Development of IS-Change Communication Practices as Part of an IS-Change Management Process

Lahti University of Applied Sciences
Degree Programme in Business Information Technology

GIESEKING, AXEL: Development of IS-Change Communication Practices as
                  Part of an IS-Change Management Process

Bachelor's Thesis   54 pages

Spring 2013

ABSTRACT

The study at hand was conducted as a commissioned degree thesis for the IS department of an international operating Finnish company. The aim was to provide an answer to the question how changes to the IS-services could be communicated in the best and most effective way, with the priority on communication to the business end-user.

Due to the nature of the study and the questions that had to be answered the approach was inductive. The method the study was conducted with was action research and the data used was of quantitative nature. The main data gathering method was interviews. They were of semi-structured nature and were held with 8 people in key positions of the IS department of the client company. 6 of the interviewees were team-leaders of the different IS teams either conducting change, initiating change or being affected by it. The remaining 2 questionees were one IS manager and the company's CIO.

The results of the research were part of a bigger project, the design of an IS-Change Management process. Communicating the change that is going to take place is an elementary part of every change management process and thus concepts are mentioned in every framework. A communication approach was integrated not based on one main framework, like the ITIL way for example, but designed from input gathered from various sources. The study results are made to fit the needs and ways of working of the client company, yet it is believed that with adjustments they could be applied to other organizations with the same demand just as well.

Key words: IS-Change Management, Change Management Process, Communication, Change Communication

Lahden ammattikorkeakoulu
Degree Programme in Business Information Technology

GIESEKING, AXEL: Tietohallinnon muutosten kommunikaatiokäytäntöjen
kehittäminen osana tietohallinnon muutoksenhallinnan prosessia

Bachelor's opinnäytetyö   54 sivua

Kevät 2013

TIIVISTELMÄ

Tutkimuksen hankkeisti suomalaisen kansainvälisesti toimivan yrityksen
tietohallinto-osasto. Tavoite oli tarjota ratkaisuja kysymykseen, kuinka muutokset
tietohallinnon palveluihin voitaisiin kommunikoida parhaalla ja tehokkaimmalla
mahdollisella tavalla, pitäen ensisijaisesti mielessä toimiva kommunikointi
loppukäyttäjälle.

Tutkimuksen luonteesta johtuen se toteutettiin induktiivisena. Tutkimus
menetelmänä käytettiin toiminnallista tutkimusta, johon käytetty aineisto oli
kvantitatiivista luonteeltaan. Pääasiallinen tiedonhankinta menetelmä oli
haastattelut. Ne olivat puoli strukturoituja ja niihin osallistui 8 avainasemassa
olevaa henkilöä asiakasyrityksen tietohallinto-osastolta. Haastateltavista kuusi
henkilöä oli niiden tiimien tiiminjohtajia, jotka suorittivat, tilasivat, tai olivat
muuten muutosten vaikutusten piirissä. Kaksi muuta haastateltavaa olivat yksi
yrityksen tietohallinto johtajista ja yrityksen tietohallintopäällikkö.

Tutkimuksen tulokset olivat osa tekemääni laajempaa projektia, jossa suunnittelin
tietohallinnon muutoksenhallinnan prosesseja. Kommunikaatio
muutoksenhallinnassa on keskeistä ja siksi sitä käsitellään monissa
muutoksenhallinnan malleissa. Lähestymistapani ei perustunut ainoastaan yhteen
malliin, kuten ITIL-malliin, vaan useista lähteistä kerättyyn tietoon. Tutkimuksen
tulokset ovat räätälöity asiakas yrityksen tarpeisiin ja tapoihin työskennellä, tosin
pienillä muutoksilla niitä voitaisiin soveltaa myös muiden organisaatioiden
samantyyppisiin tarpeisiin.

Asiasanat: Tietohallinnon muutoksenhallinta, Muutoksenhallinta,
Kommunikaatio, Kommunikaatiokäytännöt

Contents

1 INTRODUCTION

1.1 Background

The foundation for this thesis was laid summer 2012 when the researcher performed three month practical training in the IT department of an international operating company. The positive work atmosphere experienced within the team he was assigned to and the IT-department, mixed with a high personal interest in the work he was doing, but also seeing room for improvement, especially when comparing what had been learned during recent studies and how the same aspects of IS (Information Systems) were handled within the organization, led to address the question to the company's CIO if there would be the opportunity to write the final thesis for them. It was possible indeed and the result you just started reading.

It was agreed between the thesis supervisor at Lahti University of Applied Science, the client company, and the researcher, that the paper would be written without mentioning either the name of the company nor any of the interlocutors talked to during the research phase of the study, out of confidentiality. In this thesis it will be referred to the organization as 'client company' and to the people involved by using either their title(CIO, for example) or a number(interviewee 1 etc.) that will be the same for one person throughout the whole text. The organization's IT department structure or solutions used will also not be discussed. These details would have no influence on the result of the study.

1.2 Need for the Research

The product that the company sells is not of IS nature, IS tools and services are used to enable the business side to design, manufacture and sell the items that in the end pay everyone's wage. It may because of that, that internal IS structures and work flows are not on the highest possible level of performance and solutions used are not always up-to-date or as innovative as they could, compared to what is available on the market. The IS-department decision makers are very well aware of the situation and improving the way of providing the IS services to the business

side seems to be the driving force behind all their activities. CIO and managers had identified a problem area that needed tackling maybe more than any other domain: Change.

It was brought to the researcher's attention that in the past changes sometimes were performed by IS teams without the top-level's approval or even without their awareness. This was defined as unacceptable. Sometimes connected to the unauthorized changes, sometimes also an issue of changes known off by the IS management, was the lack of communication regarding the change, or insufficient communication. Affected by this were either other IS-teams who should have known about it, or the end-users. Having the service approach in mind, informing the end-user was rated as being most crucial and important. This was backed up by service desk data regarding a change with huge impact to the business side that had been performed without final end-user notification prior to implementation.

The numbers shown in the Service Desk incident reports of the months before and after the IS-change are shown in table 1. As secrecy regarding details of the client company's operations was promised the changed application will be named 'Service X'.

Month	Total number of incidents	Incidents regarding service X	Rank in hitparade of incidents
Dec 2011	794	8	12
Jan 2012	974	55	1
Feb 2012	838	49	1
Mar 2012	845	19	10

TABLE 1, Service Desk Incident Reports 12/2011 – 03/2012 regarding service X

The numbers represent the tickets that were created, either using the company's service desk online tool, by calling the service desk or through face to face contact. The service in question was removed at the end of the year 2011. The end-users had been notified before that a switch in service would take place and that they would have to start using the new service, which was already available. When the team in charge finally pulled the plug and de-installed service X this was not explicit communicated, pre or post. It should be mentioned that this change, according to interviewee 1 had been postponed various times. It was said that nearly three years went by until the old service was taken out of use (2013). As mentioned, the new service had been ready for the user already before service x was made unavailable. Interviewee 1 also said, that the final date when the old solution could be used had been communicated in messages announcing the change. The need to send yet another message out when they finally took it out was not seen by them, so the interlocutor (2013).

Comparing the service desk incident numbers from December 2011 and January 2012 we see not only an increase in incidents in total by almost 23% but also that the incidents regarding the change in question had risen by almost 700%. This sounds extremely dramatic. When we look at the actual numbers of 8 incidents pre-change and 55 post-change it seems to be less crucial. We can also say that in January 2012 the changed service caused about 6% of all tickets, and the month before 1%. Also in February this specific change was causing the most work for the service desk. It was not until March that numbers were tending to become average again, meaning getting to pre-event level.

So if the day had been communicated when the service would be available for the last time, still so many end-users were surprised when they suddenly could not access it anymore. What had happened? Had people not read the message? Had they forgotten about it? Had they not taken it seriously because the change had been announced for a long time and never took place?

The task was going to design a change management process that would prevent unauthorized changes from being implemented and ensure end-user

communication on a satisfactory level. But regarding the thesis for a BBA this approach was too wide and would have to be narrowed down.

1.3 Scope of the Research

When asked by the client company's CIO if he was interested to design and define an IS-Change Management process for them the researcher was thrilled and excited, both about the trust in his abilities and the task itself. At a first meeting with the IS managers they provided more insight into the subject and information regarding the main issues to tackle. Having some journalistic background, as the researcher used to work as freelance journalist for the local newspaper in his hometown, he knew of the importance of good background research. The first draft of the research plan regarding IS-change management, which was presented to the thesis supervisor at LAMK, was huge. It was said that it would exceed the scope of a BBA thesis by far, would the plan be carried out as it was.

At the first IS -Change Management steering group meeting this issue was addressed and management asked to narrow the scope for the thesis down. Besides the need for a change process, which was still going to be designed, it was asked what would be the most important thing the company would want an answer for as result of the research. At the end of the meeting the research question was ready:

How can the client company ensure and improve the communication of internal IS-changes to the business end-user?

With the research question defined, also the scope of the research was set. Ideas would get delivered, approaches and suggestions on communication between IS-department and the business side of the company that would prevent mistakes of the past from happening again, if followed. The tool to perform and monitor communication in the future was going to be part of the change management process. It would be incorporated there, thus the actual work for the company and the thesis were closely tight together. This means topics might overlap, it might not be possible or even desirable to respect clear borders between the two, and

research methods, results and ways of working were applied to both tasks simultaneously were beneficial.

1.4 Research Strategy

The aim of the thesis is to provide a theory, a guideline, a collection of ideas based on academic findings, 'how' communication of an IS-service change can be communicated in the most effective way to the end-user. This special approach will most likely not be universal and applicable to every IS department as is. Different companies have different structures, ways of working, needs, aims, processes and tools. Nevertheless, there can very well be ideas that will work right away for others, some might need tweaking, and some are just not for anybody else. On the way to get the answers regarding 'how' it was identified as essential to answer some fundamental questions first, namely 'how has it been done before?' and 'why has communication failed before?'

When thinking about the possible research strategy the researcher came to the conclusion that the use of various sources to gain the insight and get the ideas how communication works, what ways to communicate exist and make sense within an organizational structure, and what would be the best approaches for the client company having their workflows, their IS-department structure, and their needs and especially weaknesses regarding the subject in mind, would be the best approach. It was aimed to look into existing literature regarding communication, change management and communication, and IS-Change management. To answer the sub-research questions 'how have things been done before?' and 'why has communication failed before?' interviews would be conducted with the people responsible for IS-changes and the IS-department management level to understand their workflows and their approaches towards customer service, as the end-user is defined as being a customer of the service delivered by this department. Finally common sense would also be used to come up with ideas, to reflect and to analyze search results of any nature. As main frame the research would be conducted as action research, meaning involving the company's change management process

steering group closely. Findings and ideas would be presented to them during scheduled meetings on the way to finalize the change management process, and adjustments to the approach would be done accordingly to received feedback. It should be pointed out one more time that two different tasks were conducted at the same time, the already often mentioned process and research for this paper. Because of that the ideas and ways of action research were not only used for work on the process but also to find answers to the research question. In some sense this thesis covers one part of the change process, the bit on communication, than again it is a work on its own. More background to the theory and research methods used and why can be found in chapter 3.

1.5 Thesis Structure

Following this introduction will be a summary of ideas, theories, models and approaches regarding communication, change management and IS-change management found in the literature, including the researcher's opinion about some and criticism where it felt to be appropriate. There will also be a very brief look at communication and knowledge. After the literature review different methods and philosophical approaches regarding research in general will be discussed and explained why it was chosen what was chosen and why other ways would have not been the right choice. Chapter 4 is all about the way of data collection, the findings made in relation to the research topic, and a discussion about these findings. It is in Chapter 4 that answers to the research question will be given. Those are conclusions made and propositions developed based on the literature research and data analysis. Also recommendations how the client company could proceed will be mentioned there. Finally in chapter 5 the work on the thesis and the results will be summarized.

"Change is the only constant."
– Heraclitus, Greek philosopher

2 LITERATURE REVIEW

As the research question forced the researcher to find an answer how change can be communicated in the most effective way, and as that way included an IS-change management process, it was decided to get a background of understanding and knowledge about all these subjects and the theories and approaches surrounding them: Communication, Change-Management and IS-Change Management.

2.1 Communication

Before the actual work on the thesis was started it was realized that the major key word in the study, the one that would have to be present when doing research, reading, listening, gathering information, turning information into data, and so on, would have to be communication. Communication, or better the lack of it, was not only the driving force behind the initiative to develop an IS-Change Management process, but also troublemaker no. 1 in the past in the client organization.

2.1.1 Communication Theories and Models

The actual meaning, the message and context that the word communication carries with it can be quite diverse. It all depends who the person is that uses the word. During research in the library of the Tampere University of Technology it had to be learned that almost all of the books the library carried who had 'communication' or 'communication theory' in the title were actually about communication technology. Due to that they were full of physics and of no use. Dainton & Zelley write that in business organization "*communication is synonymous with information*" (Dainton & Zelley 2011, 2). They cite Axley (1984) who described the communication process as the flow of information going from one person to another, and Deetz (1994) who said that in organizations

communication is just another activity, like "*planning, controlling, and managing.*" (Dainton & Zelley 2011, 2). Quite different is the point of view of communication researchers who say that "*communication is the process by which people interactively create, sustain, and manage meaning*" (Conrad & Poole, 1998, according to Dainton & Zelley 2011, 2). It is that view that dominates the theory.

The origins of communication theory are seen by some as going as far back as to the ancient Greek times. According to Sosnoski (2007) the researchers Ruben & Stewart (2006) named Aristotle's work 'Rhetoric' the "starting point of communication theory" (Sosnoksi 2007). Sosnoski himself writes that "The beginning of the theory of communication is considered to be Harold Lasswell's *The Structure and Function of Communication in Society*" (2007), a book published 1948. This model can be summarized in one sentence: Who says what, via which medium, to whom with which result?

Who	What	Channel	Whom	Effect
(Speaker) >	(Message)>	(Medium)>	(Audience)>	

FIGURE 1. Harold Lasswell's Model of Communication (Sosnoski, 2007)

Just a year after Laswell a model of communication was published by Shannon and Weaver, but its main focus was not on human communication, but on machines communicating with each other (Sosnoski 2007). Both directions of communication theory evolved further on over the years, sometimes combining both aspects like the 1957 work of Colin Cherry *On Human Communication* (Sosnoski 2007). A model on communication that was published in the 1980s by

Joseph DeVito is mentioned as being "representative" for 21st century communication theory by Ruben and Stewart, according to Sosnoski (2007). DeVito's definition of the activity of communication is cited by Webb with "*the act, by one or more persons, of sending and receiving messages that are distorted by noise, occur within a context, have some effect, and provide some opportunity for feedback*" (Webb 2011, 7 - 8). Noise, in the way DeVito used the word means to him "*anything that distorts the message intended by the source, anything that interferes with the receiver's receiving the message as the source intended the message to be received*" (DeVito 1986, according to Slater 2013). Noise in the sense of DeVito can occur in three different forms: Physical, psychological, and semantic (Slater 2013). The model itself is a combination of 8 different elements. According to Sosnoski (2007) they are:

-Sender aka addressor aka encoder

-Receiver aka addressee aka decoder

-Message aka text aka signal

-Channel aka medium

-Code aka sign system

-Context aka field of experience

-Feedback loops aka dialogue

-Noise aka interference

Communication models are often categorized as either linear, circular or systemic (Webb 2011, 8-9). In the linear model the act of communication ends when the receiver has decoded the message received. The circular model includes the option for feedback from decoder to encoder, who then reacts to the feedback received. Building up on the circular model is the systemic one that incorporates the possibility

> "*that the message to and from the sender are subject to interference,
> from the very way the message is encoded, through the
> environmental distortions, to the way the message is decoded*"
> (Webb 2011, 9).

With other words, noise in the sense of DeVito might occur.

According to Dainton & Zelley (2011, 1) "*Communication is perceived as a magical elixir, one that…can guarantee organizational success.*" This sentence alone emphasizes the value that good communication has in the eyes of managers and other decision makers today. But how to generate good communication, what does it take to be good at communication? The authors write that

> "*Simply adopting a set of particular skills is not going to guarantee
> success. Those who are genuinely good communicators are those who
> understand the underlying principles behind communication and are able
> to enact, appropriately and effectively, particular communication skills as
> the situation warrants*"(2002, 1-2).

The way to develop what the authors call 'Communication competence' is "*a successful balance between effectiveness and appropriateness*" (Spitzberg & Cupach, 1989, according to Dainton & Zelley 2011, 2), where effectiveness means how successful the sender was in gaining what the content of the message was aiming at, and appropriateness is referring to the way how, in what manner, the message was delivered (Dainton & Zelley 2011, 2-3).

2.1.2 Communication and Change Management

As with so many terms, also 'Change Management' can mean a lot of different things to different people. It is usually determined by the person's discipline. In this thesis the focus will be on findings regarding communicating changes within an organization.

Paton and McCalman mention a set of guidelines that could be used when communicating upcoming organizational changes, or as they think, their guidelines "*should be considered and followed*" (Paton & McCalman 2001, 45). Some of their ideas seem familiar and remind this thesis's author on models found during the research of communication theory. The first tip they got is to

'*customize the message*', by which, in a nutshell, they mean to make sure that the receiver understands the message. According to them this includes analyzing who will be the receiver, what level of knowledge do he/she/they have, what would be a possible reaction of theirs to the message, and not to use jargon. The reason to include the receiver's possible reaction here is not clear. A reaction, in the researcher's understanding, can only be triggered by either the content of the message or the language used. But if the creator of a message expects a certain reaction because of content or language used, why would he say it like that in the first way? Unless the content would cause a reaction anyway, no matter how it is said, because it goes against believes, values or routines of the receiver. The language and message content used in communication is also stressed by Johnston and Clark who say that communication is the ability to communicate in a way the receiver of the message understands. Furthermore they write "*This includes the clarity, completeness and accuracy of both verbal and written information communicated…*" (Johnston & Clarke 2005, 118). The second guideline of Paton and McCalman is called '*Set the appropriate tone*' and here they emphasize the language used to address the issue. "*Communication is a two-way process*" the authors write as opening sentence to their explanation what they mean by yet another step to perfect change communication '*Build in Feedback*'. If the content of the message that will be send requires more than a linear approach where the process ends when the receiver reads the message, examples given here are 'news', 'instructions' or a 'statement', "*it is essential that the manager has some means of ensuring the message was received, believed, accepted and understood*". The second last proposition is entitled '*Set the Example*' by which they want to say "*Be consistent, and at all times practice what you preach*". Finally they advise to '*Ensure Penetration*' which seems to mean choosing the right tool to spread the message (Paton & McCalman 2001. 45 - 46). Possibly a better term could have been found for that one.

Johnston and Clark (2005) have some ideas how communication in general between managers and employees can be done, also with the option of feedback in mind. They say ways of communication can be:

-Briefings by managers

-Annual meetings

-Roundtable meetings

-Question and answer sessions

-Intranet-based information and updates

-Informal meetings and gatherings

-Company newsletters

 (Johnston & Clark 2005, 245).

Even when all those well-meant guidelines have been followed by an organization, there might be still resistance against the change. Reasons for that are seen by Paton and McCalman to be the employees' fear of the unknown and being quite happy with the status quo, talking about being stuck in habits. Some might also fear the loss of achieved power (Paton & McCalman 2001, 47). The weapon against change-resistance the authors recommend is effective communication (Paton & McCalman 2001, 49). They say "*Change needs to be portrayed in positive terms, a necessity to ensure long-term survival*" but they also stress that there are very well changes where resistance of the workforce can be justified and thus "*Change for change's sake, change for short-term commercial advantage or indeed change which may adversely affect the 'common good' should be resisted…*" (Paton & McCalman 2001, 49).

A very good approach regarding the source, the sender of the message that includes the information that is supposed to be communicated comes from Johnston and Clark. They write

> "*Employees usually trust their immediate manager or team leader more than the senior management team, which is often remote and seen as pursuing its own agenda. The first-line supervisor or team leader is therefore central to the implementation of a new service vision*" (2005, 462).

When coming across a so-called "*Leadership and change management guru*" the researcher was curious to see what he would have to say about communication, especially about communicating a change (http://www.mindtools.com/pages/article/newPPM_82.htm). John P. Potter created a program of 8 steps to help organizations implement '*effective large-scale changes*' (Potter 2002, 3). The 4th of his 8 steps is communication. Since his subject is organizational change, not IS-change, he talks about "*Communication of the vision and strategies….*" (Potter 2002, 3). This should be done by using various functioning ways of communication, while the content of the message should be "*simple and heartfelt*". The aim has to be to get understanding and support from the workforce. Ways to gain that would be beside repetition as main strategy, deeds and symbols. They could, so the author, have more impact than words. He says that if creating understanding and support is not successful, there are two possible reasons: The people didn't like what got communicated to them or communication has just not been effective enough (Potter 2002, 3). As much as the researcher agrees with some of Potter's ideas, the deeds and symbol approach while communicating change doesn't really open up to him, nor does Potter's explanation for workforce resistance be helpful at all.

2.1.3 ITIL and Communication

One approach regarding IS-change and its communication is the one of the ITIL framework. ITIL stands for Information Technology Infrastructure Library and is a collection of best practices for IT Service Management, covered in 5 books, published by the British Government. It is not a standard but "*a body of knowledge*" that can be used to obtain the ISO/IEC 20000 standard if desired (ITIL 2011, 3). In the ITIL approach the management of the change is only one part of a bigger process, one they call 'transition'. Within transition the approach also covers configuration management, release and deployment management, validation, testing, evaluation, knowledge management, and stakeholder management for example. Regarding communication it is identified that

> *"one of the major traditional weaknesses in service transition has been the inability to deliver sufficiently prompt understanding of the implications, benefits and usage of IT services"* (ITIL 2011. 199).

It is stated that communication is of major importance to a change process. It needs to be done in time, the right target group has to be informed, and the content that is delivered needs to be clear and beneficial. Furthermore they advise *"If some details of the transition cannot be shared, admit this and explain why it is not possible, e.g. for security reasons"* (ITIL 2011, 199). The main concept that ITIL recommends is a communication strategy and plan. To be able to design these they suggest to find answers to a number of pre-defined questions such as what would be the communication's objective and desired outcomes, how formal the plan would need to be, would the information be communicated at once or bit by bit and also how the success of the plan could be measured (ITIL 2011, 200). As suggested also in the change management literature, for example by Potter (2003, 3), also ITIL says the more ways are used to spread the message, the more likely it is going to be heard (2011, 201). Not all media types they suggest, as they call it, get the researcher's support, like the idea of a simulation game which *"can be a practical and fun way of trying out a new way of working"* (ITIL 2011, 202), but it is good to see that the importance of communicating the change to the service desk is pointed out with extra coverage. It is *"…particularly important that they get a consistent message during communication about the change."* (ITIL 2011, 202)

Closely related to communication is stakeholder management. Just like communication, also this a crucial success factor within service transition, according to ITL (2011, 215). As part of the stakeholder management strategy it will be necessary to define what information will be communicated to them, but also how their feedback would be handled (ITIL 2011, 215). As stakeholders can be plenty, all eventually having a different interest in the change, it is good practice to perform a stakeholder analysis. This will help not only to identify the different requirements, interests and impact of the change on them (ITIL 2011, 216), but also to define the ways how communication with the stakeholders will be conducted (ITIL 2011, 217).

2.1.4 Communication and Knowledge

A relation exists regarding communication that the researcher wants to explore very briefly, as it was not part of the core demand of the study, still the subject appears to be interesting and of importance at the same time. It is the connection between communication and knowledge. In most cases it is a very obvious liaison, at least on a business and organizational level. The kind of communication that matters for an organization, the kind of messages with the power to add value, are the ones that transport knowledge or will lead to it, either way be it knowledge creation or sharing. Thus the aim must be to create

> *"a knowledge sharing culture…where knowledge sharing is the norm, not the exception, where people are encouraged to work together, to collaborate and share…"* (Dakir 2005, 186).

It is also Dakir who points out that a shift is perception is necessary in the people's minds from "*knowledge is power*", thus I keep it to myself, to "*sharing knowledge is more powerful*" (Dakir 2005, 186). He refers to a study conducted by Gruber and Duxbury (2001) who investigated the explicit and tacit knowledge sharing practices and attitudes in the R & D department of a high-technology company. The researchers' conclusions are

> *"The ideal knowledge-sharing culture was thus one where communication and coordination between groups were emphasized, where experts would not jealously guard their knowledge, and where knowledge sharing would be actively and visibly encouraged…"* and *"A culture that promotes knowledge sharing would be one…where the communication channels flow across geographical, temporal, and thematic boundaries."* (Dakir 2005, 187).

2.2 IS-Change Management

Before work started on the IS-Change management process that was going to be designed and defined, using the steering group's feedback after every iteration, it was agreed that the solution would be loosely based on ITIL ideas. The approach was going to be "*We take what works for us, the rest we leave out*". If an organization wants to apply a complete ITIL based way of working the internal

changes are huge and will have to cover basically every workflow within the department. Change, or as it is called in the ITIL vocabulary '*transition*', is just one aspect of many that gets covered. Due to this it would be a very time-consuming effort that would not have been even possible to cover within the timeline given for the IS-change management project, had it been desired. But it can't be stressed enough that this was not intended at any point. Because only, if at all, ITIL ideas would be incorporated into the solution other frameworks and approaches to IS change, such as COBIT, ASL, BISL, and MOF, could be ignored.

Even though the topic of this thesis is not the change process based on or inspired by ITIL, still it feels to be obliged to briefly look at ITIL's approach to change management, if only for the sake of completeness.

As mentioned previously, ITIL provides a collection of best practices for IT service management spread over 5 books, each dedicated to another subject. The main idea is to implement an IT-department wide service lifecycle that revolves around the service strategy.
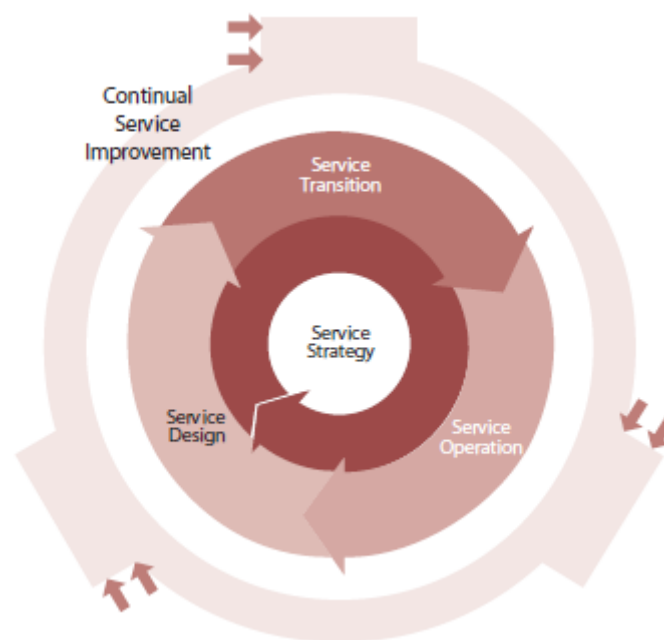

FIGURE 2: The ITIL core (ITIL service transition 2011, 3)

As can be seen in figure 2, after a service has been designed it will get into transition, which is where the actual change of the service is covered. This is because the change is just one part of a much bigger operation in action. As mentioned earlier, also activities like configuration management and release and deployment management are part of the transition process, just as well as testing and evaluation of the solutions. All these different bits can be done the ITIL way, if wanted from an organization. The book covers it all, also the task of change management. In the ITIL book on Transition they list 4 reasons why a change needs management (ITIL 2011, 61):

- To optimize risk exposure

- To minimize the severity of any impact and disruption

- To achieve success at the first attempt

- To ensure that all stakeholders receive appropriate and timely communication about the change.

Klosterboer writes that most companies have some kind of change management process in use already, which may or may not be based on the ITIL approach, and that for some reason on the highest level most of these processes are similar and identical with ITIL's highest level flow (2009, 31). It begins with the request for a change (RFC) which is documented with whatever tool the organization has chosen. After submission of the request it will be evaluated. This can be done either quick and easy or be a complex matter. It can be done by the CAB, the Change Advisory Board of the company, or by whoever has the final say if it's a go or a no. The next step according to Klosterboer would be setting the schedule for the change implementation, which is the follow-up step. The one thing left to do is to review the change after implementation and close it (2009, 31-32).

On the lower levels a change management process can become quite complex. This will depend on how detailed the process is designed, which again depends on how much guidance the decision makers want to provide. ITIL offers very detailed ideas how change management can ensure best performance and also a

high degree of monitoring and control. This is because one of the objectives of their management process is to "*Ensure that changes are recorded and evaluated, and that authorized changes are prioritized, planned, tested, implemented, documented and reviewed in a controlled manner*"(ITIL 2011, 61). Addy writes about this subject that

> "*the purpose of change control is to keep a watching eye on the progress of the change implementation in order to highlight potential slippages, overspends and show stopping issues sufficiently early to be able to avoid them and bring the change successfully to conclusion on time and within agreed budget*"(2007, 212).

But not all changes are created equal and thus classification is necessary to make everyone's work easier. It would not make much sense to demand the same amount of risk assessment, testing and pre-evaluation from a change that has been done numerous times, such as a frequent update where all procedures and effects are well known and documented, as you would from a change never performed before, like switching from one engineering tool to another. ITIL defines 3 categories of change (2011, 65):

-Standard: Pre-authorized change, low risk, relatively common, follows a procedure.

-Emergency: Must be implemented as soon as possible, e.g. to resolve major incident

-Normal: Any service change that is neither a standard or emergency one

And here is the problem: According to the definitions displayed, after a study using Oxford Dictionary's website, when used as adjectives, 'normal' and 'standard' are mutually interchangeable (http://oxforddictionaries.com). If an organization decides to use these 3 ITIL categories there is a high risk that changes end up in the wrong category, simply because the CR mixes standard and normal up, as the labels are too close to each other, the researcher believes. This does not have to happen, but it can. It does not have to happen often but just once

is one time too many. And once it has happened there are many possible scenarios regarding the effects and consequences. It may 'only' cause more work than necessary because a well-documented, frequently performed change suddenly gets tested intensely and employees are wasting time they could have used on important tasks. Another possible scenario is that because a change that would have needed decent testing is implemented without any, failure and maybe even damage to other applications are the results.

Klosterboer on the other hand makes two proposals, how changes could be categorized. His first approach to the subject of classification is to categorize by which IS service is affected by the change that is going to take place (2009, 42-45):

-Data center change

-Workstation change

-Data change

-Administrative/Documentation change

The second suggestion is to categorize by urgency aka the time available for implementation (2009, 45 – 47):

-Emergency change

-Urgent change: Not an emergency but can't wait till next CAB review.

-Normal change: Fulfills standard approval and lead time.

-Long, complex change: Lead time between months and years.

Rob Addy came up with only one list, but it includes 10 '*generic types of changes handled by a typical change management process*' (2007, 189 – 193):

-Like for like replacement: Replacement by exactly the same make, model, and version.

-Comparable replacement: Replacing with another of equivalent quality, specification and operational performance characteristics.

-Upgrade component (i.e. removal or addition): Replacement has increased performance characteristics, enhanced capacity or additional capabilities.

-Downgrade component (i.e. removal or addition)

-Addition: A new configuration item, data element or component.

-Removal

-Modification - meta data: A change to a piece of meta-data (amendment or deletion).

-Modification - configuration change: A change to orientation, configuration or hardware settings of physical equipment.

-New installation: Standalone equipment with minimal dependencies on existing IT infrastructure.

-Move: Changes in the physical location or data or application from host to host.

Categorizing changes is a necessity when an organization is aiming at bringing structure and control to their alterations of IS-services. All four approaches of categorization which have just been briefly described do have their justification, but which one to use, which one would be the one bringing the most value to the organization, this will depend on the situation and motivation. When looking at change categorization from the point of view of the CAB, where the focus could be to check if the change has been thought through and pre-organized to a secure level that is demanded by the type of change, using the simple ITIL model seems to be a good approach, but either 'Standard' or 'Normal' should be renamed to

make the nature of change more visible right away by the label used. Either Klosterboer's approach of categorizing by IS-service or Addy's list of most-common IS-changes could be used when communicating the change is the focus. What will be communicated, to whom, which way, in what frequency, and with which options for feedback, will vary. Some changes may won't have to be communicated at all, because they will not be visible to the end-users, others might need to be communicated only once, and there will be changes so sweeping, it will make sense to inform more than once about the what, why and how, to ensure the end-users awareness. Thus rules need to be set up, how to proceed according to the circumstances surrounding the change.

3 RESEARCH METHODOLOGY & APPROACH

3.1 Qualitative vs. Quantitative

The research method used for this thesis was of qualitative nature. Not only seems it to be the common approach in IS studies:

> *"In Information Systems we study the managerial and organizational issues associated with innovations in information and communications technology; hence the interest in the application of qualitative research methods"* (Myers 2012),

or as Bruce H. Rowlands (2005) stated it, simple and straight to the point "*Qualitative research tends to work with text rather than numbers.*" and interviews were going to be the main source for data and information in the study, but also the research question itself *How can the client company ensure and improve the communication of internal IS-changes to the business end-user?* supported and aimed at this approach.

Numbers were not going to help in the way the research was planned. If the use of quantitative data would have been wanted to be able to draw conclusions and answer the research question it would have had to be embedded it in a long-term research that would test a theory, with performance-measurements along with user-satisfaction measurement before and after implementation of the solution suggested in the theory.

To be able to give a satisfying research answer, it was important to not only do a literature research on the subjects of communication, change and IS-management but also to collect qualitative data to get an understanding on the past and current ways of working and thinking within the IS department. Talking about IS change was going to be the key, not looking at numbers processed in a quantitative research process, combined with other qualitative data sources such as '*observations…, document and texts, and the researcher's impressions…*' (Myers 2009). At one point it was considered to collect also quantitative end-user data and process it into a statistical report. The idea behind this was to get knowledge how employees use existing IS services, how they rate past changes to the

services they use and how they think it should be done in the future to ensure best possible support of their work. After consideration with the client company's CIO this idea was dropped (CIO, phone call 2013) as it was decided in consensus that this data would not be needed to answer the research question.

3.2 Inductive vs. Deductive

To decide the method of reasoning to be used was not as easy as one could think. On first sight, having the research question in mind, plus a rough idea how to find the answer to it, one could say that inductive research would be the way to go and that using the descriptive one would not be the right approach. This assumption would be based on the general understanding that the deductive approach starts with the theory and ends with its confirmation whereas the inductive way begins with observation and ends with a theory (Trochim 2006). As it was not feasible nor desirable to 'put the cart before the horse', meaning in practice to have an idea how things should be done and test it without having knowledge first about the way things have been done and where they went wrong in the first place, it would seem plausible to go for the inductive way of doing research. Even more support comes from Wisker who writes "*descriptive research aims to find out more about a phenomenon and to capture it with detailed information*" (2008, 71). Or to say it in a different way, the descriptive research, according to Wisker, tries to answer 'Why?'. Why something is happening will be subject of research, and maybe also 'What?' as in 'What is happening?' but it does not answer questions that are dealing with solutions to the cause as in 'What can we do to…'. Regarding the inductive method Rowland (2005, 86) writes "…*the researcher tries not to be constrained by prior theory and instead sees the development of relevant theory, propositions, and concepts as a purpose of the project. This approach is generally known as induction.*" This together with Williams's summary stated above, seemed to deliver very good reasoning to use the inductive way. But as often things are suddenly not that easy anymore once the process of thinking about an issue more deeply and intensively has started. Without knowing the cause for a problem there is the risk to come up with the wrong cure. A researcher could very

well end up with an answer that would look good on paper but wouldn't tackle the challenge at all. Having that in mind it became clear that the research would have to be to some degree exploratory, of discovering nature(Myers 2009, 72), and linked to that deductive approaches might would have to be applied, where identified as necessary. With other words, it had to be considered to also look for answer to one or more 'why' questions to be able to answer the research question on a satisfactory level.

3.3 Philosophical Perspective

The philosophical perspective the researcher was aiming at was interpretive research, one of the non-positivistic approaches used in IS-studies. Non-positivism is, so to speak, a sub-category of ontology, which is a philosophical discipline that, so Stahl(2013), "*researches the fundamental questions of being, and thus, in everyday parlance, one could say that it studies the nature of reality...One needs to know what is or what exists in order to research it.*" The positivism approach that" *human beings can and should be researched in the same way as a natural phenomenon.*" (Alessandrini 2013, 3) did not make sense, at least not when thinking it through for this case. As logical consequence the approach had to be of non-positivistic nature. Also the choice of data that was going to be used left no other alternative; qualitative data is the dominant data type in non-positivistic researches, while positivistic research uses qualitative data (Alessandrini 2013, 5, Table from Hussey and Hussey 1997 cited in Barker et.al (2001)). Stahl calls interpretivism "*probably the most important alternative to positivism*", when it comes to research done in the IS sector (2013, 6). That of course was no reason to choose it, but the way of thinking that lies behind it. In his 2009 book on qualitative research Myers writes "*Interpretive researchers assume that access to reality (given or socially constructed) is only through social constructions such as language, consciousness, shared meanings and instruments*" and that "*interpretive researches tend to focus on meaning in context. They aim to understand the context of a phenomenon, since the context is what defines the situation and makes it what is it.*"(2009, 38-39). Interpretative

research is based on hermeneutics & phenomenology (Boland 1985 as cited by Myers 2012, 39). Then again there are scientists who say that critical realism is the approach to take with an action research in IS (Coghlan &Brannick 2004, 6).

3.4 Research Method

Research methods to conduct a qualitative study are plenty, the methods most used in IS-studies are, according to Myers(2012), ethnography, grounded theory, case study research, and action research. The author of this thesis looked into all 4 approaches to find the one most suitable for the task ahead.

The ethnographic approach has become widely used within IS research, so Myers (1999). Having its roots in anthropology it means that the researcher conducts a long term observation in the field, joining a group, observing their actions and behavior and collecting data this way (Myers 1999). A challenging, interesting and most likely rewarding approach regarding professional experience and on a personal level, but not applicable for the research to master. Due to the time constrain and the client company's internal IS department structure where teams are not located at one location but in several towns all over Finland it was not conductible.

Another common research approach in IS-studies is grounded theory. According to Toloie-Eshlaghy et.all (2011, 115) a grounded theory is based on the key concept of data. They state that grounded theory is of deductive nature as theory forming follows the deductive way from specific to general. It is based on a hypotheses and a theory is achieved by conceptualizing data rather than collecting objective data. Myers (2012) writes "*Grounded theory is a research method that seeks to develop theory that is grounded in data systematically gathered and analyzed.*" He also comments in the same source that "*the method is extremely useful in developing context-based, process-oriented descriptions and explanations of the phenomenon*" (2012). As none of these explanations of what grounded theory is or consists of really tackled the research question of this thesis it was dropped as possible way to go. Interesting, on a side note, is Myers (2012)

quote of Martin and Turner (1986) who, according to Myers, wrote that grounded theory was "*an inductive, theory discovery methodology*." To investigate and explain the true nature of grounded theory, if it is deductive or inductive, or both, lies beyond the scope of this thesis, nevertheless it was understood as the researcher's duty to mention the discrepancy he came across in the literature.

Case study is the most used form of qualitative research in IS as stated by Myers (2012). Myers cites Yin (2002), according to whom "*a case study investigates a contemporary phenomenon within its real-life context*". Applied to the context of IS-change and communication this could very well be a fitting research approach if the lack of communication was defined as the contemporary phenomenon and the performed change as its real-life context. This is supported by Benbasat, Goldstein and Mead who noted that within organizations the interest had shifted from technical to organizational issues, regarding IS related research (1987, according to Myers 2012). This would support the approach in that sense that the identified challenges in IS-change in this context are not of technical issue but rather of organizational origin. According to Benbasat et al (1987), cited by Davison (1998) it is justified to perform a case study when it is necessary to study a phenomenon in its natural setting, 'how' and 'why' questions can be ask by the researcher to understand nature and complexity of the processes taking place, and when research is done in a field where not many, if any, studies have been done previously. As the method that is chosen by the researcher is to a large degree dictated by the nature of the research question asked it is worth to look into this subject a bit more. Yin writes that case-study can be the appropriate way of doing research if the research question is either of descriptive nature, when you want to investigate what is or has been going on, or of explanatory nature, trying to fathom the reasons behind a phenomenon, why it occurred(2012, 5). It is also Yin who says "*alternative research methods are more appropriate when addressing two other types of question: an initiative's effectiveness in producing a particular outcome…and how often something has happened…*" (2012 5). This was all the author of this thesis needed to know to make the decision that the case study approach would also not be the fitting one as he did not have the intention to answer 'why' and 'how'. At least not when 'how' is asked in an explanatory context, as it would be the case in a case study.

The method that was finally chosen to do the research was action research. Already the first explanations regarding action research the author read made it look like a suitable approach for the problem at hand right away. Toloie-Eshlaghy et.al (2011) cite Rapoport (1971) with

> "*The purpose of an action research is to talk about people's practical problems in a situation that there is a specific problem and the purpose is to increase social knowledge through a cooperative interaction with respect and mutual trust within a moral framework accepted by both parties*",

and Car and Kemis (1986) with

> "*An action research is a kind of question or self-contemplation by which participants have been accepted considering a logical and equal correction of their own learning methods, their understanding from these methods and situations in which these methods are performed. *"

These two definitions sound slightly abstract but they sure lead the researcher on the right path. Further investigating into the action research approach it became more and more clear that this was going to be the way of working. In one of the books on qualitative research this inspiring sentence was published

> "*Action research requires the researcher to obtain an accurate and comprehensive understanding of the situation being addressed before taking any action directing at solving identified problems*" (Trauth et al, Mumford 2001, 47).

That was what the author of this thesis wanted to do, that is how he understands the meaning of proper research. Reading on even more comments supporting the decision were found. Wisker (2008, 74) writes

> "*Action research explores and informs practice…It is experientially based and usually set up to try and solve a problem, or try out a hypothesis that could improve a practical situation…It involves collaboration with its subjects, and seeks to research practice.*"

Also regarding change action research is often mentioned in the literature. Reason and McArdle state in their summary of the different schools of practice of action research regarding the school of 'Organizational change and work research' that

> "*there is a longstanding tradition of action research in organizational settings which aims to contribute both to more effective work practices*

and better understanding of the processes of organizational change. This approach draws on a variety of forms of information gathering, feedback to organization members, leading to problem solving dialogue” (2004).

Of course organizational change and IS-change is not the same, and what might work for the one might not be of practical use at all for the other, but there is at least some level of relation between different kinds of changes. Enid Mumford also connects action research with change. She writes

“*Action research is concerned with change. Its intention is to change situations in ways that are seen as better, either by the researcher or by groups in the research situation…*” (2001, 47).

There are many ways how to conduct an action research. Those which are often mentioned in context with IS studies will be discussed here.

Munford developed the ETHICS and QUICKethics approaches. ETHICS stands for Effective Technical and Human Implementation of Computer-based Systems (Vasilecas et.al 2005, 535*), and is a 6-step program whose use can vary depending on the nature of a specific research's demands and needs (Munford 2001, 62). These 6 steps are as follows

Step 1 – Diagnosis of need

Step 2 – Setting objectives

Step 3 – Identifying solutions

Step 4 – Choice and implementation of solution

Step 5 – Follow-Up evaluation

Step 6 – Reports for the company and academic articles describing the theory and practice of the research.

Vasilecas et.al (2005, 535) explain that the ETHICS approach uses debate, discussion and participation between user and analyst to identify system requirements.

The related QUICKethics approach can be used, so Munford (2001, 62-63) when managers have to, want to, or need to define their information needs. Vasilecas et.al write (2005, 535) that

> *"QUICKethics provides a method for identifying the implicitness of tacit knowledge at top-level management – information requirements…are identified through face-to-face interviews and discussions, followed by group meetings"*.

An approach similar in content but with less steps is the action research cycle as designed by David Coghlan and Teresa Brannick (2004, 22).
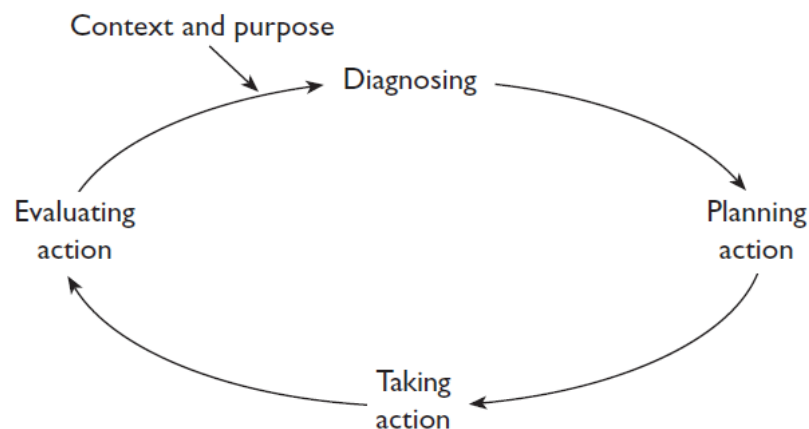

FIGURE 3. The Action Research Cycle (Coghlan & Brannick 2004, 22)

Where Munford's ETHIC approach followed a line, from start to finish, from top to bottom, Choghlan and Brannick's approach is, as shown, a circle, and thus seems to be never ending. It has a starting point, somehow defined outside the circle (Context and purpose), what they call a pre-step (Coghlan & Brannick 2004, 21). They state that the circle has to be seen in coherence with the 4 factors of action research they identified: Context, quality of relationships, quality of the

action research process, and the outcomes (Coghlan & Brannick 2004, 21). The four stages of the cycle are '*Diagnosing*', '*Planning action*', '*Taking action*', and '*Evaluating action*'. The '*Evaluating action*' is where the future of the action research is determined. Here it will be seen what data and information will be transmitted "*into the next cycle of diagnosis, planning and action.*"(Coghlan & Brannick 2004, 23). Right after that they point out "*So the cycle continues (see Figure 2.2).*"

The researcher understands the concept that you diagnose, plan, implement and evaluate, and as long as necessary keep on repeating these steps, still the missing end-point in their approach is confusing. It gives the impression one specific cycle will be repeated constantly. No sub-task defined within a project, if one wants to follow their idea of action research being the project (according to the authors numerous action research cycles with different timelines are going on at the same time within any action research project(Coghlan & Brannick 2004, 23)), and the cycles sub-tasks, will continue till eternity. Unless they mean the evaluation of one cycle's outcome will be the next one's input. The above mentioned figure 2.2 (see below as my figure 4) could indicate this, even though the text pointing towards it said that "*the cycle continues*". The author of this thesis sees a serious contradiction here between what the text says, or how he understands its meaning, and the graphics used as supportive medium.
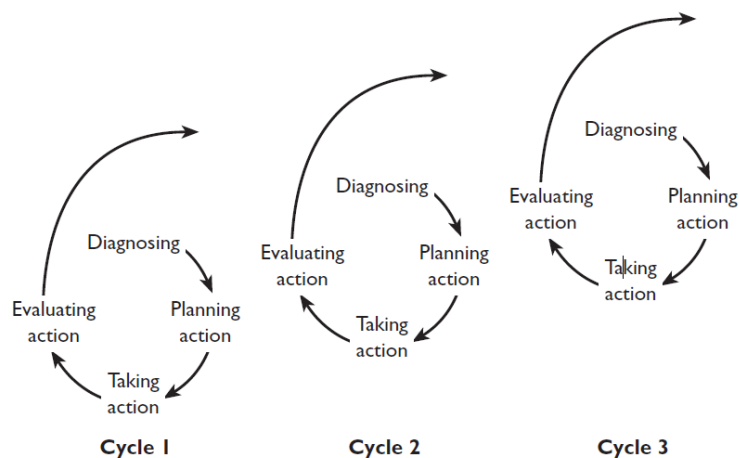

FIGURE 4: The 'Spiral of Action Research Cycles' (Coghland & Brannick 2004, 24)

One can wonder if they mean cycle as in time-line or cycle as in work sequence, but as neither text nor graphics indicate that matter clearly the researcher can only agree with their approach to some degree.

The third and final approach how to conduct an action research is another co-operation by David Coghlan, this time together with Paul Coughlan, and was written 2002, two years before his work with Teresa Brannick. The cycle of 2002 incorporates three different kinds of steps: Pre, main, and meta. The main type itself consists of 6 steps.
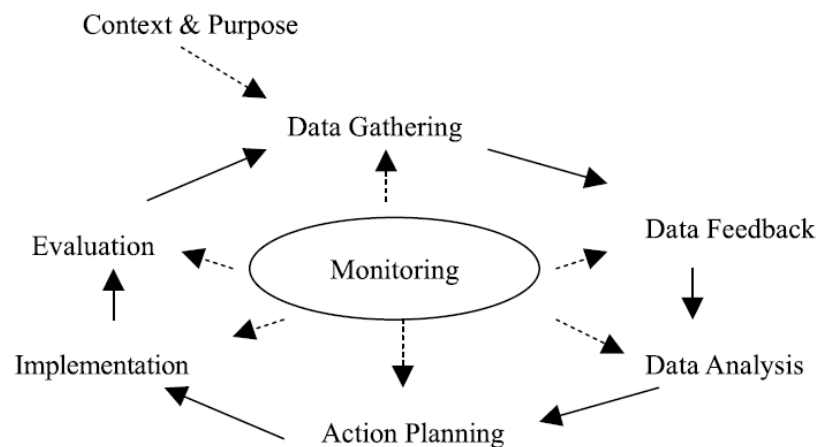

FIGURE 5: The 2002 Action Research Cycle (Coughland & Coghlan 2002, 230)

As in the 2004 model shown earlier the pre-step of context and purpose identifications is located outside the actual cycle of action. Inside the cycle, surrounded by the main steps is the meta-step, as they call it, of monitoring said main-steps. According to the authors this would most likely be the location and duty of the researcher as the project's steering-group would either be too occupied with taking care of the practical side of things or would not have a huge interest in being involved there as well (Coughlan & Coghlan 2002, 233). Despite the cycle being of endless nature again, the accompanying text has the end of a process in mind. In their part on main step 6 'Evaluation' the authors write

> *"Evaluation involves reflecting on the outcomes of the action, both intended and unintended, a review of the process in order that the next cycle of planning and action may benefit from the experience of the cycle completed. Evaluation is the key to learning. Without evaluation actions can go on and on regardless of success or failure, errors are proliferated and ineffectiveness and frustration increased."* (Coughlan & Coghlan 2002, 232-233).

The model itself, as shown, lacks the end, the closing of the project, and that seems to be based on the authors' assumption that every action research cycle will be followed by another one and so they created another figure showing this belief.
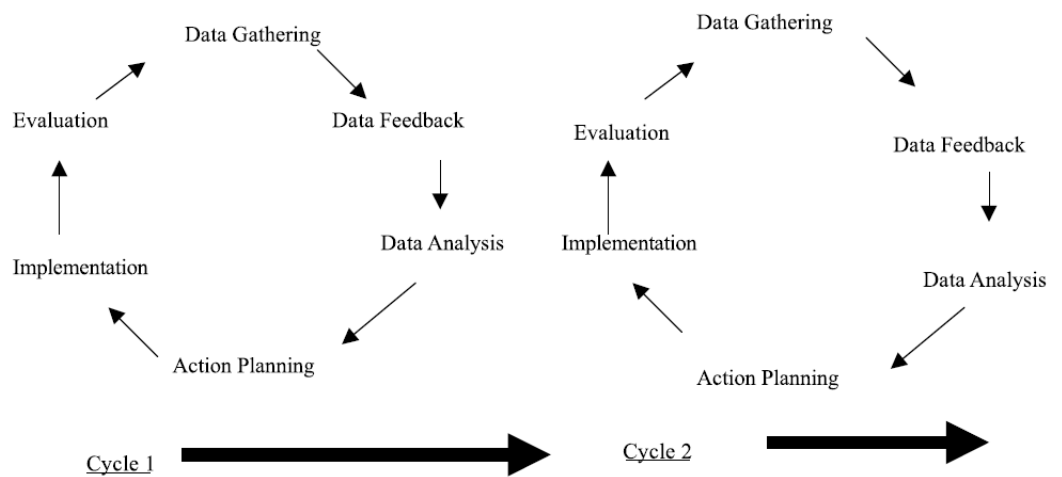

FIGURE 6: The Action Research Cycles (Coughland & Coghlan 2002, 233)

In that case it would have been a better graphical approach to have an arrow going from Cycle 1's *Evaluation* to Cycle 2's *Data Gathering*. The main difference to his later model, and also Munford's, is the focus on data gathering, feedback and analysis.

Despite the fact that all three approaches regarding the steps involved in an action research project in IS-studies include the implementation and evaluation, this study will not cover these aspects. Duo to time schedules and constrains it is not possible to wait for the implementation of the IS-Change Management process and evaluate the performance of the suggested answers to the research question in

real life. All other aspects of an action research have been applied. A change management steering group had been formed to whom the researcher would report and present the status of his work at meetings held online. During these reviews feedback, advises and propositions were collected by the author which he then would incorporate into his work. At the next meeting the new version would be presented and the process of collecting feedback and adjusting the work according to it would start again until a level of quality would be reached that would allow implementation.

4 THE DATA & THE ANSWERS

When starting thinking about the research question, what answer the client company was expecting, it was identified as critical and as important pre-requirement on the way to give the answer, to find out why communication had been so poorly executed in various changes in the past. Be it poor communication between IS-teams or between the team responsible for implementing the change and the end-user. To get a start on the answer how communication could be improved, the researcher decided to get an understanding how the team-leaders see changes they are responsible for done in the past, and what they think about changes their fellow team-leaders were responsible for. It was also important to understand how the teams work, especially how they work regarding a change. Furthermore it was necessary to get an understanding how the team-leader would define crucial subjects like failure, information and communication, to come up with a conclusion why changes failed in the way they had failed and where control mechanisms might be useful in the future to prevent the same mistakes from happening again. The way of data-collection would be interviews.

4.1 Data Collection

Based on that approach semi-structured, open-ended interviews were prepared. The nature of this type of interview,

> "*the ability to address both the need for comparable response – that is, the same questions being asked of each interviewee – and the need for the interview to be developed by the conversation between interviewer and interviewee – which is often rich and rewarding*"(Wisker 2008, 195),

made it perfect in this case. Because it had been decided to interview not only the IS team-leaders but also the CIO and the IS managers three different interviews had to be prepared. For the team-leader interviews 14 fixed questions were prepared. 12 of them were closed questions. In most cases sub-questions to the closed main question were available. The subs were of explanatory type. The idea was to ask the interviewee to explain his or her first answer, which would be

either 'yes', 'nor' or 'it depends', more deeply. For the IS manager interviews a set of 13 questions was prepared. 10 of them included pre-defined sub-questions to dig deeper if the manager's answer would need an explanation in the researcher's opinion. Finally the CIO interview consisted of 17 questions all aiming at getting an as holistic as possible idea about his perception and expectations regarding change past, present and future.

These interviews were conducted with six IS team leaders. Three of these interviews were done face-to-face, on the same day because the interviewees happened to be all at the same location. The remaining three team-leaders were interviewed by phone. The estimated interview time was 30 minutes for the first set of three, but in all cases this got exceeded by far. Thus later interviews were scheduled for one hour. The reason why the scheduled 30 minutes were exceeded was because often the order of the questions was not followed in a strict manner, nor did the interviewer always stick to them. The idea was to use the questions as loose structure, say as guide towards the aim, the last question, and on the way collect all information that one could get from this team-leader, including opinions and emotions. During some interviews it became obvious fast that certain questions just didn't affect the interviewee. In these cases they were skipped. In some cases the researcher was happy to let the interview develop its own direction, to become more of a conversation in parts, also to get as much information and opinions as possible. The interviews conducted by phone followed the order of the questionnaire stricter than the ones done face to face. That might happened due to the fact that in a face-to-face meeting the atmosphere, as describes, sometimes got more of a conversation character. The researcher was also allowing himself to leave the path of pre-defined questions and add others that came to his mind during the interviews, as reaction to an information or opinion just given by the interviewee. None of these interviews was recorded. Handwritten notes were made which were transcribed later. Being forced to rely on notes the interviewer was hoping that this already would trigger a selection process in the moment of writing, to have little to none 'noise' but as much, if not only, 'rich' data.

Due to organizational issues and time only one IS-manager and the CIO were interviewed. These two interviews were conducted face-to-face on two different dates. In both cases it was necessary to stick to the scheduled 30 minutes, exceeding the interviews was not an option. Still interviewer and interviewee managed to go through all questions. During both interviews the structure was followed and no questions were asked that had not been prepared. These interviews were not record either; again the researcher decided to rely on hand written notes which were transcribed later.

It needs to be stressed that the purpose of these interviews was not only to gather data regarding change and its communication but also in context with the change process the researcher was working on. Because of that only a part of the questions of each interview dealt with the subject of this study.

4.2. Data Analysis

The approach of analyzing the data collected was of hermeneutic nature. Myers writes that the main idea behind it is to find out the meaning of a text (2009, 170) and if one equals text with interview it makes sense to the researcher to use this approach. Myers also says that if hermeneutics was used to perform analysis in business and management it would be used to make sense of a company as if it was a text-analogue (2009, 170).

> "*In a company, the different stakeholders can have confused, incomplete, cloudy, and contradictory views on many issues. The aim of the hermeneutic analysis could be one of trying to make sense of the whole and the relationship between the people and the company*" (Myers 2009, 170 – 171).

4.3 Findings and Discussion

The first thing to notice when analyzing the data was the differences regarding what was considered being a failed change. Only the CIO was asked directly, what his definition of a failed change would be. The team-leaders were asked two questions regarding failed changes. One was about changes they were responsible for, they would consider failed, the second one was regarding changes performed by other IS-teams, they would see as failures. The IS-manager was asked a similar set of questions, regarding changes by the teams working for him, and teams outside his responsibility. All team-leaders would only consider a change of theirs as failed if it went wrong technically. But one of them, interviewee 6, was aware of the communication problem:

> *"I don't recall any special case where we performed a change that I would consider failed. The problem in most cases is that the technical change goes fine, the non-technical goes wrong: Not everybody knew about the change"* (2013).

Number 6 continued to explain that not the whole group of users was not informed, some small, remote located groups had been forgotten. A similar statement was made by interviewee 3. This is a matter of target group identification and should be easily preventable with a structured approach, like complete documentation about all user groups and then in case of change simply work it off. Also the IS-manager mentioned the lack of information as a source for change failure, but the researcher understood it to be the lack of information between the IS-teams, not towards the end-user. The other team-leaders either could not think of a change they had been responsible for they'd consider failed or nailed it down to issues like *"unrealistic schedules leading to insufficient testing leading to failure"* (Interviewee 3, 2013), *"a lack of time, not enough testing and human error"* (Interviewee 4, 2013), *"unexpected failure in the release, not enough time to prepare and often human errors"* (Interviewee 1, 2013). Consequently all answers collected from the team-leaders what actions in their opinion could have prevented their change from failing were pointing towards schedule and testing. When asked if they could give examples of changes done by other teams they think failed interviewee 2 named two, where he blamed non-existing communication to the end-users as reason for failure. At least in one case

he believes it was done on purpose by the people in charge to prevent possible resistance against the change from occurring (2013). Two others, interviewees 5 and 6 also mentioned changes by other teams that went fine technically but were communication was either not happening or "could have been better"(2013). All other team-leaders mentioned only technical, testing or schedule related reasons.

In contrast to the team-leaders stands the CIO who said

> *"The definition of change depends on the point of view. I focus on the business end-user. It failed if it has an effect on the end-user performance. An IT-internal failure that causes a delay only to IT is less critical"* (2013).

It came not as a surprise when he answered to the question, what he thought were the main reasons for failed changes in the past

> *"Communication times 3…some testing related issues could maybe have been avoided, but scaled communication is much more important. We know that things will go wrong from the technical point of view. But how do we pre-warn the people, how to communicate to different groups?"* (2013).

When looking at the answers given by the team-leaders, especially those they had given about their own changes and interpretation them, a possible reason for bad or non-existing end-user communication materializes: The people who should care, don't care. Those who should be aware that their action will have an impact on someone else, and so that person needs to be informed, either way don't care about it, or are not able to see that far. It can possibly even be said that they don't work according to the service approach. They probably don't understand that they are not the ones who provide the company's turnover, that they are only 'servants', so to speak, supposed to provide to the customer, the end-user, a top-class service that will enable him, the end-user, to make the money that will in the end pay his or her, the servant's, bills. Otherwise, if they would perform their tasks with the service approach in mind, they would naturally think about the impact of their actions on the end-user. Thus their awareness regarding this topic needs to be risen in the researcher's opinion. A change in their way of thinking needs to be triggered.

But there is also the issue of communication between teams, which got addressed by CIO and IS-manager. The CIO said that there was lack of communication not only to the end-user, but also internally inside IT, between teams (2013). Exactly the same was also stressed, as mentioned earlier, by the manager who additionally talked about the lack of understanding between teams how the others work, which also can sometimes be the root cause for a technical change failure, combined with an existing 'I don't care' attitude (2013). Interestingly enough during the interviews three team-leaders (Interviewees 2, 3 and 5, 2013) made comments in this direction. They did not say that they don't care if other teams have all information they need or that they'd need more insight in other teams' workflows, but what they mentioned were regular face-to-face IS team-leader meetings held in the past, where they would inform each other about ongoing and upcoming projects. All three said that it was a very good initiative and that it is too bad that it stopped at one point, and that they'd like to reactivate those or find a similar way of info-exchange between the team-leaders, which would be beneficial for everyone (2013).

The researcher also believes to have sensed some underlying rivalry, or at least lack of empathy, between the two main sections of IS services in the organization, respectively between certain team-leaders. To call it disrespect would possibly be too strong, but definitely the tendency of believing that the other team is not performing good work. This believe, if it than exists, can have various reasons. A possible source can simply be the lack of understanding how other teams work. The IS manager responsible for one of the sections, pointed out "*They don't understand how this section works. They have no knowledge of our work. We understand them well, but not the other way round.*" (2103).

There could be room for quick improvement. Info-Sessions could be held where the team-leaders inform each other exactly about that. Where they would explain how they work, their workflows, including challenges they have to face while working on the assigned tasks etc. If applicable team-members could also join other teams for a certain amount of time and work with them, to get to know the other's tasks and workflows.

This tendency the researcher believes to have noticed among some, that he can't prove as it is an interpretation of things heard and seen, is also connected to the communication of change. The risk that valuable information is not communicated on purpose to someone disliked or seen as unequal is a valid assumption. This must not happen, it is just a scenario, and most people will not let dislike come in the way of their duties, but again, it could be possible. Creating a team-spirit, promoting emphasis and the development of respect and understanding where it is non-existing currently could help overcome these kinds of issues.

The team-leaders were also interviewed about their change communication behavior and general thoughts on it, as it was necessary to know who was doing what already. It should be mentioned that most changes are communicated to the end-user, but most is not good enough and the way and the content most likely can still be improved. A team-leader said "*Normally we inform other IT-teams and the end-user, but it depends on change and impact*" (Interviewee 3, 2103). Another didn't seem to be too concerned about spreading information as he said "*The main focus is to replace a problem and to get back to normal…The info-level depends on the end-audiences, if it is end-users or IT people*" (Interviewee 1, 2103). According to interviewee 4 he always informs other IS-teams but "*the users only if it affects them*" (2013). Currently the way end-user communication is handled for most changes is that the IS-team leaders prepare an info-mail that than gets send out by the service-desk team. Only for interviewee 2 and his team end-user communication is sometimes done different. They have changes where "*the key-users usually inform their people about the what and how. The key-user is the product owner from the business side who is involved in the project.*"(2013).

This is an approach definitely worth considering regarding the improvement of communication of an IS-service change to the end-user. During a conversation with a member of service desk team the researcher became aware of typical end-user behavior regarding the E-Mails send out by them. According to him, people had admitted to have deleted E-Mails about a service-change that was of concern to them, without having read the messages (2012). This behavior was now causing unnecessary work for the service desk, as the end-user turned to them to get

information about what was going on. Now no end-user questioning regarding their E-mail account practices was done, but when trying to think why someone would delete mails without reading, the most obvious explanation is that they were not aware that the content of the message was carrying any kind of valuable information for them. One explanation given by end-users to the interlocutor, why they delete E-Mails from the service desk unread, was because the service desk was the sender (2012). This can be interpreted that way that from the end-users point of view messages coming from them do not contain anything of importance. One can't help but wonder how that attitude developed? There might very well be E-Mails that don't need to be read, for example if the content would be information about a server downtime taking time at the weekend when this end-user is not working anyway. But if the change will have a visible effect on the end-user, for example the password policy will be changed, it should be taken care of that the message is received and understood. But how could anyone know and decide what is really of importance and what not, without opening the content of the mail, when the messages get deleted unread? A simple solution can be to choose the E-Mail's subject with reasonable diligence. It should be obvious just be reading the E-Mail's title that the content is of importance to the receiver, and thus not contain IT language, numbers or abbreviations that are of no meaning for the recipient. The use of appropriate language needs to continue within the message. This was pointed out by the CIO during the interview with him:

> "*…the content of the message is important and how it is written. Use the business, the end-user language, not IT. We need to improve that. End-User need to understand the content, they need to understand, to know, if it's of importance to them.*"(2013).

The same approach is one of the tips from Paton and McCalman in their guidelines for communication (2001, 45). But also the end-users mindset needs to be changed that service desk messages are 'spam' (Team member service desk 2013). A briefing from their team-leaders about the importance of paying attention to these messages could help to trigger a shift in perception.

Using the end-user's supervisor or line-manger as messenger is a possible second approach to spread the really important news that is to be considered. As

described earlier, this approach is sometimes used by the team of interviewee 2 and also proposed by Johnston and Clark (2005, 462) who write

> "*Employees usually trust their immediate manager or team leader more than the senior management team, which is often remote and seen as pursuing its own agenda. The first-line supervisor or team leader is therefore central to the implementation of a new service vision*".

The researcher agrees with this idea also for the purpose of spreading info on an IS service change with end-user impact. If one would want to make sure that a message is read one has two options. The message title is so tempting, the receiver can't resist opening it, or the sender is a respected person, like the supervisor, and the end-user can't risk not reading this person's mail. This approach obviously needs the support of the business side, they must be willing to invest time and effort, but if the benefits can be sold to them, why would they not agree to become the messenger? Also this message would have to be written by the IS team leader in charge using the business language, not IT.

When and the frequency with which the service desk team sends out the mails about upcoming changes depend on the IS team that performs the change. Currently only one team has a fixed procedure, according to the interviews. One week prior to the event the first mail is send and usually on the day of change implementation a reminder gets send (Interviewee 6, 2013). For all other teams the service desk sends the mail out when they are told to do so (Member service team, 2013). The standard procedure is to inform before the change, but there are exceptions. Interviewee 1: "*Sometimes we inform afterwards, especially when the time window is too small.*" (2013), and interviewee 5 said "*We usually inform before, if it is a planned change. But if the network is down for example, we send it afterwards of course.*" (2013).

To ensure and improve communication a structured, regulated approach is the best solution, thus the researcher advises to implement a standard procedure that is followed by every team performing a change. It could be based on the example of the team that already has a procedure. The 1st mail is send a week before the scheduled implementation date, this leaves enough time for the user to adjust and eventually react, a reminder is send on the day of implementation. In case of a delay the researcher support the opinion that the end-user should be informed

about this as well. There will be those who don't care but there might very well be also those end-users who had adjusted to the upcoming implementation, maybe even waited for it. These people deserve up-to-date info in the researcher's understanding of a good customer service.

Furthermore the implementation of the good practice to send a post-change message is strongly suggested, has the implementation been done over the weekend or any other non-working day. This can fulfill two tasks at the same time. The first is to have a simple reminder that a change has happened now. Most people will not necessarily have in mind, when they come to work on Monday morning, that a week ago they had gotten a message announcing '*Change X with effect Z will take place next Sunday*'. If they work in accounting or engineering a scheduled IS service change is not constantly on their agenda, so they need to be reminded. This can be done as suggested at the morning off the day of change, if it is a workday, but it should be done post-change will it take place over the weekend or on any other non-working day. That way the end-user will have the message in his or her inbox when starting the computer on Monday or whatever the next workday will be. There will be people who consider this spamming (Service team member 2013) but this false perception is not the IS-department's fault. If end-users do not see the importance and the service character of these messages, it could be facilitated to them via their supervisor or team-leader, as mentioned above. The aim is to provide better communication, and if applied the researcher thinks this is definitely a way where no user can say afterwards they didn't know. If they didn't know it would be because they didn't read the message and that is beyond the IT department's responsibility.

The second task the post-message can fulfill is to inform about the impact the change is going to have on the service or its usage. This is a subject that should have been covered in the pre-change mail, but it can be consider being a good customer-service to remind the end-user about said effects. The team-leaders were asked if they inform end-users or other IT-teams about consequences due to a change. Interviewee 3 said "*We should improve it. The approach to find out the consequences depends case by case.*" (2013), and interviewee 4 told the interviewer that "*it depends how much change happens. In bigger changes people*

get trained, in smaller changes they just get informed and maybe get extra instructions." (2013). Interviewee 6 said "*If something changes, yes. What we do depends. We maybe send short instructions how to act in the future. If needed we inform the service desk more detailed about the change.*" (2013).

It seems the teams have already considered this part of service to some degree and try to keep the users up-to-date. The researcher thinks that it should become a good practice to always inform everyone for whom something changes about its nature, and also update documentation regarding the service, be it manuals or any kind of knowledge repository. To send a post-change mail should become a 'must-do' if information regarding accessibility and handling of a service becomes only available during or after implementation. The group of persons informed should exceed the end-user in a case like this. All stakeholders need to be informed.

An answer the researcher came across many times when asking about communication behaviors in connection with IS-changes, during the interviews but also during change process steering group conferences was 'It depends on the change'(CIO, IS-manager, interviewees 3, 4, and 6, 2013). The motivation of not wanting to put too much bureaucracy and unnecessary work on yourself or the teams is understandable. That is what it would most likely seem like would every change be treated equal and communicated to the same extend. One common opinion within the IS department is that changes which are not visible to the end-user don't need to be communicated (CIO, IS-manager, interviewees 3, 4 and 5, 2013). This is agreed on by the researcher. But if during or after implementation the knowledge is gained that it will be visible, the team-leader in charge needs to react fast and catch up on spreading complete and correct info. Interviewee 6 told the interviewer "*There were changes where we thought no one needs to be informed, but as it turned out later, they should have been informed.*" (2013).

Here a change classification in the vein of the one published by Addy (2007, 190 - 193) should be developed, to support and facilitate the decision what kind of change needs to be communicated, to whom, how often, to what extent. The

researcher believes that if the decision is left to the team-leaders and not regulated, the risk of making the wrong choice gets unlikely higher.

4.4 Answering the Research Question

To summarize findings and conclusions in regard to the research question

How can the client company ensure and improve the communication of internal IS-changes to the business end-user?

these are the main points the researcher believes will improve the level of communication when followed:

- Define a structured, regulated approach

- Define clear rules for communication frequency

- Integrate the end-users' team-leaders in the process where useful

- Ensure end-user awareness about the messages

- Use end-user language, not IT

- Create an option to monitor the communication process

4.5 Recommendation

The focus of a fully functioning IS-Change Management Process is wider than ensuring and regulating communication. Frameworks like ITIL offer many ideas and ways how to structure, perform and monitor every step of a process, from evaluating a requested solution, over testing to implementation-evaluation and the performance of lessons learned. To what degree these steps are followed depends on the organization, needs, and existing processes. The researcher would strongly recommend the client company to keep on implementing and regulating more

stages of the IS change processes. This should increase the performance level and lower the amount of failure. Should ideas given with this thesis to tackle the communication challenge be successful the next challenges in line should be solved. Offering knowledge repositories, supporting the documentation of best practices and lessons learned, and the implementation of a tool that on the long run would allow the storage of all change-related documentation, plus having monitoring options for the CAB, could be the next steps to take care of.

The researcher would also suggest looking into the internal (change) communication issues and challenges regarding the work climate that seem to exist. Some thoughts on what could be done are to

- Create inter-divisional team-spirit

- Support development of respect and understanding

- Organize regular info sessions between teams

  - What they do

  - How they do it

  - What they are going to do next

- Provide a tool that gives overview on ongoing and planned changes

5 CONCLUSION

When work on this thesis started all that was known to the researcher was that the client company's IS management expected him to come up with answers that would lead to a solution that would improve and guarantee communication of IS-changes between the IS-team performing the change and the people affected by it. Little did he know about the company's IS structure, the domains of the different IS teams or their connection and attitude towards change. Until asked if he could be interested to work on an IS-change management process the researcher wasn't even aware that in many cases telling someone else about a change that is going to happen equals challenge and needs to follow a set of predefined rules to be successful. All this has changed during the last few months. Besides insight gained into the client company's IS-department a knowledge foundation regarding IS workflows, change management concepts and IS-service frameworks was laid.

As mentioned more than once and now for the last time, 2 tasks and 2 roles were performed at the same time. The one as IT-department trainee (employee) and the one as student of Business IT (researcher) who writes his bachelor thesis. Even though tasks and roles were related they were also very different. The trainee's duty was to design a process that was going to be applied, so practicality had to be considered, something had to be created that made sense in a business environment, results would get immediate feedback and could be adjusted. The researcher had to work alone, find answers on his own, push and motivate himself, and consider the academic approach. Then there was the challenge, could the researcher be objective and neutral, honest and direct, even though he was on the payroll of the client company?

Looking back on the work on the thesis it is believed that the right decisions regarding the theoretical approach and the research strategy were made, especially when keeping the nature of the research question, time constraints and practically in mind. The literature review conducted was relatively large and complex, sometimes covering more material for one topic than another one, but overall a broad understanding of the key topics was gained. Also data-gathering by interviews was a good choice. This allowed interaction between interviewer and interviewee which again lead to a deeper insight into the 'heart' of the IS-

department and showed beside an interviewee's attitude also possible conflicts within.

Of special interest to the researcher were findings made during the interviews regarding the differences of change definition.

- – Management vs. team-leaders

- – Service approach vs. technical implementation

The differences showed that it starts in the heads of the people responsible for change. Team-leaders were mainly thinking about technical failures, bad or non-existing communication was obviously not seen to qualify as reason for failure. The management on the other hand was not too concerned about technical failure, it was way more worried about the lack of service approach, thus they rated changes as failed that went well from the technical point of view but were a disaster from the end-user communication point of view. The team-leaders' main concern was by far the technical implementation, not the service approach. This is an interesting and important result, which shows how important it will be to not only implement a process and rules but also to change the people's mindsets.

The ideas and solutions gathered to communicate change are tailored towards the client company's organizational structure. E-Mails are used as suggested mean to communicate because it is the easiest and fastest way to reach a few hundred employees working all over the country. The old fashioned bulletin board just doesn't do it anymore.

How to structure and perform the communication, to what degree of detail, with what frequency, is not regulated in this thesis. It is a collection of things that could be done to improve, hopefully ensure full end-user communication, even when the end-user refuses reading the messages. Most ideas are believed to be simple but effective, just what good communication should be like. What and how answers given within this thesis will find their way into the IS-Change Management process will be the client company's decision, but it is hoped that more will be done than just creating a control mechanism if an E-Mail was send.

PUBLISHED REFERENCES

Addy, R. 2007. *Effective IT Service Management. To ITIL and Beyond.* Berlin: Springer.

Cabinet Office of the HM Government 2011. *ITIL Service Transition*. Norwich: TSO.

Dalkir, K. 2005. *Knowledge Management in Theory and Practice.* Oxford: Elsevier Butterworth-Heinemann.

Johnston, R. & Clark, G. 2005. *Service Operations Management. Improving Service Delivery*. 2nd Edition. Harlow: Pearson Education.

Klosterboer, L.2009. *Implementing ITIL Change and Release Management*. Second Printing 2011. Boston: IBM Press.

Myers, M.D. 2009. *Qualitative Research in Business & Management*. London: Sage Publications.

Paton, R. & McCakman, J. 2001. *Change Management. A Guide to Effective Implementation*. 2nd Edition. London: Sage Publications.

Trauth, E. M. 2001. *Qualitative Research in IS: Issues and Trends*. London: Idea Group Publishing.

Wisker, G. 2001. *The Postgraduate Research Handbook*. Second Edition 2008. Basingstoke: Palgrave MacMillan.

ELECTRONIC REFERENCES

Alessandrini, M. 2013. *Non-positivist Approaches to Research in the Third Sector: Empowered Policy Making* [referenced 30.01.2013]. Available as pdf at http://c.ymcdn.com/sites/www.istr.org/resource/resmgr/wp2012/m_alessandrini.pdf

Coghlan, D. & Brannick, T. 2004. *Understanding Action Research.* Doing Action Research in Your Own Organization [referenced 30.01.2013]. Available as pdf at www.sagepub.com/upm-data/9826_039584ch1and2.pdf

Coughlan, P. & Coghlan, D. 2002 *Action Research for Operations Management.* International Journal of Operations and Production Management. Vol 22., No.2, 2002, pp 230 – 240 [referenced 28.01.2013]. Available as pdf at www.kinhdoanh.eu.vn

Dainton, M. & Zelley, E. 2011. *Introduction to Communication Theory.* Applying Communication Theory for Professional Life: A Practical Introduction, pp. 1 – 13, Sage Productions [referenced 31.1.2013]. Available as pdf at www.sagepub.com/upm-data/34371_1.pdf

Davison, R. M. 1998 *An Action Research Perspective of Group Support Systems: How to Improve Meetings in Hong Kong.* Submitted in fulfillment of the requirements for the degree of Doctor of Philosophy, City University Hong Kong [referenced 29.01.2013]. Available at http://www.is.cityu.edu.hk/staff/isrobert/phd/phd.htm

Georgieva, S. & Allan, G. 2008. *Best Practices in Project Management Through a Grounded Theory Lens.* The Electronic Journal of Business Research Methods. Volume 6, Issue 1, pp. 44 – 52 [referenced 28.01.2013]. Available at www.ejbrm.com

Potter's 8-Step Change Model. Implementing Change Powerfully and Successfully 2013 [referenced 01.02.2013]. Available at www.mindtools.com/pages/article/newPPM_82.htm

Myers, M.D. 1999. *Investigating Information Systems with Ethnographic Research*. Communications of AIS, Volume 2 [referenced 28.01.2013]. Available as pdf at www2.ufpa.br

Myers, M.D. 2004. *Hermeneutics in Information Systems Research*. Social Theory and Philosophy for Information Systems, J. Mingers and L.P. Willcocks (eds.), John Wiley & Sons, Chichester, pp. 103-128 [referenced 28.01.2013]. Available at
http://books.google.fi/books?id=wVuDq8_drB8C&printsec=frontcover&hl=de&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Myers, M. D. 2012. *Qualitative Research in Information Systems* [referenced 28.01.2013]. Available at www.qual.auckland.ac.nz.

Potter, J. P. & Cohen D. S. 2002. *The Heart Of Change. Real Life Stories of How People Change Their Organizations*. Harvard Business School Press [referenced 01.02.2013]. Available at
http://books.google.fi/books?id=YBf3S1X8ItsC&printsec=frontcover&hl=de&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Reason, P. & McArdle, K. 2004. *Brief Notes on the Theory and Practice of Action Research*. Understanding Research Methods for Social Policy and Practice, S.Becker and A. Brzman(Eds) [referenced 30.1.2013]. Available as pdf at www.peterreason.eu/Papers/Brief_Notes_on_AR.pdf

Rowlands B 2005. *Grounded in Practice: Using Interpretive Research to Build Theory.*" The Electronic Journal of Business Research Methodology. Volume 3, Issue 1, pp 81-92 [referenced 19.01.2013]. Available online at www.ejbrm.com

Slater, T. 2013. *A Definition and Model for Communication* [referenced 01.02.2013]. Available as pfd at http://www.infoamerica.org/documentos_pdf/slater01.pdf

Sosnoski, J. J., 2007. *A Cognitive Model of Communication* [referenced 01.02.2013]. Available at http://c-cs.us/cv/index.html

Stahl, B. C. 2013. *Positivism or Non-Positivism – Tertium Non Datur. A Critique of Ontological Syncretism in IS Research* [referenced 30.01.2013]. Available as pdf at http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.116.9738&rep=rep1&type=pdf

Toloie-Eshlaghy, A., Chitsaz, S., Karimian, L. & Charkhchi, R. 2011. *A Classification of Qualitative Research Methods.* Research Journal of International Studies. Issue 20 [referenced 28.01.2013]. Available as pdf at www.eurojournals.com/RJIS_20_11.pdf

Trochim, W. 2006. *Deduction & Induction* [referenced 25.01.2013]. Available at http://www.socialresearchmethods.net/kb/dedind.php

Vasilecas, O., Caplinskas, A., Wojtkowski, G. & Wojtkowski, W. 2005. *Information Systems Development: Advances in Theory, Practice, and Education.* Springer [referenced 31.01.2013]. Available at http://books.google.fi/books?id=rV0YDm2khksC&pg=PA535&lpg=PA535&dq=quickethics+approach&source=bl&ots=uVlSTv8Vyp&sig=_9vgP0bOWDloWjsU5RYvYszXeGs&hl=de&sa=X&ei=H0UKUbSpD-Tj4QTn4IGACQ&redir_esc=y#v=onepage&q=quickethics%20approach&f=false

Webb, L. 2011. *Introduction to Communication Skills* [referenced 31.1.2013]. Available as pdf at fds.oup.com/www.oup.com/pdf/13/9780199582723.pdf

Yin, R. K. 2012. *A (very) Brief Refresher on the Case Study Method*. Applications of Case Study Research. Third edition, London, [referenced 30.01.2013]. Available as pdf at http://www.sagepub.com/upm-data/41407_1.pdf

http://oxforddictionaries.com/ [referenced 02.02.2013]

ORAL REFERENCES

-CIO, 2013. CIO. Client company. Interview 10 January 2013.

-CIO, 2013. CIO. Client Company. Phone call 14 January 2013

-IS-Manager, 2013. IS-Manager. Client company. Interview 08 January.2013.

-Interviewee 1, 2013. IS-team-leader. Client company. Interview 08 January 2013.

-Interviewee 2, 2013. IS-team-leader. Client company. Interview 03 January 2013.

-Interviewee 3, 2013. IS-team-leader. Client company. Interview 08 January 2013.

-Interviewee 4, 2013. IS-team-leader. Client company. Interview 08 January 2013.

-Interviewee 5, 2013. IS-team-leader. Client company. Interview 17 January 2013.

-Interviewee 6, 2013. IS-team-leader. Client company. Interview 11 January 2013.

-Member Service Team, 2012. Member Service Team. Client company. Conversation 10 December 2012

 -Member Service Team, 2013. Member Service Team. Client company. Conversation 22 January 2013