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Facilitating Factors for the Implementation of Organisational Innovations in Healthcare

An Empirical Case Study of Capio

by

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Master in Management (MSc)

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Abstract

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Purpose

The purpose of this study is to establish a list of facilitating factors for the implementation of organisational innovations in healthcare units. We accomplish this by a thorough literary review, which is followed by an empirical case study of Capio Group. The case study is conducted to validate the theoretical findings, based on subjective perceptions of healthcare practitioners. This way, theoretical concepts can be specified for healthcare and further explored.

Research Question

What are facilitating factors for the implementation of organisational innovations in healthcare?

- What facilitating factors can be identified in academically published journals?
- To what extent do healthcare practitioners recognise these facilitating factors?

Methodology

We conduct a deductive and exploratory study. Based on a relativist ontological worldview, the research design takes the perspective of interpretivist epistemology. The focus is set on a qualitative case study of Capio. We use a multiple method approach, consisting of in-depth, semi-structured interviews and a preceding survey. The conduction of the case study is based on theoretical concepts from a narrative literature review.

Findings and Implications

Theoretical concepts from the literature review can be validated and further specified by perceptions of healthcare practitioners. The study reveals that certain facilitating factors are relatively more relevant in the healthcare context: Flat organisational structure (bottom-up), (reciprocal) training, innovation facilitating culture, dealing with diversity (international workforce), overcoming (professional) status recognition, communication (how and what to communicate), and middle/firstline management.

We approximate to generate a more concrete and comprehensive list of facilitating factors that healthcare practitioners should take into account and discuss in the context of innovation implementation. However, we want to stress again that the practical application of each factor is embedded in a dynamic whole, and needs be adapted to the respective context of healthcare organisations.

Keywords

Implementation of Innovation, Organisational Innovation, Facilitating Factors, Healthcare, Innovation, Organisational Change, Capio Group, Case Study

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We are happy that we got the chance to study the area of healthcare which was new to us. In the course of the thesis work we gained a lot of new knowledge and insights for our future development and career.

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1. Introduction

1.1 Background and Problem Discussion

“Innovation is not just another speciality among others in running a business. Innovation is a way of living” (Berglund, interview, 08 May, 2017) (Appendix A). Having this noteworthy quote in mind, the present thesis sheds light on innovative capability in healthcare organisations.

Efficient healthcare services are essential when it comes to addressing today's circumstances and needs in the Global North (Barnett, Vasileiou, Djemil, Brooks & Young, 2011). (Countries of the Global North include the developed countries in terms of socio-economic standards and political stability. As the references of the thesis focus mainly on the United States and Europe, we refer to these regions.) The healthcare sector faces dramatic changes, which calls for reorganisation and modernisation of current healthcare practices. Demographic development, a rising proportion of the older population in particular, is an issue leading to a higher degree of hospital turnovers (Barnett et al. 2011; Bessant, Kühne & Möslein, 2012; Capio AB, 2017; EU, 2012; Parker, Fadayevevan & Lee, 2006). Furthermore, new types of healthcare problems, such as chronic diseases or changes in diet habits, require more complex treatments, administrative processes and advanced medical solutions (Bower, 2003; Capio AB, 2017; EU, 2012). These trends result in a gap between healthcare supply and demand, (Bessant, Kühne & Möslein 2012; Jung & Padman, 2015; Lega & Calcioari, 2012) and are naturally linked to increase in cost pressures (Bower, 2003; EU, 2012; McKinsey, 2013; Tresp, Overhage, Bundschus, Rabizadeh, Fasching & Shipeng, 2016).

Based on the outlined dynamics, it is crucial that healthcare organisations find new and efficient ways to ensure a higher healthcare quality (Kim, Gaukler & Won Lee, 2016). “[T]he imperative to innovate in healthcare” (Barnett et al. 2011, p.2) is commonly acknowledged in healthcare in order to manage and overcome the increasing daily workload of healthcare practitioners. Hence, the potential of information technologies is a driver for innovation in healthcare, resulting in digital solutions such as e-health (EU, 2012; Jung & Padman, 2015; Thakur, Hsu & Fontenot, 2012; Tresp et al. 2016). (E-health includes various sorts of healthcare services via the internet, for instance access for patients to recent treatments and medications or online consultations (Jung & Padman, 2015)). However, there is a common opinion that the healthcare sector is relatively slow in innovations compared to other industries (EU, 2012; Kim, Gaukler & Won Lee, 2016; McKinsey, 2013; Parston, McQueen, Patel, Keown, Fontana, Al Kuwari & Ara Darzi, 2015). This raises questions about the underlying reasons for the difficulties to implement innovations successfully, despite the recognised urgency.

In general, fixed reporting structures, the significance of confidentiality and information treatments form a rather rigid innovation framework (Bigelow & Arndt, 2005; Jacobs, Weiner, Reeve, Hofmann, Christian & Weinberger, 2015). Therefore, it is necessary to identify and develop a thorough understanding of facilitating factors for implementing

innovations by healthcare practitioners. For instance, Carlford and Festin (2015) claim that “there is still a lack of knowledge regarding determinants of a successful implementation” (p.1). Lega and Calcioari (2012) argue that future research should investigate “how implementation can be successfully managed” (p.29). In a similar way, Helfrich, Weiner, McKinney and Minasian (2007) suggest to research “how the interplay of key organizational factors contributes to implementation effectiveness” (p.280), by taking special characteristics of the healthcare setting into account.

Having said that, the aim of this study is to identify facilitating factors for the implementation of organisational innovations in healthcare. Gaining an explicit understanding of these factors is essential to manage innovation implementation appropriately. A detailed comprehension assists the planning process and can depict potential challenges in the course of the implementation phase.

Thus, insights based on this study can support a promising implementation process of innovations in healthcare units. In addition, identified key aspects in the healthcare context, may influence future research streams in healthcare and innovation management by highlighting concepts that require further investigation.

1.2 Purpose and Research Question

The purpose of this study is to establish a list of facilitating factors for the implementation of organisational innovation in healthcare units. We accomplish this by a thorough literary review that is followed by a case study. The case study is conducted to validate the theoretical findings, based on the subjective perceptions of healthcare practitioners. The term ‘healthcare practitioner’ includes all types of employees possessing varying working positions in a healthcare organisation, so that people with medical as well as non-medical backgrounds are represented by this term.

The unit of analysis is defined as primary healthcare units, which includes private and public hospitals, clinics and healthcare centres providing “medical, surgical and other health services” (Meroño-Cerdán, & López-Nicolás, 2013, p.1315). Primary healthcare practices are not included in the study. The terms ‘healthcare unit’, ‘healthcare organisation’ and ‘healthcare provider’ are used as synonyms throughout this study.

The study is deductive and twofold, consisting of a purposive literature review and a case study of the healthcare provider Capio Group (henceforth Capio). Capio is a large privately owned Swedish healthcare company providing “a broad range of high quality medical, surgical and psychiatric healthcare services in five [European] countries through its hospitals, specialist clinics, and primary care units” (Capio AB, 2017a). Our reasoning for the choice of Capio will be stated in section 1.4.

The results of an in-depth literature review constitute the basis for the subsequent qualitative interviews. During the interviews, practitioners at Capio assess the importance of the resulting factors based on their work experience. A survey prior to the interviews is used in order to make sure that relevant concepts will be discussed and further explored. Hence, the case study complements the list of theoretical findings by a practical perspective, as it provides an in-depth understanding of the concepts in a real-life situation.

The purpose leads to the following research question and two sub-questions, which will be answered in terms of this study.

1. What are facilitating factors for the implementation of organisational innovations in healthcare?

1.1 What facilitating factors can be identified in academically published journals?

1.2 To what extent do healthcare practitioners recognise these facilitating factors?

Overall, we note that the concept of ‘facilitating factors’ implies a high degree of abstraction and ambiguity. We bear in mind that the examined concepts are socially constructed and highly dependent on the context of certain viewpoints. The word ‘recognise’ from research question 1.2 means that we assume that healthcare practitioners understand the concepts of facilitating factors and can set them into a practical context. This issue and resulting vagueness will be highlighted in the thesis several times as it is a critical aspect when drawing reliable conclusions.

Examining facilitating factors for implementation does not mean that results have predictive capability for success (Lavoie-Tremblay, O'Connor, Lavigne, Briand, Biron, Baillargeon, MacGibbon, Ringer & Cyr, 2015). Every innovation process should be discussed separately in terms of the specific organisational context in order to draw the right conclusions for an effective and efficient implementation. Yet, we argue that the factors tend to facilitate a final outcome, perceived as satisfactory or favourable by involved parties in the healthcare organisation.

1.3 State of Research

The topic of facilitating factors for innovation implementation in healthcare is scarcely addressed in terms of empirical studies or literature reviews (Carlford & Festin, 2015; Cresswell & Sheikh 2013; Durlack & Dupre, 2008; Helfrich et al. 2007; Lega & Calcioari, 2012). Furthermore, loosely defined, and the lack of acknowledged theoretical frameworks makes it difficult to systematically examine service innovation phenomena (Baunsgaard & Clegg, 2015). This results in descriptive and interpretative assessments of innovations in healthcare (Kash, Spaulding, Johnson & Gamm, 2014).

On the other hand, systematic literature reviews in the context of innovations in healthcare have predominantly analysed individual, organisational or external environments (e.g. Damschroder, Aron, Keith, Kirsh, Alexander & Lowery, 2009; Greenhalgh, Robert, Macfarlane, Bate & Kyriakidou, 2004). Thus, they propose generic determinants for innovations in healthcare that can also be applied to other industries, and are therefore not specific to healthcare organisations.

Having said this, to date theoretical insights may help healthcare practitioners in planning and realising the launch and implementation of innovations. However, the availability of a complete and precise list which is suitable especially for healthcare providers lacks. Therefore, the present study intends to shed light on and broaden relatively little knowledge in this context, since our intended specific focus has not yet been explored in such detail.

Cresswell and Sheikh (2013) provide a first attempt for the development of practical guidelines and call for empirical verifications and adaptations by stating that “research employing expertise in these fields is therefore central to furthering knowledge of organizational adoption and generalizable best practices for implementation” (Cresswell & Sheikh, 2013, p.83). The present study intends to follow-up on this request.

1.4 Choice of the Case ‘Capio Group’

The healthcare company Capio represents a dynamic, change orientated organisation, continuously looking for opportunities to foster its innovative-driven vision (Capio AB, 2017a). In particular, during recent years, Capio has progressed considerably in this context. The operational re-design of the breast cancer center at Capio S:t Görans hospital, Stockholm, or the establishment of Capio Online AB demonstrate appreciable examples for its innovative corporate attitude (Capio AB, 2017a). Capio Online is an independent start-up business in charge for the adoption of digital innovations. Capio has also accomplished successful piloting phases of innovations. Therefore, the company is an appropriate case for this study, since it includes not only past success stories but also an ongoing debate on how to find new ways of making healthcare services more efficient through innovation.

We conclude that interviewing healthcare practitioners at this company provides significant insights as we can make use of expert knowledge combined with critical judgements. Therefore, this case fits the purpose to receive a more specific understanding of facilitating factors. The ease of accessibility in terms of the collaboration between Lund University School of Economics and Management and Capio was a further reason why we chose this company for the study.

Summary

This chapter introduced the debate about innovative capability and challenges in healthcare. It outlined the state of research when it comes to the implementation of organisational innovations. Based on a lack of research, we derived the necessity to study this topic in-depth. Purpose and research questions were explained as well as the reasons for the choice of Capio in the case study.

2. Definition of Key Terms

The following section explains the key terminologies used in this study. This is particularly important for innovation research as the discipline is widely criticised for its arbitrary and ambiguous definitions (Baunsgaard & Clegg, 2015). Consequently, “non-cumulative and non-comparable studies” (Baunsgaard & Clegg, 2015, p.20) make it difficult to compare one research to another and to develop consistent theoretical argumentation. Baunsgaard and Clegg (2015) argue that studies regarding antecedents of innovation come up with different and conflicting results although conveying a similar research interest. Durlak and DuPre (2008) and Damschroder et al. (2009) state that implementation science research is challenged by different terms and explanations. However, “simplifying [and] specifying ... help us to hold on parts of the problems” (Baunsgaard & Clegg, 2015, p.21). With these problems in mind, we present suitable working definitions.

2.1 Organisational Innovation

Joseph Schumpeter (1934), one of the founding researchers in innovation theory, defined the term innovation in five different ways – “new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business” (Fagerberg 2005, p.6). This categorisation provides a general idea of what innovation is with a macroeconomic perspective, where innovation is considered to be derived from entrepreneurial activities and shapes industries (Fagerberg, 2005).

Damanpour (1991) adds that innovation also covers organisational changes, caused by internal and external dynamics, to improve performance and productivity. Thus, innovation does not only mean idea generation, but also the implementation of existing ideas into an organisation (Damanpour & Wischnewsky, 2006). Damanpour and Schneider (2006) define innovation according to the level of analysis or degree of novelty: “[A]t the organizational level, innovation is defined as the adoption of a new product, service, process, technology, policy structure or administrative system” (Damanpour & Schneider 2006, p.216). This definition matches the understanding of the term ‘innovation’ in this study. The concept of ‘new’ is interpreted from the perspective of the particular unit that executes the innovation (Damanpour & Wischnewsky, 2006; Rogers, 1983). In this study, we acknowledge all types of organisational (non-medical) changes, which are new to the organisation as innovation.

To sum up, for the purpose of this research, an innovation exists if it is perceived as new to the whole organisation, thus we frame innovation also as organisational innovation.

Organisational Innovation in Healthcare

Applying this understanding to healthcare providers, the definition from Thakur, Hsu and Fontenot (2012) fits the scope of this study as it narrows innovation down to internal work flows or administrative procedures: “[I]nnovation in healthcare is defined as those changes that help healthcare practitioners focus on the patient by helping healthcare professionals work smarter, faster, better and more cost effectively” (Thakur, Hsu & Fontenot, 2012, p.564).

As healthcare represents a large service sector, Bower (2003) points out that the relation to consumers, in this case patients, is important to consider. Integrating this view would extend the scope of the thesis. Therefore, we do not focus on the relationship between patients and healthcare providers since that accounts for another field of medical and service innovation research. It is more broadly concerned with patient satisfaction, collaborations and value creation (Jung & Padman, 2015; Kash et al. 2014).

To summarise, we define organisational innovation in healthcare as any non-medical product, process, technology, administrative method or business model that is new to a healthcare organisation and aims to enhance the productivity, efficiency and improvement of care quality for patients. Innovations in healthcare address the implementation on the frontline level of healthcare services.

2.2 Implementation of Innovation

Innovation implementation is the transition phase of putting an innovation into practice (Damanpour, 1991; Rogers, 1983; Wisdom, Chor, Hoagwood & Horwitz, 2014). It constitutes the final period of the innovation process; the innovation process is also commonly termed as ‘adoption of innovation’ in the literature (Damanpour, 1991; Greenhalgh et al. 2004; Rogers, 1983; Wisdom et al. 2014). Thus, the implementation phase is preceded by two other main phases in the innovation process (Damanpour, 1991). First, the initiation phase includes all pre-activities, such as the debate of current problems, the potential of innovations, and the general system readiness prior to the actual decision to adopt the innovation. Second, the adoption decision is the final organisational commitment, which is often represented by managerial agreement to introduce a certain innovation.

Implementation begins with the first launch or initial utilisation, until the wide-shared transfer into organisational routines within the adopting unit (Rogers, 1983). It also implies continuous adaptations of the innovation to ensure an alignment between features of the innovation and the organisational setting (Damanpour, 1991). Damschroder et al. (2009) and Helfrich et al. (2007) stress that commitment of the person or organisation who applies the innovation is critical to its success. Thus, Damschroder et al. (2009) interpret the implementation also as a “social process that is intertwined with the content in which it takes place” (Damschroder et al. 2009, p.3).

To summarise, we understand implementation of innovation as integrating a developed innovation into regular work flows. It starts with the first application and ends if the innovation has become an acknowledged routine within the organisation.

The focus to examine the implementation phase in this study is related to two reasons. Firstly, in a (pre-)meeting with our main contact at Capio, Towa Jexmark, we realised that the company faces the challenge to implement already developed innovations (e.g. digital consultations or standardised worksheets) in a worthwhile and efficient way. Thus, setting the focus on implementation can practically assist the internal spread of the innovation. Secondly, according to the state of research (Section 1.3), the implementation phase lacks thorough research in this field.

Summary

We outlined the difficulty of inconsistent definitions in the research field and introduced the operational definitions for the purpose of the study. Further explanations set the definitions in their contexts.

3. Methodology

This chapter provides an overview about the whole research structure of the present study. We elaborate on each aspect of the methodology and expose the underlying reasons for the various choices.

3.1 Research Philosophy

Research philosophy explains the nature of knowledge generation. Specifically, it deals with the relationship between the researcher's perspective and the surrounding social environment in order to derive conclusions about certain phenomena (Easterby-Smith, Thorpe & Jackson, 2015). In general, the philosophical position is the basis for the choice of methods, which matches the whole research design.

Bearing in mind that facilitating factors are intangible and highly abstractive concepts, we argue from a relativist ontological worldview (Easterby-Smith, Thorpe & Jackson, 2015). We recognise that objective or absolute truth does not exist, but rather many subjective-driven views to explain empirical phenomena (Easterby-Smith, Thorpe & Jackson, 2015).

The research design follows the perspective of interpretivist epistemology by acknowledging that various individual perceptions about the world exist, depending on the observer's background (Bryman, 2012; Saunders, Lewis & Thornhill, 2009). Arguing from an interpretivist point of view, reality and knowledge are created through social interpretation in the context in which people are embedded in (Prasad, 2015). We are aware that people cannot fully conceptualise and interpret ideas, but can judge from their individual points of view. Thus, as interpretivists we can investigate relatively vague concepts by understanding each interviewee's meaning behind it (Bryman & Bell, 2015). Consequently, we are interested in different perspectives on multiple organisational levels at Capio in order to grasp the complexity of this topic. Furthermore, the necessity to thoroughly analyse the gathered data becomes evident.

3.2 Research Approach

The present study follows a deductive research approach. This means that theoretical concepts are the starting point to guide the research process (Bryman & Bell, 2015). After collecting and analysing qualitative data, theories are assessed and adapted. In this study, an in-depth literature review provides the theoretical concepts; that is the facilitating factors. These will be validated and explored by a survey and qualitative interviews (Figure 1).

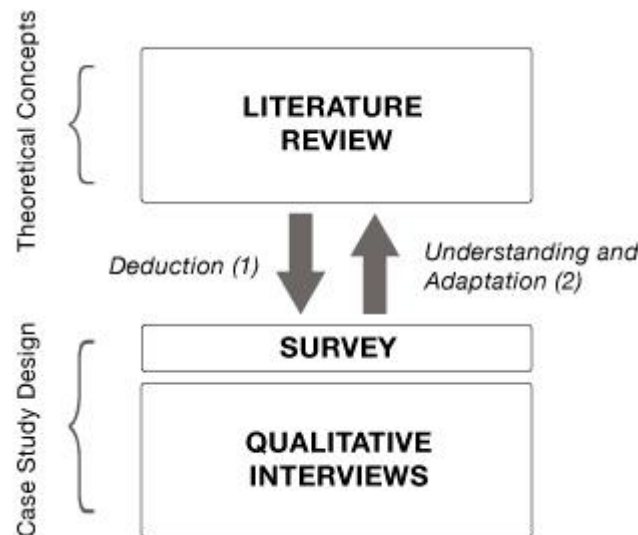


Figure 1: Overview of our Research Approach

3.3 Research Design

Qualitative studies are commonly used for an explorative aim of research (Easterby-Smith, Thorpe & Jackson, 2015; Saunders, Lewis & Thornhill, 2009). As there is already some knowledge when it comes to facilitators for innovation implementation in healthcare, but not scientifically profound and complete, this study is organised in an exploratory way. It intends to investigate facilitating factors for the implementation of organisational innovation in healthcare.

3.4 Research Strategy

Based on the exploratory stance we conduct a case study that allows to enrich understanding and to clarify theoretical constructs (Yin, 2014). Saunders, Lewis, and Thornhill (2009) highlight that such design is “a worthwhile way of exploring existing theory” (p.147) while it can further “challenge an existing theory and also provide a source of new research questions” (p.147).

Similarly, Lee, Collier, and Cullen (2007) point out “that particularization rather than generalization constitutes the main strength of case studies” (Bryman & Bell 2015, p.69). Therefore, this case study intends to conceptualise and determine certain categories of

facilitating factors. Based on the final outcome of the study, it is possible to conduct a follow-up large-scale study that can analyse multiple organisations in order to draw generalisable conclusions.

3.5 Research Choice

A mixed-method approach of data collection is selected to gather credible data as well as to satisfy to the study purpose of gaining a deeper understanding of a certain phenomenon (Easterby-Smith, Thorpe & Jackson, 2015; Saunders, Lewis & Thornhill, 2007). Primarily, the outcomes of a survey (quantitative data collection method) are used to support the results of interviews (qualitative data collection method). Priorities are assigned to qualitative interviews as they allow interpretation and exploration of the survey results. The survey accounts for a supplement of qualitative data collection. It intends to answer the question of ‘what’ do healthcare practitioners actually perceive as important when it comes to a implementation in healthcare. The subsequent interviews fulfil the aim of answering ‘why’ healthcare practitioners agree or disagree with certain factors.

Sections 3.8.2 and 3.8.3 elaborate on the aim and conduction of both research methods. Saunders, Lewis, and Thornhill (2007) argue that this mixed-method approach helps to increase the quality of conclusions, as each study method has its limits.

3.6 Time Horizon

A cross sectional horizon restricts the study to a specific time frame. It allows investigation of a certain topic in terms of its context and specific characteristics (Saunders, Lewis & Thornhill, 2009). As we intend to gain insights from different perspectives based on the past and present experience, it is essential to choose a cross-sectional profile for this study.

3.7 Literature Review

An in-depth literature review enables us to have an explicit understanding of the academic debate on the topic. Furthermore, it allows to summarise systematically the available knowledge with a specific scope in mind. Consequently, we are able to validate the reviewed data against the perspectives of healthcare practitioners.

3.7.1 Aim and Scope

The aim of the literature review was to develop categories of facilitating factors for innovation implementation, to derive concepts for the conduction of the case study. Furthermore, it provides us with a profound understanding of theoretical discussions regarding the scope of our study. We conducted a narrative literature review as it is “less focused and more wide-ranging in scope” (Bryman & Bell, 2015, p.110). This is to avoid missing any valuable publications regarding the particular topic, and to get an idea of various research perspectives in this ambiguous field.

Discussing innovation and, more specifically, the transition towards practical usage is closely related to the topic of adopting change within an organisation (Greenhalgh et al. 2004; Damanpour & Schneider, 2006; Jung & Padman; Øvretveit, Andreen-Sachs, Carlsson,

Gustafsson, Hansson, Keller, Lofgren, Mazzocato, Tolf & Brommels, 2012). For instance, Øvretveit et al. (2012) state that following the understanding of innovation as “‘new to the organisation’ makes ‘innovation’ a concept close to ‘change management’” (p.238). Therefore, besides the areas ‘Innovation Management’ and ‘Healthcare Management’ the review also covers ‘Organisational Change’ to identify suitable publications.

Since we focus on the perspective of a healthcare organisation, we examined which facilitating factors have a direct impact on organisational units or members. Therefore, we limited the search to the organisational level and individual level. Additionally, potential characteristics of the innovation that influence the aforementioned levels were also taken into account. This way, we narrowed down the search.

We excluded the role of external economic and political environment in the review and case study, due to time constraints. However, an understanding of the wider context in which healthcare units operate is worth analysing and should not be neglected.

3.7.2 Data Collection

We searched for articles independently on the online databases LUBsearch, Business Source Complete (Ebscohost) and MEDLINE. We used the following key words and/or combinations:

- (organisational/organizational) innovation
- AND healthcare (management)
- AND/OR preconditions/determinants (similar terms or synonyms)
- AND/OR implementation/adoption of innovation (similar terms or synonyms)
- AND/OR organisational change/organisational development (similar terms or synonyms).

By doing so, we could find suitable results related directly or indirectly with the review-scope. We explicitly filtered for peer-reviewed journals in English, published since 2000. Furthermore, snowballing search of reference lists was applied, which led to the inclusion of further relevant publications. After scanning the abstracts for a decision of inclusion or exclusion, we independently reviewed the articles in detail. A careful and critical assessment of the statements and conclusions is very important due to the issue of inconsistent definitions and research approaches (Easterby-Smith, Thorpe & Jackson, 2015). Therefore, we carefully examined the authors' methods, definitions, and findings in order to extract those articles that fulfilled our research interest and matched our operational definitions.

3.7.3 Data Analysis

In total, 34 articles (Appendix B) were included in the literature review, and accounted to be sufficient for theme saturation. Some publications dealt with facilitating factors or similar concepts as their main topic of research. Others were less responsive to our focus, so the extracted text passages appeared as a side topic. However, we considered them to be valid for inclusion due to the lack of research concerning the chosen scope of our thesis.

To analyse the data in a meaningful way we applied qualitative content analysis, defined as “a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p.1278). A qualitative approach has the advantage of taking the context of potential extracts into account and thereby leads to a comprehensive outcome that aligns with our purpose (Hsieh & Shannon, 2005). This systematic qualitative method of analysis was appropriate due to the number of publications, the inconsistent understanding of key terms and the variety of publications (reviews and empirical studies).

An extensive coding process, including a collective reviewing phase (by the two of us) resulted into 365 codes, representing facilitating factors and key barriers for the implementation of organisational innovation in healthcare. The finding of barriers was concluded generally, and was not a result of specific search. Finally, after categorising the codes thematically we identified five overarching themes and fourteen theoretical concepts of hands-on facilitating factors. We deduced the process of the case study based on these concepts.

3.7.4 Data Quality

A narrative approach is criticised for being less transparent and very subjective (Bryman & Bell, 2015; Easterby-Smith, Thorpe & Jackson, 2015). In order to counteract this weakness, it is useful to specify the review procedure by integrating prevalent methods of systematic reviews (Bryman & Bell, 2015). The previous sections (3.7.1., 3.7.2., 3.7.3) have clearly documented our methodological approach and procedures.

Reliability, a criterion closely related to replicability or the degree to which a study can be reproduced by another researcher (Bryman & Bell, 2015), was enhanced by disclosing the aim and scope of search; that are databases, relevant key terms and research areas. Moreover, the coding process of the literature review was explained in a traceable manner. We also created a summary table of all publications included according to the identified themes and theoretical concepts (facilitating factors) for additional verifiability (Appendix B).

In terms of validity, which means that measured concepts really represent the study-construct (Bryman & Bell, 2015), we agreed on pre-defined key terms such as ‘organisational innovation in healthcare’ and ‘implementation of innovation’ as well as specified the unit of analysis. The definitions guided the decision to integrate codes.

Finally, all articles are published in academic journals, so that they have been previously proven to be of high quality. Therefore, we conclude that the review is based on a qualified level of knowledge, which allows to derive data for the case study.

Limitations

Although we aimed to minimise the scope of bias by clarifying the procedures, rule, definitions regarding the inclusion of articles, and the coding process, we recognise that subjective interpretations cannot be fully avoided. From an interpretivist epistemological viewpoint, our reasoning is influenced by social interactions. However, the existence of two independent reviewers and the discussion of each code helped to derive favourable outcomes.

3.8 Data Collection

Survey and interviews served to gain a practical perception and in-depth understanding of the theoretically identified facilitating factors. We explain how we gathered our qualitative data.

3.8.1 Sampling

The sampling strategy to select suitable interview candidates was based on two kinds of non-purposive sampling, namely ad-hoc and snowball sampling (Easterby-Smith, Thorpe & Jackson, 2015). On the one hand, cases were selected according to their availability. This is reasonable sampling when time is constrained (Bryman, 2012; Easterby-Smith, Thorpe & Jackson, 2015). On the other hand, participants provided indication of further suitable colleagues. In particular, we made use of one key contact, Towa Jexmark, who offered to seek potential candidates in line with our needs.

We selected people at Capio who have experience with innovations in terms of their professional positions, and were therefore able to provide reliable input to the questions. Moreover, when validating established theories through interviews in a case study, diverse interviewees with different perspectives are crucial to improve the quality of findings (Yin, 2014). Additionally, arguing from an interpretative epistemological viewpoint, in order to get a holistic picture of the unit of analysis, the collection of data of various personal perceptions makes a study more valuable. Consequently, we chose respondents from various organisational levels within Capio, who work in different countries – Germany, France and Sweden. Even though most of the interviewees pursue a managerial position, their career paths include positions in other departments and organisational levels at Capio. Thus, they have the capability to judge from different standpoints. In addition, the interviewees come from different professional and educational backgrounds. In section 5.2 we will present each of the interviewees in further detail in order to underline their contribution to this study.

Table 1 lists all respondents by name, position, working location as well as details of the interview appointments. To conclude, the sampling method resulted in eight participants for the interviews, six of them completed the survey.

Name	Capio	Position	Location	Date / Time	Duration
Berglund, Thomas	Capio Group	CEO	Sweden	08/05/2017 07.30	60 min
Danelius, Margareta	Capio Online AB	CMO Capio Online	Sweden	25/04/2017 09.00	40 min
Demesmay, François	Capio Group /France	Deputy Chief Medical Officer	France	28/04/2017 09.00	60 min
Granado Persson, Paola	Capio Group /Germany	Medical Director	Germany	26/04/2017 15.00	60 min
Jexmark, Towa	Capio Online AB	CEO	Sweden	24/04/2017 16.00	45 min
Norenstedt, Sophie	Capio Sweden	Surgeon, S:t Görän's Hospital, Stockholm	Sweden	08/05/2017 13.00	50 min
Olsson, Daniel	Capio Närsjukvard AB	Executive Vice President	Sweden	25/04/2017 10.30	60 min
Pewe, Maria	Capio Group /Sweden	Human Resources Director	Sweden	27/04/2017 15.00	60 min

Table 1: Interview Participants of the Case Study

3.8.2 Survey

Aim

The survey was primarily used to determine the relevance of the various concepts, which assisted the discussion of certain facilitating factors in greater detail in interviews, by letting the interviewees explain their reasoning behind the survey-choices. In particular, participants could reflect in advance on personal experience regarding the topic and indirectly prepare for the interview. As a result, the likelihood of high-quality answers was increased. Also, biases and trust-issues between interviewers and interviewees could be reduced in advance (Saunders, Lewis & Thornhill, 2007), as will be further explained in section 3.8.5.

Conduction of Survey

A participant information sheet (Appendix C) and a self-administered questionnaire (Appendix D) were sent by email to the eight participants. The information sheet summarised the purpose of the study, rights of interviewees as well as working definitions of key terms to prevent the risk of misinterpretations.

The online-survey consisted of 22 close-ended questions and three open-ended questions.

The close-ended questions could be rated on a Likert-style scale by using the opinion variables ‘agree – tend to agree – tend to disagree – disagree’ (Saunders, Lewis, Thornhill, 2009). The three open questions requested to state tasks of leadership, management and middle/firstline management (Appendix D). During the interviews, we asked more specifically about the meaning of these constructs, since we could foresee problems with interpretations of terms. For the survey, we wanted to keep it open in order to let the people interpret and think on their own.

An answer field for individual comments was added in order to allow for additional statements regarding the presented concepts. The questionnaire asked for the relevance of concepts that were identified in the literature review.

We intended to adapt interview questions accordingly depending on the outcome of the survey. We realised that all factors were assessed as significant. Therefore, we concluded to address all theoretically identified concepts in the interviews.

3.8.3 Qualitative Interviews

Aim

The objectives of the interviews were to:

- Specify what is particularly important for the innovation implementation in healthcare based on the survey outcome.
- Get a detailed explanation of the facilitating factors through expert knowledge and personal experience.
- Identify additional facilitating factors, the literature review did not cover.

Conduction of Interviews

We conducted seven skype-interviews and one face-to-face interview. They took approximately 40 to 60 minutes, including five minutes for an introduction and clarification of concepts, questions or concerns. All interviews were recorded with the consent of interviewees. The interviews were transcribed and quotations were confirmed or slightly adapted by interviewees.

Saunders, Lewis and Thornhill (2007) state that it is necessary to create confidence and credibility when holding interviews. We believe that part of the credibility derives from proper interest and topic-specific knowledge. The literature review prior to the interviews assisted us to get familiar with current academic views. The gained knowledge and information were shown by sending the survey and information sheet prior to the interviews. In addition, before conducting interviews, we informed ourselves of the present case Capio and read the latest annual report. During the meeting with a key representative we gained further insights into the current situation and corporate development of the company.

Course of Interviews

We used semi-structured interviews and open-ended questions to explore individual perceptions of healthcare practitioners working at Capio. This method of qualitative interviews is beneficial to examine experience, meanings and individual assessments of the

participants in accordance with an interpretivist epistemological position (Bryman & Bell, 2015; Easterby-Smith, Thorpe & Jackson, 2015; Saunders, Lewis & Thornhill, 2007). Semi-structured interviews benefit from a more flexible interview method. Thus, changing the order of questions, discarding, adding and adapting questions to the context is accepted (Bryman & Bell, 2015; Easterby-Smith, Thorpe & Jackson, 2015; Saunders, Lewis & Thornhill, 2007). As part of the interview, we asked for practical examples through which the interviewees could strengthen their point of view. This helped us to better understand abstract constructs. We probed with follow-up questions in order to receive more specific answers and practical evidence.

An interview guide containing sixteen overall questions, assisted in remembering key questions or potential follow-up questions (Appendix E). All interviews started with a short presentation of the interviewees followed by an explanation of their personal involvement in implementation processes of organisational innovations in healthcare. By that we could relate various concepts to the interviewee's personal experience. In fact, the participants answered in a way that was easy to lead to a next question. A dialogue was established and led to more explorative insights and an in-depth conversation.

The themes were driven by interviewees, while we as researchers kept key-terms in mind to guide conversations. Due to the high degree of abstraction of the investigated concepts, it was a challenge to make sure that the answers were based on similar interpretations of the two of us and the interviewees. We dealt with this issue by emphasising this challenge various times during the interviews. We also offered to clarify the concepts based on our understanding at the beginning and throughout the interviews. By sending clear survey-statements and definitions in advance, we expected the interviewees to have a relatively clear idea of the considered facilitating factors.

We double-checked the interview guide in order to ensure that all concepts were addressed in the interview. Additionally, we got certain topics reconfirmed by the interviewees, in cases we were not completely sure if we addressed them specifically. This was also necessary in order to make sure that we captured all concepts according to the interviewee's perspective.

At the end of each interview, we asked the respondents to reflect on discussed themes and give a general statement to this topic. Such an open question enabled the respondents to stress a certain topic or outline additional factors.

3.8.4 Data Analysis

Quantitative Data Analysis

The survey was used as a complement to our qualitative data collection. Due to the limited number of participants, no specific quantitative statistical method was applied. Therefore, the analysis only depicted the total response rate in 'number of respondents'. As both data collection methods interrelate, we integrated the quantitative insights into the analysis of the interview results.

Qualitative Data Analysis

To contribute to a high quality data analysis with respect to the research questions, it was important to use all aspects of the interview data for the analysis and thereby “attend to all the evidence” (Yin, 2015, p.168). Yin (2015) stresses the significance of expertise in order to set the gathered data in an appropriate research context. Our approach of data analysis attempted to uphold these demands.

The analysis was based on a matrix consisting of the findings of the literature review. This matrix constituted the framework for the analysis. Consequently, each interviewee's argument was read carefully and attributed to the relevant concept-category. As we dealt with ambiguous topics, which are difficult to grasp for practitioners, some arguments overlapped with multiple theoretical concepts. As a consequence, some extracts were assigned to multiple categories. In these cases, we discussed them again and took a further look into the transcripts in order to specify the context of the argument.

We then highlighted key quotes and summarised each argument in short. Furthermore, we highlighted certain adjectives such as ‘very’, ‘highly’, ‘key’, ‘absolutely’ or ‘important’ in order appraise the attributed relevance of each concept. The focus of the analysis was laid on examining the content and extent of elaboration of certain concepts. We critically evaluated the meaning of each argument. Furthermore, we related similar arguments to one another and outlined critical factors that were seen differently by various respondents. Repeated arguments of interviewees underlined the evidence of the relative importance. Some concepts were not elaborated in-depth, but in a rather unspecific manner or very shortly. From those concepts we concluded less relevance for healthcare when it comes to the facilitating factors for the implementation of organisational innovations.

Overall, the analysis in section 5.2 includes our interpretations based on the interviewees' answers and the course of the interviews. We integrated various arguments from different interviewees to support the evidence of the concepts and to allow for different ways of interpretation.

3.8.5 Data Quality

Quantitative Data Quality

Before distributing the survey, an independent expert screened the survey design. The feedback led to slight adjustments of the survey material, thus improving overall comprehensiveness. The participant information sheet provided necessary background information of the study, so the respondents had the setting and idea of the survey in mind when completing it. Abstract constructs were pre-defined and ensured a common language between us and interviewees regarding the questions. The application of opinion variables contributed to less subjective effects (Bryman & Bell, 2015) and supported the trustworthiness of the interviewees' perceptions.

Both, the participant information sheet and the questionnaire template are provided in Appendix C and D.

Qualitative Data Quality

Conducting qualitative research is commonly criticised to focus too much on subjective interpretations when gathering data (Bryman, 2012). Therefore, it is essential to evaluate data quality with suitable criteria. We used the criteria of trustworthiness including four sub-criteria, and authenticity which are proposed by Guba and Lincoln (1994) and emphasised by Bryman and Bell (2015).

Credibility explains the extent to which the researcher is recognised for providing high quality results based on comprehensible procedures (Bryman & Bell, 2015). The methodological approach of how we conducted the sampling, interacted with interviewees and analysed data was clearly documented. Furthermore, the interviewees' professional backgrounds and expertise increased the credibility of data. In particular, clear definitions minimised misinterpretations of certain concepts. As such, definitions of key terms in the participant information sheet (Appendix C) helped to ensure that both we as researchers and interviewees had the same understanding of the study focus. Furthermore, a sampling of diverse participants enabled a multidisciplinary perspective on the research topic.

Trust and confidence had to be established so that the interviewees were not reluctant to reveal information and could speak freely, avoiding any response biases (Saunders, Thorpe & Lewis, 2009). Sending out the participant information sheet and completing the survey prior to the interview was a means to establish trust. Moreover, interviewing via Skype allowed the interviewees to choose their preferred location for conducting the interview to be comfortable during the interviews.

Transferability addresses the difficulty to transfer findings to other areas due to the fact that qualitative insights are embedded in a specific context. We are aware that a case study design and a participation of eight interviewees make it difficult to account for this criteria as it deals with one unique setting (Saunders, Thorpe & Lewis, 2009). We provided relevant background information about the selected company and the interviewees in order to understand the uniqueness of this case. This assists future investigations to use reliable insights from this study.

Dependability is closely related to reliability. It is to “adopt an ‘auditing approach’” (Bryman & Bell, 2015, p.403) by clearly stating methodological procedures throughout the study in order to enhance reproducibility. Therefore, we explain the research design, choice of methodological approaches, and how we gathered and analysed data in great detail (Section 3.8).

Confirmability indicates that even though “complete objectivity is impossible in business research, the researcher can be shown to have acted in good faith” (Bryman & Bell, 2015, p.403). This aspect is crucial for quality assessment as it deals with a critical point regarding qualitative research, namely the researcher's bias (Saunders, Lewis & Thornhill, 2009). To counter subjective influences, the whole research project included key stages of thorough deliberations between the two of us to derive valuable data. Moreover, both of us conducted and moderated the interviews, so that it was possible to monitor the other's behaviour.

Easterby-Smith, Thorpe, and Jackson (2015) state that using open-questions during the interview reduces biases, so we focused on asking this type of questions.

In the analysis we integrated various interpretations towards the concepts underlined by explicit and direct quotations from the interviewees. By doing so, we accept different viewpoints on various areas albeit categorising them towards our understanding. Arguing from an interpretivist epistemological standpoint, despite all attempts to remedy the extent of interpretations, we acknowledge that subjectivity cannot be fully avoided. For instance, we realised that some interviewees had trouble to respond directly to the relevance of ‘an innovation facilitating culture’. In section 3.8.4 we exposed how we analysed such circumstances.

The quality criterion of *authenticity* is concerned with the amount of viewpoints addressed in the research, and hence, the constitution of sampling. We tried to have a balanced proportion of interviewees from different organisational levels. Even though, most of the actual participants represent higher management level in their current position, their career paths depict a variety of perspectives. To ensure trustful data interpretation, we transcribed interviews, and quotations were confirmed and partly adapted by interviewees.

3.8.6 Limitations

A main problem of qualitative studies is the researcher's bias or the tendency to interpret a certain phenomenon in a way that might be influenced by subjective attitudes (Bryman & Bell, 2015). Thus, the extent of replicability is limited. As a highly complex and abstract concept, such as ours (facilitating factors), is dynamic and circumstances change naturally, and with a cross-sectional design, it is logical that any repetition of our research will not reveal the same result.

Another weak point is related to flexibility of asking questions in semi-structured interviews. Consequently, the researchers can influence the interaction with the interviewees in a way that leads to the researcher's preferred answer (Bryman & Bell, 2015). Even though we addressed each concept, we might have concentrated on certain concepts by asking more follow-up questions to clarify things. This naturally leads to a larger response rate, respectively to more interview material, but does not necessarily reflect that a topic is as such more significant.

To conclude, despite the attempt to have a high level of data quality, the interpretivist nature of research design demonstrates that the findings and conclusions cannot be recognised as objective facts.

Summary

This chapter thoroughly explained the methodological approach of our study. We conduct a deductive and exploratory study. Based on a relativist ontological worldview, the research design is aligned with the perspective of interpretivist epistemology. The focus is set on a qualitative case study of Capió. We use a multiple-method approach, consisting of in-depth, semi-structured interviews, and a preceding survey. The conduction of the case study is based on theoretical concepts from an extensive literature review.

4. Literature Review

This chapter presents and analyses the results of the narrative literature review. Consequently, we are able to answer research question 1.1 (*What facilitating factors can be identified in academically published journals?*).

4.1 Findings and Analysis

As indicated in the methodology section, we conducted a content analysis based on the literature review. This analysis resulted in five themes and fourteen theoretical concepts, accounting for the facilitating factors when implementing organisational innovations in healthcare. Table 2 summarises the main themes and theoretical concepts which can be grouped into three levels of analysis: Organisational level, individual level and innovation level. Appendix B assigns the articles to the identified theoretical concepts.

On the organisational level, we determined the topics ‘organisational structure’, ‘organisational culture’, and ‘communication’, which affect the implementation process. The individual level deals with characteristics of driving individuals. Based on various terminologies in the literature we refer to them as ‘champions’. Furthermore, the individual level incorporates responsibilities of leadership, management and middle management prior to and during an implementation process. The innovation level depicts certain innovation characteristics and relevant aspects of the innovation process itself. Each theoretical concept will be explained in the following sections.

Level of Analysis	Themes	Theoretical Concepts
Organisational Level	Organisational Structure	Flat Organisational Structure
		Networks
		Training
		Resources
	Organisational Culture	Innovation Facilitating Culture
		Dealing with Diversity
		Overcoming (Professional) Status Recognition
Communication	What to Communicate and How to Communicate	
Individual Level	Driving Individuals	Champions
		Leadership and Management
		Middle Management
Innovation Level	Innovation Characteristics and Processes	Relative Advantage and Complexity
		Compatibility and Adaptability
		Piloting, Monitoring and Feedback

Table 2: Summary of Facilitating Factors (Results of Content Analysis)

4.1.1 Organisational Level: Organisational Structure

The way an organisation is structured supports the implementation of innovations. Four theoretical concepts were identified: Flat organisational structure, the role of networks, (educational) training, and the availability of resources.

Flat Organisational Structure

Decision-making should integrate all individuals who are affected by the innovation (Andreassen, Kjekshus & Tjora, 2015; Barnett et al. 2011; Busari, 2012; Durlak & DuPre, 2008; Gagnon, Desmartis, Labrecque, Car, Pagliari, Pluye, Frémont, Gagnon, Tremblay & Légaré, 2015; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Kash et al. 2014; McWilliam & Ward-Griffin, 2006; Weiner, Belden, Bergmire & Johnston, 2011; Wutzke, Benton & Verma, 2016). Consequently, this perspective calls for a shift towards flatter hierarchies (Anders & Cassidy, 2014; Birken, Lee, Weiner, Chin & Schaefer, 2013; Curtis & White, 2002; Gray, Harrison & Hung, 2016; McWilliam & Ward-Griffin, 2006). In a practical sense, those who directly execute an innovation and thereby create the final value should be integrated in the preparation and planning of the innovation implementation. This includes frontline healthcare staff, such as nurses, physicians and other employees engaged in administrative tasks (Curtis & White, 2002; Øvretveit et al. 2012; Weiner et al. 2011).

Yet, Busari (2012) assesses the integration of users; that is frontline staff, as difficult. The author argues that bureaucratic structures trigger the dominance of managers. Since entrenched hierarchical structures are largely represented in healthcare organisations, various professional levels interpret current needs differently. Therefore, as managers and frontline staff act in distant working contexts, they perceive current needs for change and innovation differently (Busari, 2012). The author further argues that physicians need to have more power in decision making, as they deal with daily challenges in the healthcare sphere. He further criticises that doctors lack management skills that are needed to coordinate internal processes in more efficient ways. In contrast, McWilliam and Ward-Griffin (2006) support a decision-making process mainly driven by appointed managerial staff.

The importance of an implementation team is recognised by multiple authors, although they do not explain specific team constellations and tasks (Aslani, Zolfagharzadeh & Naaranoja, 2015; Damschroder et al. 2009; Lavoie-Tremblay et al. 2015; Staren & Eckes, 2013; Øvretveit et al. 2012). Only Lavoie-Tremblay et al. (2015) mention continuous rotations of implementation team members throughout various departments, as this creates an understanding for mutual points of view and promotes readiness for change.

Even though scholars recognise that top-down structures obstruct an implementation process, in practice, healthcare units still face problems when it comes to inflexible hierarchies (Curtis & White, 2002; Øvretveit et al. 2012; Weiner et al. 2011). On the one hand, this circumstance is concerned with the characteristics of healthcare, where strict reporting structures due to reliable treatment processes and discretion issues are common phenomena (Bigelow & Arndt, 2005; Jacobs, Esserman, Bruce & Weiner, 2014). On the other hand, these patterns have resulted in the acknowledgement of entrenched status roles. Consequently, industry-cultural barriers constrain the uptake of new internal work procedures, because of the fear of losing

status (Anders & Cassidy, 2014; Cresswell & Sheikh, 2012; Gray, Harrison & Hung, 2016; Herzlinger, 2006; Lega & Calciolari, 2012; McWilliam & Ward-Griffin, 2006).

In section 4.1.2 this will be further explained in ‘Overcoming (Professional) Status Recognition’. In general, highly bureaucratic workflows and centralisation are recognised as barriers in the implementation process (Anders & Cassidy, 2014; Cresswell & Sheikh, 2012; Gray, Harrison & Hung, 2016; Herzlinger, 2006; Lega & Calciolari, 2012; McWilliam & Ward-Griffin, 2006).

Networks

Due to an increase in patient numbers and complex treatments, the importance of efficient workflows in order to generate good service quality is stressed by various scholars. This requires a close collaboration of physicians and administrative staff (Birken et al. 2013; Gray, Harrison & Hung, 2016; Weiner et al. 2011). The establishment of networks such as communication systems across the whole organisation can be a solution for integrating various levels, because it enhances knowledge and information sharing (Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Damschroder et al. 2009; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Øvretveit et al. 2012; Staren & Eckes, 2013; Wisdom et al. 2014).

As a result, an increase in organisational interactions across units and among colleagues will further lead to mutual feedback and evaluation possibilities, which are highly relevant during an innovation implementation process (Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Curtis & White, 2002; Damschroder et al. 2009; Durlak & DuPre, 2008; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Kash et al. 2014; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016).

Also, it is necessary to foster cooperation between involved hierarchical levels to ensure an adaption of the innovation towards actual user needs (Andreassen, Kjekshus & Tjora, 2015; Barnett et al. 2011; Busari, 2012; Durlak & DuPre, 2008; Gagnon et al. 2015; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Kash et al. 2014; McWilliam & Ward-Griffin, 2006; Weiner et al. 2011; Wutzke, Benton & Verma, 2016). For example, fostering a better coordination with top management, who tends to decide the innovation process, without being directly confronted by it, is beneficial to prevent misinterpretations about the demands on hand (Busari 2012).

When implementing an innovation, healthcare units should consider to make use of professional help from external institutions and professionals, or collaborate with other agencies and, especially, other healthcare units (Curtis & White, 2002; Damschroder et al. 2009; Durlak & DuPre, 2008 Øvretveit et al. 2012; Wisdom et al. 2014).

Training

As to achieve shared knowledge and exploit required professional skills, timely planned on-the-job trainings and educational programmes within the involved departments are essential to increase general competencies and user-knowledge (Anders & Cassidy, 2014; Bérard,

Bonnier, Saulpic & Zarlowski, 2015; Busari, 2012; Cresswell & Sheikh, 2012; Curtis & White, 2002; Durlak & DuPre, 2008; Gagnon et al. 2015; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Kash et al. 2014; Lavoie-Tremblay et al. 2015; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014).

Busari (2012) argues that instead of managerial trained physicians, too many decisions within healthcare organisations are led by administrators without practical medical background. The author perceives this as a drawback in the effort to deliver effective and modern healthcare services. Similarly, management and leadership trainings for physicians and frontline staff are also mentioned by other researchers (Gray, Harrison & Hung, 2016; Lavoie-Tremblay et al. 2015).

Resources

The access to financial resources and the amount of specifically assigned human workforce strongly influence the implementation of an innovation (Andreassen, Kjekshus & Tjora, 2015; Barnett et al. 2011; Berwick, 2003; Gagnon et al. 2015; Greenhalgh et al. 2004; Helfrich et al. 2007; Lavoie-Tremblay et al. 2015; Staren & Eckes, 2013; Kash et al. 2014; Weiner et al. 2011; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016).

With regards to financial issues, Herzlinger (2006) points to the difficulties in securing financial support since healthcare organisations function differently to the way investors assess the benefits of an innovation.

Workforce shortage is found to be a barrier in healthcare systems (Aslani, Zolfagharzadeh & Naaranoja, 2015; Busari, 2012; Cresswell & Sheikh, 2012; Lavoie-Tremblay et al. 2015). Busari (2012) argues that the problem lies in work overloads of physicians due to additional administrative duties besides clinical work. Thus, there is no time for managerial tasks other than the absolute necessities. Similarly, the problem of extensive workload is in connection with a lack of time for users to get familiar with an innovation. Therefore, time dedicated to experiencing and creating knowledge about an innovation is seen as an important resource as well, to be able to apply it effectively (Cresswell & Sheikh, 2012; Curtis & White, 2002; Greenhalgh et al. 2004; Lavoie-Tremblay et al. 2015; Weiner et al. 2011).

4.1.2 Organisational Level: Organisational Culture

According to Schein (1990), an organisational culture is a “pattern of basic assumptions ... invented, discovered, or developed by a given group” (p.109). Built on organisational structure, it is the outcome of a (path-dependent) learning process and represents shared commitment towards values, norms and beliefs of an organisation (Schein, 1990). That way, besides an effective structure, as stated above, it is crucial to understand people's attitudes, perceptions and interactions.

Innovation Facilitating Culture

A facilitating organisational culture is essential to create readiness for change and innovations among employees, as pointed out by various researchers (Aslani, Zolfagharzadeh &

Naaranoja, 2015; Bérard et al. 2015; Chaudoir, Dugan & Barr, 2013; Damschroder et al. 2009; Chaudoir, Dugan & Barr, 2013; Staren & Eckes, 2013).

There are several characteristics of a culture that are recognised as facilitating a smooth implementation process. For example, a positive working environment, including highly committed staff that has faith and confidence in the organisation is needed (Anders & Cassidy, 2014; Chaudoir, Dugan & Barr, 2013; Damschroder et al. 2009; Durlak & DuPre, 2008; Staren & Eckes, 2013). Likewise, the degree of job satisfaction can influence the willingness of changing familiar working processes (Aslani, Zolfagharzadeh & Naaranoja, 2015; Chaudoir, Dugan & Barr, 2013). Additionally, providing individual incentives for developing and experimenting with new ideas, as well as taking the associated risks, contributes to a motivating culture for innovation (Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Jacobs et al. 2015; Kash et al. 2014; Weiner et al. 2011; Wutzke, Benton & Verma, 2016).

Moreover, a culture should be supporting, initiating and rewarding the use of an innovation (Andreassen, Kjekshus & Tjora, 2015; Berwick, 2003; Birken et al. 2013; Helfrich et al. 2007; Gagnon et al. 2015; Jacobs et al. 2015; Lavoie-Tremblay et al. 2015; Weiner et al. 2011). Jacobs et al. (2015) put forward that especially physicians need to feel encouraged towards an active participation in the implementation process. Introducing reward measures for individual proactive activities could be an appropriate opportunity to incentivise the uptake of an innovation at the frontline level (Birken et al. 2013; Boutros, 2007; Kash et al. 2014; Staren & Eckes, 2013; Weiner et al. 2011; Wutzke, Benton & Verma, 2016). Thereby, an innovation driven culture throughout the whole organisation is strengthened.

Another important finding is that an innovation supporting culture should consist of an adequate fit between the innovation and values. In other words, the perception of a healthcare innovation in line with personal and organisational values enables an easier transition process and increases the likelihood of actual use of the innovation by practitioners (Barnett et al. 2011; Busari, 2012; Curtis & White, 2002; Greenhalgh et al. 2004; Helfrich et al. 2007; Jacobs et al. 2015; Kash et al. 2014; Øvretveit et al. 2012; Weiner et al. 2011; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016).

Dealing with Diversity

Diversity is mentioned as a factor fostering but also challenging the implementation process.

If managers and users, the frontline healthcare staff such as nurses or physicians, come from similar socioeconomic, professional, educational, or cultural backgrounds, and share same experience, values and beliefs, the implementation process is more likely to succeed (Damschroder et al. 2009; Greenhalgh et al. 2004; Weiner et al. 2011). Similarly, Barnett et al. (2011) state, that the more diverse the groups who are affected by an implementation process, the more difficult it is to align values and priorities.

Contrarily, it is argued that various expertise, diverse knowledge and backgrounds are required for a successful implementation. The reason is that many activities relate to non-medical functions, such as administrative, legal and workflow procedures (Schwamm, 2014; Wisdom et al. 2014). Others (Cresswell & Sheikh, 2012; Wisdom et al. 2014) indirectly

support the existence of a diverse work setting based on the size of healthcare units. They claim that the size of a healthcare system is positively related to more diverse human, financial and organisational capital, supporting a successful implementation.

Overcoming (Professional) Status Recognition

Even though the identified cultural demands seem relatively unspecific, it is an important issue in the healthcare setting as demonstrated by cultural barriers. Cultural challenges go along with rather strict hierarchical organisational structure as was stated in section 4.1.1 in 'Flat Organisational Structure'. In other words, "from formal authority comes status" (Mintzberg, 1999, p.168).

A barrier for the practical implementation of innovation is the traditional attitudes of 'dominating' physicians, who insist on their independency and decision-making power over treatments and work processes (Anders & Cassidy 2014; Gray, Harrison & Hung, 2016). By interviewing medical assistants¹ about the needs to give them more responsibilities in daily work, Gray, Harrison and Hung (2016) realised the following: "[P]hysicians were still ultimately the leaders and that their personalities, preferences, and willingness (or lack thereof) to comply with changes set the tone in each department" (p.186). This point reveals the problematic top-down hierarchy in most healthcare units. It triggers cultural barriers for innovation implementation, as different positions have a hard time to overcome 'power status thinking' (Gray, Harrison & Hung, 2016). When preparing the introduction of a developed innovation it is crucial to be aware of the cultural challenges, and therefore find ways to deal with and reduce potential resistance from the workers.

4.1.3 Organisational Level: Communication

Communication within and, in particular, across the concerned organisational levels is highly relevant when implementing an innovation (Curtis & White, 2002; Berwick, 2003; Damschroder et al. 2009; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004). This was already outlined in the context of organisational structure and networks. However, communication should be understood as an informal process which is more specifically related to the 'what' and 'how' of adequate communication (Barnett et al. 2011).

What to Communicate

The goal of an effective communication is to make sure that everyone involved in the implementation process understands why an innovation is required, and the consequences as well as changes regarding individual tasks and roles (Birken et al. 2013; Carlford & Festin, 2015; Cresswell & Sheikh, 2012; Curtis & White, 2002; Damschroder et al. 2009; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Jacobs et al. 2015; Kash et al. 2014; Schwamm, 2014; Staren & Eckes, 2013; Wutzke, Benton & Verma, 2016).

Adequate communication strategies also need to address potential criticism and concerns towards innovation by demonstrating personal benefits, and stating clearly how the innovation

¹ Medical assistants "are allied health professionals who generally support routine clinical and administrative duties under the direct supervision of a healthcare professional, often a physician" (Gray, Harrison & Hung, 2016, p.182).

is expected to impact the organisation, or how working procedures will change (Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Boutros, 2007; Chadoir, Dugan & Barr, 2013; Cresswell & Sheikh, 2012; Curtis & White, 2002; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Jacobs et al. 2015; Kash et al. 2014; Schwamm, 2014; Staren & Eckes, 2013). The significance of concrete or even quantitative data about the impact of the innovation that demonstrates “pre-existing evidence” (Barnett et al, 2011, p.6) is recognised by multiple researchers (Barnett et al. 2011; Herzlinger, 2006; Kash et al. 2014; Wisdom et al. 2014). According to Greenhalgh et al. (2004), it is of particular importance to reduce uncertainties concerning the intended outcome of an innovation. This point gains additional relevance as habit and satisfaction with the status-quo are strong barriers against changes within an organisation (Carlfjord & Festin, 2015; Gagnon et al. 2015; Gray, Harrison & Hung, McWilliam & Ward-Griffin, 2006).

How to Communicate

The way of communication should focus on creating an open, clear, inclusive and honest style. Furthermore, communicating in a transparent way is especially important since misunderstandings, false interpretations and varying opinions between departments (based on misled communication) are identified as barriers to an implementation process (Anders & Cassidy, 2014; Birken et al. 2013; Busari, 2012; Cresswell & Sheikh, 2012; Durlak & DuPre, 2008; McWilliam & Ward-Griffin, 2006; Weiner et al. 2011). Hence, Busari (2012) speaks of “the suboptimal communication between frontline healthcare providers and hospital management executives” (p.214), as they tend to interpret certain problems in different or even contradicting ways.

Furthermore, regular information sharing about the innovation on hand can strengthen trustworthiness and engagement of people (Anders & Cassidy, 2014; Curtis & White, 2002; Kash et al. 2014). Frequent face-to-face meetings are put forward by Curtis and White (2002).

4.1.4 Individual Level: Driving Individuals

On the individual level, we focus on significant individuals and positions whose attitudes, responsibilities and activities influence the potential success of the innovation implementation.

Champions

In the literature, individuals who are very engaged and thoroughly promote the innovation process are addressed in various terms, such as: ‘Champions’, ‘change agents’, ‘enablers’, ‘enthusiasts’, ‘facilitators’, and ‘opinion leaders’ (Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Carlfjord & Festin, 2015; Curtis & White, 2002; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Durlak & DuPre, 2008; Gagnon et al. 2015; Greenhalgh et al. 2004; Helfrich et al. 2007; Jacobs et al. 2015; Lavoie-Tremblay et al. 2015; Staren & Eckes, 2013; Wutzke, Benton & Verma, 2016).

These individuals are identified as key proponents towards the introduction of change processes since they can influence peer attitudes and opinions. Hence, they increase the level

of acceptance of an innovation by convincing peers. According to their social status and networks, driving individuals tend to affect the diffusion of an innovation within and across departments (Aslani, Zolfagharzadeh & Naaranoja, 2015; Berwick, 2003; Curtis & White, 2002; Cresswell & Sheikh, 2012; Greenhalgh et al. 2004; McWilliam & Ward-Griffin, 2006; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014).

These key players usually share the same traits, such as high self-esteem, good social connectedness, and the ability to establish trust. They have confidence in their organisations and have established strong bonds. Further characteristics include a high risk tolerance, curiosity about innovations, being adventurous, a positive attitude towards new ideas, while also acknowledging ambiguity. It is important that these champions need to perceive an innovation as necessary and easy to use by themselves to encourage its spread (Berwick, 2003; Carlford & Festin, 2015; Curtis & White, 2002; Greenhalgh et al. 2004; McWilliam & Ward-Griffin, 2006; Weiner et al. 2011; Wisdom et al. 2014).

According to Staren and Eckes (2013) they should ideally come from various departments. Similarly, Barnett et al. (2011) state that the professional background of such a key individual is not set, hence they can come from anywhere within an organisation.

Leadership and Management

Researchers use inconsistent definitions for the terms ‘Leadership’ and ‘Management’. This leads to confusing or even contradicting explanations of roles, tasks and responsibilities. Therefore, we apply the most common definition of leadership and management as put forward by Kotter (2001). According to his definition, leaders are individuals “coping with change” (p.4), in contrast to managers “coping with complexity” (p.4). Kotter (2011) states that management oversees the establishment of an organisational structure in terms of planning, budgeting, staffing, controlling and problem solving. Leadership, on the other hand, is concerned with aligning, inspiring and motivating employees by showing overall directions (Kotter, 2001). In the following sections we categorise the identified explanations of each group accordingly.

The Role of Leadership

Organisational leaders need to be actively involved in the innovation process. They develop a positive commitment towards the innovation (Berwick, 2003; Chaudoir, Dugan & Barr, 2013; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016). In essence, leadership should provide guidance, work against resistance as well as fulfill the role as a strong motivator (Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2013; Bigelow & Arndt, 2005; Damschroder et al. 2009; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Helfrich et al. 2007; Lavoie-Tremblay et al. 2015; McWilliam & Ward-Griffin, 2006; Øvretveit et al. 2012; Staren & Eckes, 2013; Wisdom et al. 2014). According to the reviewed literature, a successful innovation-implementing leader has high awareness to risk and is tough. Work experience and status of a leader are of high importance when acting as an initiator and motivator (Bérard et al. 2015; Bigelow & Arndt, 2005; Cresswell & Sheikh, 2012; Jacobs et al. 2015).

The Role of Management

It is pointed out that an implementation process should be driven by management (Barnett et al. 2011; Lavoie-Tremblay et al. 2015). In contrast, Øvretveit et al. (2012) find no strong evidence supporting this view in their longitudinal, comparative research of twelve case studies. The authors consider lower organisational levels as driving factors for the introduction of innovation as well.

A major tool in achieving motivation and commitment is visibility within and outside an organisation, symbolising support for the innovation from the management level (Staren & Eckes, 2013). Next, management should formally communicate the goals and aim of an innovation. Other tasks include fostering dialogues and initiating collaboration to develop trust among all levels involved. In order to do so, managers should integrate users into the planning process, to make sure that needs and goals of frontline staff are incorporated into the change (Bérard et al. 2015; Cresswell & Sheikh, 2012; Greenhalgh et al. 2004; McWilliam & Ward-Griffin, 2006). Furthermore, management is responsible for handling financial resources efficiently (Barnett et al. 2011). Moreover, managers should involve external stakeholders, such as health insurances or public authorities, to gain more commitment and eventually financial support (McWilliam & Ward-Griffin, 2006). According to Kash et al. (2014), managers need to handle organisational supporting systems, such as administrative or human resource departments as well as provide adequate training possibilities (Cresswell & Sheikh, 2012; McWilliam & Ward-Griffin, 2006).

Middle Management

The significance of middle managers, when it comes to the practical application of an innovation in healthcare, is particularly underlined by Birken's research (Birken et al. 2013; Birken, Martino, Kirk, Lee, McChelland & Albert, 2016). Middle managers are intermediates who are positioned between the management level and frontline level in the organisational hierarchy. They receive tasks from executives and oversee frontline staff (Birken et al. 2013). Thus, middle management plays a key role in the implementation process since it moderates between both parties.

They control the situation on hand and are able to react to misinterpretations of an innovation (Birken et al. 2013). Also, middle managers should have an overview of the implementation process to fully exploit its benefits and generate a fit with current operational measures (Birken et al. 2013). Another important task is to step in when feedback or help is needed to improve the implementation (Birken et al. 2013). Furthermore, they are responsible to promote the relevance of an innovation, thus making sure that all users understand about their respective tasks during the implementation process (Anders & Cassidy, 2014; Birken et al. 2013). Additionally, it is argued that constant formal and informal communication between top and middle management facilitates proactive behaviour (Birken et al. 2013), an essential skill of middle managers. Due to the relevance of the stated tasks, it is recommended that middle management should be trained by higher management to execute their roles well (Anders & Cassidy, 2014; Birken et al. 2013).

While Birken et al. (2016) have a very optimistic view regarding the role of middle managers in healthcare, Busari (2012) in contrast regards them as an obstacle for a successful implementation process. According to his practical experience, he argues that a bureaucratic structure triggers the decision-making dominance of middle managers, where frontline perspectives are not taken into account.

4.1.5 Innovation Level: Innovation Characteristics and Processes

Relative Advantage and Complexity

In general, an implementation process is easier if the intended innovation is perceived as having a relative advantage respectively higher benefit compared to the status-quo from the user's perspective (Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Chaudoir, Dugan & Barr, 2013; Cresswell & Sheikh, 2012; Durlak & DuPre, 2008; Gagnon et al. 2015; Jacobs et al. 2015; Øvretveit et al. 2012).

Furthermore, scholars argue that the (perceived) complexity which is connected to an innovation's usability and ease of use, is decisive for implementation (Berwick, 2013; Cresswell & Sheikh, 2012; Gagnon et al. 2015; Wisdom et al. 2014). Contrarily, Øvretveit et al. (2012) state that complexity of an innovation is not a strong factor for the rate of implementation, as long as most organisational members perceive the innovation as favourable and beneficial.

Compatibility and Adaptability

Besides complexity, healthcare innovations can be analysed in two other dimensions – the degree of compatibility and adaptability. Both affect the ease of implementation of an innovation.

Compatibility of an innovation describes the extent to which the innovation as a whole fits local contexts or settings, such as current working procedures and organisational missions (Bérard et al. 2015; Berwick, 2003; Durlak & DuPre, 2008; Gagnon et al. 2015; Øvretveit et al. 2012; Wutzke, Benton & Verma, 2016). It becomes clear that low compatibility requires more changes within an organisation, as incremental adaptation of current practices is not sufficient to implement successfully. In contrast, high compatibility implies that only small-scale changes are needed to fulfil the benefits of the innovation. This point is recognised by Øvretveit et al. (2012), who argue that the fewer the impacted users need to change their working styles, the easier an implementation process can be realised.

In contrast, adaptability refers to the flexibility in modifying, adapting and refining an innovation towards the needs of a local context (Bérard et al. 2015; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Øvretveit et al. 2012; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016). Various departments need to adapt to the same innovation differently in order to exploit its full potential (Damschroder et al. 2009). However, it should also be taken into account that an innovation has a certain level of fidelity. In other words, fidelity refers to aspects of the innovation that have to be copied strictly and cannot be adapted in order to create the intended value (Damschroder et al. 2009; Durlak & DuPre, 2008; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016).

Piloting, Monitoring and Feedback

As the acceptance of an innovation also depends on the perceived practicability and usefulness, it is argued that complexity can be reduced by creating possibilities for experimenting, testing, and experiencing an innovation. In this context, piloting periods are recognised as a valuable tool to understand the practical implications of an innovation (Andreassen, Kjekshus & Tjora, 2015; Barnett et al. 2011; Berwick, 2003; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Gagnon et al. 2015; Greenhalgh et al. 2004; Wisdom et al. 2014).

Regular adaptation of the innovation according to expected outcomes is recognised by other researchers as a result of adequate 'monitoring' measures (Andreassen, Kjekshus & Tjora, 2015; Bérard et al. 2015; Durlak & DuPre, 2008; Gray, Harrison & Hung, 2016; Øvretveit et al. 2012; Staren, 2013; Weiner et al. 2011). Staren (2013) adds that monitoring should be supported by frequent information sharing to update all involved parties of the progress. Damschroder et al. (2008) emphasise the potential of feedback systems and reflection. Usability can be constantly improved and healthcare practitioners are able to adapt the innovation accordingly.

4.2 Discussion

Research Question 1.1: What facilitating factors can be identified in academically published journals?

In this section, we discuss the main results on which we base the case study on. Figure 2 illustrates the results in a summarising framework.

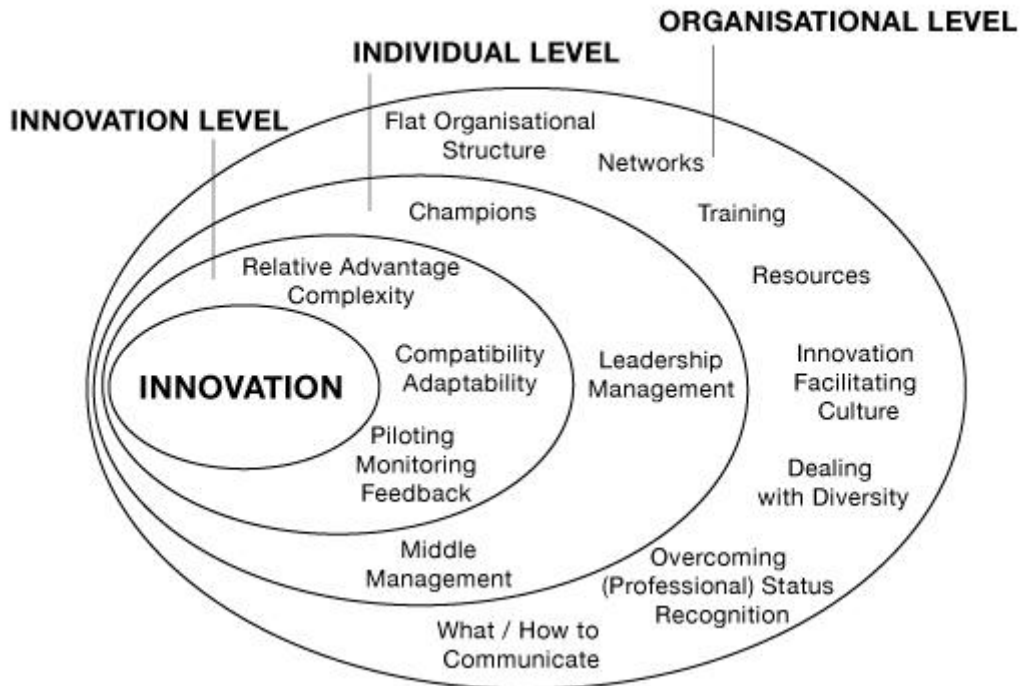


Figure 2: Framework – Facilitating Factors for the Implementation of Organisational Innovations in Healthcare

Organisational Level

First, transforming an organisational structure in healthcare towards *flat hierarchies* is a facilitating factor when introducing an innovation. Various variables should be addressed, such as favourable communication flows, collaborations across hierarchical levels, joint decision making and shared planning. In particular, middle management and frontline healthcare staff are regarded as crucial stakeholders who have to be incorporated into the implementation process right after the adoption decision. To put the innovation into practice, implementation teams can act as supporting resources. *Networks* between various departments are highlighted. Again, it calls for an establishment of a flat organisational structure. Furthermore, adequate on-the-job *training* or further educational programmes, in particular for the group of physicians, are underlined as another necessary factor for a favourable innovation implementation. When it comes to specific *resources*, dedicated workforce and time for users to familiarise with an innovation are pointed out.

An *innovation facilitating culture* is another major theoretical concept we identified. Even though the identified cultural aspects for a successful implementation might seem vague (this impression is partly related to the complex and ambiguous nature of the concept), an

organisation's culture is an indispensable factor in healthcare organisations. The findings account for a positive perception of the working environment in which employees feel encouraged towards new ideas and working methods. If personal and organisational values are in line with the intended innovation, the implementation process is easier. It is further shown that *diversity* is an ambiguous issue, as it is suggested to be aiding and challenging the implementation process. However, based on the reviewed articles we argue that there is stronger support for a diverse workforce, since multiple perspectives and knowledges facilitate a more critical debate concerning the implementation process. A rather problematic issue related to organisational culture is concerned with the challenge to *overcome (professional) status recognition*, which is especially noteworthy with respect to the group of physicians. They tend to insist on independency in operational processes that inhibits efficient collaborations with other professionals. This circumstance exemplifies that cultural challenges might originate from an inherent organisational structure.

Another key theme, *communication*, reveals that healthcare practitioners should develop a suitable communication agenda when it comes to innovation implementation. Functioning and clear communication conveys the intended aims and benefits about the innovation. Simultaneously, it is able to deal with upcoming resistance and concerns. Additionally, frequent information sharing, feedback sessions and physical meetings are appreciated as an essential work routine.

Individual Level

Despite inconsistent terminologies, it is obvious that researchers agree upon the importance of driving individuals, who influence the change process. *Champions* are characterised by their particular engagement and motivating attitude and have the capability to convince peers as well as increase commitment. These attributes can foster innovation implementation.

The way *leaders* and *managers* behave, as they possess large administrative power and visibility within an organisation, is an indispensable factor for innovation implementation. The role of *middle managers* as mediators between management and frontline staff within healthcare units should be particularly recognised when it comes to their contribution to the implementation process.

Innovation Level

Besides looking at the organisational structure and key players in the implementation, the perception of an innovation itself and its characteristics affect the facilitation of the implementation. The perception of *relative advantage* compared to present ways of handling certain tasks, as well as the *complexity* of an innovation, have an impact on the ease of implementation. Regarding the latter, the degree of *compatibility* and *adaptability* are worth discussing in order to make the innovation fit to its setting.

Finally, trial periods such as *piloting* facilitate the introduction, as employees can smoothly familiarise with the innovation and prevent misunderstanding. Throughout the whole implementation process, measures of *monitoring* and *feedback* should be applied, so as to keep track of the innovation progress.

Conclusion

The content analysis provided an overview of present knowledge about the facilitating factors influencing the implementation of organisational innovations in healthcare. Despite the classification into three levels of analysis – organisational, individual, and innovation – and five themes – organisational structure, organisational culture, communication, driving individuals, innovation characteristics and processes – the findings reveal that the identified factors are closely interrelated.

The results of the literature review are an important starting point for the development of a comprehensive list of facilitating factors focusing on innovation implementation in healthcare. The review clearly shows a lack of thorough explanation of why certain factors are essential for an effective implementation. The mentioned flaws in this research area underline the necessity to gain a deeper understanding into the theoretically discussed concepts, by paying specific attention to the experience of healthcare practitioners. It is necessary to receive an external appreciation of the results to validate the findings with empirical evidence, and hence make sure if they are especially relevant in the healthcare context or constitute a rather ‘unspecific’ factor.

Summary

This chapter showed the outcome of an intensive literature review representing the best available knowledge according to the defined scope of research. The theoretical concepts form the basis for the deduction of proper contents for the case study. A framework was created to demonstrate our findings of the relevant facilitating factors for implementation of organisational innovations in healthcare. This framework guides the subsequent case study.

5. Case Study of Capiro

After giving some background information about Capiro and the selected interview participants we will analyse the empirical findings derived from the case study. Finally, we discuss research question 1.2 (*To what extent do healthcare practitioners recognise these facilitating factors?*).

5.1 Background Information of Capiro

Capiro is a large healthcare company, operating in Europe – Sweden, Norway, Denmark, Germany and France to deliver primary care services. It employs more than 12,000 people (Capiro AB, 2017). According to its mission, “to cure, relieve and comfort anyone seeking medical care” (Capiro AB, 2017, p.4), Capiro focuses primarily on the needs of the patient, thus “allowing the patient to be the basis for the healthcare structure” (Capiro AB, 2017, p.10).

A key to fulfil this mission is the Strategic Agenda of Capiro that includes two main elements; *Modern Medicine* and *Modern Management*. Modern Medicine describes new evidence-based treatment methods², working procedures and systematic approaches to quality measurements, aiming for high quality healthcare (Capiro AB, 2017). Modern Management is considered as the central enabler for the implementation of Modern Medicine (Capiro AB, 2017). A main pillar of Modern Management is the management training. It trains managers how to approach the implementation of Modern Medicine and provides a platform to share experience. One aspect of the training programme is the study of real-life examples of current work challenges within Capiro. Managers also learn to apply the *Capiro Model* (Capiro AB, 2017) after receiving theoretical input.

The Capiro Model represents the fundamental principle of all activities within Capiro. The key values are quality, compassion and care. The patient's life situation and diagnosis form the starting point to derive an adequate treatment method (Capiro AB, 2017). It should entail ‘Modern Medicine’, ‘Good Information’, ‘Kind Treatment’ as well as a ‘Nice Environment and Adequate Equipment’. “Combining Modern Medicine and Modern Management accelerates the speed of change, improving medical quality and driving productivity” (Capiro AB, 2017, p.13).

Having said this, the Strategic Agenda of Capiro demonstrates that fostering innovation is a key ambition for the present and future corporate development. In the context of innovative capability and successful change initiatives, Capiro S:t Görans emergency hospital in Stockholm, Capiro's largest unit, shows how Modern Medicine can be successfully applied in practice (Capiro AB, 2017). Some insightful examples in that sense are the new emergency department that allows for higher patient numbers, and the breast cancer centre that covers the whole care process in one unit. Capiro Online is recently established to have full-time

² Evidence-based medicine describes the view, that treatments should be in line with the best available scientific knowledge and follow standardised care procedures in order to provide high quality care (Groves, Kayyali, Knott & Van Kuiken, 2013).

workforce dedicated to developing new digital solutions, such as introduction of online consultations.

Furthermore, the organisational structure of Capio strongly focuses on bottom-up management by giving the frontline healthcare staff the necessary freedom to apply new ways of working and to communicate ideas and suggestions. Administrative management is close to the frontline staff in order to provide the necessary support (Capio AB, 2017).

To conclude, Capio has acknowledged the need to find innovative ways of working and has reacted by developing proper organisational settings. However, making use of the full potential of organisational innovations in healthcare and further strengthen a facilitating culture of change is an ongoing process, which Capio should persist.

5.2 Interview Participants

This section gives a short presentation of the interviewees' professional backgrounds. The variety of current working positions and career paths demonstrates a diverse sample. Therefore, the interview participants possess expertise when it comes to the strategic development and practical implementation of organisational innovations in healthcare.

Berglund, Thomas

Thomas Berglund is the CEO of Capio Group since 2011. He provides the main vision for the company which particularly includes an innovation driven culture with focuses on the patients and bottom-up structure. Since 2007 he is member of Group Management (Capio AB, 2017b). Prior to that, he was President and CEO at Securitas Group. Berglund has an academic background in Economics and Business Administration (Capio AB, 2017b).

Danelius, Margareta

Margareta Danelius is the Chief Medical Officer at Capio Online since March 2017. She is responsible for the medical quality and patient safety when it comes to digital innovations. Additionally, Margareta Danelius works clinically as a gastroenterologist. Prior to her current position, she was Regional Medical Officer at Capio Närsjukvard.

Demesmay, François

François Demesmay is the Deputy Chief Medical Officer at Capio Group since 2016 (LinkedIn, 2017). Amongst other things, he was in charge of transforming the Capio Model into French healthcare units of Capio. With an academic background in medicine, he has twelve years of management experience at Capio.

Granado Persson, Paola

Paola Granado Persson works as the Medical Director at Capio Group in Germany and is in charge of the implementation of *Modern Medicine*. She has started her work at Capio in 2009 and held various leading management positions at S:t Görans' hospital. For instance, she was involved with the implementation of digital innovations. Paola Granado Persson is a specialist in anaesthesiology.

Jexmark, Towa

Towa Jexmark is the CEO at Capio Online AB. In her previous position as Vice President (Group Medical Development), she was responsible for the development of the Medical

Agenda of Capio when working in the Modern Medicine Group. Towa Jexmark works at Capio since 2015 and has extensive working experience as a healthcare manager (LinkedIn, 2017). Her academic background is in medicine.

Norenstedt, Sophie

Sophie Norenstedt is a surgeon specialised in breast cancer at S:t Görans hospital in Stockholm. She works at Capio since 2008 and has various work experience at other renowned Swedish hospitals.

Olsson, Daniel

Daniel Olsson is the Executive Vice President at Capio Närsjukvard (proximity business) since 2011. He has long-time working experience in healthcare management, working at Capio since twelve years. Before entering into the healthcare sector, he worked as a consultant. Daniel Olsson has a study background in Business Administration and is also specialised in Business IT strategy (LinkedIn, 2017).

Pewe, Maria

Maria Pewe is the Human Resource Director at Capio Sweden since 2014. She is responsible for the development of management trainings according to *Modern Management*. She has long-time working experience in Human Resources in healthcare organisations besides her occupation at Capio and studied Social Psychology (Behavioural Sciences).

5.3 Findings and Analysis

The following chapter presents the analysis of the main findings, derived from eight qualitative interviews with healthcare practitioners at Capio. The analysis is structured according to the literature findings, from which we deduced the interview topics. The results of the survey are also integrated. Appendix A summarises the interview sources on which we base our analysis and discussion.

5.3.1 Organisational Level: Organisational Structure

Flat Organisational Structure

The existence of flat hierarchies is assessed to be the fundament for implementing an innovation according to the healthcare practitioners we interviewed. In the course of the interviews, this intangible concept, which is mainly related to formal and informal work flows, was investigated by understanding the interviewees' elaborations about specific or challenging working experience. By insisting on concrete experience, the interviewees were able to break the concept into more 'tangible' pieces. The thoroughness of explanations showed the importance of this construct.

Even though Capio represents a large employer, the company seems to be less centralised by promoting bottom-up structures. In particular, Berglund insists that the focus of all activities is the patient, so that human workforce should be focused on. Consequently, he managed to restructure the company by reducing higher management positions, and strengthening management support on the frontline healthcare level. Compared to other healthcare

organisations, interviewees highlight that it is easier to realise change processes at Capio, compared to other healthcare organisations, because of this organisational design.

In order to make use of the innovative potential with flat structures, the employees need to notice such structure, so that they feel empowered to start a change process themselves. Norenstedt confirms that the structure within Capio feels flat and easy to access.

Norenstedt: "In other hospitals, management felt really far away. Here, I can just walk up to management if I want to. It is easy and it is really flat, I think."

It is further stressed by all interviewees that an early involvement of clinical staff into the implementation process is favourable.

Olsson: "I definitely think that we need to involve the doctors much more in these [innovation] processes. ... Otherwise that is an obstacle for really implementing."

The survey outcome confirms these findings, namely that active involvement of all concerned users is seen as a relevant facilitating factor. Five out of six respondents agree.

Olsson: "Healthcare today is very team based, it is not a one man show. It is the whole process that needs to be addressed. Starting from talking to a nurse, then a physiotherapist, afterwards you go to a doctor and finally, you should have some kind of pharmaceutical treatment. So, the whole team needs to be on board."

Interviewees agree that being part of the decision making process makes employees feel inspired and dedicated to change procedures themselves. Instead of getting an order from above, they establish a feeling of ownership (Danelius, Granado Persson, Norenstedt, Pewe). Hence, reaching acceptance for an innovation instructed from top is difficult.

Grando Persson: "If you come from three levels up and say: 'You are doing this the wrong way' or 'you could do it a little bit better' that is a big, big challenge." - "Making people more involved makes them grow, develop and more loyal. It is a spin-off effect that will give even more innovation and a good culture ... Capio is very much for the bottom-up development."

This point of view is also confirmed by former working experience of a representative at the frontline level.

Norenstedt: "The time when it has been most difficult to implement a change was when the head of department just decided that we have to do something...It is like someone else who finds the solutions for our problems and tells us what to do, and we do not feel part of the solution."

The statement demonstrates that an involvement at an early stage of the innovation, even in the stage of conceptualisation, is important. It helps to know what the users demand and to create acceptance.

Danelius: "I think that the way of working [involving clinical staff at an early stage] does many things. It gives me the info I need to correct things where I have been making mistakes or overlooking points. Then they [frontline staff] also get engaged."

Sustaining a flat working infrastructure can also be realised by setting up an appointed team that involves various professions. Overall, the results of the survey confirm to have an implementation team in place (three agree, three tend to agree). The introduction of a certain implementation team that is dedicated to an innovation can administer the implementation process. For instance, on the clinical level, Norenstedt points out that they usually form independent teams of interested participants to solve a problem or make treatment improvements.

Norenstedt: "Management wants us to do five surgeries in one day... At the moment, we do four patients. Therefore, we formed a team: It is me, the surgeon, an anesthesiologist, and four nurses from the operation theatre. Now we are trying to find out how to shorten the time between surgeries. ... We look through everything: What do I do, what do others do."

The reaction to this teamwork experience is very positive. It helps creating stronger bonds among colleagues and enables the establishment of an understanding of various tasks and roles.

Norenstedt: "It was a fun process. It was team-building. ... That was nice. And I got to understand what the others do during the day ... and now they also understand what I do between the surgeries."

Furthermore, a diverse constellation of the implementation team is very important. Each profession affected by the innovation process should be involved.

Norenstedt: "We make sure that every profession that is needed is represented. Everyone involved in the process must be there, or have a representative."

Then, the innovation can be adapted to the respective preferences to be practicable and further establish commitment. Additional impacts of diverse workgroups will be explained in section 5.3.2 in 'Dealing with Diversity'.

Even though bottom-up structures and the integration of various stakeholders are fostered, it is inevitable for a large company, like Capio, that *"there are times when one part of the business has to adapt to what the main business wants to drive"* (Pewe). Furthermore, all interviewees agree that authoritarian structures still exist and should not be neglected, for example:

Pewe: "Due to different perspectives in the organisation, it is not uncommon that a gap between anyone deciding about the innovation and the management, on the levels below, having to execute it exists."

Consequently, higher management levels should carefully assess which users are supposed to be given the decision-making power, and provide adequate resources and tools to make implementation feasible at the frontline level. Among others, the amount of autonomy given to smaller units to make operational decisions is important to be addressed. Evidently, various goals within an organisation can be very tough to align, since top management and lower units do not necessarily agree upon them.

Pewe: "It is fairly common that you do not have the same intentions on top and in lower parts of the business. Because you might have an agenda to drive the business in a certain way that the single business down here is maybe not really thrilled about. I think they have to meet: top and bottom."

The interviews reveal a particularly challenging aspect in healthcare when it comes to compromising, which is related to the distribution of expertise within the organisation (Demesmay, Granado Persson, Jexmark, Olsson). In healthcare, highly skilled professionals work at the bottom of the hierarchical structure. As such, physicians and nurses are the ones who actually create the value and have the competence on how to execute adequate treatment procedures.

Jexmark: "Each care team closest to the patient is the one that knows healthcare the most."

Olsson: "The most educated and intelligent people work at the frontline."

Interviewees agree that obstacles regarding well-educated people exist, as they tend to defend their independency on how to execute the job.

Berglund: "It is a challenge how to get people involved, especially high educated people, because they are so sceptical about everything."

This circumstance challenges the ease of innovation implementation as it requires, for instance, more persuasion efforts. Therefore, a stronger focus on integrating users in the implementation process is required. They have the expertise and should be the main supporters in order to execute the innovation in practice. Consequently, interviewees are responsive to the role of physicians in the implementation process. This is also shown in the survey, where three respondents recognise that physicians in particular should be encouraged towards the application of an innovation. The other three tend to agree to this statement.

Overall, the discrepancy between the actual task to foster innovation on the frontline level by coordinating new workflows versus the actual physicians' skills focused on medical capability is highlighted. Thus, interviewees argue that physicians are challenged to fulfil the leader's role without having the knowledge to do so.

Norenstedt: "You are kind of a leader as a physician. You have to be! Wherever you are, in the operation theatre or in the emergency room, you are the one everyone turns to."

Jexmark addresses the difficulty that physicians focus too much on their own specialities instead of opening up to other perspectives.

Jexmark: "I think they [physicians] are a bit pushed to the side. They are not really driving change when it comes to new working methods and things like that. They do drive change when it comes to their own speciality and their own research results. But when it comes to the process of innovation, I would say they are not as involved as I would like them to be."

Another aspect is the physician's reluctance to understand different standpoints, revealed by the following statement: *"Doctors often think that you do not have the medical skills to*

understand what they are working with and therefore you cannot change their ways of working” (Granado Persson). Both arguments show a need for education in additional skills from outside one own's specialisation (See further down in ‘Training’).

Networks

Networks are a means to collaborate and keep people updated, but also to learn from other units about new ways of working.

Olsson: “If you find something that you can use, just copy that down and implement it into your own business, so it is about ‘stealing with pride’. ... Every employee can access this and copy what they need.”

In the survey, the importance of collaborations between various organisational levels is found to be determinant (four agree, two tend to agree). However, in the interviews networks are addressed in a relatively general way by the interviewees. Participants mention that the intranet and social media are useful tools to respond quickly to upcoming issues (Danelius, Demesmay, Granado Persson, Jexmark, Olsson). At Capiro, the establishment of a common platform across countries is in progress. It can contribute to increasing confidence in innovations based on existing practices.

Granado Persson: “We are working on a common platform, so that we do not ‘invent the wheel’ again in every unit. If you have a surgical technique, you should show it on our common platform. That way we can have a better interaction between the units. I think that is a big thing for the future.”

Another way of establishing networks across countries is to send ‘ambassadors’ who ‘bridge’ healthcare units, and especially departments with a similar speciality. Granado Persson highlights a successful cooperation between Swedish and German nurses, who work in dementia specialist clinics. In that case, exchanging knowledge about different ways of working and responsibilities helped to enhance treatment measures on both sides. In effect, this example also underlines the learning across departments based on successful examples. This learning effect is also assessed as an important facilitator in order to overcome a focus on respective specialities, according to Jexmark. Finally, additional involvement of management becomes obsolete.

Granado Persson: “Then, if I [as a manager] establish that exchange, it could live without my presence, because they [different departments] have met and now they have the same language.”

In contrast, external networks, such as additional support by external consultants for the implementation project, are regarded as detrimental.

Olsson: “Based on my experience ... I think that for innovation to be successful and sustainable, it needs to be driven in-house.”

Training

Training is clearly underlined by all interviewees as a crucial aspect for successful innovation implementation and is supported by the results of the survey (three agree, three tend to agree).

Training of frontline staff is recognised by interviewees as necessary to build trust in the usability and reduce resistance in innovation implementation.

Jexmark: “Education for frontline staff is important and underestimated. They need to understand why and how they should do this, and they need to be involved in the processes as well.”

In this sense, training is meant to be concerned with the purpose of an innovation.

Another widely confirmed insight is that management skills for frontline staff improve operational processes, thus making the implementation more feasible (Demesmay, Granado Persson, Jexmark, Norenstedt, Olsson). The results of the survey slightly vary at this point. A majority of four respondents tends to agree and one respondent agrees that additional management skills are required to implement innovations, however, one respondent disagrees. However, the extent of elaborations during the interviews leads us to conclude that management skills are indeed a facilitating factor. For example, Olsson strongly agrees to the necessity of further managerial knowledge for physicians: *“Management skills for physicians are a great thing”*, but is not covered in medical schools. Demesmay also stresses that specific management training for doctors *“is important! We had doctors, and we did not move them to full-fledged managers, but we let them know about management”*. Likewise, training for nurses is important according to Demesmay: *“We need more nurses that behave as coaches.”* Overall, trying to establish a mutual understanding of tasks based on effective training opportunities is in place and accepted in Capio.

On the other hand, not only frontline staff is in need for additional management skills, but managers also require medical knowledge.

Demesmay: “We thought it would be easier to take our management, most of them with a financial background ... and to provide them with some clinical knowledge. So even as a non-doctor you can read the clinical study and get the point and know what you have to talk about.”

A reciprocal understanding of traditionally distinct working areas creates a common language and mutual respect for the other's duties and responsibilities. Furthermore, each party would gain more self-confidence and would feel empowered to talk to another.

Olsson: “If we have a mutual understanding of what should be achieved, innovation is much more feasible.”

Similarly, Demesmay explains that *“the more knowledgeable we are as managers from the clinician side and as clinicians from the management side the better we can make the right decisions.”*

The relevance of two-sided learning becomes even more evident by the following practical example explained by Norenstedt.

Norenstedt: “One time I had a problem to understand another person. This was when I tried to communicate with one of the controllers at the clinic. He did not understand what I wanted him to do and I could not explain it to him. ... It was really hard to communicate, because we did not speak the same language.”

Additionally, team training should aim at targeting people from various levels. Unfortunately, such integrated education is challenged by different schedules and the internal organisation of subunits (Jexmark, Olsson).

Jexmark: “I would like them all, management, physicians, frontline staff ... to be trained in the team. But that is not always possible. We need to work a lot more with this. It is a big issue how to get the teams together.”

Modern Management Training

Capio has developed a specific management training that primarily intends to strengthen a managerial mindset committed to change. In the following we will highlight some significant aspects of its conceptualisation and practical execution.

In terms of Modern Management Training (henceforth MMT) participants take part in four sessions a year and every session lasts for three days. The training focuses on dealing with case-units of own hospitals, smaller primary care units or specialist clinics at Capio. One of these days is fully dedicated to the case work and the others include presentations and theoretical input.

MMT has been introduced in order to counteract “*the resistance to do new things*” (Pewe), which is pointed out as a core problem according to Pewe. Furthermore MMT aids to translate Capio's values into everyday work.

Granado Persson: “What do we need to implement our values into our daily lives? We already have good equipment, and a very clear and transparent organisation. But I also have to know what my task is and I have to be very good at it. So, I have to be competent. To become competent, I need to educate and develop myself and my group constantly. And I think Capio has really managed that very well.”

MMT consists of two pillars: One is dedicated to business development, especially including the application of the Capio Model to internalise the core activities aligned with Capio's vision (Section 5.1). The other pillar focuses on leadership skills and is concerned with topics such as self-management, self-perception and attitudes towards change (Pewe).

Pewe: “We have a setup where we talk about how to lead yourself, how to understand the mechanisms within yourself as a leader, and as a human being – why you act as you do in certain situations. Then you can translate that on how to lead others.”

Consequently, the training aims at creating awareness for individual responsibilities as well as to understand relationships and interactions between people. These insights assist an intended innovation process as managers gain a more accurate sense of what it means to people to change their habits.

MMT is not only perceived as valuable from the managers' side, but also receives support from selected case-units.

Pewe: “People are always very excited and happy for their unit to be chosen to participate. They like seeing who is coming and their specific interest in their care unit. They are really positive about that” (Pewe).

This comment shows that the MMT also helps managers to create visibility. Thus, there are opportunities for direct communication and interaction with employees, working at the frontline level.

Pewe: "The feedback [of MMT/case work] is that it is very useful, though it may not always be easy, because it is about development issues in many cases."

Overall, we conclude that the case approach does not only assist managerial development, but also has the instrumental function, to trigger the execution of change initiatives on the frontline level. This way readiness for change is created on various organisational levels.

Resources

Among the resources of 'time', 'human workforce' and 'financial resources', the availability of workforce and time is discussed a lot. Dedicated or additional workforce that receives sufficient time to deal with the implementation process is highlighted as a central facilitating factor in the interviews. That insight is in accordance with survey outcomes, supporting a high degree of agreement; five out of six respondents agree to the importance of specifically assigned workforce. For example, both surgeons and managers agree that time apart from regular tasks is a critical resource that allows to change work habits.

Norenstedt: "Giving the time to do it, that is an important way for management to show that this is important. If you do not get the time to do it, then you think that this is not so important."

Olsson: "Time is the most limited resource in our organisation and the most important one as well ... It can sometimes really be a challenge to get time out of organisations. Most people ... are so into their everyday work, so they do not have spare time for projects. But we believe in doing things ourselves and not taking in consultants."

The establishment of Capio Online exemplifies the decision to use dedicated workforce in order to accelerate innovation processes.

Jexmark: "This specific project is high-priority, so I would say the money has not been the biggest issue. And we are quite few, it is just me and Margareta, we are not so many resources. ... Time is the limitation right now, we need to make an impact on many people in a short period of time and that is quite hard."

Participants agree on the need to provide time to familiarise, interact and actively work with an innovation.

Jexmark: "Providing enough time to get familiar with an innovation, is something that we found to be often underestimated."

The survey shows that the amount of time users have to become acquainted with an innovation, is, generally perceived as important (three agree, two tend to agree). Yet, disagreement is also shown in the interviews.

In the interviews, time is critically assessed by arguing that it depends on the progress of change and the change attitude of the employees. Additionally, the way of structuring an implementation process affects the needed time. Thus, in order to have a smooth transition

process, change initiatives should be broken down into manageable small projects, as will be further explained in section 5.3.5 'Relative Advantage, Complexity, Compatibility and Adaptability'.

Besides time and dedicated workforce, financial constraints play a role.

Olsson: "I would not say the money in itself is a problem. It is more that we are very decentralised in proximity care, meaning, that all our 80+ units have their own budget and they are accountable for it."

In the survey, all respondents tend to agree that financial resources are relevant in an implementation process, which shows that monetary abilities are important, but relatively less significant compared to the elaborations regarding the other resources.

5.3.2 Organisational Level: Organisational Culture

Innovation Facilitating Culture

Olsson: "Culture is the foundation for successful implementation."

This quote is an example of how an innovation facilitating culture gets attention throughout the interviews. Culture interrelates to many other facilitating factors. Grasping this concept within the interviews was a challenging ambition, as it is a highly abstract and intangible construct. Organisational culture is not easy to change as well as put forward by Granado Persson:

Granado Persson: "Culture, that is something that is very, very difficult to change. Sometimes you can change smaller things ... but to turn this really big ship around of course takes years. But that does not have to be the excuse for not trying."

This quote shows a slightly distanced attitude towards culture as a 'practical' facilitating factor due to its huge impact on the organisational constitution. However, as shown below, high consensus for the indispensability of a specific culture can be manifested.

According to all interviewees, improvements in care delivery directed towards the patient are the core of any types of innovation at Capio. This is also manifested by the underlying values of the Capio Model: *Care, Compassion and Quality* (Capio AB, 2017). Thus, the understanding of the patients' needs is the focus.

Pewe: "I mean why would you like to be in this business? Because you want to make a difference. We should do what is best for the patient and that is being innovative. Setting that culture is something that we need to be even more clear with."

The existence of a bottom-up culture is in line with Capio's organisational structure (Section 5.1), in which employees at lower levels are encouraged to initiate change processes and take over more responsibility. This approach is particularly preferable in the service sector, and therefore also in healthcare.

Berglund: "Service management cannot be organised in a successful way if it is top-down oriented. Service management needs to be bottom-up."

S:t Görän's emergency hospital is particularly highlighted when it comes to the perception of bottom-up work practices and innovative projects.

Olsson: "I can definitely see that there is a culture in S:t Görän's where coming up with change is very emphasised. ... Everything is like positive when you think of lifting up problems in S:t Görän's. I think that is one very, very beneficial thing which makes a nurse or an assistant come up with a proposal which has a great impact."

Besides this 'pioneering' unit, experience from other operating countries, such as Germany and France, indicate that organisational culture is interrelated with the national environment. In other words, changes are additionally challenged by cultural backgrounds with respect to national differences. For instance, when transforming the Swedish healthcare model of Capio to German healthcare units, essentially organisational innovation, it is a challenge to overcome rigid authoritarian mindsets that are present in Germany.

In addition, the interviews mention further components of an innovative driven culture, such as open-mindedness, transparency, honesty, mutual respect, responsibility, and directness.

Olsson: "We tell what is not working and what works. We are honest with one another and if I have seen something that is troubling in some unit I tell them directly."

Moreover, Demesmay highlights staff satisfaction and proudness as a result of being acknowledged for proactivity and innovative driven attitudes.

Demesmay: "First, staff satisfaction increased and then, even better, staff proudness increased."

Similarly, survey outcomes show agreement regarding the necessity to reward proactive behaviour of employees (four respondents agree, one tends to agree). Additionally, it is stated by all respondents that highly committed staff, who is faithful and confident in the organisation, is a very significant facilitating factor for the implementation process.

Each healthcare practitioner stresses that the patient is at the centre of all healthcare activities, including the implementation of innovation. For example:

Berglund: "The first question we need to ask ourselves is, why are we here? Why are we in healthcare? We are here for the patient. That is not obvious when we look at many healthcare organisations."

Consequently, the patient's perspective serves as a starting point for the conduction and implementation of innovative processes.

Danelius: "With everything we do [in healthcare] we try to start by looking from the patient's perspective and try to build it that way. A concrete example is when we look at clinical processes. Clinical processes develop from the patient's need." – "In healthcare, the first thing you have to do is to be very, very sure about the medical quality and patient safety. You cannot make any mistake in that part."

In other words, the interplay of the innovation and organisational values can be achieved, if both aspects aim for high quality treatments of patients. The role of patients receives additional appreciation during the final reflections of the interviewees regarding the discussed

facilitating factors. It is emphasised again, that patient safety and treatment improvement have to be at the core.

Danelius: "I can stress once again that it is important to always remember what healthcare is about. It is about helping people who are real. It is so basic, but it is so easy to forget when you are stuck with your innovation process. The goal is to give a better healthcare treatment to patients."

Granado Persson remarks that healthcare is fundamentally about compassion, which should be an internalised attitude of healthcare practitioners.

Granado Persson: "I think we should not forget about the compassion part. We are part of big days in other people's life and if we forget that whilst working I think we are on a dangerous path."

Dealing with Diversity

The concept of 'diversity' is actively debated. Overall, the respondents evaluate the existence of a diverse workforce as a positive facilitating factor; for example:

Olsson: "Diversity is a really, really crucial thing to have on board."

Making use of various perspectives and backgrounds is seen as an important innovative capability, since different interests and needs can be captured. The survey shows that a diverse workforce is important to enable an effective implementation process, as the majority of five respondents agrees on the statement.

As already mentioned, diversity is also about bringing multiple professional groups together in order to discuss how to introduce changes and to find compromises. This 'mixing' approach is also emphasised in MMT.

Pewe: "In teams, we want to mix gender, age, any type of background, but also when you think education-wise. So you want to mix the people with clinical and medical experience together with more supporting functions or business development."

The relevance of diverse teams becomes even more evident when it comes to the need of common decision making and the focus on reciprocal learning and understanding. Even though diversity is predominantly interpreted as a positive and desirable aspect, creating a mutual acceptance is also challenged by it, thus the ability to compromise is required (Section 5.3.1 in 'Flat Organisational Structure').

Furthermore, we want to elaborate on a finding we made based on the interviews. Overall, the group of physicians is characterised by people from various origins, as healthcare represents an international working sector. Therefore, people from multiple backgrounds interact in their daily work, thus the level of conflictive discussions rises due to different perceptions regarding the implementation of organisational innovations.

Granado Persson: "Many doctors are from abroad ... and they have another view upon themselves about their authority. That is why it is so difficult to lead such heterogeneous groups. That is a big challenge for us."

An insightful example where diversity is hindering implementation is stated in the following.

Olsson: "A couple of years ago when we implemented a new patient administration system in one of our larger hospitals ... the main challenge was the older doctors. They had the biggest problems to learn these systems, because they are not so IT-literate ... This meant that the older doctors needed to ask the younger ones for assistance, which then became a problem, because, in their perspective, the younger colleagues should talk to the seniors about getting help. The whole structure was completely turned upside down. The solution for that was of course that we had to divide the trainings. We had special senior physician trainings. That was quite good because then they did not have to lose their face in front of their younger colleagues."

This statement shows that authorities in healthcare still exist despite the large-scale attempt to break down hierarchical structures.

Overcoming (Professional) Status Recognition

In healthcare, the relatively slow advancement when adapting to change is also related to entrenched attitudes and status recognition of certain professions (Demesmay, Jexmark, Olsson, Pewe).

Olsson: "It has to do with traditions. ... The higher educated you are, the more you are your own profession. You are what you do. If you are a doctor, you very much tend to identify yourself with your professional title."

This statement shows why a fear of loss of status is so prevalent when implementing change processes, since losing one's identity is naturally frightening (Jexmark, Pewe). Physicians strongly identify themselves with their profession according to the respondents.

Demesmay: "A doctor is more or less like god. In France, we have a saying that the difference between god and a surgeon is that god does not consider himself as a surgeon"

Pewe: "A fear of losing status and power definitely plays a part. So many people are afraid of losing what they do. They think it is their identity and that they cannot hold on to it."

Survey responses partly coincide with the interview outcomes and show that a fear of losing status is seen as an obstacle for a successful implementation by a majority of four respondents who tend to agree, one who agrees, and one who tends to disagree.

However, we identify that an existing organisational structure pressures physicians. In this sense, the issue of 'status recognition' should be relativised as physicians have to take high responsibilities in their job. They are the ones who will finally be blamed for mistakes that might have fatal consequences.

Olsson: "I understand that they [physicians] have very, very, very tough decision to make and they are personally responsible for their decisions. ... If they do something wrong, then they will be the ones to take the personal responsibility for that. Of course in that kind of protective environment, when you are individually responsible for something, and someone else comes and tells you 'You should do things in another way', that is really threatening to you, because ... it is threatening the way you

normally work. I would say that this is something that is really hindering the task of implementation innovation in healthcare.”

This elaboration specifies the naturally delicate work environment of healthcare, making it challenging to overcome familiar work procedures and to think outside the box. Having said this, healthcare organisations should critically question the reasons for entrenched status thinking as well as physicians' responsibilities and decision making power and react accordingly.

5.3.3 Organisational Level: Communication

The statement that “*everything is about communication (Granado Persson)*” alludes to the significance of proper communication. Thus, dialogues 'at eye level' are vital to enhance people's readiness to acknowledge and support innovation implementation. According to Pewe, communication entails to “*invite people to a dialogue rather than just giving them information. Being honestly interested in what they have to say, whether it is small or big. If you want to connect, if you want to get them on board you need to be a bit humble and listen and ask.*”

Communication is particularly important at the beginning of an implementation process. The main task is to create awareness about the purpose of an innovation so that initial fears can be decreased. This argument is in accordance with the survey, where the statement that 'involved parties need to understand the purpose of an innovation is agreed by all participants. Additional results indicate that a majority of the respondents (four out of six) agrees that personal benefits as well as expected individual tasks need to be communicated to users.

When change processes are initiated by management, direct presence is key to turn resistance into active participation.

Granado Persson: “You [as a manager] should be very transparent ... and truthful.”

Danelius: “Trying to meet people, all the time. Involve them, listen to them. So it [the innovation implementation] will not be a threat to them. So they can feel their opinions and knowledge will be a part of this.”

Granado Persson even stresses that presence is one of the main aspects how to change a culture.

Grando Persson: “I think one of the main keys [to change a culture] is that you have to be present. You cannot be a leader if you are not present. You will never gain respect from anyone if you are not there. ... You have to listen to people, you have to understand where they are standing, then you can understand their point of view, and just then you can turn them around.”

The arguments indicate that communication should aim at realising frequent face-to-face meetings, and communicating in a way that shows understanding and concern with transparency and openness. It can positively modify individual mindsets towards a change process. Furthermore, reducing perceived threats by showing awareness for different perspectives as “*people have different stories and preferences*” (Pewe), demonstrates that it is fundamentally about the interplay between humans in a complex environment.

Olsson: "I really think meeting people, really taking their concerns seriously and talking about them: 'I understand this will be a problem'... that are concerns we need to take into consideration and discuss and not hide behind any powerpoint slide, which is easy otherwise."

These insights are also in line with the survey results. All respondents agree that communication strategies need to address potential criticism and uncertainties. Complying with and improving such communication patterns across various organisational levels is a challenge due to diversity. Therefore, as example, Capio Online has a policy stating that communication should be conducted in a simple way.

Danelius: "We have a policy that all the information we have, should also be understood by patients. Even the information we give to our doctors. ... I think our caregivers usually appreciate that the information given to them is simple. No one will have to feel embarrassed that they do not understand and most will feel confident about their comprehension. Also, by putting it easy we give our staff a language that we can share with our patients. Sharing information is crucial for a modern partnership between caregiver and patient."

Policies can support communication conditions. However, the practical execution is ultimately about inherent social skills of the people. Thus, 'communication' and 'change management' are very important topics to address in training sessions.

Pewe: "The challenge is to educate our managers and make them understand how to communicate change to their teams. We have to train them because managers are often clinically trained, or financially, and this skill is not something that always comes naturally. It is about communication in change management and learning how to do that."

It is further pointed out that constant communication and information about goals, ambitions and visions result in a positive change in attitude (such as in the case of Capio Online).

Danelius: "Doctors from the [involved] units say: 'Oh, we understand that this is going to happen and we want to be a part of it! We want to be part of the decisions! ... We want to be with you forming it!'"

Norenstedt notes that an obstacle is the high turnover of nurses that healthcare units regularly face. This circumstance makes it difficult to maintain information flows, as it requires to repeat instructions about certain tasks.

Norenstedt: "After the surgery, we moved our patients into a certain ward. Then, it was decided that they should be in another ward. And we had to educate all the nurses at that new ward, how to take care of our patients. That was kind of a problem ... because it took a lot of time. We had new nurses all the time [due to the high turnover] so we had to be there often and inform them about the implementation of new ways of working."

This aspect should be taken into consideration when it comes to innovation implementation because it creates an additional and time consuming complication in the workloads of physicians and nurses.

5.3.4 Individual Level: Driving Individuals

Champions

Interviewees agree that the attitudes and activities of champions promote the implementation of an innovation, since they “*drive innovation [and] break new grounds*” (Berglund). The significance of champions who are capable of positively influencing peers towards innovative processes is also shown by supportive results in the survey – all respondents fully agree. However, we want to clarify for the interviews that the reactions towards this concept tend to be rather neutral respectively not as enthusiastic as other concepts.

In the interviews, various driving individuals at Capio are exemplified as coming from any organisational level. Champions are needed in order to assist management in spreading the innovation within subunits or entire healthcare units, since “*they are a positive force. It can be tough for the manager to reach everyone and to get everyone on board. Then, they need the role models in the business, saying: ‘This is really great. This is working.’ So, finding those people is often key for success*” (Pewe). The statement shows that it is important that these champions act on their behalves and not on the company's orders. Identification of such driving individuals is mainly based on personal relationships and knowledge about the unit and its employees.

Pewe: “Identifying the right person is about personal relationships, and trying to understand their driving forces ... It is basically about knowing your people.”

This argument makes the relevance of direct communication (Section 5.3.3) even more valuable when it comes to innovation implementation.

Leadership and Management

Based on practitioner's perceptions, ‘leadership’ and ‘management’ consist of similar features when it comes to organisational innovations. Though former sections already touched upon managerial responsibilities, some more key aspects will be explained.

Demesmay: “I have a very simple definition, but it is not from me: Management is about doing the things right and leadership is about doing the right things.”

Granado Persson: “The higher you get up, you are the one who explains the visions and goals. Then, when you go down you are going to delegate, you fractionise into small bits. And then you come down to the lowest part, where the presence, the feedback and the execution must be the task of management to 100%.”

These quotes reveal that management establishes an operational framework for implementation by allocating, time, resources, and providing structure; leadership is the informal counterpart to convey and act according to promising visions. Thus, creating ambition and motivation in people, and handling teams are part of the leadership tasks. So, leadership is about “*engaging people and getting to the heart of them. Because it is only in*

the heart where thing will happen. I can make the best plan ever and I can convince you in your brains, with your intellect and say this is a great thing, but if you are not convinced from the bottom of your heart, if it does not feel good to you, it will not happen” (Olsson).

This evaluation shows that leadership tackles the corporate identity and culture. Furthermore, leadership is not defined as being existent on one specific level in the organisation's hierarchy.

Olsson: “Leadership can come from all hierarchical levels, absolutely. ... We have great leaders working on the floor, so to say, and we have great managers but they are not leaders.”

In contrast, managerial commitment towards the innovation should be reflected by providing proper time for innovation processes, appointing responsibilities and being “*present, visible and clear*” (Berglund).

Olsson: “Missing management commitment to innovation is honestly one of the biggest obstacles. You need to have management on board, both middle management and firstline management. If they do not understand the reason for the innovation, if they cannot describe why we do this innovative process, then it will be really tough and challenging for them to manage this on the healthcare everyday work.”

In particular, clear and transparent communication is pointed out as an important managerial strength. This entails careful listening to various voices within a unit and converting insights into proper action. Additionally, management needs to deal with conflicts as the role of a mediator or an advocate of the employees' projects.

Granado Persson: “If an idea comes from a nurse, then it is very important that the unit manager says: ‘I really back you up.’ That is crucial. And if there is any resistance then you come to the manager. So the manager is the one who gives the security to the one who has an idea and supports the person. But management should also handle the problems that are coming along.”

Respective descriptions in the survey about the tasks of leadership and management correspond to the interviews. For example, it is stated that leadership should point out the future direction, build a culture and be enthusiastic. Management trains people, identifies suitable team-members and regulates the financial support.

Middle Management / Firstline Management

The literature review did not cover the role of firstline management specifically. But, to get a complete and clear picture of various management levels, we also considered firstline management for the purpose of the case study. We name both terms ‘middle management’ and ‘firstline management’ interchangeably since their responsibilities overlap.

In particular, middle and firstline management play a crucial role in the implementation process, albeit usually underestimated.

Olsson: “They are the key people to get. But, we are not always succeeding in that. We need to have a firstline management [in the process].”

This further demonstrates that in order to diffuse this knowledge to lower levels and to mediate in between, middle managers need to understand their responsibility of managing information and the reasons behind the innovation.

Jexmark: "They need to understand the strategic part from the top layer and understand the practical part from the front office. They need to communicate between the different layers. That is the most important aspect. Sometimes it goes wrong, because they did not understand the task or the strategy behind and they cannot explain it."

Challenges, especially for middle and firstline managers, are related to their full schedules, as they usually also work clinically (Pewe). Furthermore, their position between delegating to frontline staff and receiving tasks from the 'top' makes the job particularly demanding.

Olsson: "It is sometimes easier for higher management to be involved. They have their agenda full of course, but they are not full with patients. Middle and firstline management have a very, very, very tough working situation. They have both the frontline employees (all the doctors and nurses), and their patients. And they have the management on top of them, who is telling them to deliver results ... They really need to be wizards to be able to make these decisions in the everyday work."

According to the survey answers middle or firstline management should execute the implementation plan. Monitoring, giving feedback and presence throughout the implementation project is also their responsibility.

5.3.5 Innovation Level: Innovation Characteristics and Processes

Relative Advantage, Complexity, Compatibility and Adaptability

In general, the concepts - relative advantage, complexity, compatibility and adaptability - are less explicated by the interviewees and in a rather general way as shown below. That alludes to their relatively less specific value for innovation implementation. In the survey, these innovation characteristics - perception of relative advantage, compatibility and adaptability, are confirmed by the respondents to influence the process.

The impact of innovation features is mentioned to be related to its necessary modifications of existing organisational processes; that is compatibility. Naturally, incremental changes are easier to handle. Therefore, the respondents insist to divide complex innovations into smaller pieces.

Demesmay: "It is obvious to me that one of the key success factors is, that we break things that seem very complex into a thing that seems as simple as possible. We have to work on cutting the elephant into slices."

An example for setting these goals step by step is outlined by François Demesmay, who managed to implement and adapt the Swedish working model in French healthcare units. Employees were able to familiarise with changes and were not overwhelmed by the whole process.

Demesmay: “Instead of telling them that we have to do it the Swedish style, we built a model after the Swedish style in steps. We said: ‘This month the plan is to implement this step.’ This was easier to reach than to fully change the way we worked. ... Otherwise people would have gotten into a panic mood. ... ‘de-complexifying’ the process was a key success factor. It was a long journey but it started with a single step.”

Besides adapting to the local environment in which the innovation shall be embedded, successful implementation also implies the adaptation of the innovation itself. Consequently, through continuous adjustments, consisting of testing, launching, retesting and relaunching, until the point where no more major mistakes can be found, the process of implementation is realised (Jexmark). The reason why this is crucial to ensure a positive large-scale implementation is shown in the following statement.

Danelius: “The innovation we are working with is so complex, so there is no way that we can find solutions by just sitting at our desks So this pilot phase will also help us question ourselves, because there will be some things that we think are great that will actually not be that great.”

Piloting, Monitoring and Feedback

Piloting is a necessary part in the implementation process, because improvements can be realised before the actual launch or large-scale spread.

Jexmark: “It is necessary to have a pilot phase and to have a good test phase before we implement, because we learn a lot from the testing.”

Piloting is also described as being useful to prevent mistakes by learning from test experience.

Demesmay: “We started small ... so we learned, changed it and then went large-scale. It is crucial that you have this procedure. You can learn out of it, and therefore not make too many mistakes.”

Furthermore, it is mentioned that the units, which are targeted in the piloting phase, should be critical about an innovation in order to benefit from their input.

Olsson: “It needs to be piloted at the right units. You should have one of these really sceptical units, which says that this is not gonna work. It brings a different perspective in, which is really frustrating, but it is also crucial to focus on these parts of a project.”

Additionally, piloting units or teams should involve diverse members, who are also curious about innovations, to gain input based on multiple dialogues (Jexmark).

Olsson: “Use the people that want to try out new things. Find the managers and doctors that are really into this, who love to try out new things. Use them as pilots.”

Five out of six survey respondents agree that piloting should be part of an implementation process.

Another component of implementation processes at Capiro are monitoring measures, which mainly involves the integration of future users or units. Finally, feedback-loops are also found to be necessary for implementation (Olsson, Demesmay).

5.4 Discussion

Research Question 1.2: To what extent do healthcare practitioners recognise these facilitating factors?

In this section we discuss the main findings regarding concepts of facilitating factors from the case study. We highlight the significant facilitating factors for the implementation of organisational innovation in healthcare as well as some additional specific insights we gained.

A crucial facilitating factor is the existence of a *flat organisational design*, driven by a *bottom-up structure*. This topic was discussed in-depth, and was frequently repeated by respondents. It was found that a flat structure should include an integration of various professional levels in the decision making process, in order to create a sense of commitment and ownership from the early stages of the implementation process. Also, a thriving implementation process requires close collaborations across different departments. Appointed 'implementation teams' assist in communication between various professions, so task ambiguity is reduced. Yet, a complete shift towards flat organisational structure is hampered by the existent hierarchical culture in healthcare.

Dealing effectively with these structural challenges and strengthening flat decision-making processes require openness to compromise to reach common goals. This undertaking is particularly demanding within healthcare, due to the *specific (medical) knowledge distribution*. It was identified that professionals who know best about healthcare treatments operate at the bottom of the organisational level in healthcare. They are the actors who possess the actual know-how about clinical processes. Hence, it becomes clear that this group in particular needs to be targeted. Having said this, it becomes evident that we have identified that the group of physicians has a powerful position within healthcare organisations, due to their role as major decision-makers regarding adequate treatments. They are one of the main influencers of an innovation implementation process. However, there is a difference between the demands to coordinate new workflows and the physicians' actual skills: the lack of managerial skills of physicians hampers to organise new operational processes effectively. Therefore, it is crucial to counteract this obstacle by providing sufficient training possibilities and thereby convert this obstacle to a facilitating factor.

In terms of structural facilitating factors, *internal networks* further assist the spread of innovations within healthcare organisations, thereby ensuring a consistent quality of healthcare procedures and treatments. Networks promote valuable learnings and opportunities for exchange between departments (or even between countries in the case of Capiro). Thereby, the acknowledgement and execution of innovations is facilitated without extensive management involvement. In contrast, external networks were relatively less discussed in the context of direct innovation implementation and it was outlined that 'in-house' driven implementation is more effective.

Findings clearly indicate the high importance of *training* for frontline staff, namely physicians and nurses, in management skills, as well as education for management and administrative staff in medical knowledge. Hence, we can specify that *reciprocal* appreciation of the other's perspectives is fostered and mutual understanding of tasks and goals is created by training. Therefore, we argue that training models in healthcare should pay attention to the inclusion of various professional levels, thus easing communication flows towards a promising implementation process. Teaching users in applying innovations is another aim of the training. However, this aspect was not addressed in such detail in the interviews.

With regards to the relevance of resources assessed by the interviewees, time facilitates innovation implementation in two senses. First and foremost, it helps to have a *supportive workforce* dedicated to an innovation process. Consequently, selected staff is able to focus on the innovation implementation so that it is transformed into an integral part of everyday work. Therefore additional appointed time apart from regular duties contributes to the application of innovations. Secondly, time is needed for a user to familiarise with an innovation. However, this was less addressed in the interviews compared to the aforementioned point. Financial resources were also outlined, but not in such detail as time. Hence, we argue that they are relatively less relevant since it can be assumed that financial issues have been addressed before making a decision to implement.

The interviews reveal a strong interrelation between organisational structure and an *innovation facilitating culture*. Thus, we emphasise the importance of a strong culture. Based on the elaborations of the respondents we conclude that a cohesive culture is the most necessary factor to drive innovation acceptance and hence implementation. Innovations thrive if their constitution is consistent with organisational values. In this case, the *patient is the centre* of the service. Thus, 'looking from the patient's perspective' should be a key aspect within every healthcare organisation, and therefore defines everyday tasks as well as innovation projects. Interviewees strongly emphasised to take this aspect into consideration. Furthermore, organisational culture should be embedded in a bottom-up structure in which every employee is encouraged to 'make a difference' and receives appropriate acknowledgement for individual contribution. This engagement of all organisational levels not only promotes staff satisfaction through empowerment, as more autonomy is given to practitioners, but it also facilitates and improves the outcome of innovative initiatives. Additionally, the case study indicated that organisational culture has to be considered in the national context of a healthcare organisation, by taking local structural and cultural patterns into account.

Based on our findings we can prove that *diversity* among professionals is widely perceived as strengthening the implementation process as multiple perspectives contribute to well-discussed decisions. Particularly in the context of healthcare, this topic is relevant as final treatment processes are only effective if there is sufficient interplay of multiple actors, namely management, frontline administration, physicians with different specialities, nurses, receptionists, and more. Together, various stakeholders create the final value for the patient. Hence, diverse teams should not only be created when implementing an innovation but also when executing regular work tasks. The fact that the group of physicians is characterised by multi-cultural backgrounds additionally strengthens the importance to find adequate ways of

dealing with diversity. As healthcare represents an *international work area*, this is worthy to discuss among healthcare practitioners in view of implementation processes in order to prevent conflictive and inefficient working patterns.

Insights based on the interviews further showed that (*professional*) *status recognition* is strongly linked with professional identification. This inhibits implementation of innovations in healthcare. Physicians in particular are affected by a fear of loss of status, which comes from the immense responsibility they carry. Hence, this concern is an obstacle for a successful implementation process. Overcoming this entrenched role-thinking is an ambitious process. But it is vital to foster innovative capability as physicians represent key actors and initiators of innovations in practice. It is indispensable to investigate the underlying causes for the still existing status identification, and encounter them.

The extent to which the concept of *communication* was addressed shows its high relevance when it comes to the implementation of innovations. The way of communicating, or '*how to communicate*' is crucial. In this context, visibility and presence of managers were stressed. They allow direct dialogues with the users' concerns or reluctances regarding new ways of working. Hence, trust and the necessary openness to change the status-quo can be established. Moreover, speaking a common language among different parties is important. Thus, policies that demand simple ways of communication, such as in the case of Capio Online, can be one way to achieve this goal. Integrating this issue into management trainings is another approach. A further challenge is to maintain information flows despite the relatively high fluctuations of nurses in healthcare. Specific topics of communication, such as clarifying personal benefits and individual tasks, were rarely addressed in the interviews. We conclude that this issue is accepted as a natural factor when communicating innovation implementation.

The impact of *champions* was explained by some underlying examples of driving individuals at Capio. They receive strong appreciation and credibility. Champions are considered as forerunners in implementation processes, who motivate peers to embrace an innovation and participate actively in its implementation. But they have to be intrinsically motivated to spread the benefits of an innovation in order to fulfil their roles as strong advocates. Additionally, it was confirmed that they are located at any level within the organisation.

We sum up the main tasks of *leadership and management* in healthcare practice: Leadership is in charge of creating a vision, setting the goals, and promoting enthusiasm for innovation implementation. Compared to this very symbolic function, management is in charge of building concrete structures, such as establishing work teams or allocating resources.

In fact, *middle or firstline managers* have a challenging but crucial responsibility in the implementation process as they manage information flows between 'top' and 'lower' levels. They represent a key facilitating factor, but in order to execute tasks appropriately it requires clear descriptions of the middle managers' tasks.

We conclude from the case study that *complex innovations* are not more difficult to implement than small-scale innovations. It rather depends on a proper preparation of the project. Breaking the implementation process into small, hands-on steps assists the implementation because large-scale changes can be avoided. That way, participants are more likely to accept changes. In addition, building on little success stories helps to foster

commitment. Overall, we realise that the constitution of an innovation itself is a minor facilitating factor. Organisations should have clear knowledge about the features of an innovation and adapt the implementation accordingly. This is true for healthcare, but also for other industries that deal with innovations, so we relativise the theoretical concepts of complexity, compatibility and adaptability.

Finally, adequate practices for *piloting, monitoring and feedback* should be in place. Of the mentioned aspects in the process, piloting plays the most significant role according to the extent of interview material. Specific piloting units, characterised by critical but also curious individuals who can convey valuable feedback, should be chosen. However, it was discussed in very general terms, so that we rate this aspect as less specific for healthcare.

Summary

This chapter demonstrated our findings and analysis of the case study, which consist of a survey and in-depth, semi-structured interviews with eight healthcare practitioners at Capio. The analysis revealed parallels to what has been found in the extensive literature review, but further aimed to create a deeper understanding of facilitating factors and to gain additional insights for the implementation of organisational innovations in healthcare.

6. Discussion of Research Question

Research Question 1: What are facilitating factors for the implementation of organisational innovations in healthcare?

In this chapter we underline the main findings of facilitating factors for the implementation of organisational innovations in healthcare, which are crucial to discuss when approaching implementation. We show parallels and discrepancies between theoretical concepts of the literature review and empirical finding of the case study.

We put forward the high relevance of an *implementation fostering culture aligned with a flat organisational structure*. In other words, both practitioners and researchers agreed that a culture that supports, initiates, acknowledges and rewards change initiatives is crucial when implementing innovations in healthcare.

Incorporating such culture requires a *bottom-up structure*. Employees from different hierarchical levels should feel encouraged to come up with change initiatives. While the literature review underlined the active *collaboration and shared decision-making of various hierarchical levels*, this was also strongly confirmed by the outcome of the case study. However, the empirical findings take this concept one step further. They state that especially the bottom or frontline levels have to drive innovations in order to enable promising and commonly acknowledged implementations. This aspect becomes even more relevant when considering *knowledge distribution*, a new insight from the interviews that was not discussed in the reviewed literature. The fact that knowledge in healthcare is condensed at where treatment and interaction with patients happen, implies that professionals on the frontline level have the final influence when it comes to the practicability of the innovation in daily works. This insight poses a specific healthcare related feature where compromising and integrating various frontline perspectives is significant, and should be addressed when approaching an innovation implementation. Consequently, researchers and practitioners agreed that physicians are key stakeholders when aiming for an innovation implementation, because they have a large decision-making power within a unit.

Consequently, the case study shed light on the *impact of professional status recognition*, which is commonly perceivable within the group of physicians. Overall, ‘status’ challenges internal communication and a culture that supports flat hierarchies. We gained a more in-depth understanding for the reasons why a fear of losing status and power is so prevalent and conclude that an inherent organisational structure, including complex medical decisions, has to be addressed.

Alignment between the (constitution of an) innovation and organisational values should be characterised by a strong *focus on patients*. This vision needs to be very clear and visible within the organisation so that every practitioner is constantly reminded of what healthcare is about. It is an ongoing task to incorporate innovation intentions into present organisational values. In contrast, the position of the patients was rarely noted in the literature review. However, concluding remarks of the interviewees underline the actual fundament of healthcare services, and therefore it is a necessary aspect to take into account when implementing innovation.

The promotion of *diverse work teams*, or cooperation between various professions, is a further insight that we point out to be a facilitating factor based on the available literature and case study. It helps by making use of multiple expertise assistance to find adequate solutions in complex implementation processes. Furthermore, the employment of professionals from various cultural backgrounds is a special insight in the healthcare context. It underlines diversity and has not been mentioned in the reviewed literature. We conclude that creating mutual understanding between team-members is key in effectively dealing with diversity.

Based on the need to foster bottom-up processes, the presence of knowledge division and the potential of diversity, adequate *training* strategies and programmes have decisive importance as facilitating factor. The significance of training for frontline staff in managerial tasks was agreed upon in the literature and case study. However, the literature review did not outline training in basic medical knowledge for managerial and administrative professionals. This would aid *reciprocal* understanding, which facilitates planning. With regards to trainings, we add that it should be conducted towards mutual learning outcomes.

Another relevant concept is *communication*, extensively debated in the literature as well as during the interviews. First and foremost, efficient communication facilitating implementation is conducted to address criticism and fear towards an innovation. This was particularly stressed in the interviews. Dialogues have to be transparent and easy to comprehend so that reluctance turns into commitment and support for the innovation. We further specify that direct presence of management is indispensable in order to capture various perspectives and act accordingly.

In particular, the role of *middle or firstline managers* is important to consider in the context of communication as they mediate information flows and handle ambiguity in the phase of implementing an innovation. The empirical findings clearly confirmed the crucial role of middle or firstline management which was also underlined in the literature.

To sum up, the stated concepts are highly relevant for healthcare practitioners when approaching innovation implementation. The combined elaborations to research question 1.1 *What are the facilitating factors identified as the result of the literature review?* (Section 4.3) and question 1.2 *To what extent do healthcare practitioners recognise these facilitating factors?* (Section 5.4) provide evidence for these facilitating factors.

The following concepts addressed in the literature were also confirmed by empirical data. However, the depth of responses as well as scope of interpretation according to the interviewees depict that these factors tend to represent general factors when implementing innovations. Thus, based on our focus of analysis, we argue that these have less relative significance in healthcare, even though they should not be neglected.

- The concept of organisational structure was also linked to *internal networks*. Networks enable exchange of success stories and spread of experience within healthcare organisations. In contrast, external assistance to implement innovations was opposed by arguing that change needs to be driven from within a company, thus depicting an opposite view to the literature.

- The most beneficial aspect of the theoretically mentioned *resources* is to ensure that users have time apart from their everyday duties to dedicate to the innovation (dedicated workforce). This was mentioned both in the literature review and especially in the case study. We can say that this factor is relatively more relevant for healthcare compared to other types of resources, however, it was rather outlined as a matter of course.
- The literature review and case study further revealed the influence of *champions* in increasing organisational acknowledgement of change. Champions are driving individuals whose commitment needs to be initiated by individual conviction and motivation towards the innovation implementation in healthcare and other sectors.
- Responsibilities of *leadership and management* were widely confirmed in the literature as well as in interviews but in a very general sense.
- Likewise, *relative advantage, complexity, compatibility and adaptability*, referred as innovation characteristics, were discussed in the literature review, but are of a more general nature and not fully confirmed by interviewees. Instead, it was found in the interviews that complex innovations should be broken into segments in order to be perceived as manageable.
- *Piloting, monitoring and feedback processes* were confirmed in the literature review and case study alike, though piloting was the main focus of the three. These concepts rather account for a general factor for innovation implementation and are therefore not specifically relevant for healthcare.

The adapted framework (Figure 3) summarises the key facilitating factors that healthcare practitioners actively have to deal with to foster the introduction and successful spread of organisational innovations in healthcare units. Some concepts are complemented by the additional more specific insights in the context of healthcare.

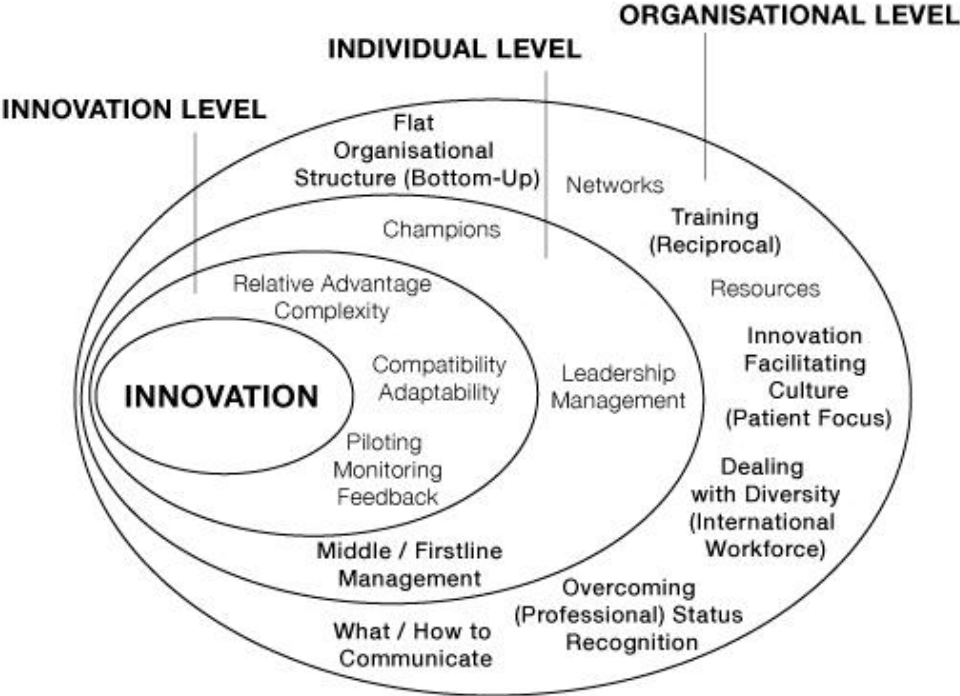


Figure 3: Adapted Framework – Facilitating Factors for the Implementation of Organisational Innovations in Healthcare

Summary

This chapter intended to answer the main research question: *What are facilitating factors for the implementation of organisational innovations in healthcare?* We compared the findings of our case study against theoretical concepts. Seven out of fourteen concepts, were identified to be particularly important to address when approaching implementation of organisational innovations healthcare. Some of them were specified by adding new insights based on the interviews.

7. Conclusion

This explorative study discussed facilitating factors for the implementation of organisational innovations in healthcare units. The aim was to receive a more coherent understanding of concepts that are worthwhile to take into consideration in the healthcare context. We identified relevant concepts based on an intensive literature review. The results were validated against eight semi-structured interviews with healthcare practitioners at Capio. A survey was used to provide additional evidence for the empirical findings. Throughout the whole study, we critically dealt with the meanings and values of the findings as the concepts have a high degree of ambiguity and are also highly interrelated. It was difficult to grasp them in a practical sense. Consequently, it was crucial to make sure that the interviewees' understanding was in line with our interpretation regarding the concepts.

We concluded that a flat organisational structure, promoting bottom-up driven implementation processes of organisational innovations, is a key facilitating factor. It allows an efficient collaboration between various levels. Structures are strongly related to the constitution of an innovation facilitating organisational culture, which puts the patient and the frontline healthcare staff in the focus of corporate activities. Due to the various professional backgrounds of employees in healthcare, adequate and, in particular, reciprocal trainings, targeting both managers and frontline staff, should be included to aim at establishing mutual understanding.

Efficient communication should address potential concerns and foster direct dialogues. This aspect becomes especially important in order to ensure compromises and commitment towards change. The fact that healthcare attracts international collaborations supports the importance of clear communication.

As medical experts are located at the execution levels of healthcare the significance of proper dialogues becomes evident. In this context, physicians possess major decision-making power as well as accountability and should be especially targeted in a change process. Implementation is often challenged by professional status recognition, particularly among the group of physicians. It is worthwhile to discuss these conflicting aspects and address the structural barriers for present authoritarian relationships.

Overall, healthcare organisations should acknowledge and make use of the huge potential of a diverse workforce as it enables them to find innovative solutions that respect the needs of the involved stakeholders. Another facilitating factor refers to the role of middle and firstline managers, as they are significant information distributors and mediators when it comes to change processes. It is important to assess their tasks and contributions when implementing innovations in healthcare.

Theoretical and Practical Implications

The need to investigate this topic of research was evident due to the lack of a comprehensive list of facilitating factors, which captures specific features of healthcare organisations. The theoretical concepts identified in the literature could be confirmed by empirical insights from the case study. We specified the list of concepts by integrating real-life examples and elaborations and gained some additional insights. A diverse sample of knowledgeable healthcare practitioners increased the completeness of information and created a deeper

understanding that thus supports practicability. However, particular concepts were emphasised more than others in the case study. In other words, some findings are more significant than others. Therefore, when conceiving implementation processes of organisational innovations in healthcare, one should rate specific concepts on their relevance (Figure 3).

We generated a more concrete list, one that healthcare practitioners can practically apply or discuss in the context of innovation implementation. However, we want to stress again that each concept is embedded dynamically. Due to the mutual dependency of facilitating factors, they should be adapted to the specific context of healthcare organisations.

Limitation

A main methodological limitation is related to the consequence caused by the research strategy to interview all interviewees in the same way, based on the 'pre-defined' concepts of facilitating factors. As they were informed about the concepts on hand, there was a risk to answer in a biased way, for instance by confirming the concepts or answering in a more circumventive way, which is effectively response bias. Therefore, we cannot be completely sure about the extent to which the interview participants critically assessed the facilitating factors and provided accurate responses. However, in sections 3.8.3 and 3.8.4 we explained our interview strategy as well as how we analysed and derived concepts from the interviews.

We are aware of different knowledge levels between us, based on theoretical insights, and the healthcare practitioners, based on their practical insights. A methodological remedy to counteract this flaw might have been to divide interviewees and conduct two distinctive interview strategies: One taking an inductive approach and another taking a deductive approach. This way, we could have contrasted both outcomes and prove their accordance, so that similar results would have clearly confirmed the significance of the concepts. The limited time frame restricted to realise such comparison. However, it is a valid alternative in this context.

Research Outlook

The choice of a case study limits the degree of generalisability even though this was not the prevalent aim. The study assisted to develop certain facilitating factors, which can be used as suitable variables in a subsequent large-scale survey. In order to gain a comprehensive picture of specific tools for implementation, a wider follow-up study consisting of a more generalisable sample could further specify the concepts. Furthermore, we recommend detailed research of the facilitating factors that were identified as specifically relevant for healthcare. Complementing empirical studies would add more empirical evidence regarding our findings.

In the study we assumed that the identified facilitating factors foster a promising implementation. In fact, we are not able to prove if the concepts contribute to the final success of innovation implementation. Therefore, we suggest conducting a study that compares a 'successful' innovation implementation with an 'unsuccessful' innovation implementation at two different healthcare units. Such study can confirm the importance of facilitating factors and also gain additional insights into potential barriers.

Last but not least we want to point out, that studying facilitating factors for the implementation of organisational innovations in healthcare is not only about technical processes, but rather about the acknowledgement of human interactions and relationships. As a concluding remark we put forward an insightful quotation from Berglund (interview, 08 May, 2017):

“Of course you can also fail because of a lack of discipline ... [if] you do not give a project enough resources, not enough attention, not enough protection and so on. There are disturbances along the way, but they are more process-related. The driving force is what you believe in, the culture you build, and the example you show.”

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Appendix

Appendix A - Interview Sources

Berglund, Thomas (interview, 08 May, 2017)

Danelius, Margareta (interview, 25 April, 2017)

Demesmay, François (interview, 28 April, 2017)

Granado Persson, Paola (interview, 26 April, 2017)

Jexmark, Towa (interview, 24 April, 2017)

Norenstedt, Sophie (interview, 08 May, 2017)

Olsson, Daniel (interview, 25 April, 2017)

Pewe, Maria (interview, 27 April, 2017)

Appendix B – Findings of Content Analysis and References

Facilitating Factors	References Included in Literature Review
Flat Organisational Structure	Andreassen, Kjekshus & Tjora, 2015; Anders & Cassidy, 2014; Barnett, Vasileiou, Djemil, Brooks & Young, 2011; Birken, Lee, Weiner, Chin & Schaefer, 2013; Busari, 2012; Curtis & White, 2002; Cresswell & Sheikh, 2012; Durlak & DuPre, 2008; Gagnon, Desmartis, Labrecque, Car, Pagliari, Pluye, Frémont, Gagnon, Tremblay & Légaré, 2015; Gray, Harrison & Hung, 2016; Greenhalgh, Robert, Macfarlane, Bate & Kyriakidou, 2004; Harrison & Hung, 2016; Helfrich, Weiner, McKinney & Minasian, 2007; Kash et al. 2014; Lega & Calciolari, 2012; McWilliam & Ward-Griffin, 2006; Øvretveit, Andreen-Sachs, Carlsson, Gustafsson, Hansson, Keller, Lofgren, Mazzocato, Tolf & Brommels, 2012; Weiner, Belden, Bergmire & Johnston, 2011; Wutzke, Benton & Verma, 2016
Networks	Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Curtis & White, 2002; Damschroder, Aron, Keith, Kirsh, Alexander & Lowery, 2009; Durlak & DuPre, 2008; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Kash et al. 2014; Lavoie-Tremblay, O'Connor, Lavigne, Briand, Biron, Baillargeon, MacGibbon, Ringer & Cyr, 2015; Øvretveit et al. 2012; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom, Chor, Hoagwood & Horwitz, 2014; Wutzke, Benton & Verma, 2016
Training	Anders & Cassidy, 2014; Bérard, Bonnier, Saulpic & Zarlowski, 2015; Busari, 2012; Cresswell & Sheikh, 2012; Curtis & White, 2002; Durlak & DuPre, 2008; Gagnon et al. 2015; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Herzlinger, 2006; Kash et al. 2014; Lavoie-Tremblay et al. 2015; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014
Resources	Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Busari, 2012; Cresswell & Sheikh, 2012; Gagnon et al. 2015; Greenhalgh et al. 2004; Helfrich et al. 2007; Herzlinger, 2006; Kash et al. 2014; Lavoie-Tremblay et al. 2015; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016
Innovation Facilitating Culture	Andreassen, Kjekshus & Tjora, 2015; Anders & Cassidy, 2014; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Bérard et al. 2015; Berwick, 2003; Birken et al. 2013; Busari, 2012; Weiner et al. 2011; Carlford & Festin, 2015; Chaudoir, Dugan & Barr, 2013; Curtis & White, 2002; Damschroder et al. 2009; Dugan & Barr, 2013; Durlak & DuPre, 2008; Gagnon et al. 2015; Greenhalgh et al. 2004; Helfrich, 2007; Jacobs, Weiner, Reeve, Hofmann, Christian & Weinberger, 2015; Kash et al. 2014; Lavoie-Tremblay et al. 2015; Øvretveit et al. 2012; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016
Dealing with Diversity	Barnett et al. 2011; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Greenhalgh et al. 2004; Schwamm, 2014; Weiner et al. 2011; Wisdom et al. 2014
Overcoming (Professional) Status Recognition	Anders & Cassidy, 2014; Cresswell & Sheikh, 2012; Gray, Harrison & Hung, 2016; Herzlinger, 2006; Lega & Calciolari, 2012; McWilliam & Ward-Griffin, 2006

Facilitating Factors	References Included in Literature Review
What to Communicate and How to Communicate	Anders & Cassidy, 2014; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Birken et al. 2013; Boutros, 2007; Busari, 2012; Chaudoir, Dugan & Barr, 2013; Carljord & Festin, 2015; Cresswell & Sheikh, 2012; Curtis & White, 2002; Damschroder et al. 2009; Durlak & DuPre, 2008; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Jacobs, Weiner, Reeve, Hofmann, Christian & Weinberger, 2015; Kash, 2014; McWilliam & Ward-Griffin, 2006; Schwamm, 2014; Staren & Eckes, 2013; Weiner et al. 2011; Wutzke, Benton & Verma, 2016
Champions	Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Carljord & Festin, 2015; Curtis & White, 2002; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Gagnon et al. 2015; Helfrich et al. 2007; Jacobs, Weiner, Reeve, Hofmann, Christian & Weinberger, 2015; Lavoie-Tremblay et al. 2015; McWilliam & Ward-Griffin, 2006; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016
Leadership and Management	Andreassen, Kjekshus & Tjora, 2015; Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2003; Bérard et al. 2015; Bigelow & Arndt, 2005; Chaudoir, Dugan & Barr, 2013; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Durlak & DuPre, 2008; Greenhalgh et al. 2004; Helfrich et al. 2007; Kash, Spaulding & Johnson, 2014; Jacobs, Weiner, Reeve, Hofmann, Christian & Weinberger, 2015; Lavoie-Tremblay et al. 2015; McWilliam & Ward-Griffin, 2006; Øvretveit et al. 2012; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016
Middle Management	Anders & Cassidy, 2014; Birken et al. 2013; Birken et al. 2016; Busari, 2012
Relative Advantage and Complexity	Aslani, Zolfagharzadeh & Naaranoja, 2015; Barnett et al. 2011; Berwick, 2013; Chaudoir, Dugan & Barr, 2013; Cresswell & Sheikh, 2012; Gagnon et al. 2015; Øvretveit et al. 2012; Wisdom et al. 2014
Compatibility and Adaptability	Bérard et al. 2015; Berwick, 2003; Durlak & DuPre, 2008; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Durlak & DuPre, 2008; Gagnon et al. 2015; Greenhalgh et al. 2004; Øvretveit et al. 2012; Wisdom et al. 2014; Wutzke, Benton & Verma, 2016
Piloting, Monitoring and Feedback	Andreassen, Kjekshus & Tjora, 2015; Bérard et al. 2015; Berwick, 2003; Cresswell & Sheikh, 2012; Damschroder et al. 2009; Durlak & DuPre, 2008; Gray, Harrison & Hung, 2016; Greenhalgh et al. 2004; Øvretveit et al. 2012; Staren & Eckes, 2013; Weiner et al. 2011; Wisdom et al. 2014

Appendix C: Participant Information Sheet

Topic of the Degree Project: Facilitating Factors for the Implementation of Organisational Innovations in Healthcare – An Empirical Case Study of Capiro

Interviewers: Christine Leue and Katharina Maximoff (Master students in Management)

Period: 24 April – 28 April 2017

Language: English

Our Research Project

The aim of this study is to **identify facilitating factors for the implementation of organisational innovations in healthcare by examining (individual) perceptions of healthcare practitioners.**

Thus, the study is twofold, consisting of a purposive literature review and a case study of Capiro. The results of this literature review form the basis for the subsequent interviews, in which healthcare practitioners at Capiro assess the relevance of the resulting factors.

Survey and Interview

- Time Horizon for the Survey: Approximately 10 minutes
- Time Horizon for the Interview: Approximately 60 minutes

Statements in the survey are based on the results of our literature review. The outcome of the survey will further serve as an outline for the upcoming interviews. Thus, the interviews **aim to discuss relevant concepts in-depth by asking for experience and opinions.**

Implications of Taking Part in this Study

- The participation is voluntary
- Participants have the right to decline answers

Working Definitions

In the following we formulate operational definitions for key terminologies in this study, which are the basis for the survey and interview.

Healthcare Organisations

In terms of this study, we define the unit of analysis as **primary healthcare organisations including private and public hospitals, clinics as well as healthcare centers.** Primary healthcare practices are excluded from the study.

Organisational Innovation in Healthcare

We define organisational innovation (in healthcare) in a broad sense as **any non-medical product, process, technology or administrative method that is new to a healthcare organisation and aims to improve the productivity, efficiency and improvement of care quality.**

(Successful) Implementation

Implementation is the **process of putting the innovation into practice. In detail, it starts with the first launch and ends with the wide-shared transfer into organisational routines within the adopting unit.** Implementation does not include idea generation.

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Appendix D: Questionnaire of Survey

Facilitating Factors for the Implementation of Organisational Innovations in Healthcare

According to your personal opinion, to what extent do you agree or disagree with the following statements?

If possible, think about past and present experience in terms of an innovation implementation you have been involved in.

Please tick the box that best describes your perception.

* Required

Email address * _____

It is relevant that the concerned users, who will finally apply the innovation are involved in the planning of an implementation process. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

The creation of a (formally appointed) implementation team is needed for the implementation process. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

Additional on-the-job trainings and educational programs are favourable for a successful implementation process. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

Additional management skills of physicians are needed to be able to coordinate internal workflows. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

The availability of the following resources is important during an implementation process. *

Agree Tend to Agree Tend to Disagree
Disagree

Financial resources

Human workforce assigned to the innovation implementation

The amount of time specifically dedicated to the implementation of an innovation in addition to the regular workload of users

The fear of losing a recognised professional status is an obstacle for the implementation of an innovation. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

A highly committed staff, understood as having faith and confidence in the organisation, is facilitating the implementation process. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

The involved parties of the implementation process should understand the purpose of an innovation. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

An organisation should reward the proactive behavior towards an innovation. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

Especially physicians should feel encouraged towards the use of an innovation. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

A diverse workforce is important to enable an effective implementation process (diverse means the heterogeneous share of socioeconomic, professional, educational, and cultural backgrounds) *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

Collaborations across various hierarchical levels should become a regular practice in order to support the implementation process. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

It is important to realise piloting (trial periods) in the implementation process. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

The following innovation characteristics impact the implementation process: *

Agree Tend to Agree Tend to Disagree
Disagree

Perception of the relative advantage compared to the status quo

Compatibility (the degree to which the innovation as a whole suits the local contexts, thus leading to an adaption of organisational processes)

Adaptability (the degree of flexibility of an innovation in modifying, adapting and refining it towards the needs of the local contexts)

Specific individual tasks which are expected from users need to be clarified in advance. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

Communication strategies need to address potential criticism and uncertainties during an implementation process. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

Personal benefits of an innovation for the user need to be clarified. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

Individuals who can positively influence peers towards the implementation of an innovation are important. *

- Agree
- Tend to Agree
- Tend to Disagree
- Disagree
- Other:

In your opinion, what are the main tasks leadership should be in charge of? *

In your opinion, what are the main tasks management should be in charge of? *

In your opinion, what are the main tasks middle/lower management should be in charge of? *

Appendix E: Interview Guide

Introduction: Personal involvement when it comes to innovation implementation

- Could you explain your current position at Capiro?
- Please give a short outline about the last innovation process you were part of (Characteristics of Innovation).

Organisational Structure

- How do you assess the argument that different hierarchical levels should collaborate with each other (in order to contribute to innovation implementation)?
 - To what extent should specific professional groups be given more power in the decision making process?
- In your opinion, which significance do physicians have in an implementation process?
- In your experience, which role does the final user of the innovation (mostly frontline healthcare staff who finally applies an innovation) play?
 - To what extent do internal and external networks facilitate innovation implementation?
 - Which kind of resource is highly important for the implementation of an innovation (time/financial resources/human workforce)?
 - To what extent do you believe that specific training is needed for innovation implementation?
- What kind of training (is offered at Capiro) in this context?

Organisational Culture

- In your opinion how would an innovative driven culture look like?
- To what extent does Capiro represent such a culture
- Literature discusses the issue of social status of professional groups in healthcare. This might be a challenge for the implementation. How do you see this point (at Capiro)?
 - How do you evaluate the importance of a diverse workforce?
- Is it facilitating or inhibiting the implementation process?

Communication

- What do you think are the most important things to take into consideration when communication an upcoming implementation?

Driving Individuals

- To what extent can particular individuals, who have a positive influence on peers, aid an implementation process?
 - Can you name an example of a 'champion'?
 - How can you identify these persons within an organisation (Capiro)?
- According to your opinion, what are the main tasks leadership / management / middle or firstline management should be in charge of?

Piloting, Monitoring and Feedback

- To what extent have you made experience with piloting (trial periods)?
- To what extent are measures of monitoring and feedback necessary for an implementation process?

Conclusion: Overall reflection and perception

Reflecting back on the discussed topics, would you like to add anything concerning facilitating factors for the implementation of an innovation or give a general evaluation concerning these factors?