people just do not like changes no matter what age they have.

**Interaction design paradigm and framework**
As the human-computer-human interaction more and more entangles itself into the areas of social life, the demands and quality of interaction on such a solution are considerable higher. Why is that? Considering designing for social interaction in a
work context is to consider all aspects of an organization and what constitutes who we are through our use and meaning of language and hierarchies. Design need to consider power structures and robust and highly constituted ways of human to human interaction without the use of technology developed through thousands of years. So in order to insert a digital artifact between humans and still reflect the highly complex aspects of how we socially interact in the physical world, the different languages we use and interpret, interaction designers are up for a challenge in order to design interaction that live up to the needs of context and meaning for the user.

Pelle Ehn (2009) believes that interaction design concerning social networks for the enterprise would benefit from looking at its predecessor, system development, which had more of an organizational focus. Interaction design needs to understand the social networks and theorize around power structures involved in the wider sense and not only focus on the meeting between the designer and user. Social media makes it necessary for interaction design to think of a whole entity: the organization. Social networks also mean more of a challenge for interaction designer in terms of media science and sociology. “Service design” is what is new on the interaction design repertoire and as interaction designers we need to better understand which strategies makes users become co-designers.

There has been attempt to formulate a paradigm for social interaction within the interaction design community addressing the work place. Preece et al refers to Tom Moran & Bob Anderson that in 1990 were concerned with the need to understand the social aspects of technology use in mundane working situations, allowing the user to do things they could not do before by linking digital devices and information in novel ways. They called this paradigm “The Workaday World”. It focuses in the everyday work concerning knowledge, activities, resources and relationships. It was thought to be used to reveal patterns that mediates the complex, unpredictable and multiform relationships in the work environment where technology is used (Preece et al 2002:64).

In today’s debate on social media Chan A. (2009) talks about a possible paradigm shift towards what he refers to as Social Interaction Design. Chan talks about a change in how organization’s systems organize interaction through social software.
There is emphasis on presentation of the user and their contribution. Layout and navigation focuses on people, posts and media and the representations and visual language of tokens and icons etc and representation of the collective use and the community.

“For the designer it's a shift away from individual user practices to social practices/.../ which are ongoing and may not be "goal oriented."(Chan, 2009)

The shift of paradigm lies according to Chan in going from the individual user to social practices where users provide content. And that content is people grounded in the personal, biographical and the everyday. It also means new modes of organizational attention, new forms of value and differentiation, new channels for messaging and new means of capturing an audience (Chan, 2009).

Chan’s views are in our opinion very much grounded in the use of social media in the public sphere in the absence of a corporate context where, rules, results, goal and process oriented design of work, efforts of a unified organizational culture and practice is highly valued.

**Conclusion**

From this study we can draw conclusions such as that independently of organizational culture there were mostly face-to-face interactions at the work place among employees. Employees at the companies studied exclusively associate the term “social” at the work place with physical meetings. These ways of social interaction are established and some cases institutionalized ways of social interaction developed over long time. The design of SSE should probably therefore not focus on trying to replace these current ways of such social interaction since it is likely to fail.

The framework and discourse of social software in the public sphere do not have to consider institutionalized rules and organizational culture and what is considered appropriate behavior. This framework and discourse are therefore not really applicable to SSE because of the organizational facts and that the employees need to play the role of their “working-self” and do not voluntarily participates.
All managers interviewed stated that the company could have use of an SSE in order to unify the organization and create more “we-ness”. In the diagnosis of the organizational culture of the three organizations, item 3 diagnosing the “organizational glue”, were very much coherent with the overall organizational culture. There are reasons to believe that SSE changes the organizational culture in this area and therefore also have an impact on the overall organizational culture. Organizations considering implementing a SSE should therefore be prepared for such a cultural change.

The management at all three companies in this study all recognized social interaction as valuable for the organizational “we-ness” and collaboration but had a hard time articulate any incitements for investing in a SSE and felt uncertain about its value and how to communicate this, both to CIOs and employees. So in order to justify an investment in SS, SN and SM organizations might need valid tools to evaluate SSE’s impact, in both short and long term economical profit and potential risks and benefits of increased or decreased workload.

**Authors Comments**

In order for SSE to become a useful tool in the organization for the employees it needs, in our opinion, to adapt to human diversity and separate itself from public SS, to become a mediator of the persons in the enterprise and have an emphasize on the employees’ soft skills. And in order for SSE to become useful to an organization it has to be customized for their special needs which leads to a non generic design approach. There lays the challenge for SSE in the future.
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54


Appendix

Company B

Company B were plotted to have almost equal emphasis on the overall organizational culture towards the Clan culture and Adhocracy. On item 3 it was plotted higher both towards the Clan and Adhocracy and at the cost of the Market quadrant.

Company B have a double emphasis on one hand Clan with its characteristics of “we-ness” and common goals and values among employees with bonding mechanisms of loyalty, tradition, long term individual development and on the other hand the Adhocracy’s temporary and dynamic characteristics.

The Adhocracy (See p.23) culture is described as dynamic, flexible and adaptable where work often is performed in the form of projects and processes. The employees are regarded as innovators and are encourage taking risks in this entrepreneurial culture. One problem this organization often struggles with is information overload.

Management

Management in company B describes their corporate culture as one of openness, sales oriented where work is mostly in the form of projects. It is of great importance for the teams to be tightly knit-together in order to perform better.
**Employees**

The data collected from the questions concerning the experience of current social interaction at work showed that employees at Company B also highly associate the concept of “social” with physical gatherings of different kinds and times.

At Company B employees stated that they were quite familiar with their closest colleagues background. The importance of social interaction in their work were mostly in relation to working in teams.