

Managing the Implementation and Use of Real Time Collaboration: When Vision Meets Reality

Nadine Vehring
University of Muenster
Leonardo Campus 3
48149 Muenster
+49 (0)251 83-38125

nadine.vehring@ercis.de

Stefan Klein
University of Muenster
Leonardo Campus 3
48149 Muenster
+49 (0)251 83-38110

stefan.klein@ercis.de

Malte Kramer
University of Muenster
Leonardo Campus 3
48149 Muenster
+49 (0)251 83-38113

malte.kramer@ercis.de

ABSTRACT

The paper studies the specifics of implementing a platform technology in an organization which regards IT as core competence and prides itself as particularly employee focused and friendly. As result of strategic alignment, management has developed a vision of how Real Time Collaboration can contribute to the future concept of the company and the enactment of the organizational leitidee of an integrated service unit. The paper reports on the challenges of managing the transition from a voluntary use in an experimental setting towards mandatory use in operational processes. In line with the corporate culture, management is relying on self-organizing forces on the team level while it is at the same time carefully monitoring the adoption process and cautiously sets rules and guidelines to facilitate team-based modes of use.

Keywords

Real Time Collaboration, Lotus® Sametime®, RTC adoption, RTC use, RTC implementation, strategic alignment, infrastructure management

1. INTRODUCTION

Real Time Collaboration (RTC) is increasingly seen as part of social networking services or social media. Companies are struggling to find an appropriate managerial response to the opportunities and threats of these media in a corporate environment [1].

This paper reports about the early stages of the implementation and adoption of RTC in a large financial services company. In order to capture multiple perspectives on RTC and to understand processes of alignment or misalignment between management's visions for RTC and the perceptions of employees, we have conducted interviews at different levels of the organization and confronted management with preliminary results of our study.

The in depth case study elaborates the specifics of implementing – or seeding – a platform technology in an organization which regards IT as core competence and prides itself as particularly employee focused and friendly. Management has positioned RTC as a building block of the future concept of the organization (strategic alignment) and has articulated ideas of how the current organizational vision of an integrated service unit can be enacted by using RTC.

The aim of this paper is to enable a better understanding of the implementation and adoption of RTC in a specific organizational environment. In particular we want to elaborate possible challenges that may arise within and between the different stages of the implementation process and to discuss possible management reactions and interventions. Furthermore, we want to clarify the roles and requirements of the involved parties at the different organizational levels (company, group, individual). Obviously this does not provide the basis for statistical generalizability. Instead we are looking for theoretical generalizability, i.e. more general messages or insights provided in the case.

Our paper proceeds as follows. We begin by presenting the concept of RTC and some aspects of the prior research on RTC. We describe our research method and the case company in section three and the implementation and adoption process of Sametime® in section four. In section five we discuss possible conflicts and the reaction of the management. Moreover we reflect on the relevance of the different organizational levels. We end with a short conclusion.

2. REAL TIME COLLABORATION

In the following, we will describe the concept of RTC. Furthermore, we will present relevant aspects of prior research on RTC. Before describing the research design in the following section, we will present our research questions at the end of this section.

2.1 Conceptualization of RTC

Real Time collaboration is an emerging genre of communication and collaboration systems [2]. Resulting from a market convergence of the telecommunication and groupware market, RTC systems are a combination of communication technologies, like Voice-over-IP (VoIP) telephony and instant messaging, and various collaborative applications [3].

According to [3], RTC usually comprises four building blocks (see Table 1).

Table 1: Building Blocks of Real Time Collaboration Systems

Building Blocks	Description
Unified Communication	RTC is based on the concept of Unified Communications which refers to the integration of various information and communication channels.
Presence information	The status information can give information about the availability of the user and his media and communication devices.
eCollaboration portfolio	RTC systems can comprise features of groupware applications, e.g. team calendars or document folders.
Contextualization	RTC systems can be integrated within the context of the user, e.g. with organizational processes and business applications.

Although it is possible to describe the specific components or features of RTC technologies, such as text chat, presence information or application sharing, the technology itself is flexible and open to diverse modes of use [4]. Therefore we are looking at RTC in this paper as a platform technology or infrastructure, which provides a rich set of affordances (e.g. [5], [6]). This view differs from the usual understanding of technology as an application with a predefined purpose and a clearly defined task environment. As such it comprises specific management challenges [7].

The market for RTC products can be divided into two segments: the mass market for private customers and the market for business customers [2]. The market for private customers mainly covers systems that integrate VoIP with instant messaging and presence signaling and can be downloaded for free, like Skype and MSN Web Messenger. On the opposite side, telecommunication system providers (e.g. Alcatel, Nortel and Siemens) and traditional software companies such as Microsoft and IBM offer complex and large-scale integrated RTC systems for the business segment [8].

IBM's Lotus® Sametime® is a large-scale integrated RTC system and comprises the aforementioned building blocks:

1. Sametime® users can communicate by using various communication channels, e.g. chat, VoIP telephony and video telephony.
2. Presence information is available for all users who are signed-in on the system.
3. Sametime® includes multiple collaboration features, such as group chat, application sharing or document sharing.
4. There are multiple options to integrate Sametime® into organizational processes.

2.2 Prior work and research questions

Research on RTC can be divided into two main categories. The first category of research focuses on the sense-making of RTC and tries to answer questions such as: what is it and in which ways is it different from other communication technologies? (e.g. [9])

The second category of research concentrates on the adoption and use of RTC at the individual level (e.g. [8]) and at the group level

(e.g. [10], [4]) and mainly emphasizes the (transformation of) routines of daily communication.

However, the design and management of the implementation of RTC has been rarely addressed in the literature so far. Thus, we have addressed this void in earlier work by discussing the managerial and organizational design of Real Time Collaboration in a services company [7]. We have identified an interdependent set of management interventions, which provided a supportive environment for the strategic orientation, the organizational design and the early stages of an RTC implementation (see Table 2).

Table 2: Managerial tasks and responsibilities

(Adapted from [7], p. 6)

	Managerial tasks	Specifically ...
Strategic orientation	Framing	Vision of the communication environment and the strategic role of communication routines. Application or infrastructure: scope and modes of use.
Organizational design	Context setting	Management approach: corporate policies vs. hands-off, decentralized approach. Related organizational approach: operational integration and control vs. self organization.
	Embedding	... into the organizational culture. ... into the organizational structure (responsibilities, mandates etc.) and relating to organizational levels (corporate, business unit, group, individual).
	Rule setting	Defining the scope and level of policies and rule setting. Developing, negotiating, setting and - over time - adjusting rules.
	Creating support infrastructures	.. for routine and emerging forms of use. Responding to user requests and needs.
Implementation process	Managing the implementation	Procedural and developmental view: planned vs. emergent development, tactics of scoping and roll-out.

In this paper we are focusing on a later stage of the implementation, at which we are able to observe the first responses to the introduction of Sametime® and related managerial interventions. We use the combined evidence of voices from management and employees to reflect management challenges across the different stages of the implementation process and on the different organizational levels. Our reflections are led by two research questions:

1. Which are the specific management challenges related to the implementation of a versatile platform technology (RTC)?
2. Are there particular modes of management intervention that facilitate vision and culture compatible adoption of RTC?

3. RESEARCH DESIGN

In line with earlier work on CSCW implementation, which emphasizes the relevance of the organizational context (e.g. [11]) as well as the processes of appropriation by the users [12], we have done a thorough multi-level analysis, juxtaposing managerial actions and conceptualizations with voices from the ground, i.e. feedback from teams. We believe that detailed, multi level – specifically micro level – analyses contribute to a better understanding of implementation and use of RTC.

In comparison to the implementation of software with a particular focus, the point in the case company is to roll-out Sametime® to anybody, without requiring the users to ask or justify. In that sense we regard it as a platform technology or infrastructure.

3.1 Method

We are drawing on a case study about a medium-sized financial services company, identified by the pseudonym MUFIN.

We have conducted interviews concerning the implementation process of Sametime® at different levels of the company (management, employees) and confronted management with preliminary results of our interviews (see Figure 1).

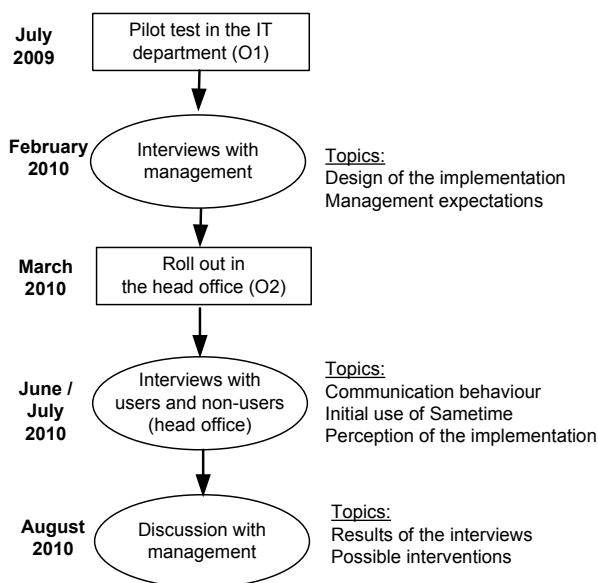


Figure 1: Overview of the data collection steps.

In February 2010, we conducted an extensive interview with the responsible managers for the implementation of Sametime®. Driving questions of this interview were the main rationale for implementing Sametime®, the organizational design of Sametime®, and management expectations concerning the use of Sametime®. To get a deeper understanding of the implementation process and possible implications for the employees, we subsequently have interviewed representatives of the workers' council, the HR department, the IT compliance and data protection office, and the line management.

In June and July 2010, subsequent to the implementation of Sametime® in the head office of MUFIN, we conducted semi-structured interviews with 13 employees. These employees were all members of one operating department of MUFIN, but they

belonged to nine different teams. Key questions of these interviews were general communicational behavior, and actual use and perception of the implementation process of Sametime®.

Subsequent to a first analysis of these interviews, we presented preliminary results to the responsible IT managers in August 2010 in order to discuss possible implications for future stages in the adoption of Sametime®. Moreover the presentation provided us with a unique opportunity to double-check and verify our interpretation of the interview results and to extend our understanding of the organizational setting.

3.2 The case company

MUFIN is a financial services company operating in a tightly regulated, yet highly competitive market. The services can be characterized as information products and services. Because of this, the IT department plays a prominent role for the company. Besides the development, implementation and maintenance of the IT, the IT department is also responsible for the organizational development.

Information systems are ubiquitous in the organization and are provided as a working environment for knowledge workers in order to support their daily work, foster their productivity as well as contributing to employee empowerment, work enrichment and flexibility.

MUFIN operates a total of 10.000 workstations, 6.000 of which are run by the 2.100 sales organizations that are spread around the country. Another 4.000 are located in the head office. The IT department has about 500 staff members.

Besides the IT department, the head office comprises several operating departments. These operating departments are again subdivided into several divisions which consist of small teams of 8 to 12 employees. These teams function as a back office and support the sales organizations in their daily work.

MUFIN has a strong and explicit organizational culture and a long tradition as an employee-focused company. MUFIN is regarded as a family friendly employer and has supported telework for years. Although there are structural frictions and conflicts between the employees in the head (back) office and the sales agents, the management of MUFIN emphasizes and pursues the vision of an integrated services unit.

Corresponding to the organizational culture, MUFIN's management practices a participatory management style and recognizes its responsibility towards the workforce. Management does not only regularly involve the workers' council in decision making, but tries to achieve consensus with the council prior to organizational changes.

Concerning its organizational strategy, MUFIN is positioned as a service and customer oriented organization. Furthermore, MUFIN presents itself as an innovative organization in which IT is regarded as a core competence.

4. THE SAMETIME® IMPLEMENTATION PROCESS

The implementation process of Sametime® has been designed as a phased process across different organizational levels (see Figure

2), which reflect the organizational and strategic vision (next section) as well as a preliminary view on its implementation.

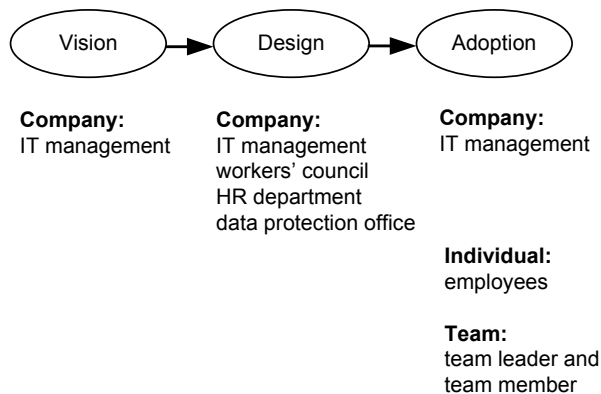


Figure 2: Stages of the Sametime® implementation process.

4.1 The vision

MUFIN's IT management views Sametime® as an enabler for organizational development and in line with the strategy of becoming an innovative service organization. Therefore it aims at a companywide implementation.

The vision for Sametime® (and subsequent Unified Communication and Collaboration (UCC) and social media technologies) comprises a set of related elements (V1-V4):

- V1. Sametime® is seen as a productivity tool (operational strategy), which helps to simplify daily routines, some of which are such mundane practices as coordinating the lunch break. Moreover, facilitating and accelerating communication and collaboration across the company is seen as a key asset for a service company.
- V2. Sametime® is seen as part of the HR strategy to maintain the reputation of an attractive workplace, in particular for younger employees, who are used to Internet, mobile and social media in their private and professional life.
- V3. Sametime® is seen as building block to implement the vision of an integrated services unit, which will increasingly rely on knowledge sharing between back office and sales organizations. As the complexity of the services is increasing, the sales and customer service units will have to rely on experts in order to provide competent and timely responses. Application sharing and text chat are seen as supportive of the strategy.
- V4. Sametime® is seen as an instrument to create a customer-focused service company. Therefore it is envisioned to link service agents into the customer portal in order to increase interactivity and customer value.

4.2 Organizational design

The implementation and roll-out of Sametime® is positioned in line with the overall strategy, vision and organizational culture of MUFIN. Although the management has the idea of implementing Sametime® throughout the entire company, they have decided to pursue a stepwise approach (O1-O4). This approach reflects MU-

FIN's policy to integrate all relevant parties into processes of organizational change. It allowed MUFIN to firstly concentrate on the design of the implementation in the head office and to decide on the design of the roll-out across the sales organizations at a later stage. While this process may be slower in the beginning, it is not only expected to yield more sustainable results and avoid conflicts with the workforce, but also to provide additional learning opportunities.

- O1. Pilot test in the IT department (July 2009) in order to trial the technology and build organizational support for the roll-out.

The pilot test allowed the IT department to test Sametime®, to observe the uptake and employees' responses and to prepare the organization for a roll-out. In contrast, the design of the second stage of the roll-out required the involvement of the workers' council. Amongst other things, this was crucial because of the presence feature of Sametime® which could be perceived as an instrument for surveillance and control [13] and could lead to a breach of the employees' privacy [8]. In order to cope with this issue, management and workers' council reached an agreement on the design of the second stage comprising two principles:

1. Sametime® will be implemented as an open infrastructure.

Throughout the head office, access to Sametime® will be provided for everybody without specific request. It will be provided as an open infrastructure without specific usage scenarios. Employees are free to use it as it suits them.

2. The use of Sametime® is voluntary.

Sametime® will be provided for voluntary use. Furthermore, management has committed itself not to use Sametime® for monitoring their employees. The IT compliance and data protection manager has been involved throughout the project to ensure compliance with corporate guidelines and data protection regulation.

This agreement regulates the implementation and use of Sametime® in the head office for one year. By implementing Sametime® as an open infrastructure and on a voluntary basis, management recognizes the platform character of RTC and provides space for experimentation, adaptation and appropriation in order to encourage use and adoption [12].

To support the employees, the IT department has provided a list of company specific rules (chat etiquette), a functionality and user's guide and a discussion forum. Furthermore, there are contact persons in every operating department that are trained on Sametime®.

- O2. Roll-out across the head office as a platform technology (March 2010). This phase reflects V1 & V2: the infrastructure view combined with an organizational learning approach.

While Sametime® has been conveniently integrated into the workplace infrastructure, e.g. single-sign on, it has not yet been formally integrated into the operational applications and services processes.

After the first year of use, management will conduct a review of the results. Moreover, the workers' council and management will have to decide on the future use of Sametime® by negotiating an employment agreement (e.g. [14]).

While there is a clear vision of how Sametime® could be positioned in the future of MUFIN, there is no specific plan yet for the design of phases 3 and 4:

- O3. Roll-out to the sales organizations in order to forge the link between head office and sales organization (planning status). This phase is seen as the implementation of V3. However, management is aware that the notion of voluntary use will not be sufficient to support the collaboration between head office and sales organizations.
- O4. Integrating chat functions into the customer portal (planning status) is seen as part of the implementation of V4.

4.3 Management's expectations

Prior to the second stage of the roll-out (O2), we asked the IT management about the expected use of Sametime® in the operating departments of the head office. Their expectations of the adoption and use of Sametime® were shaped by past experience and in harmony with the organizational culture:

- 1. Earlier cases of adoption of new processes or new IT

Adoption of new processes or IT in the operating departments have shown that "peer pressure" and mutual help at the team level are often more effective than command and control structures. Therefore, management has anticipated some sort of team-based self-organization and adjustment in the adoption of Sametime®. Moreover, management has been monitoring the IT helpline in order to identify issues that might require particular attention and support.

- 2. The actual use of Sametime® within the IT department

The IT department has been using Sametime® for over six months. They have established shared practices, e.g. they use Sametime® to support informal or ad-hoc communication or to negotiate availability (outeraction) [15].

4.4 Adoption in the head office

The adoption and initial use of Sametime® in the head office is affected by the individual employees' communication patterns. In the following, we will present communication patterns and initial use of Sametime®. Afterwards we will discuss employee's perceptions and management's monitoring of the implementation process.

4.4.1 General communication behavior

To understand the adoption and initial use of Sametime® in the selected operating department, it is important to be aware of employees' communication patterns.

Daily communication can be classified according to three different main communication partners:

- 1. Communication with the sales units

During the day, there is a lot of communication between the sales agents and the employees. They communicate by using

different communication media, e.g. telephone, e-mail, fax, and letters. While telephone is seen as the preferred medium for direct, personal and urgent communication, e-mail is mostly used to document requests and agreements.

- 2. Team communication

The communication within the teams also plays a prominent role. For the team members it is very important to know about the availability of their colleagues in order to be able to provide the right information when someone calls for their colleagues. To inform others about their absence from their desk or work station, team members usually write e-mails to all team members (one-to-many communication). In addition, there is also direct one-to-one communication between the team members, e.g. to discuss problems.

- 3. Interdepartmental communication

There is also interdepartmental one-to-one communication with members of other teams, divisions or operating departments, but this communication does not play a dominant role.

Besides business communication, there is also informal communication, e.g. communication to coordinate lunch breaks. This communication does not necessarily take place within the teams but normally crosses teams, divisions and departmental boundaries.

4.4.2 Initial use of Sametime®

Our interviews reveal that the frequency and intensity of use varies among the 13 interviewees (see Table 3).

Table 3: User types after four month of initial use

Frequency	Description
Extensive use	Some interviewees use Sametime® on a regular basis for different communication purposes.
Casual use	Some interviewees use Sametime® only occasionally.
Passive use	Few interviewees only connect to Sametime® to be able to receive group messages.
No use	Few interviewees do not use Sametime® at all because of concerns about privacy or disruptions.

After four month of use in the selected operating department, three features of Sametime® are mainly used (see Table 4).

Table 4: Dominant features

Feature	Examples for the use
One-to-one chat	- Coordination, e.g. to ask for a call back - Information gathering, e.g. about a customer - Informal communication
Group message	- Information about absence (team level) - Informal communication, e.g. to coordinate lunch
Presence information	- General sense of who is around - Coordination of availability

In the following, we concentrate on the role of group messages that inform about presence and absence, as this is one of the dominant communication practices on the team level (see section

4.4.1). Group messages in general allow informing a group of people about something which is only relevant at a special moment, e.g. “I will be in a meeting for the next 30 minutes”. In contrast to email and chat, group messages can not be answered. They are non-persistent and only appear in a pop-up window on the screen of the addressed persons until the pop-up window is closed.

In order to use Sametime® for this purpose, it is necessary that all team members are connected to Sametime® and able to receive group messages so that all team members are able to reach all other team members through this medium [16]. However, as the use of Sametime® is voluntary, there are some employees who currently do not use Sametime® (see Table 3).

We had access to nine different teams. In five of them, the team leader and the team members had discussed and jointly agreed on the use of Sametime®. One of the interviewees reported¹:

„... in our team, all team members directly said ‘ok, let’s use it’. [...] Someone from the IT department came to one of our team meetings and presented Sametime to us. [...] we all said ‘Ok, that is a good solution’ because we always had the problem: how to inform the other colleagues.”

In the remaining four teams, some employees did not use Sametime® at all. Moreover, in some of these teams there had been no discussion about the use of Sametime®. One interviewee explained:

“No, we have not talked about how we want to deal with Sametime. We don’t want to define rules ... we cannot say: ‘You have to connect to Sametime’ ... because of the aspect of voluntariness ... Because of this we cannot say ‘Please, you all should use Sametime’.”

The interviews have provided background information about these four teams. The first is that the employees who use Sametime® expect rules and commitment for a common use of Sametime®, at least on the team level. They want to be able to be effectively informed about presence and absence of their team colleagues. The second aspect is that some of the team leaders are cautious to discuss about a possible use of Sametime® at the team level as this might contradict the notion of voluntary use.

4.4.3 Perception of the implementation process

Most of the interviewees stated that the initial use of Sametime® was fairly easy, straightforward and self-explanatory. Because of this there was very little need for the information documents and discussion forum provided by the IT department.

In contrast to the expectations of the workers’ council, there was little concern about privacy issues. In the majority of cases, the interviewees explained that trust is a very important aspect of the organizational culture. This trust is reciprocal: the company trusts its employees and employees trust the company. Therefore, surveillance and control has not been a major issue so far. One team reported that their team leader insisted that all team members would log into Sametime® as soon as they start to work. However, the team leader was reprimanded by management because her behavior was against the established rules.

For most of the interviewees, the broader vision guiding the implementation of Sametime® was not noticeable. They were not able to imagine future possible fields of application. In fact, they perceived Sametime® as just another communication medium. One interviewee stated:

“I think that it is just another possibility to communicate with each other.”

As we confronted them with a possible connection between the head office and the sales organizations via Sametime®, they responded quite defensively, e.g.

“Oh, no. No, because it will be too much. [...] I just try to imagine, there is a lot to do for us. [...] There are a lot of telephone calls and mails from the sales organizations. If they would be connected to Sametime, I think I would sign off from it.”

“No, this will be too much ... because, as soon as the sales organizations are connected to Sametime, they will probably say that the head office has to use it.”

Having little concerns about the use within the head office, there were profound concerns about including the sales organizations. These concerns were mainly dominated by the relationship between the head office and the sales organizations and by the amount of communication taking place between them. Amongst other things, the interviewees feared that the amount of communication between sales organizations and head office – which is already very high and sometimes intrusive and interrupting – would increase significantly. Becoming visible on Sametime® to the sales organizations was seen as creating expectations on the sales side for immediate response. Therefore they wished for clearly defined rules that could manage the communication via Sametime® between the sales organizations and the head office.

4.4.4 Monitoring of the implementation process

As management has set-up the first phase as an experimental phase, they have been monitoring the early stages of adoption. In particular they realized that the helpline was rarely used. Instead users asked each other for help, tricks or shortcuts for the use of Sametime®. While IT management had decided early on to use the base version and not to invest in customizing, suggestions for functional improvements were taken onboard. E.g. the group message function, which normally only pops-up on the screen for a few seconds, was made persistent until deleted by the user in order to ensure that the message was noted.

Management responded to the issues described in section 4.4.3 by planning a small information campaign in order to raise the awareness about the benefits of a mutual commitment – and not a formal order – to use Sametime® at the team level. They are considering to change the setting at the system level from opt-in, i.e. actively start Sametime®, (as it is right now) to opt-out.

5. DISCUSSION

The implementation of Sametime® at MUFIN is a story about introducing a platform technology for voluntary use and appropriation by teams and individuals. At the same time the implementation is perceived by management as part of a strategic vision for an innovative, modern and employee friendly company, which excels in a competitive market because of its customer focus and

¹ All quotes have been translated into English.

integrated service offered jointly by sales units and back office. This gives rise to a number of interrelated questions:

1. Alignment (design): What is the scope of alignment and how is it achieved and maintained throughout the implementation process?
2. Alignment (leadership): Which instruments does management use to encourage and facilitate voluntary use across the company? What are the mechanisms of learning and adjustment during the experimental phase (monitoring and response)?
3. Transformation: New rules for new modes of use.

The concept of strategic alignment on corporate level was developed during the early 1990ies (e.g. [17], [18]). Over the years, the concept was a) applied in more specific settings, such as channel strategies (e.g. [19]) and b) broadened to cover social and cultural aspects. [20] for example identify several dimensions of alignment in the MIS literature: strategic/intellectual, structural, social and cultural in their state-of-the-art paper.

In conformity with these extensions, we are applying the concept of alignment to make sense of the implementation of RTC against a broader strategic, organizational, and cultural background.

5.1 Alignment and design challenges

MUFIN presents itself as an innovative and IT-oriented services company with a clear focus on its customers and employees. The vision for Sametime® has been portrayed as in line with and supportive of the overall business strategy (section 4.1). The notion of RTC as infrastructure is reflected in V1 and V2, which are quite broad. Yet they are in line with the espoused organizational culture and values of respect, empowerment and individual responsibility (organizational alignment, e.g. [21]). This is reflected in the participatory approach of an early and active involvement of the workers' council, the HR, the IT compliance and data protection office and line management.

The outcome of the negotiations is an agreement for a one year experimental and voluntary use throughout the head office without a specific functional scope or operational integration. Management is expecting that this one year will create a momentum of use and appropriation throughout the organization and will yield a level of familiarity which typically mitigates fears. Moreover, this approach suggests that management expects – based on prior experience and the organizational culture of decentralized responsibility – a dynamic of self-organization at the group level.

5.2 Initial phase of the adoption process

Although the introduction of Sametime® had been positioned as emergent and open-ended, the different parties who took part in the negotiations had different expectations regarding the likely outcome. The workers' council was expecting employees to be concerned about control and surveillance (individual level). Management expected some sort of self-organizing within the teams in the process of adopting Sametime® (team level).

In contrast to the expectations of the workers' council, very few concerns about surveillance and control have been articulated. On the contrary, the interviewees articulated a high level of trust into the integrity of management and acknowledged that management had the resources to control, if they decided to do so, anyway. We

see this as clear evidence for an open and trustworthy organizational culture.

With respect to self-organization within the teams, evidence was more limited than expected (see section 4.4.2). In order to be able to use Sametime® as a reasonable replacement for e-mail to communicate absence and presence, it is inevitable that all team members use Sametime®. While in some teams all members had agreed on the use of Sametime®, in other teams some members chose not to use Sametime®. As a result, the users and team leaders who were aware of Sametime®'s potential for the team communication, wished for more specific rules and commitment to Sametime® at least at the team level (see section 4.4).

However, this view appears to be at odds with the agreement on voluntary use. The team leaders and team members have to find ways to agree on the use of Sametime® within their team. Finding an agreement is obviously not trivial because even addressing the issue might be seen as an infringement on the idea of voluntary use. This is supported by the incident about the team leader who insisted that all team members would log into Sametime® (see section 4.4.3).

What we see is a fine line between the idea of voluntary use, which has been chosen for good reasons, and subtle management guidance and interventions in order to facilitate the appropriation of Sametime® at the group level. At the same time, past investments into a cooperative culture and results-based management of the teams seem to pay off as the teams have shown willingness to take responsibility, to coordinate their work and to voluntarily make mutual commitments in order to create a more professional working environment.

5.3 Alignment and leadership

The agreement of an experimental phase of voluntary use limits the scope for management intervention. Yet, management has used subtle measures such as training members of the various operational teams as liaisons to the IT department and briefing the team managers in order to motivate them. The technical access was simplified (single-sign on) and simple ground rules have been defined (chat etiquette etc.) in order to facilitate the early stages of use.

In order to mitigate fears about surveillance and control, management sent a clear message that use was voluntary and team managers were not supposed to enforce the use of Sametime®.

Yet management has been monitoring the uptake and the use of the helpline in order to see whether further interventions are needed. At this time they are considering a) to share stories of Sametime® adoption and appropriation and b) to encourage teams to create a mutual commitment for use in order to benefit as a team. While maintaining the principle of voluntary use, management plans to discuss with the workers' council and the line managers about how to build commitments on the team level.

According to the agreement on voluntary use, there is no automatic login for Sametime®. Every employee actively has to decide if he wants to use Sametime® day-to-day (opt-in model). This turns out to be very cumbersome for the regular users. Because of this the management suggests to change this to an opt-out model. This would imply that Sametime® is started automatically, but every user is free to disconnect from Sametime®. Although the aspect

of voluntariness still remains, it will be possible to get those team members who normally just forget to connect with Sametime®.

5.4 Alignment and the implementation strategy

For the medium and long term, management has tangible ideas about specific and operational usage scenarios for Sametime® (see section 4.1). However, the very same principles of experimentation and voluntary use which have been productive during the early phase of implementation will no longer work if Sametime® is to be used in operational, customer-facing processes.

Our interviewees (team level) reported profound reservations about the idea of creating a Sametime® link between the sales organizations and the back office. Their response seemed to reflect well known conflicts between customer facing and back office units.

Still, management quite explicitly upheld the idea of an integrated service unit covering sales organizations and back office (V3 see section 4.1). They see this as a key asset for the (future) success of the company and have invested in the past to bridge the gaps between the two types of units. The use of Sametime® fits this strategy if management succeeds to prepare the organization for such a move and to successfully mitigate concerns about constant interruptions and undue delegation of work from the sales units to the back office units.

The general approach could be similar to the design of the experimentation phase, where general principles have been established and enforced in order to mitigate concerns. I.e. management would have to pay close attention to the emerging practices of communication and indeed collaboration between sales organizations and back office units. Management reported about a similar approach when the helpline was introduced in the IT department in order to protect software developers from constant interruptions by help seeking users. The communication line (helpline first) was established and enforced.

On another level, V3 incorporates a different mode of use: creating a back office team of experts with defined rosters implies an organizational setting with distinct roles and commitments. In such a scenario the use of Sametime® shifts from a person focus (presence signal and communication channel) to a role focus (a person with a particular expertise will be on duty).

While a specific plan of how to manage the tradition from an experimental use towards new modes of use and a differentiated set of application scenarios which require clear commitments and rules has not yet been articulated, management seems to rely on established organizational practices and a mature organization, willing to trust and follow management.

In sum, we see that the process of implementation and adoption implies changes and interrelated adjustments on all organizational levels, the entire company, the teams as well as the individuals, in order to reap the potential benefits of Sametime® (see Table 5).

Table 5: Organizational levels

Level	Challenges
Company	Vision of an integrated service unit
	<u>Challenges:</u> - strategic and cultural alignment - management of the implementation - ongoing monitoring and interventions - adjustment of the design - organizational development and rule setting
Team	Adoption on the team level
	<u>Challenges:</u> - appropriating Sametime® and adjusting practices at the team level - accepting responsibility and showing commitment at the team level - coordination of team rules
Individual	Individual adoption of Sametime®
	<u>Challenges:</u> - appropriating Sametime® and adjusting communication practices - managing the portfolio of communication media - taking responsibility for the adjustment of work practices (balancing availability and interruptions).

6. CONCLUSION

One of the general messages of the case is that context matters when we study platform technologies. Therefore we have taken pains in understanding and reconstructing the relevant context and link it to the dynamics of adoption that we have observed.

The paper describes the introduction of Sametime® as part of the communication infrastructure of a services company. It illustrates management's efforts to align the rules and guidelines of Sametime® use with a clearly articulated and enacted organizational culture of participation, empowerment and respect. Management recognizes different perspectives on RTC across different organizational levels and units.

Even in the context of such an open and employee-focused culture, RTC technologies that make the users' presence status visible across the organization raise concerns about surveillance and control. In order to mitigate these fears, management suggested a one year period of experimental, voluntary use, expecting that the self-organizing mechanisms at team level would create an organizational momentum of adoption and appropriation. Moreover, they expect that increasing familiarity with the technology will also help to dispel fears.

Still the overall vision for the use of Sametime® at MUFIN is much more ambitious and is seen as a building block to ensure the company's future competitiveness, productivity and responsiveness, as well as attractiveness for employees. More sophisticated modes of use for RTC with communication features embedded

into operational processes require an explicit commitment by the employees and clear organizational rules.

Management is patiently waiting for the results of the experimental phase before engaging in detailed planning of the next phase. This seems to reflect on the one side a learning attitude towards new technologies (“let’s see how the organization will respond”) but also a high level of confidence in the self-organizing abilities and dynamics of the teams.

Management walks a fine line between providing space for experimentation and setting guidelines. It is monitoring the ongoing processes of adoption and appropriation and intervening with discretion. The likely outcome is a broad use of RTC as part of the organization’s communication media and channels combined with a set of specific modes of use within particular teams and user communities. The dynamics of the later might facilitate an extension of use for the former.

7. REFERENCES

- [1] Berlecon Research. 2009. Perspektive Unified Communications – Wie weit sind deutsche Unternehmen. Berlecon Report, May 2009. Accessed 2010-02-25, DOI=http://www.damovo.de/DE/forms/feedback_studie_perspektiveuc_09.asp.
- [2] Fröbner, F. 2008. *A Practice Theoretical Analysis of Real Time Collaboration Technology – Skype and Sametime® in Software Development Projects*. Cuvillier, Göttingen.
- [3] Riemer, K. and Fröbner, F. 2007. Introducing Real-Time Collaboration Systems: Development of a Conceptual Scheme and Research Directions. *Communications of the Association for Information Systems*. 20, 204-225.
- [4] Riemer, K., Fröbner, F. and Klein, S. 2007. Real Time Communication – Modes of Use in Distributed Teams. In *Proceedings of the 15th European Conference on Information Systems* (St. Gallen, Switzerland, June 7-9, 2007).
- [5] Gibson, J. J. 1979. *The Ecological Approach to Visual Perception*. Houghton Mifflin, Boston.
- [6] Norman, D. A. 1988. *The Psychology of Everyday Things*. Basic Books, New York.
- [7] Klein, S., Vehring, N. and Kramer, M. 2010. Introducing Real Time Communication: Frames, Modes & Rules. In *Proceedings of the 23rd Bled eConference on eTrust: Implications for the Individual, Enterprise and Society* (Bled, Slovenia, June 20-23, 2010), 591-606.
- [8] Cameron, F. C. and Webster, J. 2005. Unintended consequences of emerging communication technologies. Instant Messaging in the workplace. *Computers in Human Behaviour*. 21, 85-103.
- [9] Lazar, I. 2006. Integrating Telephony, IM, Video and Mobility with Presence. *Business Communications Review*. June 2006, 28-31.
- [10] Herbsleb, J. S., Atkins, D., Boyer, D. G., Handel, M. and Finholt, T. A. 2002. Introducing Instant Messaging and Chat in the Workplace. In *Proceedings of the SIGCHI conference on Human factors in computing systems: Changing our world, changing ourselves* (Minneapolis, Minnesota, USA, April 22-25, 2002), 171-178.
- [11] Sanderson, D. 1991. The CSCW Implementation Process: An Interpretative Model and Case Study of the Implementation of a Videoconference System. In *CSCW ’92 Proceedings of the 1992 ACM conference on Computer-supported cooperative work*, 370-377.
- [12] Dourish, P. 2003. The Appropriation of Interactive Technologies: Some Lessons from Placeless Documents. *Computer Supported Cooperative Work (CSCW)*. 12, 4, 465-490.
- [13] Sewell, G. 1998. The Discipline of Teams: The Control of Team-based Industrial Work through Electronic and Peer Surveillance. *Administrative Science Quarterly*, 43, 2, 397 – 428.
- [14] Herholtz, P. and Frede, W. 2002. Vorschläge für eine effizientere IuK-Mitbestimmungspraxis. *Computer Fachwissen*. 1/2002, 12-18.
- [15] Nardi, B. A., Whittaker, S. and Bradner, E. 2000. Interaction and Outeraction: Instant Messaging in Action. In *Proceedings of the 2000 ACM conference on Computer Supported Cooperative Work* (Philadelphia, Pennsylvania, USA, Dec 2-6, 2000), 79-88.
- [16] Markus, M. L. 1990. Towards a “Critical Mass” Theory of Interactive Media. In *Organizations and communication technology*, J. Fulk and C. Steinfield, Eds. Sage Publications, Newbury Park, CA, 194-218.
- [17] Baets, W. 1992. Aligning Information Systems with Business Strategy. *Journal of Strategic Information Systems*. 1, 4, 205-213.
- [18] Henderson, J. C. and Venkatraman, N. 1993. Strategic alignment: Leveraging information technology for transforming organizations. *IBM Systems Journal*, 32, 1, 4-16.
- [19] Müller-Lankenau, C., Wehmeyer and K., Klein, S. (2006): *Strategic Channel Alignment: An Analysis of the Configuration of Physical and Virtual Marketing Channels*, in: *Information Systems and e-Business Management (ISeB)*, 4 (2), 187 - 216.
- [20] Chan Y. E. and Reich, B. H. 2007. State of the Art. IT Alignment: What Have we Learned? *Journal of Information Technology*. 22, 297-315.
- [21] Semler, S. W. 1997. Systematic Agreement: A Theory of Organizational Alignment. *Human Resource Development Quarterly*. 8, 1, 23-40.