GROWING INTO THE PROJECT CULTURE: ORGANISATIONAL LEARNING AND KNOWLEDGE WORK IN AN INTER-ORGANISATIONAL IS PROJECT

Riitta Hekkala[1], University of Oulu
Cathy Urquhart, University of Auckland
Ari Heiskanen, University of Oulu

Abstract

This interpretative grounded theory study describes and analyses major organisational learning and knowledge work issues in a Scandinavian inter-organisational information system project which spanned four user organisations, two suppliers, one national organisation and a research organisation. The paper discusses the micro level of individuals, but also their group processes – how project team members 'grow into' the project team culture in an interorganisational project. We also consider the role of emotions in such project work. The paper concludes by discussing how some of organisational learning and knowledge work issues could be attributed to inter-organisational issues and considers some theoretical and practical implications.

---

[1] Corresponding author. Department of Information Processing Science, P.O. Box 3000, FI-90014 University of Oulu, Finland. Email: riitta.hekkala@oulu.fi

1   INTRODUCTION

Although studies of organisational learning and knowledge have attained considerable prominence during past years (Hartley and Rashman 2007, Rashman, Withers and Hartley 2008), there is still little research on organisational learning and knowledge transfer in large inter-organisational information systems (IOIS) projects. So far, IOIS projects, and especially their implementation with several stakeholders, have received only minor attention in both organisational and information systems disciplines (Evaristo et al. 2004, Salmivalli 2008). These projects – where the information system (IS) is implemented in several organisations – are increasingly common with the advent of globalisation and multinational companies.

Emotions and learning are acknowledged as important and vital dimensions of individual and organisational identities, and as a powerful influence on everyday organisational processes and functioning, yet also remain under researched (Antonacopoulou and Yiannis 2001, Barsade 2002.) Periods of organisational change make extreme demands on individual's and organisations' abilities to learn and on their emotional lives. (Antonacopoulou and Yiannis 2001.) In the IS discipline, McGrath (2006) has highlighted that by narrowing human agency to its cognitive dimensions, it is impossible to consider the totality of human capacities that are either positively or negatively engaged with IS innovation processes.

In this paper, we discuss the 'lived experiences' of IT project team members in one Scandinavian IOIS project. Our grounded theory study focused not only on the micro level of individuals but also their group processes – how project team members 'grow into' the project team culture in. We also focused how this learning was transferred between organisations, and the influence of emotions.

The overarching research problem addressed by the paper is as follows:

What were the major organisational learning issues when team members 'grew into' the project team culture in a Scandinavian public sector IOIS project?

The research questions addressed in this paper are:

- How was knowledge work carried out in the project?
- How did emotions influence the project work?

The paper is organised as follows. In the next section we present a summary of the relevant literature to this study. The third section outlines the research methodology. The fourth section gives some of the complex project case background of the study. The fifth section presents the findings of our grounded theory analysis. The sixth section discusses the implications of our findings, and then we conclude our study with a brief summary of our contributions.

2 LITERATURE REVIEW

This literature briefly considers three streams of literature which we consider to be relevant to our research problem. First, we discuss different aspects of organisational learning and particularly the group level perspective. Second, we discuss how knowledge is closely linked to organisational learning. Thirdly, we explore the role of emotions in group work.

It should be pointed out that, because this is a grounded theory study, the literature review supplied here is what Urquhart and Fernández (2006) would call a 'non-committal' or preliminary literature review. The idea is that the emergent theory of the study determines the relevance or otherwise of the literature review. This of course is to avoid the possibility of concepts from the literature being imposed on the analysis. Thus we proceed with an 'open mind rather than an empty head' (Dey 1999). Once the theory has emerged, it is then the duty of the grounded theorist to engage their emergent theory with the existing literature.

2.1 Organisational learning

One of the most significant discussions in organisational learning is the question of whether organisational learning happens at the micro or macro level. This of course is very relevant to our consideration of organisational learning at the project level. Argyris and Schön (1996) have asked if organisational learning is just the sum total of the individual learning occurring in the workplace. By contrast, Dodgson (1993) has stated that organisational learning is more than the sum of parts of individual learning. So one issue is whether individual learning is a prerequisite to organisational learning.

Organisational learning has identified by some key concepts and perspectives. Very common perspectives are technical, cognitive, and social perspectives. The technical perspective includes the processing and interpretation of information from inside or outside the organisation. The cognitive perspective focuses usually on individual learning, with the assumption that organisational learning is a cumulative impact of individual learning. The social perspective focuses on social interaction, that is characteristic of a specific organisational context. Organisational learning has also been defined both as a process but also as having a behavioral outcome. The latter perspective suggests that the learning can be measured or assessed by examination of behavioural outcomes. (Rashman et al. 2008.)

Linkages across different organisations (inter-organisational learning) can be formal or informal. Rashman et al. (2008) have highlighted that an important feature is whether an organisation learns from or with a leaning partner and organisations can learn together as a network, rather than members are sharing knowledge between each other.

Organisational learning has been acknowledged as a fundamentally political process (e.g. Coopey and Burgoyne 2000, Lawrence et al. 2005, Rashman et al. 2008). Lawrence et al. (2005) have pointed out that although little theory has been developed connecting to

organisational politics and organisational learning there are at least three critical reasons to connect: first, the power and politics have remained ignored in organisational learning literature, second, the theories of organisational learning need an understanding of its political dynamics to be complete and third, bringing power and politics into research on organisational learning should provide a better understanding why other organisations succeed better. (Lawrence et al 2005).

It has also been said that organisational and inter-organisational learning have some common processes (Rashman et al 2008) and this is particularly important when considering IOIS work. The common processes are 1) individual thinking and reflection, 2) development of shared understandings and perspectives at a group level through communication and interaction, 3) diffusion through organisation via organisational routines, communication and interaction and 4) application, institutionalization and embedding of learning through organisational routines. (Rashman et al 2008). In addition to these processes, inter-organisational learning includes the next two processes; first identification of the need for inter-organisational learning and second recognition of new knowledge and inter-organisational interaction by individuals and/ or groups. (Rashman et al. 2008.) Hardy, Phillips and Lawrence (2003) have referred to inter-organisational learning to as collaborative learning, because it requires a network of social interaction.

2.2   Knowledge

Knowledge is also closely linked to organisational learning – in fact, knowledge relies on the concept of the learning organisation. In an IOIS project, the transfer of knowledge between organisations is critical, and that knowledge is aided by organisational learning. Knowledge is defined in many different ways in the literature, and a universally applicable definition of knowledge and learning most likely cannot be found. In the field of sociology, there has been discussion as to whether the origin of knowledge is social or cultural (e.g. Goffman 1974, Mannheim 1974, McCarthy 1996). Learning and knowledge is also linked also to the learning situation and the context of information (Lave and Wenger 1991, Brown et al. 1989).

One frequently cited framework for categorizing knowledge is Nonaka's and Takeuchi's (1995) model where they divide knowledge into tacit and explicit knowledge. Tacit, subjective knowledge consists of received experiences. Explicit, objective knowledge consist of rational, deduced knowledge. Nonaka's and Takeuchi's (1995) theory emphasizes cultivation of tacit knowledge and the organisation as the creator of knowledge. Their theory is based on four different ways of modifying knowledge: socialisation, externalisation, combination and internalisation.

Recent debates in information systems have criticised an unthinking application of tacit/explicit knowledge (Thompson and Walsham 2004). Some tacit knowledge however can be embedded in organisational routines. Polanyi's (1966) definition of tacit knowledge

is knowledge that is 'personal, context-specific and thus, not easily visible or expressible – not easy to formalise and communicate to others (Kakabadse, Kouzmin & Kakabadse, 2001).

Nonaka and Takeuchi (1995) believe that new knowledge is created through the interaction between single loop learning (where explicit knowledge is put into practice) and double loop learning (where our fundamental assumptions are questioned) forming a kind of dynamic spiral. Most organisations seem to engage mainly in single-loop learning, while not engaging in double-loop learning—they do not question and rebuild existing perspectives, frameworks, or decision premises. It is difficult for organisations to implement double-loop learning by themselves. (Wenger and Snyder, 2001).

2.3   Emotions

Emotions have a huge significance when considering collaboration between humans. We only have to consider our own emotional reactions to experiences in the workplace to realise that how we react emotionally to our colleagues is a significant factor in the success of a workplace. Complex issues of emotions at work have been discussed more and more during the last few years in organisational literature. Emotions are said to be an essential part of the leadership processes (Fitness 2000, Lewis 2000) and group processes (George 1990, Spoor and Kelly 2004). This area has spawned new areas of research, such as emotional labour in the workplace and its costs and benefits (Grandey and Brauburger 2002).

There are many different perspectives on emotions. The social constructionist perspective places emotion in a social context, and emphasises emotional display as part of an inter-personal, meaning-creating process (Harré 1986). Emotions have been classified also to positive (pleasant) and negative (unpleasant) depending on what kind of interpretations individuals are giving and then they are tested through their relations with others. Emotions have been defined as coping mechanisms to help individuals adapt to changing circumstances. (e.g. Lazarus 1991.)

The importance of emotions in organisational behaviour, especially at the individual level has been acknowledged, and researchers are interested in understanding the processes and outcomes of collective emotion (Kelly and Barsade 2001, George 2000). Barsade (2002) has also pointed out that some theorists say that feelings are the way how group entities are known, and it is development of group emotion that defines a group, and distinguishes it from merely a collection of individuals.

Organisational learning is a social process and core organisational processes, like communication, co-ordination, decision-making and problem solving, are seen to include both emotion and learning. The need to understand emotions is acknowledged in

organisational literature, and supporting individuals' in gaining emotional understanding of themselves and others can be seen as a vital part of organisational learning. (Antonacopoulou and Yiannis 2001.)

3   METHODOLOGY

This research studied 8 organisational project teams and 2 inter-organisational project teams, in a large, three years long IOIS development and implementation project. This research tracked the whole IS project and it took a phenomenographic approach – no framing questions were used in research interviews, the focus was entirely on the experience of the project member. Phenomenography focuses on micro-level analysis prioritising both individuals' experiences of everyday life and interaction between individuals (Layder 1998).

The data sources collected were extensive and the types are summarised below.

Interview transcripts	Project meeting observations	Researcher diaries	Project memorandums	Project emails
250 pages	20	80	48	Over 700

Table 1. Data sources collected

A total of 14 project members were interviewed. Among the interviewees were managers from the steering group, representatives of suppliers, members of the research organisation associated with the project, and users active in the project. The interviews lasted from 45 minutes to two and a half hours.

In this study 'Glaserian' grounded theory technique was used as the method of analysis. Since 1990, grounded theory has evolved into two distinct versions (Urquhart 2001). This occurred on the publication of Strauss and Corbin's (1990) book which is a distinct departure from the classic "discovering of theory from data" in the seminal book of Glaser and Strauss (1967) which introduced grounded theory. The 1990 book helped popularise grounded theory and is widely used; however, it has also been described as rather formulaic and overburdened with rules (Kendall 1999). From our perspective then, the Glaserian version has the twin advantages of being closer to the original, classic version of grounded theory, and of being much more flexible.

We followed the Glaserian (and classic grounded theory) coding stages – open coding, selective coding and theoretical coding. During selective coding and through an iterative process, we discovered our emergent categories. We then considered the relationships between categories during theoretical coding, and analytic memos (Glaser 1992) assisted with this process. One of our emergent categories was growing into the project culture, and it is this concept that we concentrate on in this paper.

4   PROJECT BACKGROUND

The IOIS project studied, ViWo, was a Scandinavian public sector organisation collaboration, which aimed to implement an interorganisational system of mutual interest. The development of ViWo involved computerisation of work processes to facilitate office work, consolidation of information across organisations, and management of key activities. The organisations collaborated with the relevant Ministry, suppliers and consultants. Here we give some of the complex background of the IOIS project, to help with interpretation of the findings.

4.1   History of the project

ViWo was preceded by a pilot project called PreViWo, initiated in 2000-2003 by Opti, a user organisation consortium that included Alpha as an organisational host for its personnel. The players in the project are given below.

Organisation	Role of Organisation
Alpha	User organisation that was a member of Nofco and Opti
Ministry	Ministry responsible for funding the pilot project
Nofco	Consortium of user organisations in charge of the project (a virtual Organisation)
Opti	Consortium of user organisations (an organ of cooperation) that used a similar IOIS
Nuovo, Eino	Suppliers of the software
Cumma	Expert consultants

Table 2. Organisations involved in PreViWo

Opti and Nofco operated in closely related areas, and the cooperation seemed profitable to both parties. Moreover, Opti had a difficult financial situation that was thought to be relieved through this cooperation. The pilot project was influential in framing the organisation of the larger project we studied (ViWo), and the history of the pilot project influenced the perceptions of the participants.

4.2   Main players – ViWo project

In the ViWo project, Nofco was no longer in charge of the project - a project management organisation, Rhoo, was brought in. They also managed some research objectives around the project. The key user organisations now consisted of Alpha, the original lead user organisation, plus user organisations Beta, Gamma and Delta who came from Nofco. Nofco now consisted of 21 organisations, and it would be these organisations that would eventually use ViWo. Table 3 summarises the organisations involved in ViWo.

Organisations	Role of Organisation
Ministry	• Ministry responsible for funding the IOIS project
Nofco	• Consortium of 21 user organisations (Virtual organisation) • The basic function of Nofco was to promote and develop locally, regionally, and nationally the utilisation of IT and to enhance inter-organisational collaboration in multiple research-related issues and administrative practices
Alpha, **Beta**, **Gamma**, **Delta**	• Lead user organisations in the project Alpha was also the fund holder for the project
Rhoo	• Organisation responsible for project management and research objectives
Socca	• Software company that supplies the software solutions for the project
Cumma	• Part of the national research network that develop research and IT based services for the needs of research and education, and the supporting IT administration • Acted as an expert advisor. Withdrew from the project before it ended

Table 3. Organisations involved in ViWo

The previous experiences in PreViWo did influence the project organisation of ViWo. There had been numerous disputes between the Opti member organisations and troubled development processes in PreViwo. A deliberate choice was made to first have a project management organisation (Rhoo) and later to change the software supplier to Socca.

Cumma, eventually, withdrew from the project: *"We withdrew .. we realised that we could not continue in this way. This was probably because we received a role that was more demanding than the one we pursued in the initial discussions and negotiations…"*(Jack, Supplier Cumma)

4.3　　Organisational project members in ViWo

The roles of project members are given below in Table 4. There were a large number of people involved, and some had experiences of the previous project.

Organisations	Members and their roles
Ministry, Financier	• Marie; steering group member from the Ministry
Nofco, Consortium of user organisations	• Sarah; also previous member of PreViWo • Sheila; steering group member, previous project manager of PreViwo • Gabriel attended project group meetings occasionally • Hale; Paul; Steering group members
Alpha project team User organisation, and fund holder	• Lucy; Project leader. Also previous member of PreViwo. Member of steering group • Lisa; User representative (of 11 organisational units), also previous member of PreViwo • Arthur; Expert, Opti Consortium, previous member of PreViwo • Esther, Lauren and Thod; Opti Consortium people, attended project group meetings occasionally • Sam, user representative, attended project group meetings occasionally

Beta project team User organisation	• Kathy; Opti Consortium person, attended project group meetings occasionally. Steering group member, also previous member of PreViwo • Heather, Tom; User representatives • Katie; User representative, present in some steering group meetings
Gamma project team User organisation	• Ellen, User representative, present in some steering group meetings • Martha; User representative • Pamela; Steering group member, previous member of PreViwo • Alice; Steering group member, previous member of PreViwo
Delta project team User organisation (Different kind of IS than in other User Organisations)	• Tim; Expert, Steering group member • Sophie, Ann; User Representatives • Susan; Steering group member
Rhoo, Organisation responsible for project management and research, parallel organisation for user organisations	• Matthew; Project leader (also previous member of PreViwo steering group and Opti Consortium director) • Ruut; Project Manager, Steering group member • Rachel; assistant project manager, Member of Quality Group • Thomas, Simon; Members of Quality Group
Socca, Supplier, Software producer	• Walter • Tom. Attended project group meetings occasionally
Cumma, Experts (Withdrew from the project before it ended)	• John, previous member of PreViwo • Peter, Jack, attended project group meetings occasionally. Previous members of PreViwo • Daniel, attended project group meetings occasionally • Ellie, member of project group and also present in some steering group meetings • Mark

Table 4. Project group organisations and their members related to ViWo

A difficult question was who would be the ViWo project manager. ViWo was perceived to be a demanding project, and an experienced manager would be needed. Lucy, Matthew, Sheila all had relevant experience. Lucy, the Project Leader of the Alpha Project Team came from Nofco in PreViWo. Matthew, the Project Leader of Rhoo, the project management organisation, came from a long standing experience in Opti in PreViWo, and was trusted by Lucy and her colleagues. Sheila was the Project Manager from Nofco in PreViWo – but in ViWo, this role was assumed by Ruut from Rhoo. Sheila became a steering group member in ViWo.

Matthew suggested to Lucy and her colleagues from Beta and Gamma that Rhoo could take the responsibility of leading the project, Ruut being the project manager. This suggestion was approved, and so the project manager changed: in PreViWo it was Sheila from Nofco but in ViWo it was Ruut from Rhoo. Ruut had extensive experience in practical software development. It was envisaged that, in addition to Matthew and Ruut, Rhoo could provide a three person quality assurance group for ViWo development. When it came to the choice of software vendors, Matthew's

argument was that Socca would deliver a useful system even in the situation of unclear client requirements.

5   FINDINGS

Growing into the project culture was one core category which emerged through the grounded theory analysis, and this section discusses this category in detail[2]. We identified *Knowledge work* and *Emotions* as important dimensions of this category. Table 5 presents the open codes and selective codes that make up the category.

Category	Selective Codes	Open codes
Growing into the project culture	Knowledge work	Organisational memory Conflicting visions Knowledge sharing
	Emotions	Fear Blame Hostility Frustration Positive emotions

Table 5. Selective codes and open codes which make up the Project Culture Category

5.1   Knowledge work

This category describes how knowledge work in the ViWo project was primarily affected by work carried out in PreViWo. It came evident that people in the ViWo IOIS project had very different starting points, because some people had been involved in the previous PreViWo project, some had not.

5.1.1   Organisational memory

It became clear that there were issues around knowledge transfer from the previous project, resulting in a loss of organisational memory. Though there had been many problems in PreViWo, it was nevertheless seen as a starting point. There were also different viewpoints about the suitability of that starting point. Matthew (Project Leader, Rhoo) doubted the suitability of the material for the starting point of the new project in 2004. Ruut (Project manager, Rhoo) felt that the background materials were partly a stumbling block and hindrance to the current project.

Jack (Supplier Cumma) felt that previous specifications from the project caused more harm than good:

---

[2] One of the strengths of grounded theory is its tie with the data. For every concept discussed in this paper, there are dozens of instances of it in the data. For space reasons, our findings concentrate on some of the representative players – but we have many more examples of the concepts discussed.

"...too often problems that emerged from practical work or were brought up in discussions were ignored by pointing out that the process had already been defined..."

By contrast, in Nofco (Consortium of user organisations), the project organisation was criticized for lack of continuity: Sheila, Nofco, said:

"...previously created knowledge was discarded and we lost the gate keeper role that we thought we knew well..."

Sheila thought that they had to reinvent the wheel in the ViWo project. The comment related to the efforts made to familiarise the new project members with the task.

5.1.2   Conflicting visions

There were also many conflicting visions of the project. Ruut the Project Manager (Rhoo) said:

"I have tried to hold an attitude that this project will end.. but the operation will continue, and I can't manage it after that…"

Sophie (User, Delta) thought that the project management had become more important than the content of the project. She thought the relevance of the project had become twisted.

Jack (Supplier, Cumma) thought that the project was more of a 'technology project' for the project manager and the other supplier, Socca.

Ruut (Project manager, Rhoo) thought that the biggest challenge was the clarifying what the previous vision had been.

It was often necessary to revisit decisions due to questions or critiques from Nofco members, some of whom had been involved in PreViWo. They felt that decisions made in the previous project should not be questioned or changed. Both the suppliers and project management felt that the representatives of Nofco had an effective informal veto which inhibited decision-making, due to previous involvement.

5.1.3   Knowledge sharing

Ruut (Project Manager, Rhoo) took the view that knowledge sharing between organisations occurred in a collegial and efficient manner, despite the hierarchical nature of those organisations. Her thought was that people filled each other in on the project:

"I got a feeling of tranquillity that I need not to know everything..."

On the other hand, Daniel (Supplier, Cumma) felt that his role as an expert was not easy:

"I felt that I should be a telepathic database link, and I should have the talent of a clairvoyant so I would know all the information what they want us to know...".

Lisa (User representative, Alpha), and previous member of PreViWo, for her part, trusted in the supplier's expertise:

"We surely have the instructions of how to use it, and we can always ask Walter (supplier Socco) for help and and get an immediate answer"

Lucy (Project Leader, Alpha) felt that she was making a lot of decisions relying on others expertise, because she herself did not have IS skills. For example, when Ruut (Project manager Rhoo) pointed out something in a plausible way, she would gave the necessary final authority.

Sheila (Steering Group, Nofco) for her part, felt that the main problem was the integration of ViWo and PreViWo. It was hindered by the fact that Cumma did not convey information about the previous project (PreViWo). She said

"We assumed then that since Cumma was chosen as the second supplier, it would ensure the continuance of that information…"

5.2 Emotions

Emotions seemed to play a large role in the project. Project members in different organisations felt strongly about other members and how they behaved. Many project members said that they had no idea when joining the project, how difficult their work was going to be because of the different positions they occupied in the project organisation.

5.2.1 Fear

Fear manifested itself in different ways in the project; fear of change, finding other members as a threat, insecurity, and distrust.

Thomas (Quality Group, Rhoo) said that

"one big problem is that work is felt so personally, that changes are hard to accept…"

Some project members felt that Nofco members were a threat to the project. As previously mentioned, it was felt that they constituted an effective informal veto due their involvement in PreViWo. For instance, the Ruut the Project manager (Rhoo) prohibited some Nofco project members from attending project meetings because they were felt as a threat to the progress.

Another manifestation of how threatened people felt was how people communicated to Ruut, the Project Manager, secretly. This 'tattling' was described by Cumma's representative John in this way

"We always tattled about all faults to the project manager (laughter), because we didn't want to start speaking directly about everything..."

The background of the project (PreViWo) brought in many ways feeling of insecurity to the ViWo project work. Lucy (Project Leader, Alpha) was concerned that some members of Nofco might have interpreted the launching of the ViWo project as an indication of lack of confidence in them.

Lisa (User representative, Alpha) felt that PreViWo imposed pressures on the current project in the sense that an element of competition became involved in the project work.

Relationships with suppliers were also riddled with insecurity. The representative of the supplier (John, Cumma) felt that they had become involved in the project through minor blackmail.

Nofco's member Sheila was worried about both the supplier's work:
"These suppliers are rascals enough to gladly do and produce more than was ordered if we are not careful…"

Ruut (the Project Manager) was fearful of the other supplier, Socca. Her first impression of one of the suppliers on the basis of a phone call was that:
"It felt like he would try to strangle me along the phone line…"

5.2.2   Blame

It was felt that there was a culture of 'promote the guilty and punish the innocent'. Some members felt that Nofco collected all merit but deflected all guilt.

Thomas (Quality Group, Rhoo) thought that the project organisation got in the way of achieving goals and project manager blamed project members if something didn't work:
"Just to be sure, everyone was blamed for the lack of progress in matters".

5.2.3   Hostility

There was some hostility and aggression evident in relationships in the project.

Project Manager Ruut (Rhoo) thought that Nofco's members were aggressive when the project started but it began to wane when project progressed:
"…Nofco is not anymore so aggressive, well, this aggression was this kind of, what was even hard to name…"

Cumma's representative Daniel considered Socca to be a professional software producer, but he felt that Socca's *"bluntness"* hindered collaboration.

Hostility was evident also in project communications:
"Hell no, sometimes this principle of transparency of information takes on laughable dimensions…"
Lisa, Alpha user representative, email Feb. 9, 2005

And at the project meetings:
"That implementation may be up shit creek…"
Walter, supplier Socca, project meeting March 1, 2005

Some project members complained of a *"clique culture"* where some groups worked competitively against other groups.

5.2.4   Frustration

Frustration was evident in many members of the project. Thomas (Quality Management Group, Rhoo) felt frustration in the project; he was not convinced of the significance of his role in the project.

Lisa (User representative, Alpha) felt frustration in many phases in the project.

"Those people, mainly Socca and the project manager and then the Cumma people themselves, kind of talked over our heads, bypassed us in matters where I didn't even know if we were supposed to take a stand on the matters..."

Her frustration was also palpable in the way she summarised the project in one of the last project meetings (Nov 2, 2006):

"Now that the system is ready, we can commit a mass suicide..."

Jack (Supplier, Cumma) felt frustrated at the lack of communication, especially between the project manager, the other supplier (Socca) and the users in the project:

"So I feel it's a completely unnecessary discussion and probably one thing is that I felt I was sitting at a meeting where they mainly spoke of matters that don't concern them (the users), even though they really did concern them very closely, and this interpretation, this translation we felt it is a big job, but at that time no one did it..."

5.2.5   Positive emotions

It is important to note that there were positive emotions exhibited in the project. For instance, Ruut the Project Manager (Rhoo), said it was very important to respect others work, and she was optimistic:

"Now I know, we will get that system…"

Project members were also capable of joking with each other. Consider the following communication in a project meeting (Nov 2, 2006)

"I wonder what I was doing, because I didn't notice it there on the screen…"

(Lisa, User representative, Alpha)

"You were probably on Messenger with someone" (Ruut, Project Manager (Rhoo))

"No, I was surfing porno pages" (laughter) (Lisa).

At the same project meeting, the participants also pondered the explanatory text of the user interface, one user asking them to add the following to the explanatory text:

"Add there that if you dare, it depends on what kind of day the official has… (laughter)"

(Ann, User representative, Delta, project meeting Nov. 2, 2006).

Some users such as Lisa, Alph, were motivated:

"The way I was able to motivate myself during even the worst moments, was   greater than the dislike I had towards the current matters, that was always the light at the end of the tunnel, that I thought this system would be delivered even if it were the last thing I did in this world…"

6   DISCUSSION

Our findings have illustrated the complexities of knowledge work and organisational learning in an IOIS project. We have also endeavoured to show how emotions were an important component affecting the flow of that knowledge work. We agree with McGrath (2006) that cognitive (knowledge) and social (emotional) aspects are not mutually exclusive, and should be studied together.

The knowledge work category also shows that the individual's single actions can be seen as the construction material of broader formations, and vice versa. It is easy to see how a view of knowledge as a social institution requires examination of socialness or emotions. From this viewpoint, even knowledge can be seen as having two dimensions which in certain sense are contradictory: knowledge is a descriptive fact or knowledge includes essential meanings.

It is clear from our findings that the knowledge transfer issues that project members were grappling with were primarily about tacit knowledge – how things had been previously done in PreViWo. It is our belief that the cultivation of tacit knowledge in this kind of situation is difficult and it is a big challenge to the organisation to be as the creator of the knowledge. Our findings raise the question if it is at all possible to model knowledge in this kind of situation, where many workers from different organisations have to socialise into the project organisation. Irick (2007) has said that the interplay of tacit and explicit knowledge is a critical factor in organisational learning.

It is also fair to say that the project organisation did not promote organisational learning, despite the project organisation itself being a product of previous learning on a failed project. Lave and Wenger (2001) assert that it is difficult for organisations to carry out double loop learning by themselves; the irony here seems to be that double loop learning did occur between organisations in PreViWo, in that the project organisation of ViWo was designed to combat known problems. However, it is also possible that this double loop learning did not fit the new situation as hoped.

With regard to the emotions category, it was evident that how people felt about their work in ViWo had a huge influence to the whole work orientation. Antonacopoulou and Yiannis (2001) state that the organisation is not only a group of roles, it has also its own personality, the aims and values are shaped by an individual or group. We believe that emotions are important and vital dimensions of individual and organisational identities and as a powerful influence on everyday organisational processes and functioning. We believe also that emotions are interrelated, interactive and interdependent with learning and especially the periods of changes make extreme demands on individual's and organisations' abilities to learn and on their emotional lives. (Antonacopoulou and Yiannis 2001.)

In this case negative feelings were connected to work conditions, problems with the project work, to certain people, or human relationships. Some project members felt threatened by others[3]. In such conditions, it was very hard to work together or find the thread and this negatively affected the organisational learning and knowledge work. In many cases people in the project didn't like it when some changes happened, and found it hard to adapt. These negative emotions influenced a lot to daily knowledge work.

---

[3] We have not had the space in this paper to share our findings on how power was exercised in the project, but expert power, too, was significant and of course related to organisational learning.

Barsade (2002) has emphasised that one also needs to take into account the emotional contagion, which occurs in groups. It was evident that some project members expectations (from Nofco) affected a lot of other project members. This was especially the case when unfavourable things were given reasons, and they were explained to be a consequence of some other people. Most of the positive emotions arose from the situations where people were able to feel satisfaction in work done or were able to behave in a humorous way.

7   CONCLUSION

Our research raises many important issues related to research on emotions in organisational learning and knowledge work in the IS field. In contrast to the traditional approach which has concentrated on purely cognitive aspects of human action and intentional behaviour (McGrath 2006), this research contributes on emotional experiences and how these experiences relate to knowledge work.

If we are to understand organisational learning and knowledge work we have to understand their emotional aspects. Emotions are difficult to study and subjective by their nature, but this study did show that emotion influenced daily knowledge work. We would contend that micro-level studies about emotions are extremely important in the area of organisational learning and knowledge work. Our study also showed that individuals were not free to shape their actions, because of how the project was organised. So the constraining nature of the project organisation needs to be taken into account. That is why we conclude by asking if 'organisational learning' in many cases, just simply requires a submission to authority, if there is no freedom of choice to conform to organisation and social norms in an organisation.

References

Antonacopoulou, E.P. and Yiannis, G. (2001), "Emotion, Learning and Organisational change", *Journal of Organisational Change Management,* vol. 14 no. 5, pp. 435-451.

Argyris, C. and Schön, D.A. (1996), *Organisational Learning II, Theory, Method and Practice*, Addison-Wesley Publishing Company.

Barsade, S.G. (2002), "The Ripple Effect: Emotional Contagion and Its Influence on Group Behaviour", *Administrative Science Quarterly,* vol. 47, pp. 644-675.

Bereiter, C. (1994), "Constructivism, Socioculturalism and Popper´s World 3", *Educational Researcher*, vol. 23 no. 7, pp. 21-23.

Brown, J.S., Collins, A., and Duguid, P. (1989), "Situated Cognition and the Culture of Learning", *Educational Researcher*, vol. 18 no.1, pp. 32-42.

Clandinin, D.J. and Connelly, F.M. (1994), "Personal Experience Methods", in Denzin, N.K and Lincoln, Y.S. (eds.), *Handbook of Qualitative Research*, Thousand Oaks: Sage Publications, pp. 413-427.

Coopey, J. and Burgoyne, J. (2000), "Politics and Organisational learning", *Journal of Management Studies,* vol. 37 no. 6, pp. 869-885.

Dey, I. (1999), *Grounding Grounded Theory*. Academic Press, CA.

Dodgson, M. (1993), "Organisational Learning: A Review of Some Literatures, *Organisation Studies,* vol. 14 no. 3, pp. 375-394.

Evaristo, J.R., Scudder, R., Desouza, K.C., and Sato, O. (2004), "A Dimensional Analysis of Geographically Distributed Teams: a Case Study", *Journal of Engineering and Technology Management* vol. 21 no. 3, pp. 175-189.

Fitness, J. (2000), "Anger in the Workplace: An Emotion Script Approach to Anger Episodes Between Workers and Their Superiors, Co-Workers and Subordinates, *Journal of Organisational Behaviour*, vol. 21, pp. 147-162

George, J.M. (2000), "Emotions and Leadership: The Role of Emotional Intelligence", *Human Relations*, vol. 53, no. 8, pp. 1027-1055.

George, J.M. (1990), "Personality, Affect and Behavior in Groups", *Journal of Applied Psychology*, vol. 75, no. 22, pp. 107-116.

Glaser, B.G. and Strauss, A. L. (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine Pub. Co, Chicago, IL, USA.

Glaser, B.G. (1978), *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory*, Sociology Press, Mill Valley, CA.

Glaser, B.G. (1992), *Emergence vs. Forcing: Basics of Grounded Theory Analysis*, Sociology Press, Mill Valley, CA.

Glaser, B.G. (1998), *Doing Grounded Theory: Issues and Discussions*, Sociology Press, Mill Valley, CA:

Goffman, E. (1974), *Frame Analysis. An Essey on the Organisation of Experience*, University Press, Boston: Northeastern.

Grandey, A.A and Brauburger, A.L. (2002), "The Emotion Regulation Behind the Customer Service Smile", in Lord, R.G., Klimoski, R.J. and Kanfer, R. (eds.), *Emotion in the Workplace: Understnading the Structure and Role of Emotions in Organisational Behaviour,* Jossey-Bass, San Francisco, pp. 260-294.

Hardy, C., Phillips, N. and Lawrence, T.B. (2003), "Resources, Knowledge and Influence. The Organisational Effects of Inter-organisational Collaboration", *Journal of Management Studies*, vol.40 no.2, pp. 321-347.

Harré, R. (1986), *The Social Construction of Emotions*, Blackwell, Oxford.

Hartley, J. and Rashman, L. (2007), "How is Knowledge Transferred Between Organisations Involved in Change?" In Wallace M., Fertig, M. and Schneller, E. (eds.), *Managing Change in the Public Services*, Oxford, Blackwell, pp. 173-192.

Irick, M.L. (2007). "Managing Tacit Knowledge In Organizations", *Journal of Knowledge Management Practice*, vol.8 no.3.

Kakabadse, N.K., Kouzmin, A. and Kakabadse, A. (2001), "From Tacit Knowledge to Knowledge Management: Leveraging Invisible Assets", *Knowledge and Process Management*, vol.8 no.3, pp. 137-154.

Kelly, J.R. and Barsade, S. (2001), "Mood and Emotions in Small Groups and Work Teams", *Organizational Behaviour and Human Decision Processes*, vol.86 no.1, pp. 99-130.

Kendall, J. (1999), "Axial Coding and the Grounded Theory Controversy", *Western Journal of Nursing Research*, vol.21 no.6, pp. 743-757.

Lave, J. and Wenger, E. (1991), *Situated Learning: Legitimate Peripheral Participation*, Cambridge University Press, New York.

Lawrence, T.B., Mauws, M.K., Dyck, B. and Kleysen, R.F. (2005), "The Politics of Organisational Learning: Integrating Power into the 4I Framework", *Academy of Management Review*, vol.30. no.1, pp.180-191.

Layder, D. (1998), *The Reality of Social Domains: Implications for Theory and Method* in: May, T. and Williams, M. (eds.), *Knowing the Social World*. Open University Press, Buckingham, pp. 86-102.

Lazarus, R. (1991). *Emotion and Adaptation*, University Press, Oxford.

Lewis, M. (2000), "The Emergence of Human Emotions", in Lewis, M. and Haviland-Jones, J-M. (eds.), *Handbook of Emotions*, Guildford Press, New York, pp. 265-280.

Mannheim, K. (1974), "The problem of generations", in Altbach, P.G. and Laufer, R.S. (eds.), The *New Pilgrims. Youth Protest in Transition*, DavidMcKay Company, New York, pp. 101-138.

Markus, L. (1983), "Power, Politics, and MIS Implementation", *Communication of the ACM*, vol.26 no.6, pp. 430-444.

Marton, F. (1981), "Phenomenography, Describing Conceptions of The World around Us", *Instructional Science*, vol.10 no.2, pp. 177-200.

McCarthy, E.D. (1996), *Knowledge as Culture: The New Sociology of Knowledge*, Routledge, London.

McGrath, K. (2006), "Affection not affliction: The Role of Emotions in Information Systems and Organisational Change", *Information and Organisation*, vol.16 no.4, pp. 277-303.

Nonaka, I., and Takeuchi, H. (1995), *The Knowledge-Creating Company*, Oxford University Press, New York.

Polanyi, M. (1966), *The Tacit Dimension*, Routledge and Kegan Paul, London.

Rashman, L. Withers, E. and Hartley, J. (2008), *Organisational Learning, Knowledge and Capacity: A Systematic Literature Review for Policy-Makers, Managers and Academics*, Warwick Business School.

Salmivalli, L.(2008), *Governing the Implementation of a Complex Inter-Organizational Information System Network. The Case of Finnish Prescription*, Dissertation work, School of Economics, Turku.

Spoor, J.R., and Kelly, J. R. (2004), "The Evolutionary Significance of Affect in Groups: Communication and Group Bonding." *Group Processes and Intergroup Relations* vol.7 no.4, pp. 398–412.

Strauss, A. and Corbin, J. (1990), *Basics of Qualitative Research*, Sage: CA.

Thompson, M.P.A. and Walsham, G. (2004), "Placing Knowledge Management in Context", *Journal of Management Studies*, vol.41 no.5, pp. 725-747.

Urquhart, C. and Fernandez, W. (2006), "Grounded Theory Method: The Researcher as Blank Slate and Other Myths", in Straub, D. And Klein, S. (eds.), *Proceedings of the Twenty Seventh International Conference on Information Systems*, Milwaukee, US, pp. 457-464.

Urquhart, C. (2001), "An Encounter with Grounded Theory: Tackling the Practical and Philosophical Issues" in Trauth, E.M. (ed.), *Qualitative Research in IS: Issues and Trends*, Idea Group Publishing, USA, Hershey, pp. 104-140.

Wenger, E.C. and Snyder, W.M. (2001), *Harvard Business Review on Organizational Learning*, Harvard Business School Publishing Corporation.