

Factors Influencing User Involvement in Digital Change Processes

A Study of DNV GL Employee Experiences

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Summary

The position of the user in digital change efforts has not been prominent in prior research within the field of information technology. Additionally, organisational change research claim that a majority of change efforts fail to produce the intended outcome. The process perspective indicate that this could be due to a lack of acknowledgement of individual actors. This qualitative research study, used seven semi-structured interviews with both ICT project workers and users of the technology, to identify the potential effects of user involvement on digital change at the organisation Det Norske Veritas, Germanischer Lloyd (DNV GL). Digital change was defined as any change involving information and communication technology. The interviews provided an insight into how the users can be involved in digital change efforts and what potential benefits such involvement can grant the contemporary organisation.

It was found that by providing sufficient involvement early through communication where the feedback from the users was taken into the change project, the process could be greatly improved. This research found that motivating the users by providing information about how new technology can benefit them individually, could affect their perceived involvement in digital change efforts. Finally, it was found that perceiving user attitudes as resistance could limit the involvement, and create a gap between the users and the ICT project workers. This research suggests viewing user attitudes as expert opinions and then utilize these opinions to improve digital change initiatives.

By using the process perspective on organisational change, this research suggests that these micro mechanisms of communication, motivation and attitudes, co-exist at all times. Such continuous change processes should be accounted for in order to involve the users in any change effort. It therefore proposes that organisations who seeks to be successful in their change efforts, should account for these continuous processes in an effort to involve users. This research adds to existing theoretical perspectives on digital change by suggesting a model of micro processes where these three factors is accounted for as a part of continuous change. Such a model can be used by organisations working with ICT implementations as reminder of some of the effects that influence the involvement of users.

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Preface

This study has been a journey. Perhaps just as much a personal one as an academic one. The amount of dedication and effort required to produce a study of this magnitude, proved way past any prior expectations. It is comparable to a Roller-coaster ride where you get on the ride, blissfully unknowing of what is to come. At first, there is the realization that this ride might not be exactly as expected, before absolute panic and despair alternate with joy and accomplishment several times, until the ride abruptly stops. Then the peculiar feeling of wanting to go again grabs hold, before realising that a break is probably advisable. During the process there might have been slightly more episodes of panic, as is to be expected from a roller-coaster ride, however that might have made the feeling of accomplishment even greater.

Big thanks to my guidance councillor Eric Breit for his support, encouragement and motivation throughout this process. His knowledge about case studies, writing research papers and the field of organisational theory provided this study with the tools necessary to complete a research of this magnitude. I would also like to thank my fellow students at Harriet Holters for making the writing process less lonesome. Thanks to my aunt for taking the time to correct my grammar, which was no small task. In addition, a thanks to my mother for saving up some dinner, putting it in boxes and delivering it at my door for me to have at school when the days dragged on into the evening hours. In addition, my girlfriend deserves thanks for providing motivation and support when it was most needed. Thanks to the University of Oslo for having me as a student for the past two years and being my second home for the last six months. Thanks to DNV GL for allowing access to their employees and their time. Special thanks to Courtney Marles who was the main contact at DNV GL for being so supportive and always helpful, whether it was planning interviews or replying to e-mails. Lastly, big thanks to each of the participants who gave up some of their valuable time from busy schedules. Without you, this research project would never have been possible.

This research has provided me with great knowledge about how digital change is perceived by organisational members. I believe that it has granted me some valuable tools both from the writing process itself but also about how to conduct and complete a project independently. Therefore, this research project is a milestone in my life and the experience it has granted will be a help through the rest of it.

Lasse Adrian Jahren

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1 Introduction

Technology is becoming increasingly important for people in their everyday lives and at their workplace. It has brought on massive changes, and as organisations are trying to adapt, the needs of the individual actors are becoming increasingly apparent. Traditionally organisational change has been viewed as a manager-initiated affair working aside stability, where the needs and opinions of the actors is less relevant (Boden, 1994, p. 29). Furthermore, In the midst of the clash between the old and the new, projects are being started in order to implement technological solutions into already existing processes and is seen as a digital change. However, many of these change initiatives fail (Alvesson & Sveningsson, 2008, p. 27) and it is important to examine what works and why. This research project aims to figure out how the users influence the ICT implementation, and at the same time attempt to use existing frameworks within the field of organisational theory and information technology, to identify what factors can affect the user involvement in the change projects.

In this research, it is argued that ICT implementation is one type of digital change efforts. For example every implementation can be said to be digital change, but not all change efforts are in fact ICT implementations. Digital change was used as a broader term covering all aspects of any technological change effort, while ICT implementation only covers the introduction of some new technology into the organisation. ICT implementation is defined by (Leonard-Barton, 1988, p. 251) as getting new technologies up and running in daily operations. She also specifically looked at the first stage of which she called the initial implementation defined as the period where technology is taken from the programming phase and introduced to the user environment. This study points to the introduction of some technology into the every day life of the users, and in doing so takes a process perspective by acknowledging the individual actors. The terms ICT implementation will be used to refer to the process of introducing some technology while digital change will be used as a broader term, which may cover all aspects of technological changes.

The implementation process can be seen as an organisational change, and can be understood differently dependent on the perspective of the observer. Assuming that implementation cannot occur in isolation and without implicating other parts of the organisation it must bring with it change of some sort. Within the literature on organisational change, the process perspective and the 'classic' perspective brings two ways of understanding organisational change and captures some of the aspects of successful implementation. This research will also look at the term micro change (Alvesson & Sveningsson, 2008, p. 18) to understand the forces working within the organisation every

time an implementation is initiated. The research by Bertram, Blase, and Fixsen (2015, p. 486) found that there has been historical changes in the framework for success of implementations, and as such, this project will further develop some ways of understanding such processes in the light of existing organisational change theory.

Brynjolfsson and Hitt (2000, pp. 24-25) looked at how organisational change or transformation often can be more successful if mediated by information technology. Information and communication technology enables companies to “increase output quality in the form of new products or improvements in intangible aspects of existing products like convenience, timeliness, quality and variety”. They also point out how the organisational change is incremental for the success of an ICT investment. The potential of the ICT investment could end up being irrelevant if the organisation does not transform with it (Brynjolfsson & Hitt, 2000, p. 25). Therefore, it is important to look at how organisations operate when they introduce a new ICT system, and how the organisation reacts to such a change.

This study examines Det Norske Veritas, Germanischer Lloyd (henceforth DNV GL) a large organisation with a focus on technological advancements. Prior to this study, four students at the University of Oslo conducted a research project on behalf of DNV GL. The goal was to identify the status of digitalization of HR services. While doing so they also identified some responses among the users of the current ICT solutions at DNV GL, which indicated that some systems were not designed in an intuitive way benefiting the users. That report laid the groundwork for this research, as it identified how digitalization affects the GSS HR, the company responsible for the HR services at DNV GL (Kristoff, Hoen, Jahren, & Stang, 2018, p. 41). It revealed that the user-experience was affected by three different categories: information, communication and management empowerment. It indicated that technology could make information more easily accessible in some instances, but in others it could complicate the access of information. User training was also found to be an important aspect of good information flow. Communication was found to be limited by the performance management system and the users’ desired available channels for feedback. Lastly, empowering the managers by allowing for autonomy and self-service, could provide benefits in regards to the developing digital systems. (Kristoff et al., 2018, p. 42).

Through the study there seemed to be little to no communication between the ICT project workers and the users. The users were not satisfied with their current solutions and had no problem sharing their frustrations especially with the old performance management system. However, that study did not focus on how the users affect the ICT implementation

process. The participants responded with what could be improved in their current ICT portfolio rather than what could be done to involve people in future projects. This research aims to identify which factors that should be taken into account by organisations, during the implementation stage, that will ensure the involvement of users.

1.1 Research Question

Prior research has proven that many change initiatives fail to produce the intended outcome. The prior assumption is that this is due to a focus on the stable state rather than continuous change and therefore not acknowledging the importance of involving individual actors in change processes (Alvesson and Sveningsson, 2008, s. 19, 27; Tsoukas and Chia, 2002, s. 568). However, what factors influence such involvement still needs to be explored. This research attempted to identify what factors could improve an organisation's user involvement. Based on this prior assumption, the theory in the field of organisational change and the prior research on implementation, the question of this research became:

What factors influence the involvement of users in digital change processes?

The benefits of identifying the implications of user involvement, will perhaps allow organisations on a broader scale to be more successful in their change efforts. Alvesson and Sveningsson (2008, p. 27) pointed out that 70 percent of change initiatives fail to produce the intended outcome, and so this study aims to figure out how user involvement can affect the success of implementations during such digital change initiatives. Furthermore, it could also be of value to identify what factors might exist that prohibits initiatives from working as intended. This could allow organisations to work out ways to deal with such implications and use them to their advantage.

2 Theory

The field of information technology is vast and complex, and affects many different areas in an organisation. This section will attempt to define information technology, and look at how it influences the modern workplace. Organisational change is another broad field and the discussion of whether the process oriented approach or the 'classic' approach is the most appropriate to better understand change efforts, will be covered. The purpose is to understand the different perspectives by which a researcher can view change. Also used in this study will be prior research on the fields of digital user involvement, in order to see what benefits involving the users can have for ICT implementations. Thereafter, theories on the field of communication, motivation and resistance as an attitude is covered, being relevant in order to understand user involvement.

2.1 Information and Communication Technology

Information Technology or IT has multiple definitions, and Brynjolfsson and Hitt (2000, p. 24) defines it as all computers and related digital communication technology. This definition touches upon the importance of communication but it has been excluded in the abbreviation. Another has been suggested by Høye (2002, pp. 13-14) as ICT or information and communication technology, and he argues that there is a close connection between information and communication. The internet has made this increasingly apparent, as most technology these days communicate with other technology and most information is accessible via the internet. He argues however, that such connectivity offers challenges in regards to planning and competence. Many students of information technology are lacking the service perspective of the organisation, resulting in many ICT project workers that are unable to deliver quality and service. This in turn creates challenges when they are interacting with other business areas.

Studies have shown that there is a gap between the products ICT projects delivers and what the user expects (Herdiyanti, Adityaputri, & Astuti, 2017, p. 606; Roses, Hoppen, & Henrique, 2009). There is an increased focus on the products such as hardware, software and information systems, as the most important when evaluating services delivered by ICT. There is less of a focus on instruction and guidance provided to the users of the technology, and whether they are able to influence the systems and tools that are being developed. Roses et al. (2009, p. 876) argue that when evaluating ICT services within the organisation there should be a focus on how the client perceive the changes. Høye (2002, p. 20) emphasises this and further points out that evaluating technology has been difficult in the past. He suggests using

a service approach to evaluate ICT, and look at how the technology will benefit the users, the customers or the customers of the customers.

The main focus of any ICT organisation utilizing service is according to Høye (2002, pp. 168-169) the needs of the customer. A service-organisation has the focus on the customers and the workers who are delivering that service. He claims that the contemporary organisation lacks the understanding of the service-worker role, and the important interaction between the ICT project workers and the users. Bygstad and Lanestedt (2009, p. 241) looked at how this new service management thinking could function while still using the ‘classic’ project management thinking. They found that since services are usually developed in close interaction with the customers, successful ICT projects are not associated with a tightly run project, with a focus on cost, time and quality. Rather, success was found in projects that had a strong integration with the service organisation as well as with the users of the services.

2.2 Organisational Change

There are two ways to perceive and look at the state of the organisation within organisational theory. The ‘classic’ perspective of organisation sees change as episodes of interruptions in a stable system. The process perspective sees change as an ongoing process, continuously at work in any organisation. These perspectives are accounted for in order to give two different perspectives on organisational change and provide a basis for discussing digital change.

2.2.1 The Classic Perspective

The theory of organisations was started in an attempt to separate the organisation from other similar social systems, with the goal of figuring out how they function, develop, change and remain operational (Hernes, 2014, pp. 12-13). The ‘classic’ view of organisations mainly focuses on the business with little to no concern for the individual human actors. The organisation is considered an autonomous unit, which by itself thinks, acts, learns and makes its own decisions, without human influence. The individuals or social actors are mostly not accounted for in the ‘classic’ view of organisation. If they are considered, they are seen as something disorderly, and at best something procedural that must be dealt with in order to achieve control (Boden, 1994, p. 29). Hernes (2014, p. 12) emphasize this macro-sociological understanding and goes on to point out that that the success of the ‘classic’ view of organisations within the field has “come at the expense of analytically isolating the organisation as an atemporal entity composed of social actors, mediated by technologies and

surrounded by a neutral, external environment”. A neutral, external environment implies stability, and that brings forth the question of the opposite, namely change. Mainly the tendency has been that change is something that should be controlled and managed as a tool, and the focus has been on how to achieve or regain stability in the organisation (Orlikowski, 1996, p. 63).

Tsoukas and Chia (2002, p. 568) also states that stability has been the natural condition of the organisation within the ‘classic’ view, and that the transformation or change aspect is a phenomenon working aside or as a disruption in the stable condition. Alvesson and Sveningsson (2008, pp. 19-20) supports this view of stability as the norm and mentions that change is seen as something initiated by the management, and thus only happens episodically in between periods of stability. Change is then implemented mainly for the higher hierarchical levels of the organisation first, before being implemented on the other levels at a later point. One can argue that the ‘classic’ view of organisation, is an outside and in perspective on change, because it only accounts for that which is easily observable and controllable (Tsoukas & Chia, 2002, p. 570). The Macro perspective of change is mainly regarding change as episodic interruptions in the stability, and is considered to be a management initiated affair (Weick & Quinn, 1999, p. 365).

2.2.2 The Process Perspective

Mutual for all the theory regarding the process perspective is that they want to move the focus away from the macro perspective of organisational change. They propose a micro understanding where the individual social actors function as important agents for continuous change. Hernes (2014, pp. 13-14) argues that at the basis of both of the perspectives, lies the presumption that organisation is a complex field, that it is difficult to grasp. It does however, not help to frame the complexity only within the contemporary organisation and in order to achieve a process perspective of an organisation, one must understand how it has developed over time. The complex processes of organising includes many different elements such as individuals, services, groups and products. All these are inadvertently linked together and their histories have not developed independently. For example, one individual might get an idea that leads to changes of services and products, which in turn is developed further by the product group. Hence the history of the services and everyone involved has now developed.

The challenge for anyone concerned with the processual understanding of organisational change is to figure out how the view of a closed off world, and the reality of an open world, interacts. It is also important when you take on the process perspective, to

acknowledge that the processes in the organisation as well as the environment outside of the organisation influence the identity of each individual actor (Hernes, 2014, pp. 15-16). For example: an ICT worker might have become highly skilled at software design and use, in part because of his experience within the ICT organisation, at the same time his interest for software might have started when his dad showed him how to use computers for the first time. The decisions and opinions of the ICT worker then becomes the product of both his innate interest for technology and software as well as his deep understanding of programming.

Tsoukas and Chia (2002, p. 568) is of the opinion that because an organisation consists of social actors, who go about their business, with different daily routines, these activities in themselves consists of change. Therefore, even the most stable processes, namely the routines, might actually be unstable and in a state of continuous change. Alvesson and Sveningsson (2008, p. 19) argues that change is the natural state of the organisation. The reason why a majority of change initiatives fail could be due how organisations put a major focus on stability over change (Alvesson and Sveningsson, 2008, s. 19, 27; Tsoukas and Chia, 2002, s. 568). This could be because they do not acknowledge the smaller ongoing changes that also influence the outcome, like external technological advances. Lewins 'classic' model of unfreeze, change and refreeze is seen as an effort to include the individual actors and reduce resistance. Alvesson and Sveningsson (2008, s. 20) still argues that Lewins model isolates the organisation, when it suggests that the organisation can at any point be frozen without changing with the rest of the world. The individual social actors that make up most of the organisation will continue to change, regardless of whether or not the organisational processes cease to operate and no income is generated. Hernes (2014, p. 27) claims that even though the intention of such a model is to change with the tide of the world, it ends up being counterproductive, because the world will continue to change even when the organisation is frozen.

2.3 Digital User Involvement

The organisational implementation is considered the most important phase of any ICT project. Høye (2002, p. 209) defines the implementation process as the vital part of any project where the product is introduced into an organisation. Despite being the most important part of the project it is often ignored, during the planning stage. He argues that because the product that is being presented will be used in a system, that includes both the organisation itself and by its members, it is important that the program is adjusted to their

needs. Leonard-Barton (1988, p. 252) claims that such adaptation of the technology is important because it almost never perfectly fits the user environment. She further suggests that such an adaptation process faces multiple complex challenges. There is often misalignments with the technical requirements, the system already in place in the organisation and the user criteria. She claims that all these areas must be addressed to achieve successful implementation. Keil (1995, pp. 422-423) adds to this and proposes project escalation as one of the biggest challenges within ICT implementation. Project escalation occurs when a project takes on a life of its own and has continued commitment even when there is a negative information development and uncertain goals as for where the project is going. He claims that one of the most difficult decisions for any project team is to decide whether to abandon or continue a project that is struggling.

Agarwal and Rathod (2006, p. 369) found that successful implementation according to software professionals relies on: cost, time and scope. Scope was considered the most important factor, and included functionality and quality of the software. A limited number of participants also named user satisfaction as an important factor for implementation success. Here the software professionals put the priority of success on the project itself. According to Bygstad and Lanestedt (2009, p. 241) such “ICT based service innovations should not be sequenced in, first a tightly run technical project, followed by an organizational implementation, because this will be a barrier to innovation”. Leonard-Barton (1988, p. 265) claims that changing both the technology and the user environment when attempting to implement is more beneficial than only making adaptations in one of them. If both sides of the implementation initiative is considering themselves co-creators of change, then it is more likely to benefit both sides. Bygstad (2005, p. 352) found through his research that such mutual adaptation is emergent and cannot be controlled, and as such it should rather be facilitated and influenced by IT managers.

Intuitively involving the people who knows how a process is done, when creating solutions to support said process, should be beneficial. “It is generally agreed within information systems research that involvement in computer based information systems among professionals (e.g. engineers and economists) is critical to successful utilization of the technology”(Sørenbø, 2000, p. 2). Hwang and Thorn (1999, p. 229) did a meta-analysis of 25 studies in order to identify the effect of user involvement on system success. According to them, most research on the area of user involvement concludes that it is an important factor for success of change initiatives. However, within the empirical field there has been some controversial results, much due to methodology. Using the methodology of meta-analysis

they attempted to look at the results across the 25 studies to see if there was a significant relationship between involvement and success.

They found that user-participation in the process of implementation is beneficial, because it enables the user to actively provide input and feedback to the design of the system. This seems in turn to result in a system, with a high number of frequent users, which is considered to be of high quality (Hwang & Thorn, 1999, p. 233). This statement is supported by Høye (2002, p. 245) which emphasises the importance of including representative users in ICT projects and ensure that they quality check both the product itself and the process of implementing it into the organisation. He goes on to point out that when only a few selected members of a group participates, there is a risk that said group is not representative of the population. If they are selected based on personal characteristics such as their positive attitudes towards technology or likewise, their opinions might not represent their peers, which could end up being problematic. Such participants may instead be described as change agents who seek to actively produce change in an organisation (Tsoukas & Chia, 2002, p. 569). Furthermore, Specht, Kuonath, Pachler, Weisweiler, and Frey (2018, p. 199) claim that these actors work towards regular employees in order to deal with resistance to change. Change agents invest a considerable amount of time to motivate others, in order to make their initiative successful.

Additionally, Hwang and Thorn (1999, p. 234) found that a system developed with the feedback from the users would have a positive impact on organisational performance. There was inconsistencies related to the individual performance of the users, which could be attributed to the definition of individual impact. They also found that user engagement, where the user can provide feedback, and therefore are invested in the system implementation, even though they do not provide tangible contributions, has an undeniable impact on success. Most importantly, it contributes to the direct relationship of user involvement and system success.

Furthermore, the importance of following up the user by assigning ICT-coordinators and provide the proper training is considered by Høye (2002, pp. 196, 203) to be important for any ICT project. The ICT coordinator should be responsible for the training of colleagues, problem-solving, application testing and generally have a close relationship with the users. The coordinator is considered a central ICT-function because an ICT coordinator has to relate to both colleagues, managers in the customer organisation and the product supplier/ developer. Also the ICT coordinator should have a close connection with the users, and in the best case scenario should be stationed amongst them at all times (Høye, 2002, p. 199). When users or customers go through training, it is called user-development (Høye, 2002, p. 203).

This could provide an arena for developing custom solutions like makros and templates tailored for their everyday use, and might reduce the need of further assistance.

2.3.1 Communication

Bad communication both internally and externally could according to Høye (2002, p. 245) complicate both the planning and execution of any ICT project. On one side the degree of integration defines how well a new tool or system communicates with other infrastructure, as explained by Ross, Weill, and Robertson (2006, p. 8). On the other side, communication can be defined as an interpersonal relation or how we transmit a message in such a way that the recipient understands it (Høye, 2002, p. 136). Organisations build on a premise that communication enables the cooperation of its members, and therefore is considered important. In order for it to work, common understanding is important, namely that both the communicator and receiver has the same definition of terms. Ihlen (2013, p. 51) argues that this can be called two-way communication and that there are two categories. One of these is asymmetrical communication, and occurs when one part attempts to make changes in the environment without being willing to change themselves. Symmetrical communication on the other hand happens when both parties seek to create good relations, and sort out any conflicts that may be present, to the mutual benefit of everyone involved. Such communication can be defined as dialogue because it is a way of treating people reciprocally and not as merchandise or products (Ihlen, 2013, p. 77)

Another aspect of communication is how to communicate with the customer or user. Høye (2002, p. 137) argues that e-mails typically can be a pitfall in that it can get drowned in information from others, and you can risk one way communication where only one side is actually transferring information. He also points out that communication over the internet can get chaotic because some individuals are more prone to share their opinions while some might not share at all. The solution to this would be to limit written communication and to prioritise direct vocal communication. This leads into the understanding of communication as a part of information technologies. Høye (2002, p. 375-376) claims that communication has a central role in ICT and thus should be mentioned explicitly when referring to the service aspect of technology. Macnamara (2016, p. 36) defines listening as “the active direction of the sense of hearing to discern meaning from sound” which puts an emphasis on the physical act of granting attention. This is important to achieve what Ihlen (2013, p. 77) refers to as dialogue.

2.3.2 Motivation

In this paper, the theories of motivation within the organisational context was selected due to how people perceive the value of technology as motivation for further user involvement. Eriksson – Zetterquist, Kalling, Styhre, and Woll (2014, p. 91) started their discussion on work motivation with the famous Hawthorne study. In short, the study was the product of a former study that wanted to figure out if the amount of light at a factory affected the productivity of the workers. Instead, they found that other factors were influencing the results. The Hawthorne study was conducted in three parts, and the main result of the study has become known as the *Hawthorne-effect*. What this effect proposes is that when individuals are selected and treated as special, the production increases. Hence came the idea that special treatment increases motivation. The critique against the study was firm especially in relation to how it was suited to management, and how best to increase production. However the implications on work motivation prevailed (Eriksson – Zetterquist et al., 2014, pp. 102-103).

Following the Hawthorne studies there was a lot of research on the connection between individual motivation and effective work. The majority of these motivational studies build on the idea that people have some intrinsic psychological motives (Eriksson – Zetterquist et al., 2014, pp. 106-111). For example, the *X and Y theory* developed by Douglas McGregor, which claimed that the ‘classic’ management, saw the individual actor as lazy, with no ambition, no responsibility and willing to be controlled by others. Also naturally resistant towards changes. The theory X claims that due to the fulfilment of the basic physiological and safety needs the actor would then become lazy and passive. Theory Y on the other hand claims that the individuals are not by nature in opposition to change, but rather becomes that way after meeting with the organisation. The claim was that there is social factors that motivates individuals, not economical. The critique against all these motivational theories that flourished after the Hawthorne study was that all of them generalize individual actors. They all assume that everyone has the exact same mental pattern and that the theories assume effectiveness across everyone at any point in time. It is also difficult to determine which actions are affected by motivation specifically (Eriksson – Zetterquist et al., 2014, p. 112).

2.3.3 Attitudes

The opinions of employees when exposed to changes can be understood in different ways and can be regarded as both resistance or as an attitude towards the environment of the

individual. This section will cover both the ‘classic’ understanding of resistance as something that needs to be controlled, and the alternative where resisting attitudes can be viewed as constructive critical opinions. Trust and willingness to change or submit to managerial decisions is seen by some as positive for change success (Sætren & Laumann, 2017, p. 1). While resistance to change is something that can be said to potentially cripple an organisation (Hultman, 1995, p. 15). There are multiple ways of looking at resistance to change and Courpasson and Dany (2009, p. 12) claims that simply defining it as “any action that opposes the regular process or systems of power is unsatisfactory”. This definition however fits with older views on resistance where it is seen as a sickness that needs to be cured by the management (Sætren & Laumann, 2017, p. 1; Hultman, 1995, p. 15).

Courpasson and Dany (2009, pp. 12-13) still sees resistance as an obstacle to change efforts, however they think that any resistance should include any minor human action or interaction that potentially could challenge any part of the broader structure of the organisation. However, there is made no effort to suggest how to deal with such complex processes, but rather put focus on explaining how some individuals can resist changes based on personal and cognitive factors. The article released by Hultman (1995, p. 16) claims that training is crucial in any implementation, and if done correctly it can help cure the sickness that is resistance.

The article by Sætren and Laumann (2017, p. 1) argues that from a safety perspective, the negative attitudes towards critical individuals in an organisation, is not beneficial. From that perspective, seeing the users as experts and bringing them into the process at an early stage seems more important than figuring out how to overcome resistance to change. As such resistance is seen more as an attitude, that should be treated constructively. They use the model of HRO to explain the importance of preparing for the unexpected. Following this they suggest a three step model for change (Sætren & Laumann, 2017, pp. 7-9). The first step is preparing for change by making a clear policy and a culture where questions and suggestions are encouraged. The second step is where you analyse the users and what they like and want, conduct meetings and analyse future scenarios. The third and last step is an ongoing evaluation of the implementation process. Here they emphasise the communication and the user involvement, in order to motivate the employees to be critical, and therefore they view resistance as a constructive and beneficial attitude.

2.4 Theoretical Summary

This concludes the theoretical framework that laid the groundwork for the following finds. Organisational change theory provided two ways of observing change: the ‘classic’ and process perspectives. Furthermore, the information and communication technology points to the importance of involving the user, as a part of the service that ICT project workers provide. These frameworks can be used to understand the importance of digital user involvement, which includes various research projects identifying the role of the user. Finally, the theory on communication, motivation and attitudes are the three aspects that influence user involvement in the change effort. Communication between the users and the ICT project team members and users of the technology is encouraged. Motivating the user by involving them in the process. Lastly, viewing resistance as a constructive critical attitude can benefit the digital change efforts. Together these were used to build an understanding of the complex field of digital change and more specifically user involvement as a part of ICT implementations.

3 Method

A qualitative research design was selected for this research in order to capture the complex mechanisms influencing implementation. Seven participants were questioned through in depth interviews, and the data was then transcribed, coded and analysed. The analysis was based on opinions of the participants, and the claims were then supported by theoretical framework or prior research. First, this section will be looking at what characterises the interview and more specifically the in-depth interview. Thereafter, the practical execution of the interviews will be looked at, as well as the collection of the data and how this information was stored and kept. Lastly, there will be a discussion concerning the validity and reliability of these research data.

The advantages of a qualitative design is that it handles one or more problems that requires a detailed understanding (Creswell & Poth, 2018, p. 45). The study handles a complex phenomenon that covers specific areas stretching from ICT implementation to organisational change, hence making a qualitative approach preferable. It also falls under the description of a case study, which studies a single specific phenomenon in a specific context. The user involvement in digital change efforts at DNV GL characterise as such a specific phenomenon. Qualitative research is used to empower people to share their experiences and stories, and to balance out the differences in power that exists between the roles of the researchers and their participants. It is also important to understand that we cannot separate what people say from where they say it, so it has been decided to allow the context of this research, which is the company DNV GL to remain open (Creswell & Poth, 2018, p. 46)

Qualitative research is also used when partial or inadequate theories exists and when these do not cover the complexity of an issue (Creswell & Poth, 2018, p. 46). This study examines how involvement of users influences ICT implementation in a specific and closed setting. In doing so, it might provide some knowledge that other organisations can use when working with new information technology, and might provide groundwork for further research in this area. The study also leaned towards a inductive method because of the explorative nature of the research question (Tjora, 2013, p. 18). Qualitative studies is then preferable because of the analytical nature of the research with a focus on the participant's experiences or the way they make sense of their environment. The decision not to go with a quantitative approach was partly made based on the qualitative nature of the research question but also because of the uncertainty related to what would be found.

3.1 Research context

The organisation that was the scope of this study was the company DNV GL. The organisation has roots back to the foundation of the mutual insurance group for maritime activity in Norway, in 1864. They became part of the Germanischer Lloyd association three years later, which was an initiative to achieve transparency across borders. DNV GL has since that grown to become a globally leading quality and risk Management Company, working with a variety of customers across multiple sectors such as oil and gas, energy and healthcare among others ("DNV GL: Our History,"). DNV GL operates in close to a 100 different countries and had 12715 employees at the end of 2017 ("DNV GL: Annual Report 2017," p. 144). The organisation was selected as an interesting subject for this research due to their focus on information and communication technology, innovation and relevant actors that on a daily basis are exposed to major digital changes.

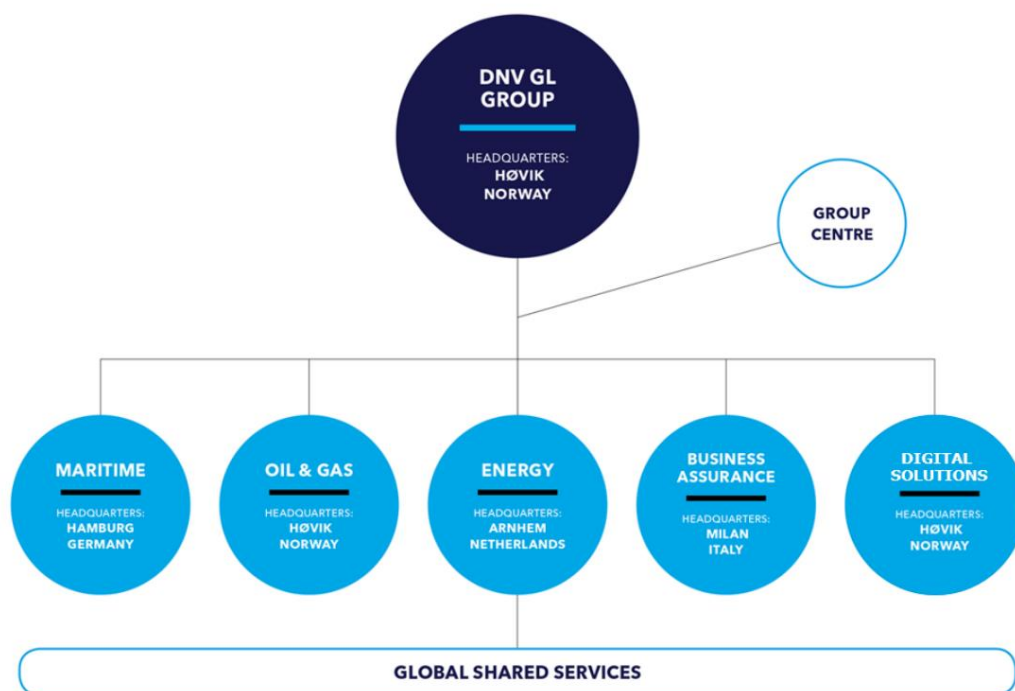


Figure 1, retrieved from annual report 2017.

The organisation is divided into five main business areas as illustrated by *figure 1*; Maritime, Oil and gas, Energy, Business assurance and Digital solutions ("DNV GL: Annual Report 2017," p. 10). Digital solutions started operations in the beginning of 2017 and is as such the youngest of the five. They are responsible for running the organisation wide platform Veracity that is a cloud-based solution for data management, as well as managing

and improving safety for ships, pipelines, electric grids and more. ("DNV GL: Our organisation,"). By employing this digital platform they have been through a rapid step-change development when it comes to digitalization and they have invested heavily into their ongoing digital change process ("DNV GL: Annual Report 2017," p. 5). Global Shared Services or GSS for short operate across all the five other business areas. GSS is responsible for the internal organisational support and was established when GSS merged with GL in 2013. Their services include; information technology, human resources and real estate management (Kristoff et al., 2018, p. 1). GSS was the organisation that made this project possible. They were responsible for the implementation of the new performance management system and due to their connection with all the different business areas, participation from across the organisation was therefore made possible. DNV GL also has a focus on digital change. They claim that 60% of the research and innovation activities goes towards digitalization, making them the ideal candidate for a research project focusing on the users in digital change efforts ("DNV GL: Annual Report 2017," p. 142).

Internally DNV GL use the provider Oracle which is a cloud based information technology company delivering business software to help organisations innovate and drive forward new business models. (Oracle, 2018). Their cloud based services include enterprise performance management, customer experience, supply chain management and enterprise resource planning. Oracle also provided the new performance management system used as a point of reference in this research namely the managing individual performance or MIP for short. The MIP process ensures communication between managers and employees. This is done by facilitating the goal setting for the employees and performance reviews done by the line managers ("DNV GL: Training and Education,"). MIP was implemented at the start of 2019 and would therefore be fresh in the memories of the participants. Selecting the MIP implementation process as a point of reference was due to it being recent in the memory of the participants and also because the process is mandatory, guaranteeing that every participant were familiar with the tool.

3.2 Case Study

This study falls under the definition of a single case because it seeks to acquire an in-depth understanding of an issue or challenge using the case as the illustration (Creswell & Poth, 2018, p. 96). The case was considered in this instance to be a specific entity or context, in that it was confined within the organisational boundaries of one organisation, and that it provided the knowledge of one phenomenon within those boundaries. This study aimed to

identify the factors influencing involvement of users in ICT implementations within the boundaries of DNV GL, and could be considered limited to a contemporary thematic. There is no way of knowing if the factors influencing involvement in the ICT implementations today will be the same as what it used to be, or what is going to be in the future. Therefore, the contextual framework can be considered temporary, making the single case the best suitable approach for this thematic.

According to Tjora (2013, pp. 35-36) the case study should be selected when the participants are already defined by the case itself. In this research the participants would have to be people involved with the ICT implementation process. Participants were selected from two groups that both were either involved or affected by ICT implementations in some way. Furthermore, when selecting a case it should be pragmatic in nature meaning it makes a metaphorical generalisation as a reference for further research. This could fall into that category as it seeks to observe what factors influence user involvement in an ICT implementation at DNV GL. The same factors could also be relevant in other organisations.

3.3 The Researcher Role

The role of the researcher is important to acknowledge in any research procedure. It is as Creswell and Poth (2018, p. 33) points out, important to recognise that researchers are co-constructors of knowledge. They observe the world through the subjectivity of their own lens, and must therefore acknowledge their powerful position in the research. They are co-constructors in such a way that they observe through the eyes of their participants and as such the participants are the rightful owners of all the information collected. They go on to explain that the researcher is the key instrument of a qualitative research. Their role is to collect data through examining documents, interviewing participants or simply observing people and their behaviours (Creswell & Poth, 2018, p. 43).

It is also vital to understand that there exist a peculiar relationship between the researcher and the participant, in that there are certain expectations already existing in the setting of such interviews (Tjora, 2013, p. 110). During these interviews, the participants already knew that a student asked the questions, which may have influenced their responses. On one hand, the informants might find it comforting that the student is not part of the organisation and thus make their responses more truthful. On the other hand, the lack of knowledge about the intricate connections and relations that could exist within the organisation might make the responses less natural or in the worst case might have made them hold back some critical information. There is nothing that can be done about this as the

relationship between the researcher and the participant is an unavoidable factor, but it is important to note that such effects could have influenced the findings.

3.4 Data Collection

The following section will handle the main execution of the research and cover the procedure of access, selection of a case, the type of data collected, and will also cover the two groups of participants to further provide a contextual understanding. The procedure of access was through a contact of the student in DNV GL. She had knowledge about the master program and knew the researcher from a prior project done for DNV GL by students at the University of Oslo. The choice of thematic landed on the user involvement in digital change initiatives, as it is a very relevant subject for contemporary organisations. In addition, the decision was both theoretically justified because such a process could be seen in the light of organisational change, and practically justified as the organisation had just been through an implementation of a new performance management system.

Two groups of people were selected and the contact person at the company chose each participant individually, based on the group criteria. They were both men and women, aged roughly between 20 and 60 years of age. The first group included people working in ICT implementation project teams. This group was selected in order to find out what implementations were currently taking place, and how it was being done, especially in relation to group number two. Group number two was a group of users. People who on a daily basis would use the systems, implemented by the ICT project groups and the management on a daily basis. The reason for this had its roots in the theory of change and implementation, to identify the importance of the employee and the micro processes present in any change effort.

Group one consisted of both people who were managers of ICT implementation efforts and ICT project workers. There was a chance that the ICT managers would be more suited to discuss the user role than the ICT project workers were, however, the differences in responses this produced was considered irrelevant. The second group, which was the users, consisted of both line-managers responsible for a certain number of employees, and the employees themselves. Again, the results from the responses to the data sets proved to show no major differences and as such, they were regarded equal in this research project. In total seven interviews were conducted. Both groups got two similar but different sets of questions to answer. The one given to the ICT project workers focused more on the implementation process, and the one for the users a little more on the experience of the implementation. Both

sets had questions regarding the new MIP tool as a point of reference, with the intention of making the thematic of implementation and involvement more tangible. Both sets of questions can be viewed in “appendix 1 and 2”.

This research project used semi-structured interviews in order to gather data which is according to Tjora (2013, p. 104) the most utilised method of generating data within qualitative research. The goal of the semi-structured interview is to create a free conversation around subjects or questions decided by the scientist. Instead of closed questions often with a yes or no answer, the semi-structured interview uses open questions where the informants can go in-depth about the subject. One should according to Tjora (2013, p. 105) select the semi-structured interview when you wish to study the opinions, attitudes and experiences of people. This study aims to see how the participants perceive the involvement through the implementation of new IT tools and systems. The thematic of this research therefore corresponds well with Tjora’s understanding of the semi-structured interview. This research hence follows a phenomenological standpoint where the participants’ experiences and their reflections on the subject is in focus. He also points out in this regard, that such interviews are primarily subjective in nature and can only focus on the participant’s subjectivity. The main focus of social science is to utilise these subjective opinions or understandings in such a way that connections can be made also outside the individuals (Tjora, 2013, p. 106).

The interviews were conducted over a period of two weeks. One interview was a little prior to the others due to the varying schedules of the participants. The interviews lasted generally between 30 and 40 minutes, however some lasted a bit longer. The amount of information gathered by one researcher was substantial and after timing the first interview, that ended up lasting for about 70 minutes, it was decided to remove some less relevant questions concerning their background and history in the company. During the interviews, it was important to create a laid-back atmosphere where it was fine to talk about personal experiences, think aloud and digress (Tjora, 2013, p. 110). During the interviews, the researcher was careful to always allow room for pauses. Letting the informants think and spend sufficient time on each question were considered important. The atmosphere was reflected in the responses from the participants and the way they all talked freely and casually about the complex thematic. The structure of the interviews followed the three stages recommended by Tjora (2013, pp. 112-114). It started with some questions to warm up, which was largely focused on their everyday lives and position at the company, followed by the main questions. Lastly, there was a conversation about the project in general and the

challenges of writing a thesis single handily in an effort to normalise the situation between the participants and the researcher.

The interviews were conducted in conference rooms at DNV GL in Høvik. This was done in part because it was the most convenient setting for the participants, but also because it provided a less formal setting, where the participants would feel comfortable and at ease. The informants got the chance to book the location themselves to further increase the comfort and allowing them to set the terms of the interview setting. Tjora (2013, p. 120) emphasise the importance of where the interviews take place and that it is preferable if it is somewhere the participant can feel safe. This includes the workplace if it is work related or their homes. He further goes on to emphasise that even though the setting might seem like a small detail, the implications of having a safe interview environment could be very impactful (Tjora, 2013, p. 122). The fact that the participants was at their own workplace during the interviews might have contributed to them not holding back on details regarding the implementation process that they might have been more content with sharing in a different setting. Critical views about your own organisation is perhaps best suited within the safe confines of the organisational boundaries. Many honest and critical opinions where shared during this research and a part of that can possibly be attributed to a safe setting.

The interviews was recorded by audio using the mobile application Smart Recorder on to a password protected personal mobile phone. Using audio recording is the typical type of recording used in in-depth interviews. The advantages of such a recording is that it allows for an ongoing dialogue, as the interviewer can focus on what the participant is saying rather than on writing it down. This ensures good communication and fluency, and allows for natural follow up questions (Tjora, 2013, p. 137). The participants were asked for permission to record prior to the start of the interview. They were also informed about the recording on the consent form, which was read and signed. The phone was discreetly placed on the table with other documents to not take attention away from the subject at hand. Furthermore, it is worth noting there that there was only one interviewer. This could have made the need for an audio recording more apparent among the participants.

3.4.1 Coding and Analysis

After the interviews was completed, they were transcribed word for word onto a personal computer using “Microsoft Word 2013” and “Audipo”. Audipo was used to slow down the speed of the audio files providing better time to accurately write out what was said. This was a time consuming affair, due to the sheer amount of information, however it pays

off because you ensure that the information is presented accurately. Then they were read multiple times in order to categorise the information. According to Ghauri and Grønhaug (2010, p. 151) the coding can be seen as a classification of the information gathered. Sorting out the relevant information, from the less relevant was done in three stages. In the first stage, the relevant and interesting comments were sorted based on their content. In this research, it was decided to name this stage first order concepts, adhering faithfully to the participant's terms and with little effort to define categories (Gioia, Corley, & Hamilton, 2012, p. 20). After the initial coding the information was sorted and gathered into relevant themes, based on the research question (Tjora, 2013, p. 185). The themes were derived by similarities of responses given from multiple informants. During this stage, some comments fit well within multiple of the different themes but better within others. This stage was called the "second order themes" and reflected emerging concepts that are suggestions of how the phenomena can be described. Lastly the themes was sorted into what has been called aggregate dimensions, which emerges by distilling the second order themes even further (Gioia et al., 2012, p. 20).

A prominent dimension was discovered and called the "user involvement". Almost all the feedback was in some way related to this overarching dimension; however only some were exclusively related to this. The decision was then made to sort the findings into two parts, where the first one looked at the themes directly related to the user involvement. The second part were factors influencing the user involvement, and had three main dimensions namely communication, motivation and attitudes. This was the basis for building the data structure, which is presented in *figure 2* and represents how this research progressed from raw data to the themes that eventually became the findings. After the coding and analysing the material, the categories were presented in the findings section. While presenting the qualitative data, the goal should be to give the readers an insight into the research, and paint a clear enough picture, that they will be able to judge how believable it is for themselves (Tjora, 2013, p. 196). The research reflections were made while presenting the findings, alongside existing theoretical framework and they were directly related to the participants' comments and responses.

1st Order Concepts	2nd order Themes	Aggregate dimensions
-User want to be involved -Involve users early	User involvement	

-Users claim not to be involved		User Involvement
-Might involve to many -Identify important users -People are smart	Identifying users	
-Testing Never stopped an implementation -User training is important -Diverse project teams	User testing and training	
-Explain what Is good -Notify important people -People want to give feedback	Dialogue	Communication
-Inform about training -Give online information	One way communication	
-People might expect too much -Is it a need to explain everything -Feedback never goes through	Challenging communication	
-Giving value propositions -Showing value to the user -Guide people by showing why they need this -Focus on the user experience	Value motivation	Motivation
-Salary adjustment is a strong motivator -The tool determines your salary	Salary motivation	
-Resistance needs to be managed -People resist more when top/down -Some systems are forced on the user -Mandetary tools create disruption -Too much feedback might also lead to resistance	‘classic’ resistance	Attitudes
-The process has to work -People’s attitudes	Process attitudes	

Figure 2.

3.4.2 Data Privacy and Ethical considerations

Creswell and Poth (2018, p. 54) state that it is important to gather approval from an institutional review board for the study, and this was done through the application to NSD (Norwegian Centre for Research Data) which can be seen in appendix 5. This included evidence of awareness of relevant ethical issues, though not many were present in this study. In doing so, it provided evidence of measures taken to ensure the privacy of the participants in this study. In addition, a consent form was given and signed by the participants, which clearly stated the right to withdraw from the study at any time. Example of said form can be found in Appendix 4. All the participants signed this consent form prior to the execution of each interview. By doing so they recognised that all of the information provided would not put themselves or their jobs at risk and that their information would be anonymised, so as they would not be recognised, other than as employees at DNV GL.

All the interviews were transcribed in full and were thereafter anonymised. It was ensured that the participants were never at risk, and that their contributions were treated fairly and with respect. According to Creswell and Poth (2018, p. 56) it is also important that the purpose of the study is clearly stated and conveyed to the participants, which was done through the information document that was sent prior to the interviews and can be found in Addition 3. The two groups were anonymised with the tags A and B dependent on which set of interview guides they were subjected to. Then each participant was given a random number and their anonymised code became the letter A if they were IT project workers or B if they were users followed by the random number 1-4. Example of this would be user B3.

3.5 Validity

The question of whether or not the phenomenon of which the research attempts to capture is properly captured, is that of validity. It is therefore vital to the research that the research questions asked, properly capture the phenomenon as it was. The validity of said research is therefore dependent on the questions asked, and the quality of the data such questions produce (Moses & Knutsen, 2012, p. 132). Within an analytical tradition, judging how valid the questions are, in relation to what analytical conclusions are drawn, can be a rather complicated affair (Tjora, 2013, p. 206). Within the social sciences, the communication validity is the most important, and is concerned with how much the research is in accordance with prior research. This assignment uses the theory and prior research actively in trying to

identify the variables that influence implementation and the people affected by it. In doing so, it attempts to achieve a high level of validity in the analysis.

Furthermore, the method is providing a high level of transparency about the process, which helps strengthening the validity of this research project (Tjora, 2013, p. 207). Additionally, by following guidelines provided by literature on qualitative research methods, the quality was further strengthened. Using the right approach to the qualitative interview and at the same time ensuring that the participant's contributions were not altered but rather directly cited, ensures that the information gathered is valid. As a last quality measurement, this research sheds light on an important aspect of digital change work which is relevant to the contemporary organisation and also DNV GL, which further ensures the quality of the finds.

3.6 Reliability

For any research project there is a question of whether the results or products of the research, can be said to also apply to similar situational conditions. This is a question of the reliability of the research (Mosses og Knutsen, 2012, s. 132). For a quantitative research project, this falls on whether the questions used, produce the same or similar responses under different conditions. One can argue that this is less important for qualitative research as it is not immediately concerned with other or similar situations, because of the focus on the individual case or phenomenon. Tjora (2013) says that generalizability, as an indicator of quality in qualitative research is unfortunate because it limits the potential of some studies. This study aims to figure out what factors influences user involvement in digital change at DNV GL and thus it might not be the case that the same factors influence another organisation the same way.

However the findings in this research are arguably reliable because of how it provides a potential groundwork for further research in the field of digital change. By providing clear factors deemed important for the selection of employees at DNV GL, further research can build upon them. Using these factors to figure out if the findings of this research are reliable also across other participants and even outside the boundaries of the organisation DNV GL. The finds can also be said to be reliable due to the use of an established data coding method. By using the method proposed by Gioia et al. (2012, p. 20) this research used a three step process in order to ensure the coding and subsequent categories was reliably derived from the participant's contributions.

4 Findings

The participants in both research groups pointed to interesting aspects of the implementation process, which will be looked at closer in this section. During the interviews, it became clear that the success of a digital change effort included the involvement of the users of the tool or software, but also the ability to provide the required training for said tool or software. Thereafter it was found that three factors influenced the user's involvement in the process of digital change. To involve users there has to be a process for communicating the changes in a satisfying manner. Furthermore, there has to be some motivational pull, to make the members of the organisation invested and interested in the changes to come. Lastly, the attitudes of the users also affect the digital change. Together these establish the main arguments the participants proposed as factors affecting digital change.

4.1 User Involvement

As previously mentioned the inclusion of user involvement could have a positive impact on organisational performance (Hwang & Thorn, 1999, p. 234). The technology if designed to be utilised by people, can logically not function on its own and will just sit idle. Therefore, the importance of the users' opinion and feelings towards a particular system or tool has to be considered. During the interview process, it became clear that this was nothing new to either the IT project managers or the users, however there were different opinions on the implications involvement could have within the implementation process. In addition, the timing of when the involvement happens seems to be relevant. Based on some of the answers in the interviews it would seem that involvement mostly occurs, after the implementation is close to completion. One ICT worker claimed that the users at DNV GL are very much involved through acceptance testing:

“The users are pretty much because we have a user acceptance testing as a standard for IT implementation. After you have developed everything, you have normally a system integration testing where you test if the other HR systems communicate with others like the finance system for example. Then when you have the system integration testing successful, then you go over to the user acceptance testing.” -A3.

User acceptance testing would check the status of acceptance among employees rather than giving the participants any chance to alter or change the said implementation. A system test, designed to give a selected few a taste of what is to come. One could argue that this is not involvement but rather an attempt to create change actors for the said system (Specht et al., 2018, p. 199). Only involving the service based ICT at the end of the implementation when

its introduced to the organisation is considered by Bygstad and Lanestedt (2009, p. 241) to be a barrier to innovation.

Based on how you define user involvement this could be within the boundaries of the definition and one can argue that letting the employees participate in such a test is better than not having any involvement at all. At the same time, it is important to emphasize that testing and involvement is not directly the same thing, however they could both be seen as important factors in the implementation of new solutions. The same ICT worker points out how an acceptance test, is a way to sell a product to important members of the organisation and as a way of producing change actors who seeks to actively produce change in an organisation (Tsoukas & Chia, 2002, p. 569):

“I have the feeling that the user acceptance testing is more like a way of producing players who can sell this to the rest of the community, and there is only so much you will be able to change.” -A3.

This is a challenge when it comes to user involvement, because users that would participate in this type of testing gets the impression that their opinions will matter and when the product is implemented, they might realise none of their feedback had any impact. The influence a user has on these implementation processes seems according to A3 to be very low, given that such tests never has the ability to terminate an implementation effort.

“I have never seen that a user acceptance testing has stopped an implementation completely” -A3.

This could very well be due to how difficult it is for a project team to decide whether or not to abandon or continue a project that is struggling (Keil, 1995, p. 422).

Another ICT worker also points out how an important part of the implementation process is to identify the key users who are most likely to function as change agents for the new system.

“You have to identify those people especially if they are key to the implementation process. It could be line managers, influencers, and sit down with them” -A2.

Really getting the relevant people on board with the coming changes seems to be important also when managing expectations. However, is it enough to sit down with the relevant people, and create agents of change if the system or tool itself is not designed for their needs?

Involving the users at an early stage, where they can have the ability to influence the process itself and change the outcome, will according to the informant A1, be beneficial for the organisation and the implementation. This is supported by Hwang and Thorn (1999, p.

233) who pointed out that user participation positively affects the system, by allowing inputs and feedback to the actual system design.

“Introducing people already at the stage where there is possibility to influence how it will be is really crucial because the alternative is that you work something backstage and then you just drop it into the organisation and it could more easily fail” -A1.

Here the participant points out another interesting aspect of the process. According to A1, the option to include users in the process, where they can help shape the product that they themselves will be working with is important. The implementer can decide to exclude the users from the process, however as A1 points out, this is more likely to fail. One could argue that the easier option would be to exclude the user, because they might not have the technical knowledge to know what they want.

During the implementation process, such a user involvement would require the organisation to grant the ICT project access to people who normally would be working in other areas, hence making it a double cost. Not only do the company have to find someone else who can do the users job for a time, they would also have to still pay the user to be a part of the ICT implementation process. Some might argue that the benefits of such an expense would have to be substantial. The benefits of such a commitment would be increased chances of a successful implementation if A1 were to be understood correctly. The question is then, does the positives outweigh the negatives? If the implementation fails because of little to no user involvement, the early cost might be worth it. It is here individual parameters come into play, and the size and magnitude of the tool and the project, could define whether it is even possible or beneficial to include users at an early stage. A2 points this out in regards to involving users:

“Another pitfall is to think you can involve everybody and that everybody will be happy and heard and so on. That’s not going to happen” -A2.

The idea that everybody can have a say in the implementation process, especially in larger organisations is probably not going to be of benefit to anyone. It is not a realistic goal. One can assume that the magnitude of the implementation process would not benefit from the mass of people, as just the processing of all the ideas and opinions would take up a large amount of time, and some of the opinions might even be contradictory. Hence making it so you would disappoint someone no matter if everyone were included. By picking each participant carefully, it could be possible to make sure that people with relevant knowledge and who would also be users would represent their peers in the testing. If the rest of the users in the organisation knows that one or more of their peers has been part of the implementation,

it might be more likely to be accepted. Høye (2002, p. 196) suggests the assignment of an ICT- coordinator to train and work closely with the users, and be a central link between the ICT project and the users.

ICT project worker A1 pointed out that for them the implementation process is pushing more in the direction of user involvement, and that understanding the individual employee and what the need is in their everyday affairs is important to achieve success in ICT projects.

“So I think what we will be pushed towards is to be much better at understanding an employee and understand how they tick and how they are affected by different things in a way”-A1.

One of the ICT project workers pointed out that it is interesting, how all project members are affected by their competence at all times during the implementation. This in turn affects what decisions are made, and what the user ends up with. A person with an ICT background might struggle to understand the needs of an employee that works in finance or HR. That person can also not abandon his IT background when working with the implementation. The idea is to attempt to create as diverse project teams as possible.

“I can never say that I have pure line manager view and forget totally my HR/ It background but I think we are relatively good in putting together diverse enough project teams”-A3.

This raises another question. Is a varied and diverse project team, enough to counteract the missing user involvement? Sørebo (2000, p. 2) claims that within information systems research there is an agreement that involving users is critical to successful use of technology. The IT project workers seems to be aware of the benefits of including the users in the implementation process, however the users themselves seem to indicate that most implementations did not in fact let the users have an impact.

When asking the users whether they felt included in the implementation process, none claimed that they had any impact on what were being implemented. This was somewhat contrary to what the ICT project workers claimed, however there was some indication that even though the implementation projects didn't directly include the users, the tools were created with their best interest in mind. How do you access such information if not through interviews or questioners? User B1 pointed out that even though a new tool is actually a good addition and it works, they do not know if any one of their peers have been able to affect the implementation.

“We hope everything will be fine, sometimes we find that wow this is fantastic and much better than before, but we don’t know what’s behind it, and why it was developed this way, and if some of our colleagues comments were taken into account to improve the tool”-B1.

It seems that the organisation might be missing some way of gathering feedback, but also acknowledging that the feedback has been received. That could perhaps allow the users to become more involved due to knowledge about how the process progressed and how the feedback affected the implementation.

B1 goes on to point out that when a new tool or software gets introduced there is indeed a user acceptance testing which allows each user to test the tool and give an opinion on the implementation.

“We where exercising and playing with it to understand how it works, which was good because at least we had some time to familiarise with the tool before it was implemented”

-B1.

However the awareness of the fact that opinions and feedback might not at all create change in the finished product, could make the implementations less effective despite the good intentions of the implementers.

“They say here is the tool and when we try it and say we want something else or a modification, then... So, no I don’t think we are involved” -B1.

There was a pause in the reply, where the participant shrugged indicating that there was no reply or indication that their feedback made any difference. The uncertainty in the response is also worth discussing because it points to the importance of transparency. The users wish to know how they make an impact and are involved in the process of digital change.

Furthermore, highlighting the involvement of the employees seem to be very important, and could directly influence the amount of frequent users and the overall quality of the system (Hwang & Thorn, 1999, p. 233). One of the ICT project workers points this out as the key obstacle for success:

“They key obstacle to success is people are too smart to just go along and do it, because they can see, what’s my incentive for doing this?” -A2.

Motivating the users in order to get them involved will be covered in another section, however the effect of user involvement on the motivation of the employees, seems to be important to mention here. If the employees see that the tool will have no positive impact on their everyday life and at the same time, they have had little to no involvement in the

implementation process, it would be fair to assume that they could be less likely to be pleased with the system.

Another user were blunter than the rest, and there was no doubt when answering the question of whether the users are involved in the implementation process.

“I never had any impact what so ever on what our IT implementation looks like” -B2. There is a chance that such a reply could be due to a general negative attitude of the ICT in the company, however the informant did seem generally positive towards technology and what it could potentially provide. The modern digital shift has seemingly created a general acceptance and appreciation of ICT, however there is a chance that everyday technology is creating a difficult pressure on the organisation. Expectations towards technology based on what is available to the consumer, might make it difficult for organisations to respond in a satisfying manner. Expectations among the users that all tools should be designed to fit each individual users everyday needs might make it difficult for the ICT project workers to deliver a satisfying end product.

So how can organisations meet these expectations when working with digital implementation and more importantly with the individuals who are going to utilize the tool in their everyday life? B2 suggests that the starting point of any implementation should be with the employees:

“At least it’s always a good starting point to just very straight forward ask; what do you think could be improved since you are the end user who is using it on a daily basis?” -B2.

This comes back to the user involvement. Asking the employees of their opinion early seems to be an important part of the implementation process for the users. Opening a dialogue with the relevant people, allowing them to actively provide input and feedback is beneficial to the process of implementation (Hwang & Thorn, 1999, p. 233).

“End users are happy to share their feedback and there usually happy to be heard you know”. -B2

Another participant agreed and pointed to the importance of relevant and meaningful change. Changes for the sake of changing, is according to B3 and B4 pointless. Change should come because there is a need somewhere in the organisation.

“Get people more involved and psyched up for that change is coming and its going to be better. Because if its just change and it doesn’t do anything. There is no point in doing it”. -B3

“If people are anchored and feel like they were a part of it like, hey I get an input so I have an invested interest in this new tool, as opposed to this new tool just being put on them”. –B4

What B4 says implies that tools that are forced on the employees without them having input on how it will look and operate, will make the end users less involved. Less involvement could possibly lead to less motivation, which again could lead to a low amount of frequent users. In the most unfortunate outcome, this could lead to users opting out of certain tools, which could have been a real timesaver or other quality of life improvements. This can in many ways be seen as a project escalation where the project gets completed despite its negative information development (Keil, 1995, pp. 422-423). One could definitely argue that an implementation of a tool will have failed if users, decide to discontinue using the tool, if given the choice to do so. However, this would of course only apply if the users themselves can decide whether to use it or not. If the tool is mandatory and the user is stuck with it, that could create challenges in the form of unhappy users which are finding ways to get around these mandatory processes.

The importance of engaging the user in the implementation process seems to be of importance both to the users themselves but also to the ICT project workers. Unfortunately, it would most likely require unrealistic amounts of resources to involve every single user in the implementation, at least for large organisations. It would also likely create a chaos state where every user would want to be heard, and it could happen that two users would have different opinions on what is the best practice when implementing a certain tool. This would make it so one of them would end up unhappy, no matter how good the implementation would be for the users and the organisation as a whole. B1 points out this problematic:

“It would be very good to involve people more but I don’t know how it would be done. Meaning if you have people in the development, it cant be the whole organisation so you will anyhow miss the core and then you would miss some”. -B1

Even though not every single user can be involved directly in the implementation processes, it seems to be the opinion of both groups that involvement from some users, could improve the chances of implementation success. If both sides consider themselves to be co-creators of change then the implementation is more likely to benefit both sides (Leonard-Barton, 1988, p. 265). After a selected number of users has been involved in both the development stage and the implementation, the importance of communicating the changes in a sufficient way is the next important factor to highlight.

4.2 Factors Influencing User Involvement in DNV GL

The user involvement became the most important aspect of the findings because all the participants focused on the user. In addition, it was found that the factors of communication, motivation and attitudes, in different ways affected the user involvement. Communication involves the users by providing information about the digital change initiatives and also by active listening through dialogue. Motivating the users by explaining the rational and why the digital change will benefit them, could make them feel more involved. Lastly, the way employee attitudes to change are treated by the ICT project workers could affect how involved the users are in any digital change effort.

4.2.1 Communication

The importance of communication is considered by this research, as a part of involving the users, as it seems to be crucial for the employees. Perhaps especially when the change is initiated from the top down. The logical assumption would be that when the management, forces a new ICT system from the top-down, it is less important to inform the users of the implications and what it will provide for them on an individual level. They have to learn and use it if they wish to continue in the company, so it might be less of an incentive to spend resources on communicating what is to come, how it will affect the workplace, and lastly, what benefits this will create. In a way, this is unfortunate because it treats the users as merchandise that just has to adjust. Ihlen (2013, p. 77) points out that one should seek to achieve symmetrical communication, because it focuses on treating people as people instead of merchandise. User B1 shared what he thinks was the most important aspect to communicate in any implementation process, and how such communication is directly related to involving the users:

“Explain the rational. Why do we need to change our tools? What is good in the new tool? Then give necessary training. It is not enough to just send out a slide and say it works like this. We should be better in engaging people” -B1

Communicating with the user, by providing the right information and training seems to be paramount to successful communication, and A1 explain how this is the next step after the user testing:

“After the testing, then you have more or less the regular training and communication to do. Some of it, we have done beforehand to quickly notify HR managers and others that will also be there to support the users”. -A1

One could argue that communicating what is coming to the user only after the implementation are finished with the testing phase, might make it difficult for the users to even be aware that there has been testers among them. Testers who have had the opportunity to give their feedback and affect the changes that are coming. This would explain why some of the users did not perceive that they were involved in the implementation at all. As user B4 points out its important to involve users both in the early project phase, to understand the user experience, but also as a part of the communication:

“People are usually happy to help especially if it is directly related to their job. So to be able to do that to test and get the user experience and get the feedback and implement it and do that before it is rolled out more broadly but then also as a part of the rollout communications” -B4.

As Høye (2002, p. 136) points out communication is a premise for cooperation in an organisation and can therefore be considered crucial in any interpersonal interaction.

The information aspect seems to be a prominent part of the overall communication strategy in an ICT implementation. Informing people of what is going to come is according to A1 valuable if one wishes to get the users involved.

“Slowly but surely involve a large community of maybe 100 people to really say this is what is coming and we will be ready with the solution on that time, and you will have training available at that time and then the rest will start that date”. -A1

After the selected users are informed about when the new ICT solution is on the way and at what time they can be expecting training, then it is vital to introduce it to the rest of the organisation:

“Once you sort of introduce it to the rest of the organisation you do some intranet articles, some emails, and so on. In our case we also did a marketing video to explain what this was and how it was different from what we had in the previous solution”.

-A1

Høye (2002, p. 137) warns about the use of emails and other digital means of transferring information where it could be drowned in other information, and it can be seen as communication only one way because the users have no way of giving feedback.

While communication in this paper is considered a necessary factor of success, there are certain challenges that arise when attempting to keep everyone informed. One of the ICT project workers pointed out how communicating that something new is coming often automatically leads to high expectations:

“While opening one thing you end up having issues with expectation management because you are giving people the expectation that they will receive something that is you know, a lot more advanced or a lot more flexible than what they would have liked it to be. It’s important to find a balance there I would say”. -A1

The balance between expectations and reality must be present when communicating, so that the expectations are not set too high. If the expectations of what the new solution is going to provide is set too high, the users will end up getting disappointed regardless of whether the solution is actually better than what they previously had.

Another one of the ICT project workers had a different approach to communication. According to A3 it was less important what is communicated because the new solutions should be intuitive enough that explanation of the different functions and further training should not be necessary.

“I just sometimes ask whether we need to use energy and time to explain everything. Is it really necessary to explain so much about it? Of course that is change management probably and communication would say that yes you should kick off someone to do it”. -A3

This could be seen as a problematic view to have as it puts little focus on the individual user. One could argue that expecting the users to have full knowledge of the system is problematic, when working with solutions that are supposed to be designed for them. Making the solution simple just to expect the users to know how to use it right away, without any help is a very ambitious idea that might create some challenges. It would put a requirement of intuitiveness of the new solutions. They have to be designed to be fail and mistake proof, to ensure that each user can do their job as effectively as before, without meeting barriers in the software itself. A3 goes on to explain that if the functions are self-explanatory, it should not be necessary to explain said function.

“If you provide the basic functionality which is basically relatively obvious to simply use. I mean if there is a button that says add goal, do you really need to explain that button?” -A3

The argument that simple functions should not need to be explained can be seen as troublesome because the simple functions are all part of a bigger ICT solution. Even though the function itself could be small, it could be very difficult to use a simple function in a complicated system. Also allowing each individual employee to become familiarised with a system, before it is implemented, could perhaps make them more comfortable, and waste less time when actually using it for the first time.

Another impediment that could be handled through open dialogue is the availability of feedback channels from ICT projects. Rather the individual employee's incentive to seek out ways to give feedback according to the ICT.

"It means that line managers and employees will need to know that they should feed that suggestion to that group of people. Some people would not even, you know, spend time finding that out and rather live with what is not good enough." -A1

The users on the other hand seem to think that, even though they spend the time it takes to fill out feedback, they have no way of knowing if it has gone through to anyone and if the problem will be fixed:

"We have a new tool and we have a lot of complaints or things that we don't like. We file cases but these cases are some how lost. We never get a reply." -B1

It is difficult to draw conclusions based on this. On one hand, it could be the lack of available feedback channels that is providing a challenge. On the other hand, it could be that the users do not find time to give feedback unless the error is significantly problematic for them in their everyday lives. This in turn could end up being just another nuisance that they decide to ignore, because it is not worth any effort to try to fix it. B1 supports the claim of A1 in this regard:

"You don't bother filling in this comment, unless it breaks the tool, and I can't work on it. Then again it's the dialog issue." -B1

This person explains this trouble as a dialog issue, which would be a lack of symmetrical communication where both parties seek to benefit from each other's involvement (Ihlen, 2013, p. 77).

The next important point in the communication thematic has to do with value propositions. It seems to be a general tendency that the users would like to know what they could gain from the implementation. User B1 illustrates this with his comment:

"You need to explain to the people what is good in the solution for them." -B1

Explaining why the users need a new solution and what is required by them in order to make it work as intended. This should make the process more transparent and might make the users more prepared for what is to come and what is in it for them. One of the ICT project managers seemed to be aware of this:

"I don't think we are very good at thinking up value propositions to our staff but that's basically what it is. That it means something to them."-A2

If we understand the informant A2 correctly such value propositions is important in order to make the implementation easily accepted by the users. User B3 supplements this statement:

“People often struggle to get the message across the right way, because it always ends up being you know like something new is coming, but its never how you as a user will benefit from this and how this will make your life easier. I think that is always missing.” -B3

Such value propositions could perhaps motivate the employees to use the new system and perhaps work as advocates for other users.

4.2.2 Motivation

This section will have a focus on the individuals and their motivation when it comes to technology, and how the strongest motivation is value for the individual. Theory Y claims that the individuals are not by nature in opposition to change (Eriksson – Zetterquist et al., 2014, p. 108). Therefore, the factors that could potentially motivate the employees in an ICT implementation are important. In this research, it was found that strong motivational factors were a better user experience and a clear value for the individual user. This section is going to focus on especially these two factors.

ICT project worker A1 gave his opinion on what was important in relation to the users in an implementation process:

“It is important to make that link and really see that this is relevant for me and something I will hopefully positively be part of”. -A1

The importance of making it clear to the user how they will benefit from the implementation seem according to A1 clear. He goes on to point out how it is also important to make the tool or system interesting in order to motivate users to want to use the software, as opposed to just forcing them by making it mandatory.

“Also to make it interesting rather than something forced. I mean you can always say this is a mandatory tool and just do it, but its much better to be able to guide people by, being able to come up with a reason for why they should do it”. -A1

This accords with the idea that the users and developers should be co-creators of change as mentioned by Leonard-Barton (1988, p. 265). There seem to be a close connection between motivation and communication, because without good communication it could be difficult to find the motivation to use newly implemented IT solutions.

User B3 goes on to argue that when a system or tool feels old, it could implicate user-experience that in turn could affect the motivation of the users:

“It feels like it is from early year 2000 so there is no thought into user experience or making life easier for people working with it”. -B3

Again, it appears that user experience is important for the users. Therefore, the suggestion is that if the employees are engaged more in the process of implementation this could potentially improve the user-experience. User B4 emphasise this by claiming that any system that already has had the influence of the employees works perfectly by providing a good user experience:

“So people feel involved and included and has a stake in a new system. If it is a new system that works perfectly then that’s fine if that makes peoples’ lives easier”. -B4

Another view on motivation is salary adjustments. Motivation in such a sense might not always be a positive for the users. Like one of the ICT project workers points out there is a clear motivation to use a certain system, when the individuals salary relies on the use of a certain IT implementation.

“In this case with performance management it is a prerequisite for your salary adjustment, because you need your individual rating to be evaluated later on. So, it is kind of a push behind the implementation, which is actually good because it means that people understand that this is a process that’s important for me. If I do not do it I will be negatively impacted”. -A1

The challenge here is the idea that forcing people to use a system they might find faulty or less user friendly, is a good thing. Again, it emphasises the “us against them” mentality, that remains the clear tendency, instead of focusing on how to work together in order to create a system that could benefit both the users and the ICT workers.

Using the uptake or amount of frequent users as a measurement of success of an implementation, seems to be another challenge. The reason being that when the users have to use a tool or system to secure their own salaries, regardless of the quality or ease of use.

“The pull or the stick, vs. the carrot is definitely the salary adjustment process, which is then requiring to do the process to get a rating at the end of the year for example”. -A1

Obviously, some information technology is mandatory in order for an organisation to operate. It might also determine the effectiveness of the individual employee. However, the uptake or number of users should not, in regards to mandatory systems, be an indicator of success, because people cannot decide to avoid using it. The motivational aspect of this research has pointed out that the user friendliness of systems, and the communication between the users and developers, is important factors to motivate people.

4.2.3 Attitudes

Dependent on how one views the resisting attitudes towards digital change it determines which of the participant's comments are most relevant to highlight. First, the contributions that discuss resistance explicitly will be covered. It will be addressed in accordance with the view of Hultman (1995, p. 15), as something that needs to be managed. Thereafter, some of the actual attitudes of the users which, might be perceived as resistance will be addressed. It will be highlighted why it should be seen in light of what Sætren and Laumann (2017, p. 1) sees as critical expert opinions.

The first example of the 'classic' approach to resistance is project worker A2 who sees resistance as something present in every change effort, and needs to be managed:

"All change has resistance and it needs to be managed." -A2

He then mentions that whenever the management initiates an implementation, it generates more resistance among the users than if it is purely a need from the users themselves.

"Of course, the resistance is even greater when it comes from the top. When it comes from the bottom, they are still unhappy, but if it comes from the top, they just absolutely want to kill us. There are different tensions and different reactions." -A2

This builds upon the earlier comment, that no matter where the change effort begin, resistance in one way or the other will always follow. There are challenges related to such a view especially related to the "us against them" mentality, so instead of focusing on the implementation process as a cooperative effort, it becomes a matter of who knows best.

The other factor in this regard has to do with the intention of the tool. Some tools are mandatory, because it helps to organise people, hence making it something the users have to do despite it not providing any noticeable value to them. With the example of the performance management system, user B3 said:

"There are of course some things that you as an employee do not want to do. It is forced upon you by management." -B3

Such mandatory tools could cause disruption because it might be difficult to see what value this adds to the company.

"When we are talking about mandatory tools it's a bit naïve to say: you will use the new tool and here are the instructions. In the end it will happen because everyone has to use it but it will create a lot of disruption and wasted time." -B1

It seems like the emphasis here could be on communication. Making sure that the ICT project workers and users engage in logical and physical communication (Høye, 2002, p. 375-376),

as well as active listening to make sure that there are no complications (Macnamara, 2016, p. 36).

The second important view to highlight was the realisation that resistance can occur even in the planning phase of an implementation project, and not only post completion.

“We think we know how to do it, when we are sitting in the project and suddenly realise that we should not do this and why do we do it that way. It was supposed to be done this way, we never do it this way we do it that way and we have always done it that way.” -A3

This could again be looked at from the perspective of user involvement, and the importance of consulting the informants already in the planning phase of the implementation in order to quickly understand the needs of the users. This would be in accordance with the opinion of Sætren and Laumann (2017, p. 1) where they argue that the users should be seen as experts on the field, and also that such cooperative efforts will be beneficial as both groups would be co-creators of change as mentioned by Leonard-Barton (1988, p. 265).

User B1 is the first one to mention resistance as a direct response to some organisational effort, and as a product of a human emotion namely fear:

“I see a lot of resistance, meaning people are afraid of the IT, because this is a black box. What is the IT doing? Are they taking away our competence? Are they going to become the biggest part of the company and we are just a less relevant part now?”

-B1

Again, it is the “us against them” mentality instead of the idea of co-creators of change. The fear of technology is according to the participant still present, even in this modern day where technology is present all around us, making the importance of involvement and communication of users even more obvious.

Another user pointed out that involvement might also lead to resistance if they have a lot of feedback, and only a portion of it can be implemented, due to technical or cost related limitations:

“There is a certain risk with it as well because people will have a lot of things they would like to change and you know that IT might be able to deliver on only 10 percent of what they asked for and that might make them unhappy as well”. -B2

Here there is a risk and reward evaluation that needs to be made, however the users seemed generally more positive towards being included in the process, and being enabled, in the sense that they could provide feedback rather than just receiving the finished product.

The next argument worth mentioning is participant A1 talking about what to expect when the implementation process lacks clear systematic steps to follow and by doing so, the emphasis is put on the organisation rather than the user:

“It requires you to succeed in each step to really work normally but I think we have plenty examples where this has not necessarily worked out so well. As a consequence you get a lot of resistance and you get people who are fed up with the system”. -A1

Resistance is seen by A1 as something dependent on how well the organisation is suited to handle change. In such a view it might not be resistance that is the main reason why change initiatives fail, but rather it could seem like the emphasis is on how well the organisation are prepared for change (Sætren & Laumann, 2017, p. 9).

Another example is the understanding of user B4 who points out that sometimes people are just expecting too much and get easily frustrated when systems or tools are less intuitive:

“I think it is partly people’s attitudes. If something is not easy or intuitive, they just get frustrated”.-B4

If one decide to view these comments as expert opinions according to Sætren and Laumann (2017, p. 9) then perhaps one would focus more on why the systems are not easy or intuitive, instead of attributing the resistance to individual characteristics. Courpasson and Dany (2009, p. 12) argues that so long as the initial intent, is not to resist change, it is not resistance but rather a response in order to defend some contextual interests. This is in accordance with Theory Y that claims that people are not by nature resistant to change, but rather becomes resistant when confronting the organisation (Eriksson – Zetterquist et al., 2014, p. 108)

5 Discussion

In this study, the goal has been to identify and describe factors influencing user involvement in digital change efforts. In this discussion several aspects of the analysis and the theory will be reviewed in order to address this goal more thoroughly. The different aspects of the research project will be looked at critically from the ‘classic’ and process perspectives of organisational change, in order to evaluate ICT implementation at a higher level of analysis.

The ICT implementation process in DNV GL can be seen as the meeting of two different interests. The ICT project workers wish to deliver on the needs of the users and the management, while the users just want an ICT solution that works, and provides some benefit to their everyday life. The meeting of these two creates an interesting dynamic, where this research finds that involvement of the users at an early stage might balance out the different positions of the two groups. This means that the main decisions on how an ICT tool or system is going to be functioning, has more or less exclusively been made on the ICT side. Mainly the decision on whether or not to include the users ultimately rests on the ICT project, and the project managers. Therefore, this research propose that the involvement of users should be prominent throughout the planning and implementation process, rather than just right at the end when most decisions has already been made.

The user involvement findings can also be seen in the light of organisational change theory. In the findings, it was argued that the reason why users are not engaged more often and actively in ICT implementation efforts could be due to the change perspective of the ICT workers. It is possible that they have a ‘classic’ view of organisational change, where the change is temporary and after a time the users will settle down with any system regardless of its issues, and stability will return to the organisation. More likely however, is the idea that the organisation itself follows this ‘classic’ view on change. All the participants just follow a structure that has developed over many years, and consequently, they are not aware of the micro mechanisms that mediate change. Examples of such are user attitudes and motivation that the individual actors in an organisation are not equipped to deal with. The new view on ICT as a service might start turning the tide on the end user’s position in the implementation process.

Through viewing the ICT implementation with a ‘classic’ perspective of organisational change it could seem like the processes works well. For example, by using the amount of active users as an indication of success, it could seem that the users are happy with the solution. However, as was argued in the findings, there is no guarantee that this is the

case, especially if the employee's salaries depend on the use of said system. They would then continue with a system that many might not find intuitive or easy to use. Lastly, if the cost were down, that is an indication that a low amount of resources was spent. This is objectively a good thing unless the spared resources came at the cost of an unpolished and unintuitive system. If all these steps are completed and the organisation goes back to a stable state, one with the 'classic' view on organisational change could argue that the process was a success.

By viewing the implementation process through the lens of the process perspective on organisational change, the importance of the individual actors become more obvious. Assuming that the organisation is continuously undergoing change regardless of implementation processes or initiated change efforts. Each actor, including the ICT project workers and the users, are always changing by their involvement with tasks in the organisation and their interaction with the external world. For example, one can expect the users to be affected by the technology that they meet in their everyday lives, which in turn affects what they perceive as user friendly and intuitive technology at work. Because these expectations are changing with the evolution of technology outside of the organisation, it affects change and ICT implementation within the organisation. Through such a view, the involvement of the users seems paramount in order to handle the ongoing external changes that affects expectations towards its implementation. This research suggests by using the method of qualitative interviews to bring forth a process view on the ICT implementation process. There should be an emphasis on clear communication through listening, but also involve users, to increase motivation and channel resistance into a cooperative effort between the two groups.

This research acknowledges that the ICT implementation by nature follows a 'classic' approach to organisational change. There is a presumption that the implementation has a start and a finish, typical for temporary change. Therefore, this research view the implementation as a part of an ongoing digital change, in an effort to take a process approach to a phenomenon that is fundamentally concerned with the objective of regaining stability. By attempting to suggest a dialogue between the ICT project workers and the users, the study has identified some micro processes that must be accounted for in order to deal with the continuous digital changes. This research argue that these micro processes affect the user involvement and in turn the continuous digital change in the contemporary organisation. It proposes a model of how to achieve user involvement as seen in figure 3:

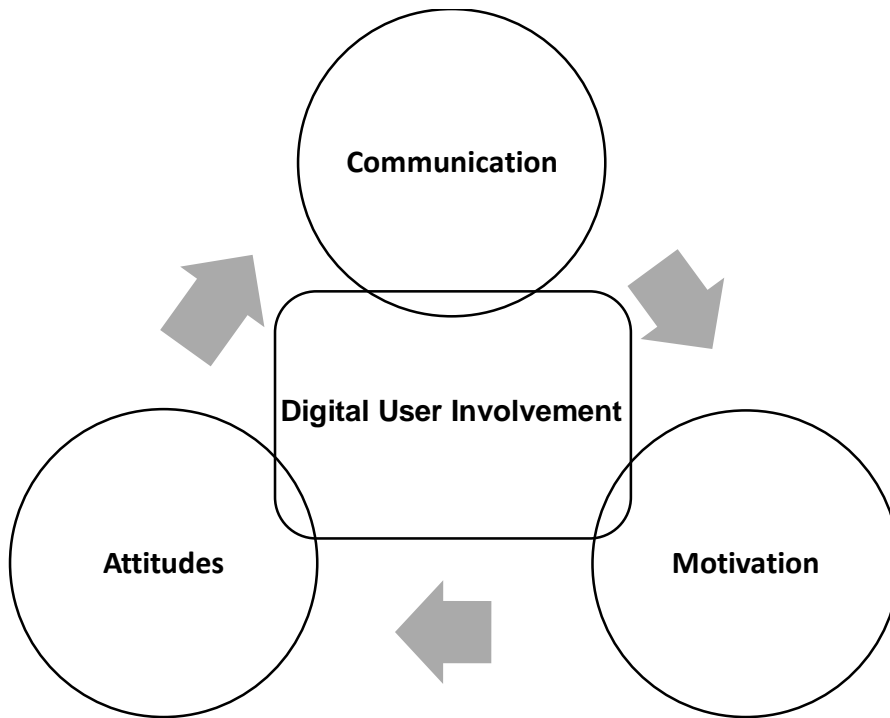


Figure 3.

The variables in *Figure 3* can be seen as a circular process. Communication implies dialogue and in this project the communication is the dialogue that happens between the users of solutions and the ICT project workers. Such a dialogue is by itself important because it leads to a feeling of involvement. By communicating the right thing such as value propositions, that makes it clear to the users that this is something positive for them, it might lead to increased motivation as proposed by this research. Motivating the users might make them more involved in the digital change leading to more opinions and attitudes towards the change. If the ICT project workers then use these attitudes as expert opinions or feedback in an open and constructive dialogue, then they have achieved the involvement of the users and they now act as co-creators of change.

In regards to these micro processes, is it pertinent to discuss user involvement and motivation as separate phenomenon, when one seems to lead to the other? The Hawthorne-effect provided some evidence that include and highlight the actors increased production and positivity towards the work. Therefore, highlighting the opinions of the employees and even giving them an important part in an implementation effort should grant the same benefits. Therefore, one can argue that these two sections namely the user involvement and the motivation, involves the same thematic. Motivating the users, by involving them in the process of implementation and making sure the product provides value to the individual user,

could according to the participants in this study benefit digital change efforts. However, one is an action while the other is a potential outcome and was therefore separated. The act of involving users might lead to the outcome of increased motivation, but there is no guarantee. Involving too many users might complicate the process, making the tool less intuitive, which in turn could lower the motivation of the individual actor.

Attitudes is another topic that is difficult to isolate. Dependent on how one view resisting attitudes, it can fit into any of the main analytical categories of this research. For example, one could argue that without user involvement there could follow resistance, because the users see faults, and feel like the ICT does not know how they work. This could lead to an “us against them” mentality. Motivation is another example, if the users are not motivated enough to use the tool or system, there could be resistance in the form of no use, or misuse. In the case of communication, one could argue that miscommunication or the lack of communication could lead to negative attitudes. On the other hand, one could view such attitudes as a catalyst for change. One could see it as a potential source of information and an opportunity to access some very critical opinions, and then in turn use them to make something better. The importance of perspective when considering attitudes was therefore enough to warrant its own section within this research.

5.1 Limitations and Further research

After looking at the advantages of user involvement and the participants focus on how this could improve their experience of IT implementations it became clear that this has benefits for the quality of the system being implemented. Hwang and Thorn (1999, p. 234) supports this finding through their research suggesting that there are clear advantages to using user feedback for system quality and organisational performance. In addition, it would seem that most ICT implementations are initiated from the top of the organisation as an initiative from management. This could be due to various reasons, but was not the focus of this research due to the lack of information about this area. One could also argue that an employee would probably not suggest that the organisation needs a system to manage employees, hence making such a system more likely to be a manager initiated effort. Therefore, the inclusion of user involvement could balance out a seemingly top-down heavy initiative. The managers can decide the general framework and functionality, and the users can provide input on the layout and interface. This will allow both groups to be invested and can perhaps counteract any opposing opinions. Further research is required into identifying

the effect managerial decision making has on the digital change process, and how the users are affected by it.

Furthermore, it is difficult to conclude based on the limited number of interviews how much influence the users actually have, and how much involvement is sufficient in an implementation process. The number of users needed in order to have the majority understand that they have made an impact could likely be dependent on the size of the organisation that is studied. For example an organisation with 800 employees, you would likely have to involve a significantly larger number of users, than in a company with 10. Additionally, how to involve those users in digital change efforts is another challenge as pointed out by user B1. Therefore, an extended research is required to identify how many users will be sufficient, how to involve them and how much influence they actually have. If you involve 100 users which is a large number, but you do not utilize any of the feedback, this is could have an unfortunate outcome.

Limitations of this research included the number of participants, and can therefore not be guaranteed to represent the opinions of the whole organisation. The findings of this study is broad and covers multiple factors that were important to the participants; however more research is needed into each of the factors to reveal to what degree each category affects ICT implementation. Especially the importance of a study on the effects of user involvement on ICT implementations is encouraged. This study is also limited when it comes to other organisations. It has been established that these elements are important for the group of participants in this specific private organisation. A similar study should be conducted in other companies to analyse if the results found in this study is similar across multiple organisational types.

Lastly, the perception of time and the type of tool or system implemented could be important mediating variables not accounted for in this research due to the limitation of time and available resources. To utilise time as a variable in a study about organisational change is beneficial. Doing so would allow for changes in opinions across a period of time. There is a chance that users are more positive at the beginning of an implementation, but less so in the end. Further research that account for the variable of time is therefore encouraged. The type of tool or system is another important variable. This research used the performance management as a point of reference, to make the thematic of implementation more comprehensible. In doing so, it could have excluded the opinions related to other types of systems or tools although it was explained that the research was about implementations and digital change in general. Furthermore, there could be differences between outsourced

software implementations and in-house development. The implications and importance of each factor could yield different results, than were found in this thesis. Further research into the differences between the various ways of implementing ICT solutions is therefore encouraged.

5.2 Implication for Practise

The most significant implications for contemporary organisations that this project provides is the possible benefits for the users of various ICT solutions. The realisation that user involvement in any digital change effort will grant benefits in regards to user friendliness of ICT systems. For the users the implications is grand, providing evidence that involvement could make future tools better suited to their individual needs. Furthermore, contemporary digital organisations have been focusing on the implementation process and the technical ICT aspect, while this research suggests a shift to a user focused change process. Through the process perspective of change, this research points out the micro processes continuously at work in the organisation, namely the motivation and attitudes of the users. By shifting to a process perspective on digital change, organisations could benefit by acknowledging the need to prioritise the involvement of individual actors. This research suggests that such involvement may help organisations become more successful in their change efforts.

6 Conclusion

This qualitative research study adds to research on digital organizational change by examining how user involvement can affect digital change efforts. Prior research has begun to indicate a need to shift the focus of ICT implementations from the technical side to the user side. This research adds to these and proposes in favour of a clear involvement of the users, and a focus on the cooperation between the ICT project worker and the users in order to promote the idea of co-creation of change. Prior research are lacking the identification of the factors influencing the individual user's involvement. This research proposes a three factor model, suggesting a focus on the communication between the users and the ICT project workers, motivating the users by giving clear value propositions and lastly actively utilizing user attitudes, in order to identify weaknesses in the digital changes. Additionally, this research builds on organisational change theory to propose a shift in the framework from which further research can observe the digital change process. By using the process view on digital change efforts, the implications of individual actors become obvious rather than something hidden and difficult to grasp. This research suggests that acknowledging the world and the users as continuously changing variables, is valuable in order to observe any organisational phenomenon.

7 Appendix

Appendix 1: Interview Guide IT Project Workers

Introduction:

These questions will be used to guide us through the interview process. They are short and open questions to allow for more free responses. All the information collected in these interviews will be treated as sensitive information.

Information about the research project:

This project aims to figure out some key aspects of what makes an IT implementation succeed or fail to produce the intended outcome.

Introduction:

Hi and welcome to this interview. Can you start by telling a little about yourself and your position at DNV GL?

How is it working with IT implementations here at DNV?

Prior Implementation MIP:

Let us now talk about implementation of IT solutions. I understand that your last project was the renewal of MIP. Can you start by saying something about that implementation?

Implementation:

What is the standard implementation process here at DNV GL?

What was your initial plan when you started working with the project, and was there any considerations regarding the implementation of the MIP tool?

When implementing a new IT solution, how do you regard employee/ user expectations?

What are some challenges when attempting to implement a new IT solution?

How does an implementation at DNV GL typically start?

Is it a need from employees or specific business areas, or is it more of a leadership decision?

What are the most important things to consider when attempting successful implementation of a new IT solution?

How does the end users give feedback about IT solutions and how do you get access to that information?

How do you measure the success of an implementation?

Final remark:

Do you have any additional remarks concerning IT Implementation?

Appendix 2: Interview Guide Users

Introduction:

These questions will be used to guide us through the interview process. They are short and open questions to allow for more free responses. All the information collected in these interviews will be treated as sensitive information.

Information about the research project:

This project aims to figure out some key aspects of what makes an IT implementation succeed or fail to produce the intended outcome.

Introduction:

Hi and welcome to this interview. Can you start by telling a little about yourself and your position at DNV GL?

How is it working here at DNV with so many different IT solutions?

Prior IT implementation MIP:

Let us now talk about implementation of IT solutions. What is your experiences with the new MIP tool that has been introduced recently?

What do you like about it and what do you dislike?

Implementation

What is the standard implementation process here at the organisation and how involved are you as an user in new solutions?

What do you think is important to consider when organisations implement new IT solutions?

Do you find that implementations of new IT solutions often work well?

What are some challenges that typically occur when organisations implement new IT solutions in your experience?

How does an implementation here in the organisation start?

Is it a need from employees or specific business areas, or is it more of a leadership decision?

What are the most important things to consider when attempting successful implementation of a new IT solution in your opinion?

Do you have any feedback channels where you can give your opinions on existing solutions?

How do you measure the success of an implementation?

Final remark:

Do you have any additional remarks concerning IT Implementation?

Appendix 3: Information to the participants

Digital Implementation

Background and Purpose:

I am a student at a masters program in organisation, work and leadership at the University of Oslo. The project I am conducting as my masters thesis, is revolving around the question of digital implementation. In an era where digitalization is gradually taking control over businesses and making information more readily available, it has become exceedingly important for businesses to reinvent and implement new and better digital solutions on a regular basis. This is often a substantial investment, and it is therefore vital that the implementation is successful. Never the less, research has found that more than 70% of all change initiatives fail to produce the intended outcome. The question is why? Furthermore what can be done in order to produce successful change. In this research, I hope to talk with candidates who both work with implementation of IT solutions and with end- users, to work out what causes these effects, and to work together on identifying some key factors that might be important to consider when working with change efforts. The aim of the study is to help DNV GL, and also other organisations, to better understand some of the mechanisms in everyday life that works to either make an initiative fail or succeed.

What does participation in the project require from you?

The hope is to conduct a couple of semi structured, in-depth interviews with participants from both groups. The questions will be somewhat different, in order to look at the questions from different point of views , but will include about 10 questions relating to the topic. The objective of the interviews is to have a natural discussion about the topic and to attempt to identify some key points when attempting to implement a new or changed IT solution. The interview should last only about one hour and will be recorded by audio. The recordings will thereafter be transcribed, before being deleted. Upon transcription the informants will be anonymised, for your discretion.

What will happen to the information about you?

No information about you will be used in this empirical research project. The recordings will be kept on a personal computer until the end of the transcription, before being deleted. When using any of the information you provide, during the interview, you will be anonymised with a code and a number. An example of this could be A1, where the A refers to which of the two sets of questions you were subjected to and the 1 will be a random number.

Voluntary participation

It is voluntary to participate in the interviews, and you can at any time choose to withdraw your consent without stating any reason. If you decide to withdraw, all your personal data and recordings will be deleted. If you do not wish to participate in the interviews, this will not affect your relationship with your employer.

I hope that you are willing to participate in my research and by doing so, play an incremental part in this masters thesis.

I thank you for your time, and I hope to be in contact with you soon.

Kind regards,
Lasse Adrian Jahren
University of Oslo
Masters in Organisation, Work and Leadership

Appendix 4: Consent form

Digital Implementation

Background and Purpose:

I am a student at a masters program in organisation, work and leadership at the University of Oslo which is also responsible for this project. The project I am conducting as my masters thesis, is revolving around the question of digital implementation. In an era where digitalization is gradually taking control over businesses and making information more readily available, it has become exceedingly important for businesses to reinvent and implement new and better digital solutions on a regular basis. This is often a substantial investment, and it is therefore vital that the implementation is successful. Never the less, research has found that more than 70% of all change initiatives fail to produce the intended outcome. The question is why? Furthermore what can be done in order to produce successful change. In this research, I hope to talk with candidates who both work with implementation of IT solutions and with end- users, to work out what causes these effects, and to work together on identifying some key factors that might be important to consider when working with change efforts. The aim of the study is to help DNV GL, and also other organisations, to better understand some of the mechanisms in everyday life that works to either make an initiative fail or succeed.

What does participation in the project require from you?

The hope is to conduct seven, semi structured, in-depth interviews with participants from both groups. The questions will be somewhat different, in order to look at the questions from different point of views , but will include about 10 questions relating to the topic. The objective of the interviews is to have a natural discussion about the topic and to attempt to identify some key points when attempting to implement a new or changed IT solution. The interview should last only about one hour and will be recorded by audio. The recordings will thereafter be transcribed, before being deleted. Upon transcription the informants will be anonymised, for your discretion.

What will happen to the information about you?

No information about you will be used in this empirical research project. The recordings will be kept on a personal computer until the end of the transcription, before being deleted. When using any of the information you provide, during the interview, you will be anonymised with a code and a number. An example of this could be A1, where the A refers to which of the two sets of questions you were subjected to and the 1 will be a random number.

Voluntary participation

It is voluntary to participate in the interviews, and you can at any time choose to withdraw your consent without stating any reason. If you decide to withdraw, all your personal data and recordings will be deleted. If you do not wish to participate in the interviews, this will not affect your relationship with your employer. To withdraw your participation contact Lasse Jahren by phone (99422717) or by email (lasse.a.j@hotmail.com) at any time.

Consent for participation in the study

- I agree that the information about me may be collected by audio recording from an interview.
- I am aware that all the information will be anonymized and deleted after the project has ended. The information will therefore not be used for purposes other than those described above.
- I am also aware that participation in the project is voluntary and that at any time, I may ask to delete the information that has been registered about me during the course of the project.

Duration of the project

The project will last from the 10th of January until the 31st of May. Should any delays occur you will be notified.

Your Rights:

So long as you can be identified in the datamaterial at any point in the study you have the right to:

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- seeing what information has been registered about you,
- have personal information about you corrected,
- have personal information about you deleted,
- have a copy of your personal information, and
- to send a complaint to the data protection officer or Datatilsynet about the treatment of your personal information.

What gives us the right to treat personal information about you?

We treat information about you on the basis of your approval through this document.

Where can you find more information?

If you have any questions prior to or after the study and you want to apply your rights, or have any questions about the study in general, feel free to contact:

- Project responsible: Lars Erik Kjekshus, Professor Institutt for sosiologi og samfunnsgeografi at UiO, Phone: 92838918 and email: l.e.kjekshus@sosgeo.uio.no
- Eric Breit, Senter for velferds- og arbeidslivsforskning, Arbeidsforskningsinstituttet AFI, Phone: 997 26 997 and email: Eric.Breit@oslomet.no
- Lasse Adrian Jahren, Student at University of Oslo, Phone: 99422717 or Email: lasse.a.j@hotmail.com
- Our data protection officer: Maren Magnus Voll, University of Oslo, Phone: 22859778 and Email: m.m.voll@admin.uio.no
- NSD – Norsk senter for forskningsdata AS, Email: personverntjenester@nsd.no and Phone: 55582117.

I have received information about the project and I am willing to participate:

(Signed by participant, date)

Appendix 5: NSD Application

14.5.2019

Meldeskjema for behandling av personopplysninger



NSD's assessment

Project title

Digital Implementation

Reference number

313557

Registered

21.03.2019 av Lasse Adrian Jahren - lasseaj@student.sv.uio.no

Data controller (institution responsible for the project)

Universitetet i Oslo / Det samfunnsvitenskapelige fakultet / Institutt for sosiologi og samfunnsgeografi

Project leader (academic employee/supervisor or PhD candidate)

Lars Erik Kjekshus, l.e.kjekshus@sosgeo.uio.no, tlf: 92838918

Type of project

Student project, Master's thesis

Contact information, student

Lasse Adrian Jahren, lasse.a.j@hotmail.com, tlf: 99422717

Project period

10.01.2019 - 31.05.2019

Status

03.04.2019 - Assessed

Assessment (1)

03.04.2019 - Assessed

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet den 03.04.2019 med vedlegg, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

MELD VESENTLIGE ENDRINGER

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:

https://nsd.no/personvernombud/meld_prosjekt/meld_endringer.html

<https://meldeskjema.nsd.no/vurdering/5c9382e5-b5a9-4d83-90dd-1123fee6ac65>

1/2

Du må vente på svar fra NSD før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET

Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 31.05.2019.

LOVLIG GRUNNLAG

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20).

NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Kontaktperson hos NSD: Mathilde Steinsvåg Hansen
Tlf. Personverntjenester: 55 58 21 17 (tast 1)

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