



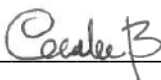
Working Together Separately


A techno-anthropological case study on
PROJECT MANAGEMENT

in relation to the large-scale implementation of E-Health
technology within the Region of Northern Jutland and how this is
challenged by the lockdown following the pandemic of COVID-19



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SYNOPSIS:

The high-paced technological development has brought forward yet unforeseen changes in routines and practices. But also environmental and societal impacts can cause disruptions forcing a process of restabilising or even amend to new practices. The master thesis takes its point of departure within a critical case study of a large-scale E-Health implementation in the Region of Northern Jutland to identify the characteristics of project management and how it is supported during the COVID-19 pandemic. The thesis is framed by the following problem statement:

What characterises project management within the IT-implementation process of NordEPJ and how is it supported in relation to maintaining the organisational interdependencies when obligated to work remotely?

Through a combination of unstructured, semistructured and structured interviews, adding up to a total of 20, it was possible to gain insight into the concept of project management. Actor-Network Theory is applied as the analytical framework to unveil the dynamics and translation processes towards stabilising the network as well as how new processes are initiated when the situation changes significantly. The findings show that maintaining the organisational interdependencies are dependent on the physical presence of the human actors which have difficulties translating into a virtual workplace, to which they are facing a lack of guidelines for knowledge sharing while working remotely. The study contributes to the literature on project management by shifting the focus to the contextual uncertainties possibly affecting the practice and identifying essential actors and practices constituting the infrastructure for an appropriate digital transformation, establishing a remote workplace and enabling virtual teamwork.

By signing this document both group members confirm having participated equally in the project and are collectively responsible for the contents of this report. Furthermore, both members assert that plagiarism is not present in this report.

The content of this report is freely available but use and publication may only be performed with source reference.

Preface

The master thesis has been carried out during the 4th semester of the master programme in Techno-Anthropology at Aalborg University. The period of this study extends from 4 February to 4 June 2020.

We would like to express our gratitude towards all who have participated, engaged or otherwise shown their support during this period.

Initially, we would like to thank our supervisor Lars Bo Henriksen for guidance, advice and mentoring from start to finish. Moreover, we would like to give thanks to the people at Digitalisation and IT concerned with the implementation of NordEPJ. Especially the project and programme managers for taking the time to answer all our questions and enlightening us with insights into their profession and experiences.

Ultimately, we would like to thank the creators of Microsoft Teams for providing us with an essential actor for sustaining collaboration during this time of social distancing.

General Clarifications

For the sake of clarity, the following section will provide insight into the formal structures of the thesis, the chosen style of referencing as well as frequently appearing concepts and abbreviations.

As this thesis has its empirical foundation on a case study within a Danish context, quotes appear in translated form. And to ensure and protect the privacy of the informants, these are referenced in relation to their working title within NordePj or Digitalisation and IT, along with a number to distinguish between those who share a title, e.g. the project managers 1 to 7.

The method of reference follows the standards of the American Psychological Association, APA, 7th edition, where literature is referenced by (Author's surname, date), in cases where quotes have been included in the text, the page number have been added accordingly (Author's surname, date, p. X). Quotes exceeding 40 words are presented in an indented block and without quotation marks. All referenced literature can be found in chapter 12 in alphabetised order.

In style with the method, unretrievable information, such as posts or documents on the internal personnel site of the Region of Northern Jutland, interviews, emails, etc. are referenced (where/what, personal communication) to which date and year are added mainly regarding the conducted interviews, e.g. (PgM1, personal communication, February 26, 2020).

In-text references to the attached appendixes appear as (App. X). A list hereof, along with a short explanation of its content can be found below:

- Appendix A: Structured literature review – *The proceedings and results*
- Appendix B: Interview guide 1 - *First round of semistructured interviews*
- Appendix C: Interview guide 2 - *Second round of semistructured interviews*
- Appendix D: Questions, Structured Interview – *Questions sent out via email*
- Appendix E: Coding memos - *Displaying the process of coding*
- Appendix F: Codebook - *Summary of the codes and descriptions of their content*
- Appendix G: Characteristics of Project Management - *an extensive list of the identified nuances of project management based on interviews with the project managers.*

Figures and tables within the thesis have been numbered in succession and an outline hereof succeeds the table of contents.

All figures referenced with an (Internal personnel site, personal communication) have been adjusted in terms of language.

Clarification of Concepts

Electronic Health Record, EHR [Elektronisk Patientjournal, EPJ]

- Clinical Suite by CSC ScandiHealth, the EHR of the Region of Northern Jutland from the period of 2009-2022
- NordEPJ, supplied by Systematic, is the future EHR of the Region of Northern Jutland, where the commencement of operations is announced to be March 2022.

Abbreviations

- **ANT:** Actor-Network Theory
- **DIT:** Digitalisation and IT
- **EHR:** Electronic Health Record

Used in Relation to In-Text References Only

- **PgM:** Programme Manager
- **PM:** Project Manager
- **POM:** Programme Office Manager
- **PMt:** Project Management, when referring to the title Head of Project Management
- **PP:** Project Participant

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1. Introduction

Unforeseen potentialities and challenges are brought forward as a result of the high-paced technological as well as digital development, causing routines and practices within the entire society to undergo changes or even disruptions. But societal elements too can serve as a transformational component of practices; as crises, like pandemics, hit, society is bound to respond, seeking relief by change. Forcing us to rethink already embedded procedures to become aware of the tacit knowledge lurking underneath, and to confront an oxymoron such as *working together, separately*.

Here technologies might act as a relieving force. But the complexity of human-technology relations and the significance of the inevitable changes when new technology is developed and implemented has taught us to be proactive in such situations bridging the gaps that are bound to happen if nothing is done. The dualism of humans and technology or the social and the material world is no longer appropriate in contemporary society. Instead, we should turn our focus towards the existence of humans and artefacts in relation to each other, to fully understand the dialectics and complexity of the interactions enabled by their co-existence.

The healthcare sector is no different in this regard. Denmark is striving for a frontrunner position within E-Health, spending extensive amounts of resources for unlocking the opportunities and potentials of digitising healthcare, creating a more coherent system across the country. Beyond the complexity of the interactions, the healthcare sector contributes to an extensive network of stakeholders, providing an additional layer of challenges within the paradigm of digital transformation; conflicting interests are not unseen when the change agenda of the management meets the tightly scheduled clinical practice. Especially in situations where the end-users' needs have not been accounted for and the ambitions behind change not properly framed persistent barriers have formed and proved difficult for the management to overcome. A clear but critical case of controversy or a gap developing in the clash of different epistemic cultures. But how can we proceed when the challenges seem to reach a level where we no longer know how to move across boundaries?

Over the nearly five years of studying Techno-Anthropology, the end-user level concerning technology implementations has been our centre of attention, causing it to have been thoroughly examined, within the healthcare sector as well as in other domains. This has resulted in multiple recommendations for improvements, often pinpointing the lack of stakeholder engagement in the development and implementation processes regarding the success hereof. A remarkable number of these recommendations have been directed towards the management levels, increasing interest in understanding the underlying procedures of project management, widening the perspective and gaining a more realistic perception of technological implementations. But the challenge of multiple stakeholders permeates throughout the organisational layers of the healthcare sector, causing a constant level of ambiguity and several requirements to be met when new projects are launched. Project management seems to be a balancing act, where the project manager must thrive in an intermediary role, being confronted with a continuous flow of issues, and limited options for

inducing solutions due to organisational hierarchies and managerial bureaucracy. Adding to the long list of challenges which are to be dealt with controlling risks and minimising uncertainties. But what characterises project management within an environment constituted by healthcare, digitalisation, multiple stakeholders and complex organisational structures? And what happens when unexpected external factors suddenly change daily routines and *working remotely* becomes the new standard?

2. Problem Analysis

In modern society, technologies get to play a more substantial part of our everyday lives. But when it comes to the healthcare sector, technologies undergo a long process of reconfiguration and implementation before it becomes integrated into the clinical practice.

From 2019-2022 the 121 million DKK implementation of a new electronic health record is running its course in the Region of Northern Jutland. And the one in charge of the task is the organisation of Digitalisation and IT, DIT, the central IT-department in the region. The size and complexity of the project cause it to be subject to what is called a *programme* structure, which focuses on keeping all employees concentrated at their specific task, escalating problems as they arise. Project management seems a bit diffuse within such a large project, so we focus on identifying current trends within the literature to unpack the concept. But what happens when societal challenges threaten the course of the implementation, and how can project management account for this new situation?

2.1 Digital Health

In the Digital Health strategy 2018-2022 developed by the Danish government, the Danish Regions and the Local Government [Kommunernes Landsforening], it is stated that Denmark is a frontrunner regarding E-Health, a position that is intended to be kept in the future. Therefore, the development and utilisation of new technologies are at the centre of health services. The objective is to have patients experience healthcare as a trustworthy and coherent network, that is digital in its nature and human in its function. Connections are to be established across sectors as well as public and private health services, by strengthening the digital foundation of this collective effort, providing more holistic care and treatment of patients. (Sundheds- & ældreministeriet, Danske Regioner, Finansministeriet & KL, 2018)

The E-Health area is continuously evolving supporting this digital transformation, where the new technologies change and challenge current practices to which the entire society has to keep up and adapt in order to make the efforts successful. "Whereas digitisation supports the general development of the health system, new technology can, however, push the overall framework for the *[sic]* how health services can be provided." (Sundheds- & ældreministeriet et al., 2018, p. 5).

New technologies bring forward new opportunities, new challenges and new tasks to fulfil. The digitalisation and sharing of health-related data can make it easier for all relevant stakeholders to partake in, provide and uphold the right treatment and care, be it patients themselves, specialised doctors, general practitioners or municipal health services. Because having access to all necessary information is crucial for providing the right care at the right time. Not wasting essential resources in an area already being deprived hereof, is a fortunate side effect. Therefore, the paper chart has been a vital element of patient care for ages, and now with the evolvement of technologies, this has

been digitised and thereby transformed into an Electronic Health Record, EHR: a systematised digital collection of patient data, that is secure and accessible only for authorised users. But a lot has happened since the first digital transformation of the charts. In Denmark, it had its tentative beginnings in the mid-1990s where every former county was determined to have their own EHR solutions. Moving up through the 2000s, the country underwent a structural change, transitioning the 14 counties into five regions, leaving a problem of downscaling and integrating the various systems, to which very few clinical working practices had actually been digitised. (Rigsrevisionen, 2011)

So as political, societal, technological challenges arise, so must innovative thinking and reflection. And as the market of technology undergoes constant development, so must the future users surrounding it.

"We must seize the opportunities provided by new technology"

(Sundheds- & ældreministeriet et al., 2018, p. 2)

2.2 NordEPJ

In Northern Jutland, the current Electronic Health Record, EHR, is Clinical Suite, which has been supplied and supported by CSC ScandiHealth for the past 11 years, as the first actual EHR in the region. But lacking customers the supplier has decided to discontinue the development and support of the system, causing prolonged processing time and an increase in related financial costs for keeping it up and running. And as the solution has been utilised for more than a decade, a more extensive update was necessary for it to fit the current needs. (Internal personnel site, personal communication) As Klaus Larsen, Chief Information Officer, CIO, in the Region of Northern Jutland put it: "We need a new electronic health record that is more flexible, caters for the integration of mobile solutions and more easily integrates with telemedicine solutions and other requirements associated with a modern platform for health care IT." (Systematic, 2019).

In mid-2019 the authorities of the Region of Northern Jutland, therefore, chose to utilise the option of procuring a new EHR, based on the contract between Systematic and the Region of Southern Denmark from 2018, which was made possible due to the Western Danish IT-cooperation [Vestdansk IT-samarbejde]. By doing so the region avoided costly and lengthy tender proceedings of their own. (Internal personnel site, personal communication)

The decision to acquire this specific solution also entails that three of Denmark's five regions from 2022 will be operating on the same standard system, which is developed by Systematic in collaboration with clinical personnel from the Region of Central Jutland. This collaboration should ensure that the core functionalities were designed and tested according to clinical practices. (Internal personnel site, personal communication) And having the same standard solution in all regions of Jutland and Funen supports the working practices of clinical employees around the country to be more homogenous and consistent throughout, making job transfers across the

aforementioned regions less troublesome (Region Nordjylland, 2019a). But unfortunately, sharing of sensitive personal data across regions and sectors is still limited, due to political and legal restrictions such as the Danish Health Act and General Data Protection Rights, GDPR, which regulate the procurement and distribution of data, (Praktiserende Lægers Organisation, 2017), making overall standardisation efforts less beneficial. Instead, the focus should be on adapting the system to the specific contextual needs of the users.

As NordEPJ is fundamentally a standard system, specific configurations and local adjustments are implemented to ensure easier adoption of the technology into the users' practices, promoting its institutionalisation. With NordEPJ some of the various independent clinical modules are integrated into one collective system, providing easy and quick access to all necessary information about a patient, cf. figure 1. (Internal personnel site, personal communication)

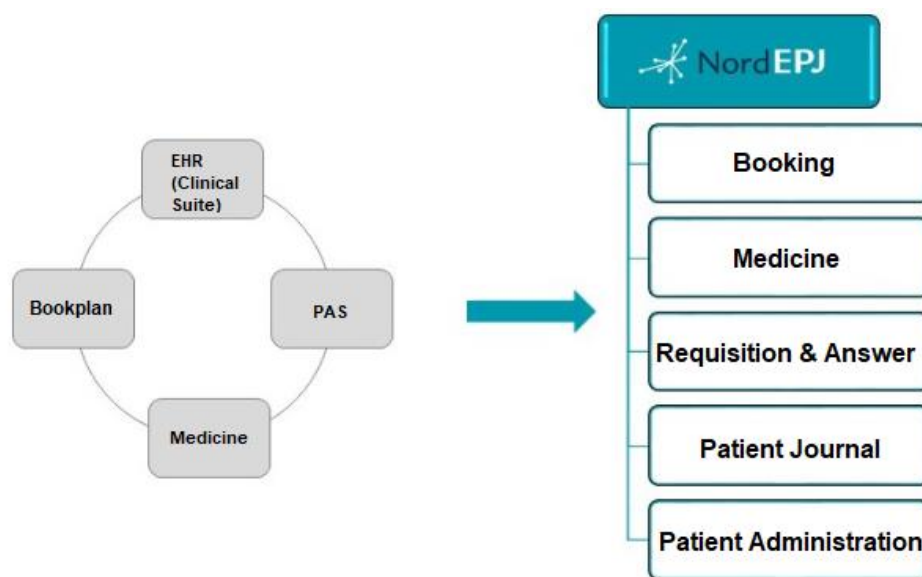


Figure 1: Illustrates the former EHR solution in connection with the other clinical IT-modules, Bookplan, PAS and Medicine, in contrast to NordEPJ where everything is integrated into the same system (Internal personnel site, personal communication).

Implementing the EHR in all the hospitals of Northern Jutland is a 121 million DKK project, which is carried out by the central IT-department of the region, DIT (Region Nordjylland, 2019a). The key assignment of DIT is to acquire, develop and support the IT-related health services within the region (Region Nordjylland, 2019b). The organisation is currently managing more than 70 projects, to which NordEPJ along with New Aalborg University Hospital, NAU, are the two largest (DigiTalt, personal communication, October 04, 2019). The former involves more than 118 people, from which seven have initially been appointed project managers. They are in charge of sub-projects, called project tracks within NordEPJ, in order to manage all of the different aspects of the system and its implementation. The project size, as well as the situation of procurement of the system, brings forward a new set of complexities of coordination and communication between all those involved. (PgM1, personal communication, February 26, 2020; Internal personnel site, personal communication)

By circumventing the tender proceedings, new assignments arose instead; reading and detailing out the contract from the Region of Southern Denmark for it to fit the needs of Northern Jutland. So, even though the contract officially states kick-off on the project to be at the beginning of October 2019, DIT decided to initiate an internal process start April 2019 to prepare for the collaboration and clarification of the more than 3000-page contract. The *preparation* phase lasted from 1 April 2019, to 31 September 2019, moving over into the *clarification* phase, to which the supplier entered into the process, discussing and explicating every element of the contract. Once all of the adjustments had been made in unison, the contract was to be signed, initiating the beginning of the following phase of *provisioning*, cf. figure 2. (Internal personnel site, personal communication)

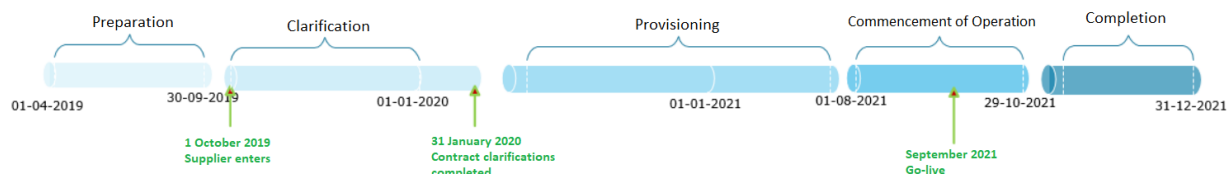


Figure 2: The original timeline for the implementation process of NordEPJ, stating the end of the project to be late 2021 (Internal personnel site, personal communication).

But the transition period between phase two and three ultimately prolonged due to the comprehensiveness of the contract, to which various elaborations, clarifications and negotiations were needed in order to reach an agreement. The extent hereof caused a month postponement compared to the original plan. Nevertheless, at the end of February 2020, the contract was signed, sealed and delivered, shifting the focus towards configurations, testing, education etc.

Besides the contract adjustments, the transition period had various other changes to offer. Due to the magnitude, one of the seven project tracks was split up into two separate, calling for yet another project manager to join the team, making a total of eight. The team of project managers was furthermore subject to multiple substitutions, ultimately resulting in four new employees joining the projects. Two of them are external consultants and entirely new to the project; the first joined in mid-February, and the second at the beginning of March 2020. (PgM1+2, personal communication, February 17, 2020) The clarification phase moreover resulted in an elaborated plan being released for the remaining project period before Go-live, consisting of smaller intervals with defined focus areas cf. figure 3.



Figure 3: The current and elaborated timeline and plan for the implementation process of NordEPJ illustrating the process up until the new Go-live date in March 2022 (Internal personnel site, personal communication).

On 2 March 2020, the implementation of NordEPJ was announced to be in March 2022, ultimately before the move to NAU, indicating yet another postponement, this time adding another six months to the project period (Internal personnel site, personal communication).

The implementation process is, furthermore, bound by contract to succeed that of the Region of Southern Denmark (PM2, personal communication, September 02, 2019), meaning any delays, including those connected to NAU, will influence the schedule of NordEPJ and potentially lead to the postponement of Go-live in Northern Jutland. The continuous flow of changes within the healthcare sector provides a challenging environment for project management where the postponements are at risk of influencing several of the succeeding implementations and ultimately the users' adoption of the new technologies and practices. The processes, therefore, have to account for possible contingencies which add additional layers of uncertainty to the assignment of managing projects and keeping up with the published plans.

2.3 NordEPJ Programme Structure

To run the implementation of NordEPJ, DIT has decided to apply a Programme Management inspired structure, which enables transformational changes within an organisation by coordinating, directing and keeping track of the interrelated projects. The programme is focused on delivering ongoing outcomes and benefits while the projects should deliver specific outputs or products to support the achievement of these defined benefits. (AXELOS, 2020a)

The programme management structure comprises three management roles:

- **A senior responsible owner** who ensures that the programme delivers the defined benefits
- **A programme manager**, the daily management of the programme which includes planning, allocation of resources and continuous coordination between the projects
- **A business change manager** supports realising the defined benefits through the transition of capabilities of the programme into the desired benefits and, in general, managing the organisational change process (AXELOS, 2020a).

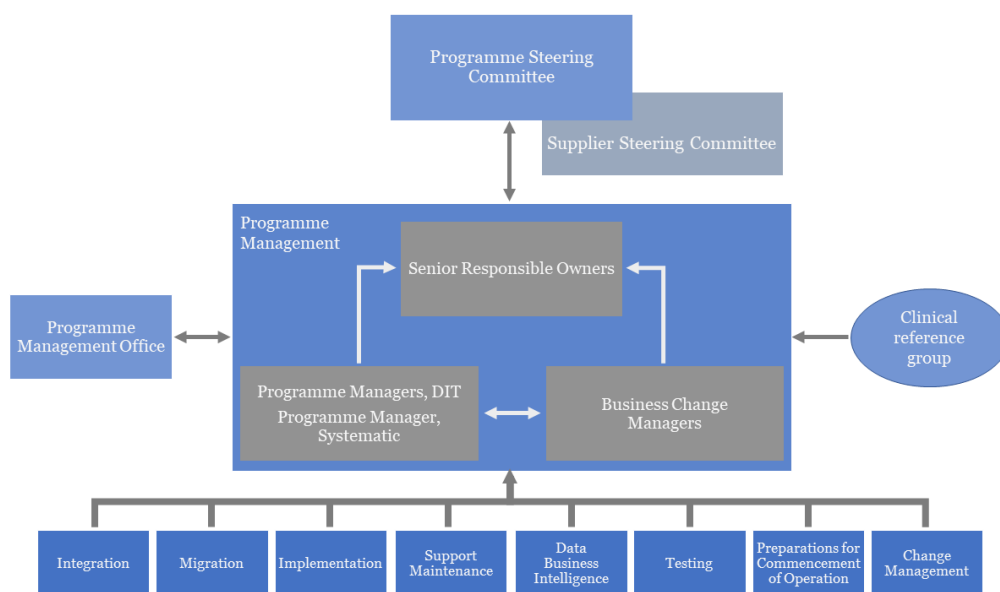


Figure 4: The organisational hierarchy of NordEPJ, including the appointed roles taking inspiration from the Managing Successful Programmes model (AXELOS, 2020a). The figure displays the relations between management layers.

As can be seen from figure 4, the NordEPJ programme adheres to the structure, however with a few adjustments, mainly regarding the number of individuals attending to the different roles. In NordEPJ multiple individuals have been appointed the same title, sharing the workload and responsibilities:

- The role of the senior responsible owner is shared between the CIO of the region, two IT-managers and a hospital representative
- The business change manager role is split between management representatives from the Regional Hospital of Northern Jutland [Regionshospital Nordjylland], Aalborg University Hospital and the Psychiatric Hospital [Psykiatrien]
- The programme management consists of two managers from DIT and one from Systematic (PgM1, personal communication, February 26, 2020).

On programme management level DIT has furthermore decided to establish two steering committees cf. figure 4, with representatives from the hospitals, DIT and Systematic (Internal personnel site, personal communication). And in correspondence with the suggestions from the latter, DIT has established seven project tracks, cf. table 1, albeit they have chosen to include an eighth track, Change Management, as an internal project, not suggested or co-managed by the supplier (PgM1, personal communication, February 26, 2020). Most projects refer directly to the programme managers, however, Integration, Implementation, as well as Data and Business Intelligence have specific steering committees. These should help decrease organisational complexity, provide support and supervision for strategic decisions.

Parallel to the NordEPJ programme in DIT, Systematic has an almost similar structure, though only appointing one programme manager and no one to work with change management. Furthermore, they have decided to appoint some project managers to be responsible for two project tracks instead of just one.

Project track	Main responsibilities
Integration	IT architecture Integrations with existing clinical systems Specification of requirements
Migration	Migration of data
Implementation	Education material Staff training System configurations
Support and Maintenance	System support Continuous system maintenance
Data and Business Intelligence	Data extraction from current systems Database management
Testing	Verification of configurations and installations Testing configurations System quality assurance
Preparation for Commencement of Operation	Prepare hardware Setting up servers
Change Management	Communication Managing stakeholders and organisational changes

Table 1: Overview of each project track's main responsibilities (Internal personnel site, personal communication).

Each track has individual responsibilities but is also co-dependent on each other: change management requires inputs from all of the others, while the test and integrations projects collaborate on the creation of test environments etc. To accommodate the concatenation, a coordination forum has been established where project and programme managers can discuss potential issues and plan accordingly. The necessity of these forums demonstrates strong structural organisational interdependencies between projects as well as across the layers of management.

2.4 The Project Management Model of DIT

Beyond the NordEPJ programme structure, DIT also has a project management model providing overall procedures for managing each project track. The idea of implementing a shared model had its tentative beginning when the five regions were established in 2007. A board of regional managers decided to implement a model with the internationally acknowledged *Projects In Controlled Environments*, PRINCE2, for public project management as a point of departure. The PRINCE2 model divides projects into well-established stages shifting the focus from activities to product delivery, with the aspiration of making project management more tangible and controllable, regardless of type and size (AXELOS, 2020b). Beyond the tangibility and ease of application, the decision was supported by the successful experiences from other public institutions in Denmark. Choosing a shared model should create conformity in project management within and between regional organisations, to which PRINCE2 certification courses for employees with management responsibilities were made accessible by the Region of Northern Jutland. Till this day, DIT is still providing the courses for their management-related employees, supplying tools and guidelines to support them in the daily operations. (Head of PMt, personal communication, March 04, 2020)

According to the Head of Project Management at DIT, implementing a shared model proved to be a challenge for the region, due to resistance towards standardisation of procedures, which resulted in a termination of the efforts. However, DIT continued relying on the principles of PRINCE2 and took it as a starting point for developing an in-house model. Yet, they have departed from the extensive set of documents and instead decided to implement only some, combining multiple PRINCE2 documents into one or replacing these in correspondence with their specific needs. Furthermore, they have developed elaborative guidelines and templates to support project managers in project planning, status reporting, risk management and resource allocation. (Head of PMt, personal communication, March 04, 2020)

A central aspect where the model differs is in its overall focus. Where PRINCE2 mainly supports the projects in delivering products on time, DIT has turned its focus towards delivering long term gains and sustainability of organisational changes (Head of PMt, personal communication, March 04, 2020).

Albeit the overarching aim of implementing a model is to support the project managers while increasing uniformity, DIT strives to make the model flexible enough to accommodate special needs. However, it has proved to be a complex process, figuring out how to make it useful in diverse contexts. To address this issue, workshops are held where project managers can provide inputs, thereby forming the basis for continuous development of the model, thus also illustrating a high degree of employee engagement.

In addition, project management is emphasised to include competencies for facilitation, resulting in DIT's decision to arrange courses, where project managers can train the techniques and learn how to provide feedback to others (Head of PMt, personal communication, March 04, 2020). By doing so, DIT addresses different aspects of project management combining specific tools and guidelines with hands-on techniques.

2.5 A Context for Project Management

The healthcare sector is continuously undergoing various digital changes providing DIT with a constant flow of tasks to undertake, calling for highly structured approaches to changes. Due to the complexity of the area, these tasks are often run remotely from the hospitals as either projects or programmes. This requires the related project managers to navigate within an area of a vast amount of different stakeholders, comprehensive organisational hierarchies, interdependencies, forcing them to take into account the needs of various organisations, users and colleagues. In the NorDEPJ programme, the structure provides the project managers with very specific channels to which they have to report or escalate problems; keeping them focused on their assigned project track. Furthermore, the organisation supplies a set of management tools which each individual can choose to build on. But besides a specifically chosen reference model and courses in facilitation, what more does project management entail? What options does a project manager have for keeping the participants engaged, accounting for the organisational interdependencies and implementing changes within a given timeframe?

2.5.1 Project Management Tendencies Within the Literature Review

To acquire more knowledge on project management and the related competencies, a structured literature review (App. A) was conducted. This included a search on three different scientific journals within the domains of project management, organisation and information technology.

Here the understanding of what a project manager should be capable of seems to vary concurrently with the changes in the surrounding environments of projects. To a point where project management appears to extend beyond merely certifications and standards, which have, otherwise, been central in the early years, but seem to have lost their relevance due to projects becoming increasingly complex (Winter, Smith, Morris & Cicmil, 2006).

Some of the articles point towards a distinction between *soft* and *hard* skills, where the former have gained interest in recent years, realising the projects differences and the increasing levels of uncertainty in the environment. New management approaches should, therefore, be adopted alongside, emphasising the soft skills, which include elements of:

- Understanding the culture, dynamics and individuals
- Creativity
- Leadership
- Team-building and communication on multiple levels (Stevenson & Starkweather, 2010, 2017).

Where, hard skills seem to represent more theoretical and domain-specific knowledge but not necessarily the practical application thereof, for example:

- Technical knowledge and expertise
- Project management bodies of knowledge and certifications (Crawford, Morris, Thomas & Winter, 2006).

Especially the early editions of PMBoK focus on skills which can be associated with those of the latter, as they include competencies such as quality assurance, risk management, staffing and administration (Chang & Torkzadeh, 2013; Thomas & Mengel, 2008; Wateridge, 1997).

Standards and certifications have been the starting point for assessing project management competencies, with PMBoK probably being the most famous. However, PMBoK has been under continuous development, with additional standards being published by the PMI since the first edition from 1996 (Thomas & Mengel, 2008). Later editions included an increased emphasis on ethics, team and stakeholder management (Thomas & Mengel, 2008) recently adding human resource management to the list as well (Dionisio, 2013).

PMBoK has a linear and rational approach, thus it does not account for improvisational and relational perspectives (Crawford et al., 2006; Thomas & Mengel, 2008). This produces a possible challenge to the PMBoK standard as it is often deemed inadequate and incompatible compared to reality and the complexities within (Crawford et al., 2006), lacking a general emphasis on “... the “softer” and more intuitive approaches to human activities...” (Thomas & Mengel, 2008, p. 306). To which Chang & Torkzadeh (2013) concluded that communication and relationship management were of higher importance than the PMBoK rationality behind resource management and administrative skills, such as project audit and contract management, amongst information system managers and professionals.

Loufrani-Fedida and Missonier (2015) also point towards *softer* skills, emotional intelligence (Thomas & Mengel, 2008), stress management (Müller & Turner, 2007), ethics and ethical virtues (Bredillet, Tywoniak & Dwivedula, 2015), being essential for dealing with project complexity, supported by the study of Stevenson and Starkweather (2017) ascribing project success to this type of skill. Together, these authors indicate a move towards competencies that somehow go beyond

current project management standards. But training and certification courses are still to a large extent based on the bodies of knowledge, and should, therefore, be regarded as an important aspect of project management. The internationally acknowledged models and standards are till this day an influential part of many organisations, with the Region of Northern Jutland being one of them. Yet, the increasing need to focus on the *softer* skills for dealing with contemporary challenges cannot be denied. A similar point also stressed in the research *Rethinking Project Management*; a relatively new contribution to the domain which proposes a shift in focus, moving from the narrow and linear management models towards a broader conceptualisation of projects. Moreover, highlighting the importance of reflective practitioners, inducing a movement where trained technicians, who can follow methodologies and use techniques within well-defined projects, evolve towards becoming reflective *in* and *on-action*. This transformation makes them able to learn, operate and adapt to complex environments. (Crawford et al., 2006; Winter et al., 2006)

Other researchers have termed a similar movement, using the concepts of *transactional* and *transformational leadership* (Müller & Turner, 2007), where the latter intends to inspire and motivate team members to be innovative and perform at their best; at times beyond expectations and formal agreements. The idea is that transformational leadership should be prioritised over transactional, which mainly stresses the fulfilment of contractual agreements between manager and team member (Thite, 2000).

2.5.1.1 Critique of Findings

The literature search has provided several terms and concepts within project management, which at first sight might seem comprehensive at explaining the related competencies. However, these are in many cases diffuse and lack clear explanations as several aspects are encompassed by the same concept, e.g. the multidimensional phenomena of creativity which has changed throughout time combining approaches within various disciplines. The lack of clarifications means that the concepts would be difficult to transfer and apply without extensive interpretation and modification, especially seeing as they are often overlapping or interrelated, for example regarding the *soft* and *hard* skills. Here we would argue that e.g. leadership, defined as a soft skill, cannot always be separated from the remaining set of competencies, establishing a conflict as the distinction becomes too vague.

The Rethinking Project Management research, however, marked out five interesting directions for further examination: in particular, the education of reflective practitioners through the use of mentorship where novices can become knowledgeable about the practice of project management. Yet, the research circumvents providing context-dependent knowledge of the real-life practice and thus seemingly becomes subject to the exact issue highlighted in the related articles: the offer of theoretically descriptive concepts too difficult to translate into normative action.

Additionally, the literature seems not to account for the human-technology relationships in project management, even though these have an ever-increasing impact on the dynamics of structuring and developing society. A dynamic society will inevitably affect project management, and it calls for concepts and frameworks which emphasise these processes.

Ultimately the project management literature and bodies of knowledge seem to fall short within a constantly changing and increasingly complex world; either due to the models being too linear and rational, creating a conflict between theory and practice or the related concepts being too vague and difficult to transfer into practice. And by not accounting for the human-technology relation they fail to account for a major driver behind the societal changes, thus affecting how projects are managed.

2.6 Uncertainties and Societal Challenges

It seems that projects and project management are complex enough on their own, so what happens when an additional layer is added to the equation? A roaring crisis with various societal impacts might challenge even the most well-defined projects.

The outbreak of the coronavirus disease, COVID-19, had its tentative beginning in China at the end of 2019. And on 11 March, it was declared a worldwide pandemic by WHO, based on confirmed cases of the COVID-19 disease in 114 countries with a total of more than 118,000 people having contracted the virus (Branswell & Joseph, 2020). The Regional Director of WHO/Europe, Dr Hans Henri P. Kluge rightfully stated that the situation was not expected to better over the following weeks, and precautionary actions were to be taken:

More and more countries are now experiencing clusters of cases or community transmission. We expect that in the days and weeks ahead, the number of cases and the number of deaths will continue to rise rapidly, and we must escalate our response in such a way as to take pre-emptive action wherever possible. Such actions may help to delay the pandemic, giving health-care systems time to prepare and assimilate the impact.
(WHO/Europe, 2020)

On the evening of 11 March, the Prime Minister of Denmark held a press conference announcing the shutdown of the entire country, closing all public institutions, schools etc. And thereby sending every public employee with *non-essential* jobs home for the following two weeks. This was one of many pre-emptive measures aiming towards keeping the spread of the disease at a pace where hospitals would not be overloaded with patients. (Boier, 2020) Additional measures were taken for preventing what turned out to be a very rapidly spreading of the disease; banning gatherings of more than 1000, then more than 100 ultimately stopping at more than 10 within less than two weeks, closing down bigger and smaller businesses, shops, restaurants and sporting facilities etc. On 23 March the shutdown was further prolonged until 13 April (Mansø & Tofte, 2020), and, on 6 April, the period was extended once again until 10 May (Ritzau, 2020) followed by a gradual reopening, which the government announced a longer-term plan for on 8 May (Regeringen, 2020).

Yet the element of uncertainty remains, as notices have been given for the potential return of the virus in fall 2020 (Sundhedsstyrelsen, 2020).

These injunctions resulted in all employees at DIT being sent home for a minimum of two and a half months apart from those hired to attend to the technical equipment, or whose physical presence was requested in other means. On the internal personnel news site, a post went up the day after the press conference, announcing that despite being sent home, all employees were still required to work, just in a different manner than usual. Here a set of guidelines was noted, pointing out that while working at home everyone should still attend to their regular tasks unless instructed otherwise. (Internal personnel site, personal communication, March 12, 2020)

Moreover, it stated that during the shutdown period, all employees had to be accessible via phone and email. Meetings were not to be cancelled but instead take place virtually, and everybody had to keep themselves updated on the personnel site for further information and/or instructions regarding the consequences of the pandemic. (Internal personnel site, personal communication)

What started as a health emergency is now also moving towards an economic crisis. And the unique situation forced upon the country required innovative and reflective thinking about how we can work together, separately. The challenges lying ahead for NordEPJ programme centre themselves around the question of how do you manage a multimillion DKK project with various project participants and several interdependencies between projects when you cannot be together in the same room?

3. Problem Statement

The NordEPJ programme is an example of a complex organisational structure with many layers of management and several interdependencies in-between and across the related project tracks within the programme. Additionally, the number of stakeholders and project participants underpins the fact that being a project manager can be demanding even with project management competencies and previous experience. So, what happens when a crisis strikes and Digitalisation and IT is forced to shut down and let their employees work from home? The NordEPJ programme cannot be put on hold. All layers of the organisation must do theirs to keep things running, but now with limited options for coordinating and communicating with colleagues. This thesis aims to provide an understanding of what characterises project management and how it is supported, especially when the work is carried out and mediated through the use of technology, by answering the following problem statement:

What characterises project management within the IT implementation process of NordEPJ and how is it supported in relation to maintaining the organisational interdependencies when obligated to work remotely?

3.1 Delimitations

The situation regarding the corona pandemic has constituted the basis for a new, critical research case. The aim of this study has, therefore, been to seize the unique opportunity of examining the potential impacts on the NordEPJ programme with a focus on project management. Nevertheless, the situation entailed certain limitations which went beyond our measures; face-to-face interviews and participant observations ceased to be an option five weeks into the study. It eliminated the possibility of achieving method triangulation and complicated the validation of what they say they do with what they do in practice, ultimately resulting in this study being solely based on the statements of informants.

The study involves the employees at DIT who are in the closest collaboration with the project managers of NordEPJ to get an understanding of their main role within the programme, albeit not the full structure and organisation thereof.

The presented claims of this study are not stated as true but as depictions of reality, and thereby potentially relevant and transferable to other studies and contexts.

4. Method

To conduct research on what characterises project management in NordEPJ and the obligation to work remotely, a methodological framework was developed, ultimately involving three different types of interviews: unstructured, semistructured and structured. Here the complexity of the organisation and NordEPJ became evident, from getting initial access up until ending the data collection. The application order of the methods illustrates the process of *problem-setting* (Schön, 1983): the establishment of the field, initiating the research by acquiring general knowledge about the organisation, thus being able to obtain a more structured approach providing specific knowledge. This resulted in the methodology undergoing constant development as more access and knowledge was acquired, thus illustrating how the construction of the framework became an iterative process. Ultimately, it presents the impact of externally imposed elements and how these were handled for the study to successfully proceed.

4.1 Case Study

To examine project management in practice, this thesis has its fundamental basis in a case study regarding NordEPJ, as “The advantage of the case study is that it can “close-in” on real-life situations and test views directly in relation to phenomena as they unfold in practice.” (Flyvbjerg, 2006, p. 235). The case study makes it possible to get an insight into the lifeworld of the experts, the practitioners themselves, as “Context-dependent knowledge and experience are at the very heart of expert activity.” (Flyvbjerg, 2006, p. 222).

The case choice is based on the expectations regarding its information content, also called an *information-oriented selection* (Flyvbjerg, 2006), as we had prior knowledge of NordEPJ, its organisational structures and the number of involved project managers. We, thereby, sought to increase the utility of information achieved through a single case, by getting an understanding of what different aspects of project management are in play when dealing with the implementation of a new IT-system in healthcare. We consider the case to share its characteristics with Flyvbjerg’s (2006) *critical case*, due to the complexity of the NordEPJ programme, the challenges of implementing an IT-system in the healthcare sector with multiple stakeholders and diverging perspectives and especially given the new situation brought on by the pandemic. However, we assume the results of the present case can be compared with and applied to other cases with similar characteristics, but also be relevant for those who only share a few. (Flyvbjerg, 2006)

4.2 Getting Access

To get access to DIT we set up a meeting with the deputy office manager of Strategic Digitalisation, with whom we have already had contact regarding prior semester projects and who was interested in continuing the partnership. During this first meeting, we discussed the initially proposed ideas

for collaboration and the practicalities, such as who would be the gatekeepers for different perspectives; focusing on either project management or the implementation process regarding user involvement. Constructing the field of research was a matter of identifying areas and potential challenges where techno-anthropological perspectives could provide substantial contributions in the spirit of reciprocity. We weighed the pros and cons of the ideas while taking our collective experiences into careful consideration: the perspective of project management was more atypical since we have most often focused on improving the implementation processes regarding the clinical personnel, for whom DIT is a service provider. Only having covered the area from one perspective, caused an intrigue as to how these processes might look from the managing viewpoint.

By choosing to focus on project management within NordEPJ it was logical to include the programme managers and have them weigh in on the research process. A meeting was then set up for discussing how and who it was possible to approach in terms of the project managers. Later on, this access was expanded to include the project participants as the fieldwork uncovered new perspectives where their input was essential. The process revealed various *zones of access* (Wulff, 2000) which we had to pass through to gather the data we needed to answer the problem statement:

1st zone of access: DIT, Strategic Digitalisation

- Gatekeeper: the deputy office manager
- Access: acquired by prior collaborations with the organisation

2nd zone of access: the NordEPJ programme

- Gatekeeper: the programme managers of NordEPJ and the programme office manager
- Access: acquired by prior collaboration, followed by two meetings, discussing possible perspectives and the initial course of action

3rd zone of access: project management within NordEPJ

- Gatekeeper: the NordEPJ programme and project managers
- Formal access: acquired by the programme managers notifying the project managers about the collaboration followed by us reaching out directly. The formal access did not automatically result in their participation and we experienced difficulties in establishing contact
- Informal access: gained by establishing a relation, being accepted as researchers, and/or as students interested in their professional knowledge and wanting to learn from them

4th zone of access: the project participants

- Gatekeeper: the programme managers of NordEPJ
- Access: acquired by reaching out to the programme managers for their acceptance of the idea, and they then involved the project managers for appointing potential informants within their teams.

Access to the four zones happened gradually, as our knowledge and needs for further insights progressed throughout the research process. The first two zones did not require extensive work to pass through, as a relationship to gatekeepers had already been established, due to prior collaborations as well as the 9th-semester internship of one of the group members. But the third zone contained barriers as a result of both busyness and a turnover of labour, where two project managers were being substituted, either due to a change in job or DIT replacing an external consultant with an internal employee and a third was newly hired. The gatekeepers of this zone, with whom we had already formed a relation quickly agreed to participate. But those who were new were more hesitant and required us to reach out multiple times, where to some were too busy to even respond, indicating a tendency of the closer the relationship the higher the willingness to allocate time for participation.

Fortunately, the participating project managers passionately shared insights when faced with two master students eager to learn from their professional expertise, thereby compensating for the unrequited requests.

The fourth zone of access turned out to be even more intricate, as the programme managers had to approve the request to include the project participants in the study as well, and had the project managers involved in the decision and selection of individuals connected to their project track. This prolonged the process of acquiring informants and therefore also extending the data collection period beyond our initial plan.

4.3 Interviews

This section covers the empirical grounds on which the study is built. It presents the methodology of different types of interviews chosen and conducted for exploring the field of project management within the case of NordEPJ, its organisational constraints and structures as well as the more personal experiences and opinions of the people involved.

4.3.1 Unstructured Interviews

Unstructured interviews are based on a clear plan that you keep constantly in mind but are also characterized by a minimum of control over the people's responses. The idea is to get people to open up and let them express themselves in their own terms, and at their own pace. (Bernard, 2006a, p. 211)

For three of the interviews, we took on a more unstructured approach, discarding the formal structure and letting the informants be the experts whom we were there to learn from. This helped even out the power balance of the interview, passing through the initial stage of *apprehension* (Spradley, 1979). As the informants relaxed, the road was cleared for *exploration*, getting to know each other and how to ask and answer questions for them to be interpreted correctly, paving the way for easier *cooperation* (Spradley, 1979). Ultimately creating an open forum for sharing

thoughts and new ideas that just popped up during the conversation, on which we could build the interview further.

In preparation, we had established a theme and written a list of related questions, a few of which we sent out to the informants for them to prepare. We would then start with a broad, *experience question* (Spradley, 1979), such as *“What is your experience with project management?”* leaving the interviewee to initially decide the depth and direction. Along the way, we probed and asked follow-up questions to achieve elaborations or to open up for other interesting perspectives which suddenly emerged.

From the unstructured interviews, we gained insight into the research area on which we were operating, thus providing a framework for and a direction of the study:

- *The 1st interview* was with the programme managers¹⁺² and the programme office manager. The interview regarded the general topic of project management and how it connects with the programme management role within NordEPJ
- *The 2nd interview* was with programme manager¹ on the topic of NordEPJ programme. The interview was set up to bring us insights into the specific organisation and structures, providing a better understanding of how all of the actors involved are connected
- *The 3rd interview* was with the head of project management. The interview primarily focused on their project management model and how it came to be. Furthermore, we wanted to learn more about the organisational structures of project management within DIT and thereby get a better understanding of what is optional and obligatory requirements for the project managers, seeing how they characterise their role.

During these interviews, the overarching structures and dynamics of NordEPJ and project management were elaborated and gave a thorough understanding of how these potentially influence the project manager role. Moreover, the output of the initial meetings and the unstructured interviews constituted the basis for the following semistructured interviews.

4.3.2 Semistructured Interviews

*“It demonstrates that you are fully in control of what you want from an interview
but leaves both you and your respondent free to follow new leads.”*

(Bernard, 2006a, p. 212)

Initially, we decided to conduct more formalised semistructured interviews based on an interview guide (App. B) and with a recording device present to transcribe everything afterwards. This interview approach was the most appealing, as it balances control and spontaneity; allowing us to stray from the interview guide as needed, but not too far, displaying professionalism and establishing our role as researchers in the field. (Bernard, 2006a)

But at the first interview, we became aware of how this more formally structured interview provided an unnatural setting, ultimately obstructing the data collection and leaving us without an official answer to some of the questions we had prepared. We then realised that some of the questions revolved around a potentially sensitive subject which the project managers might not be too keen on making official statements about. As this was neither what we needed or wanted to get out of the questions, it was time for a strategic change.

For the following three interviews, we then focused on making the interview situation more informal, leaning towards an ethnographic conversation to which we discarded the recorder and decided to both partake in the dialogue. To still be able to reference and quote the interviewee, we decided to collectively take notes online, getting as close to a transcript as we could while still being present and engaged in the conversation, cf. section 4.3.3.

The adjusted approach seemed to correspond nicely with the role of a student, being a novice in the field of project management and it had the informants relax, reflect and engage with us with the notion of providing insights into their lifeworld. This kept them from focusing on saying the right things, thinking that we might make them look bad in the eye of the public if not. The new and adjusted setting provided a more intimate atmosphere for the conversation, giving the interviewees the courage and willingness to open up, showing more of their personality, which potentially provided us with a deepened knowledge of the research area.

Due to the unexpected circumstances of the pandemic, the organisation of DIT closed down for two and a half months, suddenly abruptlying our ethnographic studies. Despite all employees being sent home, we managed to transition our scheduled arrangements in week 11, from physical meetups to technology-mediated interviews via the telecommunications application Skype. This, however, did not seem to change the outcome albeit emotions and body language could not be interpreted.

"Semistructured, or in-depth interviewing is a scheduled activity. A semistructured interview is open ended, but follows a general script and covers a list of topics."

(Bernard, 2006a, p. 210)

By conducting the interviews in a semistructured manner, it was possible to fit these into the tight schedules of the project managers, not taking up too much of their time. The balanced frame led us to try various probing techniques, stimulating the respondents to provide us with further information on a matter, as well as steer the conversation back after regressions. Having informants more or less engaged in the interviews put these techniques to the test; in some situations, it was found relevant to follow emerging perspectives, as these might help us unveil unknown grounds of project management, but it could also lead to blind alleys occupying time for topics that would have proved more relevant.

Initially, the plan was to conduct interviews with all of the project managers. But as plans go, they always seem to change. As four of the project managers were newly assigned to NordEPJ, their primary focus was on their assigned project track, reading the contract and getting acquainted with the structural proceedings of management, which ultimately left little or no room for additional interference. After struggling with setting up the last four interviews, three of which were the new project managers, we began to consider the notion of only needing to consult some of them. So far in the process, there were no obvious dissenters which we needed elaborations on and the data set was already quite comprehensive. Then the coronavirus struck, providing us with a critical and relevant problem of working remotely, which triggered an interest and curiosity regarding how this was even possible, especially within a programme like NordEPJ. Ultimately, we decided to do follow-up interviews (App. C) with two of the project managers, still via the use of communication technologies, to touch upon the current challenge they were faced with.

“If people say that they really don’t know enough to be part of your study, assure them that their participation is crucial and that you are truly interested in what they have to say.” (Bernard, 2006a, p. 215). Both the format and our approach regarding the informants were very much enclosed by the notion of assurance. With so many things going on, it became evident to us that we needed to equally stress to and reassure the informants that their point of view was highly relevant and crucial for our study and that we aimed to provide useful insights to the field in return.

4.3.3 Field Notes

During the verbally conducted interviews and meetings, we used computers to jot down field notes consisting of the answers, quotes and details about the subject for future reference. We were, therefore, leaning towards the approach of *direct observations* where you watch and record people’s behaviour on the spot, combined with *continuous monitoring*, recording a situation as faithfully as possible (Bernard, 2006d). This was followed up by writing elaborated *descriptive*, *methodological* and *analytical* field notes (Bernard, 2006b) after the end of each session to sustain a high level of detail, which enabled an adequate substitution for transcripts, keeping the informal atmosphere in focus and the apprehension at bay.

4.3.4 Structured Interviews Part 1

After having interviewed the programme managers and two of the project managers it became evident to us that something was missing, and after conducting yet another three interviews with individuals sharing a title with the latter, this problem was further emphasised. We needed to shed light on all the different angles of project management within NordEPJ and to do that, we had to expand our focus to the project participants, as these are the people working under the conditions established by each project manager and the organisational structures. Due to the circumstances and busyness of the employees, our options were quite limited and we had to get permission from the programme managers for extending the study further. Ultimately, we planned to construct a structured, self-administered interview consisting of nine questions for reflection (App. D), which

optimally was to be sent out by email to two participants from each project track. The questions requested their reflections on project management, working remotely, having limited possibilities for communication at hand and hereby related benefits and issues.

The project participants were carefully selected by their connected project manager, and one of them reached out to clarify what would be the best fit for the study: someone with a close connection to NordEPJ or not? Here we opted for someone, who had been a central part of the project and thereby was capable of answering our questions with specific situations and needs in mind. We sought to get a broad representation of the actors involved in NordEPJ but also needed the informants to be able to reflect on concrete examples of how the situation changed from before the lockdown to now.

Proceeding with this type and format, the interview would allow the informants to answer whenever they had time for it as well as give them time for reflection potentially providing us with deeper insights and more thought-through answers. This was important given our limited access to them, making it difficult to set up follow-up interviews if anything was found to be unclear.

4.3.4.1 Limitations

There is no perfect data-collection method. However, mailed or dropped off questionnaires are preferable to personal interviews when three conditions are met: (1) You are dealing with literate respondents; (2) You are confident of getting a high response rate (at least 70%); and (3) The questions you want to ask do not require a face-to-face interview or the use of visual aids such as cue cards, charts, and the like. (Bernard, 2006c, p. 264)

Conducting interviews via e-mail has both its merits and its drawbacks. Some of the disadvantages include the potential for bias, a higher risk of questions left unanswered and the participants not reflecting thoroughly on the subject, giving superficial or even dishonest answers. Nevertheless, in this situation, we tried to cover our grounds, by having the project managers seek out interested and potential informants, who then accepted to partake in the study even before receiving the questions.

Taking Bernard's advice into consideration, we deemed criteria one and two to be covered, whereas the last condition formed the basis for the preparation of questions for the interview.

Unfortunately, various complications occurred along with the crisis, causing new difficulties; the work of some teams barely got started and various participants suddenly had to attend to new tasks within DIT, leaving the remaining team with an increased workload. Ultimately, this resulted in only four project tracks being able to spare the time of a few of their participants, where some even reappeared within two tracks, and others never responded; leaving only three out of six available participants returning their answers.

4.3.5 Structured Interviews Part 2

Being much interested in the aspect of change and the impact of technological mediation of project management, we opted for additional, smaller, email interviews with the programme managers as well as the remaining project managers, whom we did not conduct follow-up interviews with. The choice was made based on the lack of responses from the latter, presumably due to busyness, meaning that semistructured interviews might be too time-consuming at the moment.

The interview consisted of two questions where we encouraged reflection upon the situation of working remotely and its pros and cons. The format and the limited number of questions allowed for them to allot time within their tightly packed schedules where the Easter holiday occupied a week as well.

4.4 Validity and Triangulation

Interviewing is a great way to learn about attitudes and values. And it's a great way to find out what people think they do. When you want to know what people actually do, however, there is no substitute for watching them or studying the physical traces their behavior leaves behind. (Bernard, 2006a, p. 413)

As Bernard states, observations are the optimal way of determining people's practices. It might, therefore, be logical to assume that the interviews have brought forward only some aspects of reality. Unfortunately, due to the circumstances surrounding the study, the option for conducting participant observations ceased to exist. Initially, we wanted to get acquainted with the programme and have a better understanding of the project managers' work before attending various (team, status, programme) meetings. But the situation left little or no room for action, as no meetings occurred from the moment when we deemed to have enough data to understand the field until the lockdown. And as this happened in phases of two, then three weeks and so on, we had no way of planning the online ethnographic fieldwork, not knowing if the lockdown would continue or not. Moreover, public holidays did not make matters easier.

A new approach was called for to increase the validity of the study, gaining a more realistic depiction of what characterises project management within NordePJ. We, therefore, chose to include the views from different groups of actors involved in the programme, focusing on *data triangulation* instead of *method triangulation* (Flick, 2007).

... triangulation (of different methods or data sorts) should allow a principal surplus of knowledge. For example, triangulation should produce knowledge at different levels, which means they go beyond the knowledge made possible by one approach and thus contribute to promoting quality in research. (Flick, 2007, p. 43)

Data triangulation focuses on utilising different sources of data for elucidating the phenomenon in question, where method triangulation focuses on using various methods for data production (Flick, 2007). The data triangulation allowed us to view project management from different perspectives, identifying similarities, dependencies or dissimilarities of their perceptions.

5. Fieldwork Synthesis

The following summarises the ethnographic fieldwork, providing an understanding of its extent; how many people were involved, who are they in a general sense and when did we have contact with them?

Table 2 presents an overview of the number of informants involved in the study, illustrating their different roles within DIT and the NordEPJ programme, highlighting different perspectives included in the examination of the phenomenon of project management.

Informants	Quantity
Head of Project Management	1
Deputy Office Manager/Programme Office Manager, NordEPJ	1
Programme Manager, NordEPJ	2
Project Manager, NordEPJ	7
Project Participant, NordEPJ	3
Total	14

Table 2: An overview of the groups of informants involved, categorised according to their position within DIT/NordEPJ and the quantity hereof.

As the access to the different zones, and thereby groups of NordEPJ employees, was gained gradually, the data collection period proceeded over three months: February, March and April, cf. figure 5.

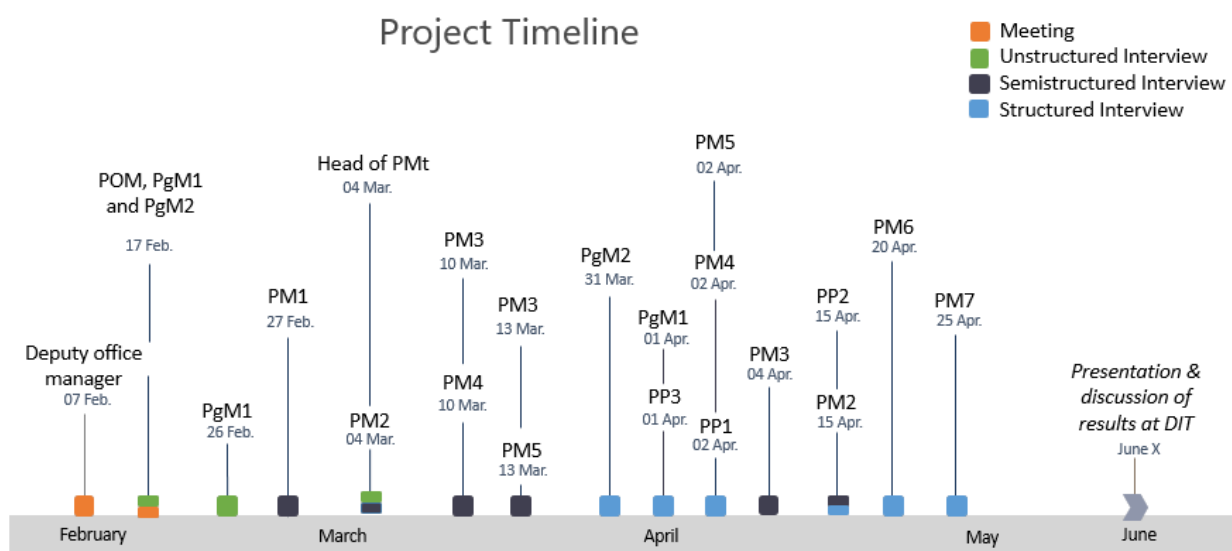


Figure 5: The project timeline displaying relevant activities regarding the data collection; two meetings and the different types of interviews adding up to 20 in total. Here the abbreviations from in-text references are used; PP: project participants, PM: Project Manager, PgM: Programme Manager, POM: Programme Office Manager, PMt: Project Management.

From the project timeline, it can be seen that the various interviews have been conducted in phases; initially, we conducted unstructured interviews to get a broader understanding of the research area, then narrowing the focus down with the semistructured interviews, which took its point of departure from the knowledge gained in the former.

Ultimately, we turned towards a very structured approach, where informants got to answer solely predetermined questions but at their own pace, resulting in a larger sample within a shorter amount of time.

In table 3, an overview of when and with whom the different interviews took place along with the duration hereof, can be found. The table displays how 11 interviews were conducted within two months with a total of eight informants.

Type of interview	Date	Informant(s)	Duration, ≈ min
<i>Unstructured</i>	17/02-2020	NordEPJ Programme Manager1+2 + Programme Office Manager	30 min.
<i>Unstructured</i>	26/02-2020	NordEPJ Programme Manager1	60 min.
<i>Unstructured</i>	04/03-2020	Head of Project Management	90 min.
<i>Semistructured</i>	27/02-2020	NordEPJ Project Manager1	35 min.
<i>Semistructured</i>	04/03-2020	NordEPJ Project Manager2	60 min.
<i>Semistructured</i>	10/03-2020	NordEPJ Project Manager3	45 min.
<i>Semistructured</i>	10/03-2020	NordEPJ Project Manager4	60 min.
<i>Semistructured</i>	13/03-2020	NordEPJ Project Manager3	60 min.
<i>Semistructured</i>	13/03-2020	NordEPJ Project Manager5	90 min.
<i>Semistructured</i>	04/04-2020	NordEPJ Project Manager3	35 min.
<i>Semistructured</i>	15/04-2020	NordEPJ Project Manager2	60 min.
Total	11	8	625 min

Table 3: An overview of the unstructured and semistructured interviews, 11 in total, the duration measured in minutes, as well as the date of the arrangement and the involved informants.

The last month of ethnographic fieldwork focused more intensely on the structured email interviews, whereto table 4 presents an overview. Emails for the project participants were sent out on 31 March, where the programme and project managers received theirs on 31 March and 1 April respectively. Solely including those we had not had interviews and/or follow-ups with, regarding the situation of working remotely, bringing forward a total of nine structured interviews.

Ultimately the study included two initiating meetings and 20 interviews; three unstructured, eight semistructured and nine structured.

Structured Interviews	Respondent
<i>NordEPJ Programme Managers</i>	PgM1
	PgM2
<i>NordEPJ Project Managers</i>	PM4
	PM5
	PM6
	PM7
<i>NordEPJ project participants</i>	PP1
	PP2
	PP3
Total	9

Table 4: An overview of the nine structured email interviews conducted following the crisis.

6. Theory

To understand the comprehensive network of actors and their involvement in NordEPJ, the basis of the theoretical framework is constituted by actor-network theory, ANT, where the extensive vocabulary provides the grounds for displaying and explaining the relationships between actors as well as how they evolve.

6.1 Actor-Network Theory

ANT emanates from the work of sociology, reimagining the concept of an actor and how the *social* and the *society* is constructed. According to Bruno Latour, ANT is opposed to the perception of the social as a domain, by instead characterising it as a movement or transformation where actors are brought together in a different way (Latour, 2005a). The development of ANT had its tentative beginning with Latour's *laboratory studies* in the late 1970s and 80s, which confronted the broadly acknowledged idea stated by the British novelist and scientist Charles Percy Snow (Encyclopedia Britannica, 2020) on how the social and natural sciences were two radically different cultures. Through ethnographic studies, Latour showed how natural science and its products are results of socio-technical processes involving various apparatus. The laboratory studies thereby identified relationships between science, technology and society, stating that scientific facts evolve through associations between humans and artefacts, thus also indicating what later became a central topic in the development of ANT. (Olesen & Kroustrup, 2007)

Beyond knowledge production, ANT is also concerned with understanding the processes of societal and technological arrangements as well as innovation. However, taking a new approach to comprehend society, it also disassociated itself from traditional sociology by critiquing the lack of non-human entities in their explanations of society. According to Latour and other contributors to ANT, these have a significant influence on social interactions. They, therefore, propose that by perceiving the social as constructions of relationships between heterogeneous actors, humans and non-humans, the variety of aspects that support the social ties, interactions, and the inclusion of new actors for ongoing development can be unveiled: "Social action is not only taken over by aliens, it is also shifted or delegated to different types of actors, which are able to transport the action further through other modes of action, other types of forces altogether." (Latour, 2005a, p. 70). John Law, another leading contributor to ANT, stresses that the inclusion of heterogeneous actors is necessary to constitute a *society*:

... the argument is that we wouldn't have a society at all if it weren't for the heterogeneity of the networks of the social. So in this view the task of sociology is to characterise these networks in their heterogeneity, and explore how it is that they come to be patterned to generate effects like organisations, inequality and power. (Law, 1992, p. 381)

Thus, it is a matter of exploring the arrangements in the network; how different actors shape and influence each other, as well as how the combination of actors enables action, thus changing and developing the network. According to ANT, all actions are results of the network, including the attributes we often ascribe to the actors, as these will only occur in relation to or in combination with other actors (Law, 1992):

The argument is that thinking, acting, writing, loving, earning - all the attributes that we normally ascribe to human beings, are generated in networks that pass through and ramify both within and beyond the body. Hence the term, actor-network - an actor is also, always, a network. (Law, 1992, p. 383)

Exploring and explaining the *social* from an ANT perspective emphasises specific elements and suggests ways of approaching the studies of the actor-networks. The main aspect is *symmetry* (Latour, 2005a), which in ANT terms means that humans and non-humans should be granted equal status. None of them is superior to the other and both can act and induce action: anything that can modify a state of affairs is an actor (Latour, 2005a). If they take part in the network, however without performing or causing action they are instead labelled *actants* (Latour, 2005a). Using both symmetry and heterogeneity as concepts might seem incommensurable, however, heterogeneity refers to the human and non-human actors taking different forms, while symmetry emphasises the equality between them regarding their ability to act.

Over the years, the essence of ANT has been reduced to the slogan: *follow the actors* (Latour, 2005a). And this should be the guiding principle for understanding the network and continuous changes regarding stability and durability (Latour, 2005a). Insights into these processes can be supported by applying additional concepts from the ANT literature.

6.1.1 ANT Concepts

Aside from the previously defined concepts, ANT provides additional terminology for defining and interpreting the infrastructure of assemblages. A selection hereof has been determined to be suitable for the case of NordEPJ, explaining what constitutes the network and the dynamics between actors that influence project management as well as the entire NordEPJ programme.

One of the central concepts is that of translation, which is described as "... a verb which implies transformation and the possibility of equivalence, the possibility that one thing (for example, an actor) may stand for another (for instance a network)." (Law, 1992, p. 386). There are said to be four moments of translation: *problematization*, defining the problem and identities of the necessary actors; *interessement*, the actions for imposing and stabilising the defined identities through problematisation; *enrolment*, the actors accept the various definitions and enrol themselves by creating relations to proceed; and finally, *mobilisation*, ensuring that spokesmen represent individual actors, making them act in unison (Callon, 1986). When the problem has been defined and all actors enrolled, a network has formed for dealing with the issue at hand. And as long as these actors continue to accept and carry out their role, the *stability* of the network remains, which

will be further strengthened when the final moment of translation has taken place, where one or more actors have acquired "... authority to speak or act on behalf of another actor or force." (Callon & Latour, 1981, p. 279), ultimately becoming spokesmen. Examples of translation could be a text representing the author, while a meeting summary can act as spokesman representing the meeting participants; though translations and spokesmen can express themselves in different ways as they are "... contingent, local and variable." (Law, 1992, p. 386).

In an ANT network, all actors are isomorphic meaning that they are ascribed the same value. But an actor can *grow*, meaning that they can transform from being a *micro-actor* to a *macro-actor*, by *black-boxing* relations; "A black box contains that which no longer needs to be reconsidered, those things whose contents have become a matter of indifference." (Callon & Latour, 1981, p. 285). Examples of elements which can be black-boxed are modes of thoughts, objects and habits. However, black boxes cannot at any time be cut off from reconsideration, thus they are never fully closed, meaning that they continue to leak, "... but macro-actors can do *as if* they were closed and dark." (Callon & Latour, 1981, p. 285). The leaking black boxes constitute a constant challenge of negotiation, translation between all actors, trying to keep them closed. But the macro-actors do not have to do so with the same intensity as the others, "They can go on and count on a force while negotiating for another. If they were not successful at that, they could not simplify the social world." (Callon & Latour, 1981, p. 285).

The concepts *mediator* and *intermediary* too can be used for interpreting the dynamics of the social world and how relations between actors evolve in various ways. The concepts appear throughout the literature, however with different meanings. Here, the two concepts will rely on Latour's description. In a Latourian sense, "Mediators transform, translate, distort, and modify the meaning or the elements they are supposed to carry." (Latour, 2005b, p. 39) and can be counted as one or several actors. The input and output of mediation are not equivalent, forming a contrast to the intermediary which "... transports meaning or force without transformation: defining its inputs is enough to define its outputs." (Latour, 2005b, p. 39). The process of formulating talk into text is an example of mediation while distributing the text to other actors is an example of it being an intermediary.

In this thesis, ANT is used (as a mediator) to get insight into the dynamics surrounding the organisation, technologies and humans connected to the phenomena of project management. The focus is turned towards understanding the important actors and controversies involved in the process of working on a complex project as well as how the network might change as a result of suddenly having to work together remotely. Thereby initiating translation processes where current practices must be reorganised and new alliances formed to regain a stable network. The current situation may help *reverse black-boxing* the concept of project management, bringing hitherto unforeseen, thoroughly black-boxed, processes out into the light. And by the introduction of new actors to the network, the centrality may shift, bringing attention to what and who might play an important part in stabilising the networks, and for comprehending the concept of project management up close and from afar. ANT brings forward a terminology which can be used to

describe the effects of the network, the mediation of actions and how processes seem to be taken for granted when things are working as intended; providing clear definitions of concepts as well as dynamic and temporal perspectives, aspects not accounted for in the project management literature. But to fully comprehend these network effects and interpret their meaning, additional theories and concepts will complement ANT when needed in the analysis to elaborate on the causes and outcomes of specific situations unravelling during the data collection.

7. Analytical Approach

The chosen methodological approach resulted in a large set of data and it was deemed ineluctable to perform a structured analysis for obtaining a clearer overview and connecting the various parts.

7.1. Procedure for Data Analysis

By utilising Braun and Clarke's method of thematic analysis, it was possible to identify, analyse and report themes within the dataset. The thematic analysis constitutes a flexible research tool for a rich and detailed account of the data, such as unveiling participants' experiences or examining the effects of discourses and dynamics in society. Braun and Clarke have identified six phases of analysis, cf. figure 6 and it covers the process of becoming familiar with the data, which enables the researchers to begin the initial coding which along the way evolves into patterns to follow. These will, in the end, comprise the themes of the dataset prepared for a structured presentation of its contents. (Braun & Clarke, 2006)

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Figure 6: The six phases of a thematic analysis according to Braun & Clarke (2006, p. 87).

By coding the data, analytical elements inherently started to appear, causing the process to be iterative and agile in which phases might have overlapped and been reiterated.

7.1.1 First Phase: Familiarising Yourself with Your Data

After writing field notes for each unstructured and semistructured interview, the data was read through to fill in potential gaps, make methodological and analytical notes accordingly. This was followed by a re-reading of the data where summaries were constructed containing the initial ideas on the analysis.

7.1.2 Second Phase: Generating Initial Codes

To code and collate interesting features across the dataset the qualitative data analysis software NVivo12 was employed. Here passages were coded in a text-oriented manner, sentence by

sentence and/or when possible paragraph by paragraph; keeping it close to the original phrasings, where to memos (App. E) and descriptions (App. F) of the codes were logged accordingly. These additional tools functioned as a point of reference during the continuous coding process, making sure that codes were applied according to their original objective.

7.1.3 Third Phase: Searching for Themes

As the codes increased in numbers, themes and/or categories began to come together, providing additional structure to and an overview of the extensive analysis process. These were mostly based on the overall themes of the study, which were divided into three in accordance with the problem statement and the topics covered during the interviews:

1. Definition of project management
2. The organisational interdependencies before the crisis
3. The organisational interdependencies after the crisis.

7.1.4 Fourth Phase: Reviewing Themes

When reviewing the themes an extensive and iterative process began. The identified themes proved too wide at first, not going into details defining the organisational interdependencies. It was, therefore, deemed necessary to specify these further and *the physical environment, the social dynamics, as well as the NordEPJ programme structure*, started to emerge from the dataset, ultimately generating the thematic map:

- Definition of the good project manager
- The organisational interdependencies before the crisis
 - *the NordEPJ programme structure*
 - *the physical environment*
 - *the social dynamics*
- The organisational interdependencies after the crisis
 - *the NordEPJ programme structure*
 - *the physical environment*
 - *the social dynamics*

7.1.5 Fifth Phase: Defining and Naming Themes

Throughout the thematic analysis, codes and themes underwent an iterative review process (App. E), making sure that the dataset had been reviewed according to the newly constructed codes and themes, with the aim of consistency.

During the ongoing analysis, it became evident that the network of project management within NordEPJ was tightly interwoven, thereby proving it difficult to strictly define and ultimately collate the more than 200 created codes in relation to the defined themes. Seeing as the newly defined specifications overlap due to their co-dependency, it means that they would lose their

meaning if separated. It, therefore, became necessary to construct categories for each theme, generating a new map of the analysis accounting for these relations and highlighting the selected extracts of the dataset cf. table 5.

Chapter	Category	Definition
Results	Project management	Informants' definitions in terms of competencies and assignments within NordEPJ
Analysis	The Nord EPJ programme	Practices and structures related to how the NordEPJ programme is organised
	Daily structures	Practices and routines when working at the office and from home
	Formal meetings	The meeting forums in the NordEPJ programme for coordination and collaboration
	Informal conversations	Small-talk, sparring, relations to colleagues, joint coffee breaks/meetings
	The project management model	The project management model and how it supports the project managers
	Documentation and knowledge sharing	Guidelines for documentation and how knowledge is shared within the programme
Discussion	Maturity	Organisational maturity and continuous development of procedures

Table 5: Themes and categories connected to form the thematic map of the analysis.

Each category contains elements of the overall themes, juxtaposing the before and after the crisis in regard to the interdependencies and how they are affected by this change (The daily structures, the social dynamics and the programme structure).

7.1.6 Sixth Phase: Producing the Report

Based on the final iteration of the coding and thematising process, the ground has been established for answering the problem statement, analysing the selected extracts and ultimately discussing the findings.

8. Results

To ease into the analysis of the network before and after the crisis, the characteristics of project management, defined by those practising it and the actors closely surrounding them, is presented. By defining characteristics and thereby also the competencies of project management, endowed within the related actors, the actions constituting them within the NordEPJ can be determined and their identities defined.

8.1 Empirical Findings

What is project management and what defines the competencies of a good project manager? These two questions were asked and answered primarily before the pandemic caused potential changes to the practice of project management, except for the project participants who received the questions during this period.

A general understanding of the phenomena among the actor groups includes very overall understandings of collaboration and communication. But when diving deeper into the interviews, reverse black-boxing the term of project management, further nuances were uncovered. The common characteristics or the main points defined by each actor group is, therefore, initially presented and followed by text boxes displaying individual nuances on the matter.

8.1.1 The Programme Office Manager

During the initial meeting and the following interview, the programme office manager stated that project management is the professional backbone of the related role, not prior experiences or knowledge within a certain area of expertise.

Assignments and competencies	Examples from the interview(s)
<ul style="list-style-type: none">• A balancing act between three aspects:<ol style="list-style-type: none">1. <i>DIT's project model</i>2. <i>General recommendations</i>3. <i>PM's preference</i>• Direct and distribute work• Specialists in project management• Specialists in the final spurt• Quick to attain new knowledge	<p>"They are not in the same way bound by their professional expertise. Project management is their expertise when they have that role - position in a project."</p> <p><i>(POM, personal communication, February 17, 2020)</i></p> <p>"It is the employees [project participants] that have to make sure that they reach their goals, but the project managers that have to plan and structure the work."</p> <p><i>(POM, personal communication, February 07, 2020)</i></p>

8.1.2 The Head of Project Management

The head of project management within DIT noted that project management as a methodology consists of both management and leadership, to which it can be utilised within various types of projects. This was further elaborated by pointing out the specific competencies:

Assignments and competencies	Examples from the interview(s)
<ul style="list-style-type: none"> • Facilitation • Manage and lead • Managing stakeholders • Planning • Practice 	<p>“In terms of the methodology, you are able to work in the same way, even if it is a technical or implementation project.”</p> <p>“Venture to take on the role of being a project manager.”</p> <p>“We must be able to ask detailed questions but it is not us who must have all of the answers.”</p> <p><i>(Head of PMt, personal communication, March 04, 2020)</i></p>

8.1.3 The Programme Managers

In the view of the programme managers of NordEPJ, project management is described to focus more on the specifics of each project and less on the entire programme and how everything fits together. It is explained in relation to the programme structure, pointing out the differences between being a programme and a project manager, but additional nuances can be seen below.

Assignments and competencies	Examples from the interview(s)
<ul style="list-style-type: none"> • Delivering products • Domain knowledge • Escalating problems • Know and adapt the project models to one's needs • Professional respect 	<p>“It might not be the book on management you look through the most.”</p> <p>“You should be able to understand what they are saying, by speaking their language.”</p> <p>“In practice, it is of great importance if you as a project manager have professional respect.”</p> <p><i>(Personal communication, PgM2, February 17, 2020)</i></p>

8.1.4 The Project Managers

In general, the project managers seem to agree that project management is an adaptation process, managing organisational constraints like a joint project model (e.g. risk management), the programme structure (e.g. escalating problems and coordination) and their personal preferences. Moreover, they highlight domain-specific knowledge as one of the essential elements, and add stakeholder management, leadership, having an overview of the process and project, planning and trust to the list. The concept is further described to include the reoccurring aspects below, while an elaborated and conclusive list of all nuances can be found in Appendix G.

Assignments and competencies	Examples from the interview(s)
<ul style="list-style-type: none"> Balancing expectations Conflict management Continuous learning process Evaluation Framing Good working environment Motivation Organisational knowledge Proactive Responsibility Sparring partner 	<p>"I think that the end-users will receive a better product if you talked together and everything would be more coherent in the end." <i>(PM5, personal communication, March 13, 2020)</i></p> <p>"Sweep some stones out of the way. Not because I know what to do with them, but I can sweep them away for my project participants." <i>(PM2, personal communication, March 04, 2020)</i></p> <p>"Organisational knowledge: What characterises the organisation where the project takes place? What are the values you should manage by?" <i>(PM4, personal communication, March 10, 2020)</i></p> <p>"I have to do it [ask questions], otherwise I will not figure it out. Others are more reluctant at it, but that does not work for me." <i>(PM3, personal communication, March 13, 2020)</i></p>

8.1.5 The Project Participants

The project participants emphasise the importance of project managers being aware of both their profile and of those they are collaborating with, drawing on and accentuating their strengths to frame and delegate tasks accordingly. Other aspects of project management, according to the project participants, include the following characteristics:

Assignments and competencies	Examples from the interview(s)
<ul style="list-style-type: none"> Motivational coach General overview Knowing one's preference profile Planning Stakeholder management 	<p>"Motivational coach/leading sparring partner - listening, emphatic, motivational, supporting, challenging, respectful." <i>(PP1, personal communication, April 02, 2020)</i></p> <p>"The ability to provide an overview and communicate it to the project participants." <i>(PP2, personal communication, April 15, 2020)</i></p> <p>"The ability to communicate purposes, objectives, results, outcome, progress, risks..." <i>(PP1, personal communication, April 02, 2020)</i></p> <p>"Have an understanding of one's preference profile/approach in terms of tasks, busyness, collaboration, feedback etc." <i>(PP1, personal communication, April 02, 2020)</i></p>

When asked about project management, various competencies are highlighted by each actor. And when examining the responses of each group, their relation to the actor and their position in the network becomes apparent. Their expectations define how they characterise the role, by emphasising their needs in relation to the project managers. Where the project participants need a coach, the programme managers need someone who can escalate problems and deliver products. The programme office manager and the head of project management instead tend to focus on the methodology because that is what they primarily add to the NordEPJ network.

Many of the nuances seem to be connected, ultimately corresponding well with the literature, to which the same issues reappear; the terms become diffuse as the explanations are various and ambiguous or non-existent. Project management within NordEPJ seems to be a complex and comprehensive task to undertake, especially if one should possess all of the mentioned competencies and fulfil each assignment brought forward by the different groups. When trying to define the identity of a project manager it becomes evident that they are macro-actors whose role revolves around the act of balancing all of these expectations, to which the list is quite comprehensive: "The job of a project manager is to make the programme owners and the stakeholders happy, along with everyone else." (PM3, personal communication, March 10, 2020). And just like with the trends within the literature, elements only seem to be added, not removed, when someone new is being asked the question. Especially as no project is the same; they revolve around different issues, technologies, people and organisations, all pointing towards new aspects of the phenomena. Yet a common ground is found among the informants regarding the overall terms of communication and collaboration as it is deemed necessary for upholding the organisational structures of the programme and ensuring progress within each project track. Do these then constitute the core of project management within NordEPJ and if so what do they entail?

The crisis might help provide an answer to this. At this point, the focus is on keeping the projects afloat, and thus the non-essential competencies, like the employees cf. section 2.6, recede to the background potentially marking a turning point for the general competence assessments. The pandemic has affected the dynamics of society, the environment of projects, emphasising the need for contextual awareness. Here, the ANT framework provides a new and dynamic perspective for unveiling the essential processes of how project management is expressed. Yet it simultaneously simplifies the comprehension of the phenomena by providing a limited albeit versatile terminology for examining the actors performing the processes of translating their competencies into action. Therefore, it becomes possible to identify the main tasks of project management in NordEPJ: how the actors themselves and with support maintain the organisational interdependencies and keep the network stable also while working remotely.

9. Analysis

Going to work might seem tedious to some as routines begin to kick in, providing the days with a certain structure and similarity. But what happens when everything is turned upside-down? When home becomes work and work becomes home.

You sit like a spider in the middle of the web. Depending on which thread you pull, it changes something around it. Occasionally there is an idiot who sticks his finger in and destroys one's web, and then you must go and spin something new.

(PM3, personal communication, March 10, 2020)

In NordEPJ collaboration and communication are deemed essentials within project management, but seeing as these social dynamics are enabled by their surrounding structures; *the physical environment prescribing the daily structures of the employees within the NordEPJ programme, whereto the programme structure clarifies the hierarchical procedures*, these elements are highly exposed to the changes brought by the coronavirus and the requisition to work from home.

9.1 The NordEPJ Programme

The NordEPJ network is in many regards shaped by formal structures and procedures being carried out, providing paths to follow and indications of the relations that must be maintained by the project and programme managers as well as the project participants. But what is the role of such structures when the network is influenced by the uncertainties caused by the coronavirus?

9.1.1 Structuring a Programme Organisation

The programme structure supports organisational changes by coordinating and managing the interdependent project tracks of NordEPJ, cf. section 2.3. Delegating well-defined roles with specific responsibilities to the programme forms a structure for how organisational members should report to each other. And to some extent, the programme unveils the relations which members must maintain throughout the implementation of NordEPJ. Due to the importance of this, the meeting forums ensure that the network, as well as the structure, is constantly preserved and reinforced, making them durable. Where keeping everyone engaged in maintaining strong relations helps to prevent loss of knowledge and crucial actors. Meetings become forums for translations, in terms of interessement where the identities of the project managers and project participants are stabilised by assigning tasks. The tasks, and thereby also the role of the members are then accepted, ultimately enrolling them into local networks with intermediate aims of working towards the overall programme goals. The meetings act as a framework for the continuous mobilisation of actors, inducing them to act in support of NordEPJ. Here the organisational structure undergoes translation, where the human actors become responsible for representing, performing and stabilising it: "It is a bit like a jigsaw puzzle, where you should make it all fit together." (PM5, personal communication, March 13, 2020).

The programme structure seems to distribute the responsibility of delivering organisational changes in the shape of the NordEPJ system to several actors. However, examining the structure, the project management level is especially interesting. When placed between the project participants, who are responsible for delivering the products, and the programme managers who ensure plans and strategies are followed, the project managers become essential for maintaining the relations. They are responsible for connecting and balancing the demands and expectations between the two layers. They should be leaders in regard to the project participants, making sure that they can fulfil their tasks as well as keeping track of product delivery being in correspondence with the gains defined by the management levels. Concurrently, they should report the outcome of the participants' work to the programme management and fellow project managers for continuous coordination as well as administer the decisions or assignments at the request of colleagues or additional stakeholders. Some tasks must be redistributed to the project participants, while others should be kept at the project management level: "It is something about involving them wherever it could be relevant." (PM2, personal communication, March 04, 2020).

The organisational structure positions the project managers to act as spokesmen, albeit for two, sometimes opposing, groups of actors, leaving the former in an intricate position: "It may well be that you are being pressured from above, but you do not exert pressure downwards yourself. Then you have to push back upwards." (PM2, personal communication, March 04, 2020). Here they have to translate the network elements from programme managers to project participants and vice versa to retain the interdependencies. The project managers having to translate and act as spokesmen also emphasise the importance of the ability to communicate and collaborate, cf. section 8.1, on different levels. They must bring forward contributions and concerns between groups in addition to collaborating with, bridging and balancing between the two, despite the potential controversies occurring in between.

Similarly, the programme managers perform a balancing act between the project managers, the remaining members of the programme management and to some extent the steering committees. The programme managers act as spokesmen, representing the aforementioned groups when communicating and coordinating with the project managers: "We delegate to the projects and have faith that they have things under control. Do not get lost in the details, because then you lose the general overview. Keep a certain distance, but be there for the people." (PgM2, personal communication, February 17, 2020). However, the additional groups have a relatively loose relation to the daily operations, meaning that the programme managers only occasionally must perform two-way translations, whereas it is an everyday task for the project managers.

In general, it seems that the stability of the NordEPJ network is highly dependent on the project managers' ability to assume a leading role as spokesmen; where they induce mobilisation and motivation especially in regard to the project participants, to achieve the determined gains of the programme.

9.1.2 Stabilising the Structure Remotely

As the situation of working remotely, in this case, was forced upon DIT, no preparations were made prior to the lockdown. And the restrictions brought by it caused changes to the schedule and thereby all of the plans that have been set into motion at the beginning of the process. It required the NordEPJ programme to acquire a more agile and adaptive approach, as plans had to be readjusted along the way: “So our point of departure is, how does the world look today, and what do we then do today?” (PM2, personal communication, April 15, 2020). This has been particularly influential concerning assignments and meetings involving health-related personnel, as these were called back into service, being indispensable in their line of work regarding the pandemic. Especially, seeing as the current phase of provisioning involves more than 60 workshops with clinical personnel focusing on configuring the system to fit the Region of Northern Jutland, their absence will impact the process significantly. In charge of this task is the implementation track, whose members thereby become spokesmen for the clinical personnel, making sure the EHR accounts for their wants and needs. Fortunately, the project has already been given the gift of time, as Go-live was pushed six months at the beginning of 2020, cf. section 2.2, to accommodate the needs for some of the other tracks, leaving a buffer for utilisation in this time of crisis. However, the consequences regarding the different interdependencies between tracks have yet to be identified. This could be problematic as the specific requirements and reconfigurations have to be based on the end-users' involvement, emphasising their essential role in the current phase of provisioning, to ensure easier adaptation and institutionalisation of the technology in practice. A delay in this data gathering might potentially throw the remaining projects off track and be the cause for yet another postponement of the implementation. Altogether, it elucidates the effects of the interdependencies and how critical it becomes when essential actors are no longer part of the network.

The multiple alterations to the schedule have resulted in some of the project managers feeling like all they are doing is reiterating the same task:

I am making a list of all of the assignments I have been given... Now that I had to work from home, I then thought that I would finally get to the bottom [of it] and I am just not there at all. I have barely gotten started, now I just spend my time planning. Sometimes I miss actually producing something. (PM2, personal communication, April 15, 2020)

The unpredictability of the lockdown period resulted in all employees having limited foresight to which they had to act accordingly, causing daily planning to become the primary task of the project managers. As the societal challenges stabilised, the time frame slowly expanded, cf. section 2.6, enabling longer-termed plans. Nonetheless, the uncertainties are still a component of NordEPJ. Major impacts on society can cause another setback, ultimately enforcing yet another planning process. But the programme can only keep going for a limited period, given the clinical personnel and their input being essential for the configuration of the system, highlighting an

important aspect of any implementation process: awareness of how the end-users are indispensable and must be involved on their conditions.

Ultimately, the programme has retained its structure and stability throughout the situation, albeit with adaptations. In general, the relations are preserved, albeit mediated by the different communication technologies. "It is going well with most of the activities, even though we are working from home... In practice we keep the tasks going via Teams-meetings and phone/emails." (PgM2, personal communication, March 31, 2020). The programme is primarily constituted by the human actors taking on the assigned roles and responsibilities, meaning that significant changes only occur if the actors lose their relations. The core of the organisation has only been challenged by some project participants being assigned to other tasks e.g. system maintenance due to all employees working remotely requiring systems to handle a higher flow of traffic. This stability enables the continuation of the NordEPJ implementation process focusing on tasks where no inputs from the clinical personnel are needed.

9.2 Daily Structures

A significant difference between leaving for work and working from home is the actors compiling the physical surroundings and structures of being at a workplace. The immediate variation between the two is mainly expressed in the decor and materials at hand which support the constitution of the practices the surroundings are made for. The office space provides structures for how tasks should be approached, through the availability of carefully selected devices, guidelines, computers and supporting systems. These actors form relationships which enable others to operate within and maintain the prescribed practices of the organisation. The same can be said about the home environment; here too a selection of actors stipulate actions and specific structures through their inscriptions. However, the majority do not support the kind of practices normally related to work at the office: some actors might even disturb or distort the daily agenda.

9.2.1 Structuring the Office Work Culture

Even though DIT has a work policy which includes flex time, where employees can distribute their hours and even work from home, a predominant trend can be identified with them choosing to work within the same timeframe and at the office. Working here the daily structures have been pre-defined into fixed time slots, where all employees meet around the same time in the morning at a little past 8.00 am and leave at about 3.30 pm. Lunch is prepared and served at 11.45 am stretching until the canteen personnel clears everything away at around 12.30 pm. The employees only have to leave their desk, go to the canteen, get some food and take a seat chatting away with colleagues, before leaving the plate and cutlery at the designated trolley on their way back to the office. And for the time in between, there is access to coffee machines, water dispensers, snacks and cake for general use. These actors are a considerable part of shaping the working environment and the practices. They make things easier for the human actors, the

employees, who only have to carry out a minimum of efforts to cover their basic needs and they can thereby concentrate on their assigned tasks.

The organisation, furthermore, recommends utilising the provided exercise equipment for breaks, arranging walk and talks around marked paths within the building or in the adjoining park if possible, instead of the regular sit-down meetings in one of the 12 appropriated meetings rooms. By providing both equipment and services, DIT shapes the organisational culture, with the physical environment playing a significant part. Having a joint lunch break emphasises a social dimension of work and provides an official forum for conversations not necessarily related or limited to the subject of work, ultimately demonstrating an organisation who takes care of its employees' well-being.

The decision to have open-plan offices might suggest continuous interaction between employees as well as create a feeling of corporate spirit for maintaining and developing the organisational network. Moreover, it highlights the interdependencies to be preserved and exploited for developing and delivering the desired changes to the organisation (Krause-Jensen, 2013). The office design could imply a situation of translation where the desired organisational culture is translated into specific practices. The process of maintaining and developing the culture is done by delegation into material actors, such as whiteboards and timetables insinuating collaboration. When several actors shape practices or provoke actions in correspondence with the ambitions for the organisational culture, the network stabilises itself due to the actors having self-reinforcing effects: they are an essential part of the culture, while simultaneously maintaining it.

This illustrates a situation of relationships being managed through physical presence where communication and collaboration are made convenient, in correspondence with the culture at DIT, thus also affecting the entire network and displaying another example of translation and stabilisation. Here, the culture is represented through the action of consistently maintaining habits, ultimately enabled and supported by the material actors along with the services provided, e.g. the canteen personnel serving lunch and the access to coffee and snacks.

9.2.2 Maintaining Work Culture Remotely

As the physical environment changes, so do the related practices. The alarm clock might not go off at the usual time, as the time for transportation no longer needs to be taken into consideration, forcing a shift in the morning regimen. Breakfast might be eaten at a later time, the morning shower reconsidered as leaving the house is no longer necessary or even a regular thing due to the health-related crisis, and the formal attire might be exchanged for comfortable loungewear even when working from home. The boundaries between home and work have become blurred, challenging the remaining organisational culture to an extent where it might be causing experiences of the "... wild west... you are no longer dependent on meeting rooms, so there is just being booked without considerations regarding lunch etc." (PM6, personal communication, April 20, 2020). The surrounding rituals and practices related to the organisational culture have vanished, as the material actors upholding it are limited to the office location. So instead, new

practices connected to new local networks, home offices have to be established to create a sustainable approach to working remotely.

The construction of a home office indicates a need for organisational culture to be redefined to fit the newly formed conditions. DIT must form new alliances by enrolling new actors to replace those no longer inducing actions due to the changed situation. This could be initiated by a process of reverse black-boxing the constantly recurring practices, questioning these actions in terms of how, who, what and why, to bring forward some of the underlying, implicit and embodied knowledge which constitutes the practices. By doing so, they can identify the crucial actors, e.g. the canteen personnel upholding the basic breaks, and determine which other actors to enrol to take their place, providing the network with a legitimate and durable replacement. The actors embedded within the physical location have limited durability as they cannot transfer into the local or virtual workplace and provide the same output. The situation forces DIT to consider substitutions, such as inscribing the online calendars with a fixed time slot for breaks to incorporate into the daily agenda of the employees, prohibiting back-to-back meetings and establishing new codes of conduct. This would delineate the act of upholding appropriate work practice to the technology when planning meetings and provide a solution durable enough for it to function across sites.

The actors, which previously have provided different services, have thereby played a significant role in stabilising the network being the ones framing the everyday routines at the office; structures that everyone attends to, consciously or not. But when these, as well as actors in general, disappear from the network, it becomes unstable until their tasks have been delegated to others and new black boxes established to avoid constant negotiations about whether or not it is the right solution. The actors and routines which normally ensure a point of assembly, e.g. the lunch break, have disintegrated with the lockdown, and new assemblages must be constructed. Now, the employees share the responsibility of retaining it. Together they have to negotiate procedures and establish a new black box which includes the needed actors and the practices they prescribe.

If the environment is not suitable for labour, then the boundary between home and work gets so blurred that it nearly vanishes. The chores of a household and the people in it cannot be precluded from this coexistence, and will, therefore, become an element of disturbance. If one does not have a home office then matters will be even more difficult to distinguish, as it will serve as a constant reminder of what one could or should be doing instead. This potentially causes a mix between off-duty and on-duty hours, to a degree where work steps into the background and is pushed to a later time in the day. Thus, it is complicating the efforts of collaboration further, when new and disturbing actors enter into the decentralised local NordEPJ networks, while others are suddenly turned into actants. Some of the actors are only present as a part of the workplace at DIT and by moving this setting home, they no longer have an active role to play. They compiled and shaped the workplace as a global and unifying network by stabilising many of the daily structures embedded in the organisational culture. These were performed through various practices which are now delegated to all human actors, who have become responsible for

maintaining these, as representatives of the global network, through the formation and stabilisation of the local networks.

Ultimately, the otherwise well-established, black-boxed, dynamics and routines are dissolving as a result of working from home, albeit the main, formal assignments and structures of NordEPJ regarding meetings remain the same.

9.3 Formal meetings

As a part of the programme structure of NordEPJ, various predefined meetings and forums are put into place to keep everything on track, all actors enrolled, roles delegated and interestment ensured. Some of these formal meetings are fixed into the schedule for reoccurrences each or every other week, where others are planned more loosely.

9.3.1 An Assembly Point for Collaboration and Coordination

When being present at DIT and working on NordEPJ, the meetings are most likely planned to take place within a meeting room, one of the office managers offices or the recently established NordEPJ team room.

The meeting rooms are equipped with tools; markers, whiteboards or walls which can be written or drawn upon, a TV-screen, conference-call setups, power plugs and chargers for laptops etc. This provides everyone at DIT with the opportunity to present and brainstorm ideas, facilitate workshops, host conference-calls and much more. This allows the meeting participants to put in a minimum of effort, as they just have to show up on time. And as long as the equipment works properly, it will act as an intermediary, facilitating a situation where the meeting participants can concentrate on the agenda and the continuous maintenance of relations. The NordEPJ programme has been appointed a designated team room which is further equipped with project tools such as the extensive timeline covering the process of each project track, so they can plan in unison. The tools can help the team members focus on collaborating and clarifying interdependencies. But they can also form alliances with the tools where these take on a mediating role: "We have such a nice whiteboard with post-its showing some of our [product] deliveries." (PM3, personal communication, March 13, 2020). Here the whiteboard and post-its assist the process of identifying new relations to establish and uphold within the network for achieving a successful implementation.

Dedicating a room and tools only for the NordEPJ team shows how meetings have become a central part of the programme: amounting to the formation of eight different meeting forums, some being only for the programme management, others for the programme and project managers from both DIT and Systematic. Furthermore, the room and the meetings give a sense of solidarity, especially among the project managers: "One of my colleagues had a feeling of envy, where she said that, *"Oh it is so cool to have such a community"*." (PM2, personal communication, March 04, 2020), also indicating the importance of facilitating collaboration within the team.

The meetings support general coordination and collaboration, where some are established for coordinating interdependencies between project tracks while others are status meetings. Not only are the meetings an addition; they are also a bearing element of maintaining a structure in combination with the programme management model. They act as a point of assembly where mainly the project and programme managers are brought together, ultimately contributing to the ongoing stabilisation of the network. Here the project managers act as spokesmen for the project participants, and potentially become macro-actors as discussions and relations from within team meetings are black-boxed into specific decisions. Each meeting has predetermined aims and frameworks for what to coordinate and discuss, keeping track of the progression and aligning the work within the NordePJ network. The status meetings are an example of how the network is kept together, being the forum where current status and proceedings are discussed, in terms of which tasks need to be solved first and by whom. Furthermore, meetings provide what seem to be the most formalised forum and procedures for sharing knowledge between programme and project managers. The knowledge connects the project tracks, strengthening the relationships between them, which in the end should contribute to a successful implementation. The stabilisation of the network is thereby a result of black boxes created around meetings as an integral part of the programme. They are a dominating part of the working day and seem to be taken for granted as the primary way of coordinating and collaborating. And so, these black boxes remain stable as the employees, through regular participation, help maintain the organisational relationships. In general, it can be said that the network is stabilised mostly through physical interactions between and across the management layers as well as with other stakeholders.

9.3.2 Assembling Remotely and the Problem of Transparency

Working from home limits the options of attending or hosting a meeting to such a degree where the interaction only includes a computer, a webcam, a headset and a decent bandwidth. Instantly the network centralises around the use of technologies, even causing them to suddenly transform: the computers, which at the office were a potential cause for distractions, are at home essential for attending meetings; the headset which at the workplace is commonly used as a way of shutting others out in order to focus, is now what lets people in and enables the communication between various individuals. With the ability to either be a mediator or an intermediary, the technological actors can either aid or limit communication and collaboration. If one of the meeting participants is having technical difficulties, the technological actors involved are acting as mediators. This could affect the entire experience and compromise the collaboration, stressing the importance of well-functioning equipment, such as "... a [solid] connection, so that you do not get thrown off because that impacts the meeting, getting interrupted." (PM2, personal communication, April 15, 2020). In this way, the technologies constitute an essential yet unstable connection to the rest of the network where actors that have been enrolled and structures developed over a long period now are at stake.

The physical meetings have a specific structure, especially at DIT where everything is open-spaced and the meeting rooms consist of semi-frosted glass panels, ultimately illustrating transparency and openness in communication and collaboration (Krause-Jensen, 2013). Screens are displaying the bookings for the following day both around the common area and outside each meeting room. Here the technology has a pre-scripted, inscribed by the designers, demanding the meeting attendants to accept their meeting, by tapping the screen within 15 minutes of its booking, as the room will otherwise become available to others, exemplifying an attempt of better utilisation of the space. The screen will then turn from green to red, indicating to outsiders that the room is preoccupied, by whom and for what purpose. This provides a less disturbing option for checking the accessibility where a vacant room normally will have an open door and a green screen.

The transparency of the area and the room lets those present know when a meeting has officially started. Typically, this will be initiated by closing the door, but as the participants have to get back and forth from meetings often booked closely together, time is usually set aside accordingly. In contrast, one of the advantages of virtual meetings is that the process of gathering the participants takes less time, according to project manager⁷. Inviting people to join a virtual meeting still requires comprehensive coordination in terms of finding a time slot where all participants are not occupied. However, making a reservation is now done only by adding a hyperlink to the virtual forum in the invitation, meaning that the number of available meeting rooms no longer has to be taken into account, and the participants are no longer obligated to check the location or reserve time for the commute. The convener circumvents the effects of forgetting to accept the meeting on the screen and in time. All that needs to be done is turning on the computer, potentially plug in a headset as well as activate the camera, followed by clicking on the link and the meeting is in session.

However, the disadvantages of virtual meetings are also considerable. First of all, having unlimited meeting rooms available seems to have caused an increase in the number of meetings, reaching a point where they are planned back-to-back, causing wild west like situations, with no account for basic human needs, cf. section 9.2.2. Moreover, the transparency and openness from the office have difficulties transferring to the virtual environment, as it is easier for the participants to hide in the crowd, especially with the camera turned off. This potentially increases the difficulty of engaging and encouraging participation within the meeting. Even the indication of a meeting's beginning is problematic to replace, as the act of closing the door has no obvious replacement within the virtual workplace, making it less embarrassing and disturbing to be late at an online meeting. At the same time, notifying delays becomes easier, as it can be as simple as writing a short message to the participants at the next meeting, e.g. if the prior is running late. But it also illustrates how the material actors are significant in translating a culture of transparency and collaboration into routines and practices, which in return shows how sensitive the latter is without its stabilising actors.

Ultimately, maintaining this culture, a task delegated to and expressed through the physical environment and equipment, have difficulties transferring to the virtual space. Now it is being re-delegated to the meeting participants, who can choose to reject the translation of the culture being based on the notion of transparency, by turning off their cameras. And when central practices disintegrate the risk of negatively affecting crucial collaboration increases.

9.3.2.1 The Virtual Communication Technology Microsoft Teams

It is difficult to achieve a good quality of communication. Some might not have the camera turned on, and some might struggle with sound quality. Body language is the predominant part of communication, and it is difficult to read one another when that part is lacking to a great extent. (PP2, personal communication, April 15, 2020)

When working remotely new practices for collaboration have to be established. Before the corona crisis communication technologies played a minor part in the collaboration between everyone involved in NordEPJ, meaning that the formalities and utilisation of it had not yet reached a level of comfort or agreement within DIT. When obligated to work remotely, the technologies gain increasing value by being the only way of staying connected. They suddenly form a closer alliance within the network. The new alliance challenges the established practices and codes of conduct to a degree where new black boxes have to be formed to uphold uniformity in how communication and collaboration should take place and, if possible, prevent the technologies from acting as mediators.

Taking the situation of a meeting as an example, the social dynamics of when to speak becomes difficult. When sitting in a room together, one might stand up, cough slightly clearing one's throat, walk up to the board or other physical materials to attract attention and be called upon to speak subtly. But what happens when this becomes nearly impossible as the interaction is being mediated and thereby translated through the use of technology, e.g. Microsoft Teams? The black box begins to leak, forcing the involved actors to open it, reversing the black box, to study old habits and ultimately establish new ones for negotiation in order to keep the plans on track. Here everything is taken into consideration for figuring out what new alliances have to be made. In the case of NordEPJ, the choice seemed to have fallen upon "The hub for teamwork in Microsoft 365" (Microsoft, 2020) the collaboration and communication software Microsoft Teams. When holding a meeting via Teams with more than two people, the one who is speaking will have the largest video display: it has been inscribed into the technology that the one speaking is where everyone's focus should be. The action of attracting attention is hereby being delegated to the technology, and through this script, it has been attempted to delineate what can be defined as appropriate online meeting procedure.

In meetings, having people speaking simultaneously is often deemed undesirable. With the mediated communication this does not become an easier task to tackle. According to project manager⁷, the task can be solved by viewing the utilisation of virtual communication tools as a half-duplex

system, where only one can speak at a time. But how can interruptions be avoided if visuals and audio are delayed or distorted as a result of mediation?

Within a virtual work environment, the regular social dynamics facilitating communication are at an impasse cf. section 9.5, forcing the formation of new practices to enable effective collaboration within the new technological context. As a result, the management of meetings and the surrounding procedures have become increasingly important. And the meeting moderator has to be conscious of the consequences of entering into new alliances, as these might affect the stabilisation of the network.

Some consequently do not turn on video. Sometimes we have to disconnect it because the connection is bad - but it does matter. I can feel that mimicry and gesticulations, and just being able to feel how people are doing, gain increasing importance. (PM2, personal communication, April 15, 2020)

If there through negotiations can be found a common ground for holding meetings through the use of technology, a black box might form, closing in as everyone begins to accept and agree on its practicality. And it might even win an impasse into their regular practices at the office:

“Previously we have used conference calls (however to a lesser extent than physical meetings), but I think we will hold [Microsoft] Teams-meetings far more often in the future.” (PgM1, personal communication, April 01, 2020).

Working from home requires new alliances to be made e.g. with Microsoft Teams, utilising the alternative options for communication, which has been limited to solely include those of a virtual character, as they extend beyond physical location. These changes to the network initiate new moments of translation, reestablishing the problematisation by defining identities and interests amongst the soon-to-be enrolled actors. In addition, new black boxes form around newly negotiated practices e.g. meetings procedures, enabled by the delegated roles within the new, localised networks.

9.3.2.2 The Cost of Efficiency

There is a general perception of how using Microsoft Teams and other technology-mediated translations for interactions in NordEPJ has resulted in more focused meetings, as the participants tend to go straight to the point. It has, furthermore, been proclaimed that the cut-back on small talk is the reason why more people seem to be attending the online than the physical meetings at DIT.

This is further explained with the increased focus of the meeting participants: “There are not all of those lengthy discussions that you sometimes experience. I think all participants are more solution and result-oriented.” (PM6, personal communication, April 20, 2020). All in all, this has led to the duration of the meetings being reduced. But whether or not this is deemed an advantage, seems to be a cause of disagreement, as it might impair the social relations between colleagues. This might be due to the role of the project managers and even the meetings

themselves being translated in various ways. Some translations might be regarding the roles that have been inscribed to the different actors within the programme, whereas others concern more personal aspects; a big part of our lives is related to our work, meaning that our main social relations might be too, also making the workplace a place for maintaining and upholding social relations. Additionally, the role of a project manager is described to be quite lonesome but that “As a project manager you just have to remember that it is not you who have to solve it all, but you *can* ask for help.” (PM2, personal communication, March 04, 2020). The meetings might thereby also be viewed as a way of staying in touch and being a part of a community, cf. section 9.3.1. The issue of solidarity has been processed within management figuring out the right solution to test out: “There have been discussions about whether you should be two project managers [within the same project track], having someone to talk to, someone as a co-project manager.” (Head of PMt, personal communication, March 04, 2020).

Turning towards the perception of project management, looking beyond the overall common consensus of communication and collaboration, there are somewhat different translations as to what this might entail:

- The perspective of the project managers, cf. section 8.1.4, includes elements of conflict management, being proactive and responsible
- The perspective of the project participants, cf. section 8.1.5, includes elements of motivational coaching, framing and delegation of tasks.

From this, it can be noted that for the project managers socialising on the different levels translates to being a major part of doing their job, as their focus is on managing expectations and creating the right environment and circumstances for the participants. From the perspective of the participants, project management seems to be described in more overall terminology, where the focus is on helping the project participants define their job assignments and provide motivation for carrying them out.

Within team status meetings, the project manager might primarily act as a moderator, where the project participants are the ones providing the input for further considerations; how far is the project and what do we need before moving forward? The participants are preoccupied with their specific tasks, needing only to provide an update once in a while and not worry about the bigger picture. Yet, according to the project managers themselves, a big part of their job description requires them to “sweep away” complications from the project participants, making sure that they have the best foundation for fulfilling their jobs. They are, therefore, interested in more than just receiving a status, but have to create the right framework for things to run as smoothly as possible. But with this new way of working, it has been rendered difficult, cf. section 9.5.

As nearly all interactions take place via the computer, they become uniform and by that also problematic to differentiate between, as there are no longer any points of reference within the daily operations. The lack of diversity, due to more focus on computer-mediated tasks and less on social relationships, causes confusion – even for someone who otherwise praises themselves on

having an excellent memory: “I am that type, where I can remember a lot of things and that can sometimes be a challenge [as it does not provide an incentive for documentation].” (PM2, personal communication, March 04, 2020). And it might ultimately result in the construction of additional practices:

What I can feel is becoming difficult at this moment, is that I am losing the general view of who knows what, who I have told what. So at first, I have to ask, and it seems a bit unprofessional, but... (PM2, personal communication, April 15, 2020)

Not only must new practices be developed and old ones adjusted to the current circumstances to be able to continue the collaboration. All NordEPJ employees now also have to establish their place of work including a meeting room with all of the necessary equipment to make the transformation from physical to virtual as gentle as possible. Everyone becomes responsible for maintaining all of the surrounding practices that stabilise the network. They must keep everything working and uphold a daily structure, even from home.

What before was delegated to specific actors within the network are now distributed to each NordEPJ employee, e.g. services (technical, cleaning, restocking of supplies etc.). To regain stability, the network might need to enrol new actors, re-delegate tasks or form new alliances. In regard to meetings, Microsoft Teams has become a central actor as the new meeting room in NordEPJ. However, it cannot provide a conclusive substitution, given its technological limitations. Here establishing a local work environment requires additional knowledge, changes in settled habits, creation of new black boxes, skills and time for the meetings to remain as stable as possible for ensuring and reinforcing the interdependencies.

9.4 Informal Conversations

Being a part of the workplace and a project team, not all conversations are formally arranged. In reality, most of them seem to occur as a natural part of the daily operations between or in the succession of the formal meetings. And they are not as trivial as it might seem in keeping both professional and social relations in place: at times they can become more important and advantageous for the project managers than the structured meeting forums.

9.4.1 The Informal Dimension of Work

The open-spaced offices and common areas within DIT allow for the occurrence of various informal conversations between colleagues. Some might happen while getting coffee or water in the morning, taking a stroll around the common area to stretch one's legs or on the way to or from the lavatory etc. They tend to simply happen because people are gathered in the same location, which increases the chances of suddenly running into each other during the day and being able to catch up; asking the question that popped up earlier but was deemed not important enough to be sent out via email. “This thing with meetings is something you can get over and done

with fairly quickly. It is more the conversations in between the meetings that are interesting.” (PM3, personal communication, March 13, 2020).

Even regarding the formalised meetings, informal conversations would take place between the people sitting near each other, during breaks if the meetings were particularly long, or to and from the meeting if arriving or leaving in the same direction. In this manner, the otherwise formal meetings included an informal component. Small talking during a meeting might be deemed rude or inconsiderate, but not necessarily obstruct the meeting for all of the participants. This element might even have been black-boxed as a part of the organisational culture, where people would seize the opportunity to socialise because the meetings might often include people from various departments within and outside DIT, also making it a matter of stakeholder management and networking, cf. section 8.1.4.

Within DIT there is said to be a tradition for the project managers to sit physically together, and all of them would stress its importance, stating how sitting together translates into easier collaboration, communication and knowledge sharing between them cf. table 6.

“It is really important that you can physically sit together, that is why we have been placed together.” (PM1, personal communication, February 27, 2020)
“That we sit together, and can just inquire, spare with one another. It is also here that the mere coincidences happen.” (PM2, personal communication, March 04, 2020)
“Because you sit together as we do here, there is more transparency or more freedom.” (PM3, personal communication, March 13, 2020)
“We sit close together and we can take advantage of that.” (PM4, personal communication, March 10, 2020)
“It is important that we sit face-to-face and we cannot do that in these corona-times.” (PM5, personal communication, March 04, 2020)
“I follow along and talk to them well. We do sit in the same place.” (PM5, personal communication, March 04, 2020)
I started as project manager 01/02 and have never had that role or those job assignments before, so I think I struggle at times. It is not as easy to get some help or sparring with colleagues across the desk like you otherwise would be able to if we were sat together physically. (PM6, personal communication, April 20, 2020)

Table 6: Clippings from the interviews with project managers mentioning sitting physically together, which included six out seven of the project managers.

This displays, yet again, the role of the organisational culture and the physical environment of the NorDEPJ network, and how it aids in translating the project management competencies into action.

When everyone is gathered at the same physical location, it becomes the epicentre of events where they can easily reach out to each other, setting things in motion instead of bringing people

together at formalised meetings only for a few clarifications. Furthermore, it lets the project managers become a more active part of the project teams and the surrounding dynamics.

Their job is not just about keeping an overview of the process but getting involved in the continuous problematisation while using the formation of a good work environment as an interessement device, for stabilising the identities of the project participants who are essential in keeping the projects on track. Moreover, the joint office space enables them to translate issues into courses of action by consulting actors within the same position as themselves, as “It is easier to communicate the “soft stuff” when you sit physically together.” (PM3, personal communication, March 13 2020).

Being at DIT and having open-plan offices allow for conversations to be overheard by coincidence so it becomes possible to adapt to and learn from one’s colleagues and the information shared. This creates a constant flow of knowledge, as things are casually run by someone in the office e.g. the person passing by or the people sitting next to one another. The office provides the space for working together as a unit, which within a complex project is imperative:

I feel really bad when I lose the general view, and that happens quite a lot with NordEPJ. It is not because I need to know everything regarding every detail... but if I do not know what I am dealing with... (PM2, personal communication, March 04, 2020).

And a way to become knowledgeable and well-informed, attaining the general overview of the process is through the occurring informal conversations which cannot be scheduled. This illustrates a strong relation between physical spacing and knowledge sharing.

To a large extent, these conversations are enabled by the open and transparent working environment, where continuous sparring and clarification take place. This results in the project managers being able to proceed with their work sooner rather than later, while easily maintaining the relations among them.

9.4.2 Formalising the Informal

While the main part of the informal conversations is related to the workplace and the shared office space, working from one’s home does not quite provide the same options. With the NordEPJ employees scattered at different locations, the chance encounters no longer take place, and informal conversations are further apart. Suddenly all types of conversations have to be scheduled, formalising their otherwise casual nature, which ultimately comes at the expense of the social relations between colleagues: “In general it is difficult to have the informal contacts and stakeholder management taking place all the time and where a lot of it is based on physical vicinity (e.g. that you meet in the canteen).” (PM4, personal communication, April 02, 2020).

An attempt to resolve this has been by establishing new informal settings translating the social relations into a virtual space, where colleagues can meet up and talk about things unrelated

to the projects they are working on. Within the department of Strategic Digitalisation, this has resulted in *joint morning coffee* meetings every morning via Microsoft Teams at 8.45 am until 9.15 am. Here all project managers sharing an open-spaced office within DIT have been invited to drink their morning coffee on-screen, socialising with each other: “We have been pretty lucky that the deputy office manager has arranged these meetings in the late morning. Where we get to greet one another and talk... In that way, it has been reduced but more formalised.” (PM3, personal communication, April 04, 2020). Furthermore, the CIO has invited everyone at DIT to join in on Fridays, wishing each other a good weekend via Teams as well. But just like the situation with the formal meetings and the meeting procedures, only one can speak at a time for the sake of clarity. All minor conversations within larger crowds are therefore eliminated when utilising different kinds of digital interfaces for communication. The technology might to that extent work well translating the formal procedures of a meeting but ultimately limits the efforts of socialisation and informal conversations, which in this case might have caused the events to be deemed unsuccessful. Yet they receive positive reviews, where the main points seem to be:

- You get to see and/or talk to people that you might not be, or no longer are in contact with regularly
- Through video, you get insights into the circumstances your colleagues might be working under
- You have contact with others outside your home and feel a part of a community.

Juxtaposing informal conversations to the formalised meetings, the social dynamics seem to be congruent, as the elements highlighted concerning the informal arrangements too can be found within the formal meetings. Yet there appears to be an inconsistency in terms of dissimilar underlying agendas, showing an issue of problematisation and defining the role of meetings. When it comes to the formally arranged meetings, it has been expressed that they seem to be lacking a social element. At the same time, the newly established social events on the same technological platform are praised for being an opportunity to see other people. This indicates elements of yet another black box concerning meetings, and what they regularly entail, which might be the cause for the differences in translation of what can be regarded as social. Here the black box might include all of the surrounding elements of informal contact with colleagues; accompanying each other to the meeting room, grabbing a coffee on the way and small talking until everyone is present, which provides the formal meetings with a certain flexibility. Or maybe it is simply meetings arranged without an agenda, to which the conversation might flow more casually. But since these practices no longer take place, the black box is now leaking and the contents regarding the informal conversations have become a topic for negotiation. The formal meetings have been surrounded by otherwise stable black boxes, although these have been translated in various manners. Given the flexibility of the physical meetings, this has not yet constituted a controversy within the network until the crisis hit causing practices to change. Here the communication technologies limit the options of different translations, cf. section 9.3.2.1, as either informal conversation comes at the expense of the meeting agenda, or vice versa: “It is

difficult to avoid speaking all at once. You should uphold some kind of “radio-technique”...” (PM7, personal communication, April 25, 2020).

Moreover, the problem of not wanting to waste people’s time becomes visible as “It is different when you have to disturb one at home rather than just running past one at work. Now you make an active choice to get in contact with people.” (PM2, personal communication, April 15, 2020), and often results in attempts of communication having an intensified focus and the meetings being more to the point than usual. This causes the concept of meetings to be reverse black-boxed, bringing the problematisation into question, as the employees are having difficulties accepting the new definition as it might not completely align with their personal needs and interests.

Meetings and informal conversations begin to have certain similarities, as the latter has now become more of a strenuous task, needing to be planned and scheduled accordingly. This causes a feeling of losing informal contact and looser relations within the NordEPJ network, especially regarding the project participants, as “... there is more information to get within the informal talks in the canteen or the hallways and it is a bit difficult to book someone just for “a talk”.” (PM6, personal communication, April 20, 2020).

A new challenge, therefore, arises, especially when a personal relationship has yet to be established. But where one has been formed prior to the crisis, it is deemed easier to maintain, as informal conversations tend to occur more naturally: “There have been a few of them [meetings] where you had to talk anyway and then it evolved: “*how are the kids etc.?*” But these are the people I already have a relationship with.” (PM2, personal communication, April 15, 2020). A reason for why it might be less demanding to maintain relations than establish them online could be found within the blurred boundary between home and work. This is not only a complicating component concerning keeping up daily structures but also in terms of initiating contact:

I have the same amount of contact with some, but others much less. It is a bit easier to just pass by a colleague’s desk at work, instead of now, where you do not really want to disturb them, as they are already busy enough balancing the workday and family life. (PP2, personal communication, April 15, 2020)

This leaves the question of why such arrangements have not been tried extended to the project teams themselves, taking advantage of the current situation to establish a new black box for collaboration when working remotely, and using these agenda-less forums for establishing relations and trust. Especially seeing as social relations, in response to the crisis, increases in value. Previously, these seemed to have been taken for granted along with how easy it was to stay connected within DIT. Social events were something that was linked to the engagement of the workplace, and not something that you would necessarily want to spend your spare time on, especially if having a looser connection to the organisation e.g. being an external consultant; “But I do not necessarily have to hang out in the Friday bar with them.” (PM3, personal communication, March 13, 2020).

Informal conversations have previously been an integral part of many daily activities including being black-boxed as part of the formal meetings. Yet, with no access to the office, and thereby lacking the possibility of sitting together, the informal aspects of project management have become increasingly problematic to maintain, even during meetings. This ultimately affects the sharing of knowledge within the NordEPJ programme, as this seems to base itself more on the organisational culture than the project management model, cf. section 2.4.

9.5 Social Dynamics of Virtual Communication

With the corona crisis, regulations for containing the virus include social distancing, and physical contact with someone outside of the household is limited, extending to include only a few individuals, if any at all. But humans are social beings, craving connections and meaningful relations to one another (Baumeister & Leary, 1995). Being distanced therefore not only challenges us in the way we work together but also in the way we connect and communicate. To minimise the social distance, communication technologies have been enrolled to form alliances with the human actors. Yet, the virtual substitutions provide an unstable connection by potentially mediating the content to an extent where it might cause excessive obstacles to the continuous translations. When elements are distorted, e.g. visual or audible input and output, there is no way of knowing what is going on. The lack of knowledge about whether or not everyone is paying attention during a meeting, if they have understood everything that has been said or if they are comfortable to move forward with the project, obstructs the moments of problematisation and interessement. Thus, mutual alignment and agreement between interlocutors seem difficult to reach when mimicry and emotions are distorted; humans share mirror neurons, allowing for emotions to be matched immediately on an unconscious level, which in this way come to characterise social interactions (Dickerson, Gerhardstein & Moser, 2017). But virtual communication limits this constant stream of information to pass between us e.g. by acting as a mediator, meaning that the social distance remains. Ultimately the conversation is left much less engaging and the way of communication seems to cause impairment to the interhuman sensitivity and sensing how others are feeling has become more complicated, as the process of translation is disturbed: “We are becoming more distanced. That feeling about how people are doing, is there something you should be aware of? Are they comfortable with the task? That sensitivity about it is missing.” (PM2, personal communication, April 15, 2020). It might, therefore, require careful contemplation regarding the message itself and whether it is communicated in the best possible way, entering into appropriate alliances: “I always consider if this is something I have to say or write to people.” (PM4, personal communication, March 10, 2020).

Communication is a two-way street, but it is the recipient who determines the meaning of the message being sent, which often causes misinterpretations: “Whether live or digital, learning to communicate requires overcoming the correspondence problem: There is no direct mapping or correspondence between perceived and self-produced signals.” (Dickerson et al., 2017, p. 1). The

message has been inscribed a certain meaning by the sender, but the translation of it is left for the recipient. And if the message has been sent to more than one person, it might be translated in various ways. Miscommunication, therefore, happens all the time, even when speaking in person. But it is easier to determine when an error has been made by the various amounts of signals being sent: the look on someone's face, the tone in their voice, the shrug of their shoulder or an almost undetectable head shake and eye twitch. All of these signals going beyond the literary content of the message are crucial to avoid misinterpretations in the translation processes between interlocutors.

The human mirror neuron system underlies a series of communicative and social functions, dedicated to translating these signals (Dickerson et al., 2017). This might also be the reason why physical presence seems to be the informants' preference of choice when having to deal with and communicate with others, cf. section 9.4.1: "I really want to meet up rather than taking it via email." (PM2, personal communication, March 04, 2020). And at the same time, it explains why the *soft stuff* is easier translated in person. With virtual communication, these signals range from being non-existent to becoming modified or distorted when mediated through different technological means such as the texts or emails, audio and video calls.

Be it emails or other text-based messages, written communication opens up for various misinterpretations, as all of these neural, verbal and non-verbal elements of communication have been reduced to text. Stripped of emotions, tone and visuals, this can be translated in ways to which it loses its original meaning potentially resulting in more questions than answers. A way to get around this issue can be through modifying the communicative practice with the use of emoticons, easing the translation process for the recipient, but this might contrast the formalised professional standard of communication, giving the impression of being less competent (Glikson, Cheshinet & Kleef, 2018).

This type of communication also provides a prolonged latency making it less attractive when looking for a quick response: "But I think that email is difficult because you do not get that immediate reaction where everyone is present and listens as they do on these [Skype/Microsoft Teams]." (PM2, personal communication, April 15, 2020). Besides the reaction time, the latency could also be a result of the careful considerations about the answer and how this might provide an easy translation with a minimum of misinterpretations for the receiver: not only in terms of the written content but also the underlying emotions of the answer.

Audio calls, executed through the use of e.g. mobile phones, rely solely on the use of verbal communication to which nuances and emotions too can be lost. But when combining video and audio to video calls, they, like face-to-face communication, should allow for both verbal and nonverbal elements to be included in the conversation. And with technological development written as well as visual communication aids like chats, presentations, screen sharing etc. have been enabled with business and collaboration oriented communication tools e.g. Skype for Business and Microsoft Teams. But how well these mirror neurons are transferred by technology

might still be an element for discussion to which academia has a hard time keeping up with concerning the development of the area (Dickerson et al., 2017). Yet studies so far have shown that:

With respect to the role of digital technologies and the hMNS [human Mirror Neuron System], the asynchronies (e.g., lack of contingency and congruency) inherent to virtual, screen-based communications (see Derks et al., 2008), such as video conferencing/video chat, email, and instant messaging, are likely disruptive and contribute to inaccurate or incomplete perceptions, compared to synchronous live interactions. (Dickerson et al., 2017, p. 4)

This points towards a less efficient and/or effective exchange of signals when social interactions take place virtually (Dickerson et al., 2017), complicating the continuous translations. All of these automatic and unconscious decodings of others happening during face-to-face communication might then have to be transformed into intentional actions of consciousness. For the reason that various types of virtual communication cannot always act as an intermediary due to e.g. technical issues, but instead, they risk mediating and distorting the message, ultimately amplifying the social distance it was meant to diminish.

This issues new demands for collaboration. It might become necessary to communicate more frequently and transparently, striving towards the establishment of a higher degree of trust and delegation of responsibility amongst the involved actors. As the project manager receives limited signals from the actors of NordEPJ, trust must be built for the latter to continue accepting their roles, staying enrolled in the network and carrying out their tasks, cf. section 9.3.2.2, for the project to remain stable. Now more than ever, each individual has the responsibility to bring focus towards problems, personal or work-related which might need to be taken into account for the time being.

As everything has been turned upside-down, plans have to be remade and procedures undergo reformation to stabilise the network: "The first couple of weeks before Easter were about replanning, where we had to figure out our workshops. It provides some different conditions. Where you have to discuss and have a dialogue about something quite essential." (PM2, personal communication, April 15, 2020). With the changes being abrupt and caused by the pandemic, no preparations had been made, to which everyone potentially could pitch in with new ideas and perspectives for the formation and replacement of black boxes.

This could help shift the focus towards jointly solving the tasks at hand, as it was seen within the hospital task force during the corona pandemic, e.g. by involving project participants in the new planning process of the workshops, instead of upholding the organisational hierarchies (Bay-Larsen, 2020).

Due to the structures of DIT, some of the employees might already have acquainted themselves with working remotely. Especially the external consultants could have an advantage, as familiarity with this style of work might have them less agitated than the ones navigating it for the first time, learning how to adjust to the situation: "I do think that I have an advantage having

worked from home for the past years. My colleagues need to practice a bit regarding Microsoft teams.” (PM3, personal communication, April 04, 2020).

This might cause a shift in the balance of power, where those who have experience with working in this manner, might try to impose their pre-established practices, their black boxes, into the overall network, growing their status as macro-actors.

When communication is mediated by different technologies, whether it be video calls, email or chat, it limits the transfer of body language and human mirror neurons between the employees. The result is a significantly increased risk of misinterpretations in the translation processes, forcing everyone to communicate more frequently and transparently. Otherwise, it will cause a challenge to the communication and collaboration which is critically needed when plans and procedures have to be reiterated to maintain the stability of the network.

9.6 The Role of the Project Management Model

DIT providing a model to support project management, contributes to uniformity across the project tracks in NordEPJ, ultimately aiming at stabilising the procedures of managing a project. But what is the role of the framework when societal impacts challenge the practices and the stability of the network?

9.6.1 Agency of a Project Management Model

Similar to the programme organisation, the project management model provides structures in terms of how to organise a project and what needs to be managed. And within DIT a decision has been made to develop their PRINCE2-inspired model, cf. section 2.4, describing specific tasks and procedures which every project manager is obliged to either execute or take into consideration during the process. Yet, it is interesting as to how the project managers perceive and translate the idea of having a shared management model: “In that way, it is also nice that they go in and set the frame for it, instead of it becoming our responsibility” (PM2, personal communication, March 04, 2020). This ultimately corresponds well with the underlying ambitions of the model, where supporting the project managers in their daily work, by providing them with various templates and guidelines is one. Another is to achieve more consistency in how projects are managed within DIT, which also receives support in practice: “It is very nice... that we have a model we follow amongst the project managers. It aligns things so that we can be a sparring partner for one another.” (PM2, personal communication, March 04, 2020).

Project management models have not only been a subject of translation within the literature but also amongst the project managers of NordEPJ concerning their extensiveness and formalities: it might not always seem beneficial in situ, but its utilisation seems to have had a positive effect on the NordEPJ network. The model has established itself as a durable element, as it, according to the head of project management, is applicable to all kinds of projects, and DIT has experienced its success in supporting both skilled and new project managers. It has almost

become a black box, albeit a leaking one, as the prescribed amount of documentation has been challenged: “Status reports are of no interest to anyone.” (PM2, personal communication, March 04, 2020). In correlation, a fellow project manager stated a fairly explicit objection: “I have experienced in NordEPJ that we sometimes must report about something where nothing new has happened” (PM4, personal communication March 04, 2020). Nonetheless, the assignment is still undertaken to fulfil the requirements specified in the model and by the deputy office manager.

When providing such frameworks, the organisation helps stabilise structures within the network, and additionally, it can make the interdependencies easier to identify and manage due to the uniformity of the projects. In terms of the project managers, the model can potentially help release some of their resources; instead of starting from scratch each time figuring out how to manage a project, they can allocate more time e.g. for being spokesmen because the model provides the essential procedures.

Moreover, DIT making it a collaborative effort to develop the model, means that the project managers can suggest new additions to better support their practices: “... we have to make the model fit the project not the other way around.” (PM4, personal communication, March 10, 2020). Having a transparent and inclusive approach to the development of a shared project management model can be regarded as a case of problematisation and interessement in the translation process: “People get a sense of ownership - they realise that it is here to stay.” (Head of PMt, personal communication, March 04, 2020). The enrolment in the process of continuous development is also a way of creating coherence and engagement across the organisation. The translation processes take place when the project managers’ suggestions are formulated into durable elements, e.g. guidelines for writing a project description representing their current needs. Through their contributions, they begin to take ownership of the model, forming an alliance where it becomes an important actor in making the projects succeed, thus also emphasising its agency. Moreover, the interessement and enrolment also support the preservation and expansion of the black boxes established around the model.

Given the fact that the project managers are proclaimed to have taken ownership of the shared model, it can be anticipated that they will also have a bigger incentive to keep the surrounding black boxes stable and closed for two reasons: the project managers can increase their status of macro-actors when placing themselves on top of these black boxes, while simultaneously providing and maintaining stability within the NordEPJ network.

9.6.2 The Durability of the Model

Due to the durability and the black boxes created around the model, it is assumed that it has remained stable regardless of the sudden changes in the network. The model provides stability around the project tracks by describing the main tasks of maintaining relations between them.

What might pose a challenge is when the project managers cannot seek advice from the model because DIT has deliberately decided to distribute the responsibility to each actor e.g. with documentation: “If you do not have a model, then it requires a lot of experience within project

management for you to figure it out yourself.” (PM3, personal communication, March 10, 2020). Here it becomes evident that the translation of the project management model varies between it being obligatory or optional. Where some find comfort within the model, others prefer being able to use their experience to translate its content, having the option of approaching the model as an interessement device in different ways: “What you think and a little bit of the model.” (PgM2, personal communication, February 17, 2020). But given the interdependencies within NordEPJ, project managers taking different approaches towards a common issue can impede the overall process, but also the problematisation e.g. if they decide not to accept the defined identity of the model, following its unifying guidelines. In such situations the model will become a less durable actor, as the attempted black-boxed procedures will be up for negotiation, having the black box leak its contents, putting relations at risk and ultimately destabilising the network. It can result in critical situations when the network is already lacking stability due to disagreements and relations not being preserved when they are needed the most. Here, the project managers should rely more on their ability to collaborate, being sparring partners to one another and less on formalities that might not fit the current context, until negotiations have reached a point where a new black box can be established.

The decision not to implement these formal procedures might be explained by the notion of project management being a profession, cf. section 8.1.1, which also indicates why DIT is willing to place the liability on the managers for creating and maintaining the black boxes. Having the necessary competencies along with support from the procedures of the model, they should be able to manage a project: “It can always be discussed whether it is a good idea to leave it to the individual project manager, how it should be done. But that is also why we are project managers, not project assistants.” (PM3, personal communication, March 13, 2020).

The project management model seems to have remained stable even though the network has been exposed to substantial changes resulting from the lockdown. However, DIT should be aware of how spontaneous impacts on the project tracks can destabilise the network if enrolment cannot be reached due to conflicting approaches to the problematisation.

9.7 Documentation and Knowledge Sharing

Taking a closer look at the project management model elements supporting sharing knowledge besides a few guidelines for documentation seem to be lacking. As the former is essential in NordEPJ and to a great extent enabled by sitting physically together, formal guidelines might be unnecessary. But when the lockdown proves a serious challenge to this, what will the actors do?

9.7.1 The Redundancy of Documentation Guidelines

As a part of the project management model and the programme structure, there are certain elements to be handled, where documentation and knowledge sharing are essential for enforcing the organisational relationships: “We cannot, not share knowledge. We simply have to do it.”

(PM1, personal communication, February 27, 2020). Even though sharing of knowledge is deemed vital for the implementation process, the impression is that there has not been created formal guidelines for how, beyond the formation of forums and a few obligatory reports that must be completed: "It [documentation] is actually something we have written out of our use of PRINCE2. It is up to each project manager [to decide]." (POM, personal communication, February 17, 2020). This only emphasises how the organisational culture, of being physically together cf. section 9.4.1, is translated into the act of managing projects, especially in terms of knowledge sharing which is further supported by the statement: "But exactly in such a programme context, there you can talk about knowledge sharing when you are just sitting together, exchanging information and things like that." (PM1, personal communication, February 27, 2020). With no formal outset, knowledge sharing primarily becomes an element of convenience where all of the daily chance encounters form the basis for how knowledge is transferred within NordEPJ. Thus, they are turning away from the linear and rational approaches incorporated in the management models, showing how these lack adaptability and flexibility when not being able to account for uncertainties.

Their decision not to implement more extensive procedures is of particular interest, given how the project management model evokes stability in the network. Deciding not to formalise these aspects might be a result of negotiations not coming to a conclusion regarding when and to what extent documentation is necessary: "It is one of those things that we would like to talk about wanting to have a whole lot of, but that we do not really get." (PM1, personal communication, February 27, 2020). Here a potential issue revolves around the notion of pragmatism: "We should use the tools where they make sense, and we should not document for the sake of documentation." (PM4, personal communication, March 10, 2020). To be appropriate within an unpredictable world, documentation too has to be flexible, as it can otherwise leave a sentiment of "... documentation, that is something that some of us are very tired of, but it has to be done." (PM3, personal communication, April 04, 2020). Where another issue points towards the difficulties of how to do it: "... knowledge sharing is difficult, and then uh you have to say that it is important as well. Well yeah, sure it is. But I do not have a damn good model for how to solve the task." (PM1, personal communication, February 27, 2020).

The challenge of documentation in the NordEPJ network can be an issue of translation at different levels. The extent to which it should be performed is controversial, and as long as they are sitting together, providing an easy and flexible way of sharing knowledge and to the extent needed, any formalised procedures will be difficult to reach. However, the actual problem might be how an ever-changing network and its dynamics can be translated into different types of documents. Documentation is not as simple as it may sound at first. Questions can be posed as to how much is necessary? For some people, elaborate descriptions of the issue might be essential for understanding the outcome of the process, as well as being able to apply these considerations to a similar case. But how can this be determined beforehand and how can the documentation be structured in a formalised manner? Such questions are not only difficult to answer, but also to translate into the action of converting formalities into durable elements that represent the actors

and reinforce the network. The topic has been open for debate for some time, and will very likely continue to be so based on the statements from the project managers. It might be possible to black box how knowledge is shared, due to the consensus about sitting together fulfilling their needs. Whereas, formalising the extent and form with sharply worded guidelines seem to be much more controversial, meaning that any black box around documentation procedures will be leaking as long as the debates are going on.

Developing guidelines, especially for documentation could be a logical extension of the project management model unveiling general interdependencies that could be preserved by systematic knowledge sharing. Beyond the translation issues, other actors, such as the shared model and the meetings, seem to entail the documentation needed, as they have adequately managed to enrol and mobilise the human actors of NordEPJ. Ultimately, the incentive to implement extensive guidelines seem to be eliminated, as the network is kept stable through other means than structured documentation.

In general, declining the formalisation or black-boxing of documentation procedures lets the organisation circumvent the situation of having to navigate between contradicting opinions. A situation that can be difficult to problematise properly, to which different devices of interessement should be applied for enrolling actors and working towards forming a single will in terms of common procedures for sharing knowledge:

... Being independently proactive about it is really difficult. So there has to be something that supports being [it], and then also where you can feel that it is actually making a difference, instead of it becoming somewhat of a large database, with a lot of, well, unstructured text.
(PM1, personal communication, February 27, 2020)

9.7.2 Remote Knowledge Sharing Without Guidelines

The new circumstances challenge the practices – even those that had stabilised themselves in the network. Even without formal guidelines, documentation managed to become a stable entity in itself, as a result of the organisational culture and structure. But with the significant changes and no access to the workplace, it might become an issue as the usual practices transform alongside. The network has become less stable due to actors becoming actants during the lockdown, resulting in the opportunity to just drop by your colleague ceasing to exist. Instead, everyone must resort to the various communication technologies enrolled in the network, but with days filled with meetings in rapid succession and the fear of disturbing colleagues, such options are not qualified substitutions. In contrast to the ordinary circumstances, the ways of sharing knowledge seem, with a few exceptions, to be limited to the formalised meetings. And what can normally be distributed rather quickly, now needs careful planning and coordination.

Viewing the situation of formalised meetings, and how structure in terms of detailed agendas and meeting summaries provides a better output, structured documentation might solve these issues. Increasing the amount of documentation during the lockdown period would provide easier

access to new knowledge for all members of the organisation. For example, when shared via the document management system Microsoft SharePoint: “I have also used SharePoint a lot to share the documents. It has not worked optimally before, but it has improved.” (PM3, personal communication, April 04, 2020). Documents should, in any case, be uploaded to SharePoint as “... documentation is important regardless of whether we work from home or whether we have the opportunity to be at the office.” (PP2, personal communication, April 15, 2020). However, the task has become increasingly important with the reduction of channels for knowledge sharing, where documentation might act as a substitution during the lockdown. Documenting is not just a translation process when collating discussions and agreements into summaries, it is also a process of making knowledge durable and easily transferable throughout the network. Some relations, previously enabled by actors compiling the physical office, can somewhat be substituted by a more structured approach towards documentation. Furthermore, the members can, to a greater extent, avoid the feeling of disturbing colleagues, by instead turning towards SharePoint when needing clarifications.

The lack of general guidelines for documentation especially when not being able to sit physically together, means that all actors independently have to figure out when and how. This provides a more critical challenge, however not new, as it has become more difficult with the options to share knowledge becoming very limited, ultimately resulting in an increased need for structured documentation to regain the stability of the network.

9.8 Synthesis

At the office, daily structures are affected by the organisational culture expressed through the arrangement of the material actors connected to the location. These enable and support stability in terms of recurring habits and practices, where meetings and informal conversations are prominent. Meetings are an integral part of the NordEPJ programme with multiple forums created to maintain relations. Through collaboration and knowledge sharing, regular participation from the employees has been reached, meaning that black boxes have developed around meetings as being indispensable for the network. The meetings have a strong relation to the informal conversations where continuous sparring and clarifications take place, providing another option for maintaining relations between actors. This has been supported by an open and transparent environment where the project managers are placed in the vicinity of each other forming an additional space for knowledge sharing. Accordingly, DIT seems to have declined the creation of formal guidelines for documentation of knowledge beyond the prescriptions of the project management model developed in collaboration with the managers. In time these underlying procedures have become black-boxed, enabling the project managers to become macro-actors, who furthermore, possess the role as spokesmen by mobilising other actors. And with a culture stipulating how every practice, guideline and model supporting network stabilisation correspond with the notion of physical interaction, project management is both a part of and supported by a

fixed framework. Nonetheless, unexpected events can still shatter the frames, enforcing the actors to re-establish the stability of the network.

At home, upholding practices are now delegated to all human actors, as representatives of the global network, through the formation of decentralised local networks, meaning all NordEPJ employees gain increasing responsibility for maintaining the stability. They now have to establish their home workplace with space for attending meetings and all of the necessary equipment to make the transformation from physical to virtual as gentle as possible, upholding a daily structure, even from home. They must enrol new actors, re-delegate tasks and/or form new alliances as well as black boxes around the related procedures.

When it comes to meetings, working from home requires the utilisation of virtual communication technologies as it extends beyond physical location. Here Microsoft Teams has become a central actor, being the new virtual meeting room of NordEPJ. However, this new actor, along with similar alternatives, has its limits and will challenge the communication by shifting between the role of an intermediary and a mediator, resulting in a significantly increased risk of misinterpretations within the translation processes. Consequently, communication must happen more frequently and transparently, demonstrating how the role of maintaining the culture, previously expressed through the physical environment, has difficulties transferring to the virtual environment: when re-delegated to the meeting participants, they can reject the translation of the culture, as being based on transparency e.g. by turning off their cameras. This ultimately affects the hitherto flexible and transparent sharing of knowledge, determined by the culture rather than formalities.

Even though the network has been exposed to substantial changes, the model seems to have retained its durability. Nevertheless, the stability is being challenged by the limited options for knowledge sharing and the lack of transparency, calling for a more structured and durable translation regarding documentation. Enrolling more durable actors can, furthermore, help provide a framework for handling the blurred boundary between home and work: by reducing trivial or repetitive questions, which previously have been clarified through the informal conversations in between daily activities and as black-boxed parts of the formal meetings. But the current stability enables the continuation of the NordEPJ implementation process, albeit only for a limited amount of time until the process reaches a point where the clinical personnel become indispensable.

Essentially, the situation proves that project management is a matter of adapting to the context. The future will always be unpredictable, making planning a complicated and interminable affair, where pre-emptive actions for maintaining stability within the network are nearly impossible to determine. This requires an ability to be reflective and proactive when responding to the situation at hand. Acting within and stabilising a network involves collaborative competencies regardless of the societal impacts proving a menace to the organisational interdependencies. Relations must still be developed and maintained through collaboration. And occasionally this requires the enrolment of new actors within the network, even though they might challenge current routines and

practices in order to succeed. Yet, these new actors must go through a process of problematisation to define their role within the network making sure that interests can be aligned. And when sudden changes occur to the network, as *an idiot sticks a finger in and destroys the spider's web*, the actors are forced to initiate new moments of translation, re-establishing the problematisation by defining identities and interests amongst those soon to be enrolled.

10. Discussion

When looking at the NordEPJ network, different measures have been taken to stabilise it; establishing a joint project management model, taking an outset within the programme structure for the formalisation of collaboration and communication. Yet, there seem to be hesitations when new actors are to be enrolled into the network, often determining a misalignment in terms of interest, based on the notion of maturity. But how do you determine maturity, and what does it entail?

10.1 Maturity

During this study, a term mentioned time and time again was that of *maturity*. Sometimes it seemed to be used indiscriminately, but mostly as a reason for why new assignments have not been undertaken, new practices not established or certain phrasings or perspectives were deemed unsuitable for the organisation cf. table 7. Anything that might cause too much change to the network, mobilising it or affecting the stabilisation, is discarded without further considerations; excused, with the statement of *the organisation not being mature enough* to avoid dealing with the issues at hand, even if just momentarily.

“But it did not resonate much in the rest of the organisation. You were not mature enough for that, I think. That someone was coming to decide how you should work, it was not easy.”
(Head of PMt, personal communication, March 04, 2020)

“The house was not mature enough for change management [a principle within PRINCE2], so instead it became topic management.” (Head of PMt, personal communication, March 04, 2020)

“Everything that did not make any sense was thrown away. If it is not relevant or if we are not mature enough for it yet.” (Head of PMt, personal communication, March 04, 2020)

“A maturity process we also have to go through, to do things differently than we are used to.”
(PM2, personal communication, March 04, 2020)

“The maturity is about organisational knowledge of how to document, how to complete projects sensibly.” (PM3, personal communication, March 13, 2020)

“The maturity in terms of project management depends on what area or line of business you are working within.” (PM3, personal communication, March 13, 2020)

“Here the organisational maturity comes in again... Systematic as a smaller business... say that they do not have any ideas for it, and then I, of course, can make a suggestion.”
(PM3, personal communication, March 13, 2020)

Table 7: Clippings from the interviews mentioning the notion of maturity.

Turning towards academia for a definition “The notion of ‘maturity’ has been proposed for other management approaches as a way to evaluate “the state of being complete, perfect, or ready” and the “fullness or perfection of growth or development” (Oxford University Press 2004).” (Rosemann & De Bruin, 2005, p. 1). If the required standard for handling changes is set no less than at the state of being perfect, reaching a suitable state of maturity might seem nearly impossible.

Viewing the notion from an ANT perspective, it translates into whether or not the network is stable enough to handle such changes; the enrolment of new actors, the collation of black boxes etc. Yet there might be complications either way. If the focus of the network continues to be on establishing a solid problematisation, using devices of interessement for enrolling the necessary actors into an alliance, negotiating translations or the content of black boxes, the involved actors might be too preoccupied to take on anything new. Or if the network has already undergone an irreversible stabilisation process; where translations are made durable enough to not be subject to competing translations, an obligatory passage point has been established, keeping actors enrolled into the network and ensuring the fulfilment of the goal neither can achieve on their own. Here the enrolment of new actors might risk destabilising the entire network, making all efforts up until that moment pointless. As “Each entity enlisted by the problematization can submit to being integrated into the initial plan, or inversely, refuse the transaction by defining its identity, its goals, projects, orientations, motivations, or interests in another manner.” (Callon, 1986, p. 207). The introduction of a new actor might, therefore, include new and contradicting views, where the original definition of motivation for enrolment is rejected and instead a new one could be asserted, potentially offering a competing translation to a seemingly closed black box. And not being familiar with the various options for dealing with new practices e.g. acquiring the help to inscribe the procedure into the network by the support of technology, actors or durable elements, might be cause for quick rejections. To overcome these problems, the establishment of trading zones (Collins, Evans & Gorman, 2007) can be necessary, where negotiations can transpire, and shared visions and languages develop. Introducing *boundary objects* (Collins et al., 2007) herein could function as interessement devices to stabilise the identity of the conflicting actors as these objects can adapt to the individuals’ needs while also being stable enough to represent a common identity for everyone involved. However, it still requires a certain level of stability and the desire to enrol these objects of interessement. Furthermore, the human actors, e.g. the project managers, should possess interactional expertise, when trading zones are to be established, but the competence might be even more important during the problematisation phase where stakes are high, and controversies are lurking.

Sometimes too many assumptions can prohibit actions to be taken, even in a time of crisis: “We already know now, that the clinical personnel cannot participate through video, because it is all new to them working with IT, so it would be too much bringing them in.” (PM2, personal communication, April 15, 2020). Yet a similar experience was met with the general use of virtual communication before having established practices for contextually appropriate use, but when having done so, the programme members experienced that “... as the routines kick in... it becomes

easier...” (PgM1, personal communication, April 01, 2020). This shows how assumptions might not always be consistent with reality. When practices become routines, a black box around its usage has formed making it easier to manage. Maturity, thereby, becomes an excuse for upholding the routines and not implementing changes which might challenge the black box, even when these constitute an opportunity for improvement. With this in mind, the workshop issues, related to the social distancing cf. section 9.5, could provide the opportunity for confronting the notion of maturity by replacing the physical with virtual meetups, whenever the clinical personnel have time available. Although the expectations must be modified accordingly, as they otherwise will be juxtaposed against *business, as usual*: “In general it is difficult to do project-oriented work this way. Everyone is trying their best with Skype and [Microsoft] Teams, but it is just not the same...” (PP2, personal communication, April 15, 2020). Here, there could be an advantage in the clinical personnel being new to the experience, as their expectations might suit the situation better. But if the virtual workshops are not framed properly the assumptions might prove to be a self-fulfilling prophecy, where the clinical personnel face difficulties with the translation and ultimately get an experience of the technology being a mediator instead of an intermediary.

The situation shows the difficulties of transforming settled practices by enrolling new actors. The former must be redefined by reversing the black box and the tacit knowledge understood, before the process of identifying replacements can be initiated. This might provide a perspective on why well-established and mature projects are more hesitant to enrol new actors, as it requires more work than if the project had just started up and, therefore, mainly had to work towards forming new black boxes around the practice of managing it.

As a crisis hits and the stabilisation of the network is compromised, the notion of maturity might have to be revisited along with the ideas potentially deferred prematurely. When current practices can no longer be upheld, creative measures must be taken to ensure the network relations and ultimately progress of work. Creating trading zones or a *third space* (Muller & Druin, 2012) for collaborative design could provide forums for finding new solutions, and remind us to revisit former ideas with our current perspective and options, reevaluating the pros and cons to fit the new situation even when it is caused by drastic changes.

I think we will see that we are being challenged to do some other things and in some other ways. The “*No I do not want to do that – No but we usually...*” is going to stop a bit. I have always thought video meetings were extremely annoying. I have always felt like an appendix to the meeting if I am on video and the others are sitting together. (PM2, personal communication, April 15, 2020)

As nothing works and the alternatives diminish, more effort is put into figuring out how to make the remaining options function optimally, e.g. in the case of video conferences and the general use of virtual communication, which now have undergone a different and rapid *maturing process* provoked by the crisis. This prompts a new moment of problematisation where these solutions are no longer regarded as a last resort, but instead a viable option.

However, the option of working remotely is one thing and working remotely as a result of a pandemic quite another; the pandemic has caused leakage and even destruction of existing black boxes, which results in an unstable network. But the situation can be used proactively, as it eases the formation of new structures which can be adjusted to fit both the current and regular circumstances of work. It forces the notion of maturity to be out of the question, along with the stabilisation. And to regain it, alliances, as well as black boxes, have to be formed. Here it is necessary to become familiar with structures of the former network, looking into the different social cues and dynamics that helped in the stabilisation and rethink how the new options might support the creation of black boxes; actively bringing the identified competence of *continuous learning*, cf. section 8.1.4, into play. Here, continuous reflection *in* and *on-action*, as suggested by Schön (1983), would provide such insights and potentially increase the incentives to take different approaches towards establishing the problem-setting prior to initiating the problem-solving. Yet it can also bring forward a new perspective on the things that are usually done but serves no actual purpose. This can become an advantage for the future, as it might bring forward a sense of situational awareness distancing itself from the *technical rationality* (Schön, 1983) a black-boxed approach of *business, as usual*, which here seems to hide behind the notion of maturity.

... I actually think it is really useful being thrown into something, and just having to try and make it work. I do think you really do hear people saying that they are surprised by how quick we are to readjust when we have to, and then just accept it. (PM2, personal communication, April 15, 2020)

This, again, illustrates the importance of framing, especially from a management position, providing the employees with a clear rationale and motivating them to take on new tasks or approach the problem-setting and solving differently. Having a constantly transparent process when organisational changes are set in motion, might help managers to maintain their position as spokesmen if they rather quickly can enrol and mobilise the employees.

The role of leaders in framing is important for several reasons. First, a project leader is the organization's lead user—the most visible spokesperson and translator of the potential implications of a new technology for the organization. Second, research has shown that people pay particular attention to what leaders say and do, compared to what peers and others say and do. (Edmondson, 2003, p. 37)

By providing an understanding of the reason behind the change, the process can be made a team effort, moving beyond the individual frames constituted by tacit knowledge and prior experiences, by instead focusing on establishing a common frame for learning (Edmondson, 2003).

The corona induced crisis might have provided a preview of what to expect in the future. Albeit less chaotic and unplanned, certain elements will reappear if you believe the predictions of Townsend, DeMarie & Hendrickson (1998) stating how the paradigm of digital transformation

may result in working remotely becoming the trend of the future with the conversion of a virtual workplace; where every successful 21st-century organisation will have deployed the use of virtual teams, realising its *competitive synergy*. They, and other studies, have identified various benefits regarding this style of work, including fewer expenses on real estate and transportation; the opportunity of bringing actors together from all over the world, as there are no limits regarding the location and commute; support for flexible working patterns; increased competitive advantages; a higher level of innovation and creativity (Townsend et al., 1998; Zuofa & Ochieng, 2017). But even though the benefits are considerable, working remotely might not be suitable for everyone or all organisations. There have been various questions as to whether or not it will promote an increase or decrease in employee productivity. Will working from home provide too many distractions or nurture a healthier work/life balance? Will it result in the employees' experiencing better or worse mental health?

Working remotely is not just a matter of *seizing the opportunities brought along by new technologies*, cf. section 2.1, but also of being able to utilise its full potential. Technological and environmental development cannot just dictate the future of organisations without further considerations. Technology is not a panacea, but an enabler. A proper problematisation of technology implementation must be created, making sure if and how they as actors can be appropriately defined for both the organisation and the team it would involve. Furthermore, they should keep in mind its limitations and examine how these might affect the situation, including productivity as well as mental health. The transformation of the network should be assessed in reflective, ethical and critical manners to enable decent framing and comprehension of the potential implications as well as ensure responsible enrolment. But conducting such assessments requires the necessary competencies, which includes a focus on the evolution in the relationship between human and non-human actors.

Nonetheless, the digital transformation is first and foremost a matter of acknowledging the new possibilities of these technological actors, and being ready to explore their agency within the contextual frame:

I think we become aware of the existence of the possibilities of doing something differently than we are used to. There are all sorts of barriers getting solved by not having to meet up. A lot of expenses for buildings, transport etc. that can be saved. But running a project is not just managing it and delivering a product. It is about doing something collaboratively. (PM2, personal communication, April 15, 2020)

Being obligated to test new options for working collaboratively yet remotely and then questioned about it, has resulted in the informants having made their rapid assessments of the virtual workplace, highlighting both pros and cons of translating virtual teams into their current practices. Here lacking a sense of community has proved essential for their work process; the collaborative spirit is enabled by the physical presence of the team members, resulting in stronger relationships between them, both professionally and socially.

One of the reasons why DIT has transitioned quite nicely might be due to the organisation already having embraced elements of digital transformation and established procedures for working remotely prior to the crisis, albeit with a strong emphasis on the healthcare sector they are servicing. This includes the implementation of a Citrix platform, webmail, internal personnel sites and access to the shared online filing system SharePoint which illustrates the organisation being technologically equipped to handle the situation. Additionally, DIT offers flexible hours and days where employees work from home, which have them acquainted with the style of work, initiating the formation of black boxes for utilising tools comprising a virtual workspace. But as the enrolment of the technologies cannot account for all dimensions of work, DIT still has a task to solve: opening the black box of the organisational culture and assessing its contents, thus continuing the maturing process of the organisation enabling it to handle new ways of working. During this process, it might be deemed essential to manage the transfer of the social and cultural aspects to the home workplace, to which an assessment of the technological limitations and mediating effects should take place, preferably prior to enrolment.

Maybe the conclusion is moving towards implementing a hybrid way of working, initiating a black box or maturing process of the culture and the practices to encompass a combination of both remote and onsite work: "So, yes. It is going to be more like how we are working right now, but also that we have to meet physically once in a while." (PM3, personal communication, April 04, 2020). Ultimately making it a matter of utilising the advantages of each style of work, moving towards forming black boxes around a hybrid approach, instead of focusing on either-or. And involving the employees, the users, by letting them become a part of the process of determining their optimal working environment, might ensure a suitable future which embraces the new standard of working together, even separately.

11. Conclusion

The critical case study has sought to identify and comprehend the characteristics of project management, by reverse black-boxing the process of implementing a large-scale E-Health technology in the Region of Northern Jutland. It focuses on the network effects initiated by the regulations for social distancing regarding the COVID-19 pandemic, seeking answers to the problem statement:

What characterises project management within the IT implementation process of NordEPJ and how is it supported in relation to maintaining the organisational interdependencies when obligated to work remotely?

Through 20 interviews with a total of 14 informants closely connected to the act of project management, this thesis has gained insights into the real-life practices of stabilising a large and complex network through a crisis. Within the NordEPJ programme, project management is characterised by a high degree of communication and collaboration in an attempt to balance the expectations of the various stakeholders involved; project participants expect a coach and mentor, where project managers need colleagues for sparring, the programme managers require elements of planning to make all efforts align within the bigger picture and the programme office manager as well as the head of project management focus on the utilisation of the project management model. And as a result of the limited guidance the model provides and the organisational culture, the NordEPJ network is highly dependent on the *physical environment* bringing actors together. Here meeting forums and the open office space enable continuous communication of both a formal and informal character, which supports the social dimension of work. Maintenance of the organisational interdependencies, thereby, becomes a practice of convenience which causes significant problems for the stability of the network when access to the specific location is limited:

Without structure, things get out of control. Regardless of location, basic needs like breaks and meals should be accounted for through guidelines or material actors delineating appropriate behaviour. The unlimited availability of conference rooms should not be an excuse for carelessly increasing the number of meetings but provide an opportunity for critically assessing the need to avoid them being experienced as lengthy and/or unnecessary.

A lack of transparency and blurred boundaries impede collaboration. The attitude to work should remain the same, whether at home or the office and colleagues should be deemed approachable during on-duty hours unless a statement to the contrary is made. Every employee is responsible for the projects to proceed and has to be straightforward when facing difficulties letting the structure of the programme and procedures for escalation fulfil their purpose.

The overlap between work and socialisation translates poorly to a virtual platform. Clear distinctions between the two must be established for obtaining a sustainable and optimal work approach. Providing forums for covering both needs separately is essential to retain especially the social dynamics of work. This can, furthermore, help increase productivity as well as aid communication, where strong relations are essential for providing the needed security for dealing with uncertainties.

The non-durable element of knowledge sharing. Practices must be reverse black-boxed and a moment of problematisation initiated, uncovering the employees' perceptions of the current practices to develop new and durable ones, which are suitable for both remote and onsite work. Arranging a collaborative process can ease enrolment and increase the employees' incentives to support it, potentially resulting in them experiencing ownership and growing their status as macro-actors.

The excuses of maturity limit the exploitation of new opportunities. Hybrid ways of working might become the standard of the future, where communication technologies prove essential for collaboration. A focus area should, therefore, be assessing viable solutions reflectively and transparently before enrolment, followed by the formation of black boxes around sustainable work practices, both regarding productivity and mental health, across physical and virtual boundaries.

The literature review conducted on project management has shown a variety of linear and rational models which do not account for a dynamic society and the embedded processes causing it; thus, neither a situation of crisis having a significant impact on it. This thesis provides insights into how an organisation handles a crisis by digitalising practices and how the related challenges can be confronted when existing practices prove unsustainable, ultimately affecting the stability of the network. Project management is a practice of continuous learning, constituted by more than a specific set of competencies. It should be viewed in its context, the network which it navigates and where the project managers play an essential part in its maintenance through translation and black-boxing. A situation of crisis can cause black boxes to leak and force organisations to take a closer look at *business, as usual*, by reconsidering their practices. This is a key competency for managing a rapid digital transformation and creating a virtual infrastructure for work to continue appropriately.

But the actions of maintaining the interdependencies and the stability of the global network is not limited to the project managers. All actors must play their part, accept their defined identities and enrol themselves for the relations to stay strong. And to gain a more comprehensive understanding of the programme, ANT could provide the terminology to examine the NordePj network in its entirety. Where identifying the obligatory passage points essential for stabilising the network will make it easier to uphold during times of uncertainty.

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