Innovation Implementation in the Context of Palestine

Exploring the Challenges of Achieving Implementation of a Health Service Innovation in Ramallah Public Hospital

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“Innovation Implementation in the Context of Palestine: Exploring the Challenges of Achieving Implementation of a Health Service Innovation in Ramallah Public Hospital”

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Abstract

This thesis follows a project initiated by a group of Norwegian medical researchers and entrepreneurs with an aim of providing birth attendants worldwide with accessible training in simple medical techniques through the use of animated instructions on tablet computers. The innovation, i.e. the custom made animation tablet, is believed to have a special purpose and effect in hospitals operating in resource constrained settings; hospitals otherwise difficult to reach with conventional methods of training and education.

In March 2016, the innovation was successfully installed in several Palestinian hospitals. Yet, there were quickly doubts about whether the birth attendants would actively make use of the new solution. Consequently, this case study aims to help explore and uncover some of the main challenges associated with achieving implementation of this type of innovation in such a contextual setting; a setting previously seldom explored in the innovation literature.

This case study applies concepts and perspectives from the innovation process tradition, and follows the innovation process from the side of the developers as well as from the perception of the end-users in hopes of finding out more about their reasons for resisting the innovation. Qualitative data was collected from interviews as well as from observations made during my period of field research in the West Bank.

The importance of motivation, contextual knowledge and legitimacy are highlighted as central components of this innovation process, while, from the perspective of the end-users, a lack of time, a lack of interest and a lack of organisational support seem to be important factors for understanding why the innovation have not (yet) been implemented.

Considering how technology and innovation are increasingly being recognised as vital tools for meeting international aspirations in global healthcare, the results from this thesis will hopefully contribute to create a better understanding of what works and why it works when it comes to innovation implementation in similar contexts.
Acknowledgments

As a social scientist with a background in political science, I still find it quite hard to understand how I suddenly ended up reading medical journals and research papers about obstetric injuries for the purpose of my own research. It is also safe to say that I did not expect my time as a student at the University of Oslo would include a trip to a hospital in the West Bank. This just goes to show that you can never tell what you may encounter once you have embarked on the journey that is the ESST master’s program.

I must acknowledge that it at times felt as if I had taken on more than I could possibly manage by choosing such an untraditional and multifaceted topic for my final thesis. Today, however, I can honestly say that I am exceptionally glad I did. Looking back, the research process has left me with tons of invaluable experiences and good memories, and I am proud to now finally submit the tangible result of this process. In this respect, I would like to thank everyone who in various ways has helped me make this thesis a reality.

First and foremost I would like to give special thanks to Åse Vikanes for allowing me to follow their project and for arranging everything in a way that enabled me to easily get in touch with relevant informants and collect my empirical data both in Norway and in Palestine. I greatly appreciate the way I have been welcomed and all the information and guidance I have received ever since our first meeting in April. I also owe a big thank you to Hadeel, Katariina, Kristin and Cecilie for contributing to making my stay in Ramallah such a memorable and positive experience, and of course to all the informants who voluntarily took time off from their hectic schedules to share their thoughts with me.

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1 Introduction

Technology and innovation open up new opportunities for finding alternative and better ways to strengthen health systems worldwide. In recent years we have seen a growing recognition of the potential that non-pharmaceutical health related technologies in particular hold when it comes to circumventing obstacles of resource constraints, and subsequently improve the access and quality of healthcare in conflict-prone and low-income countries (WHO 2010). These countries often represent precarious health systems constrained by a weak economy, outdated or damaged health facilities, a lack of highly trained personnel and poor health policies, and are usually difficult to access by external actors (WHO 2008: 2; Woodward et al. 2014:2).

In the literature, there has been particular interest in the use of applied information and communications technology (eHealth), such as telemedicine and electronic health records, for improving the efficiency of health service organisations in developing countries. Previous research on the subject have largely consisted of attempts to, based on theoretical discussions and lessons from “best practice”, provide general guidelines and recommendations on how to facilitate and implement large-scale eHealth programmes and policies (Lewis et al. 2012: 332). Slightly deviating from this norm, a recent study by Woodward and colleagues (2014) took a more sociological approach in their exploration of the personal experiences and perceptions of health workers using eHealth innovations in various post-conflict countries (Woodward et al. 2014).

However, there has been less in-depth research on the managerial and organisational barriers to the implementation of specific, smaller-scale, health service innovations in such contexts. The literature on innovation process management (e.g. Van de Ven 1986) suggests that a range of socio-political and psychological challenges are commonly associated with organisational innovation implementation. There are good reasons to believe that perspectives from the field of innovation studies can help create a better understanding of what works and why it works also when it comes to the implementation of innovations in post-conflict and resource constrained organisational contexts.

For this thesis I have over the last couple of months been allowed to follow an ambitious innovation project initiated by a small group of Norwegian medical researchers and social
entrepreneurs. The aim of their project is to provide birth attendants worldwide with accessible training in simple medical techniques through the use of animated instructions on tablet computers. The custom made ‘animation tablets’ that were developed are believed to have a special purpose and effect in hospitals operating in resource constrained settings, that are otherwise difficult to reach with conventional methods of training and education.

The innovation was consequently installed in six public hospitals in the Palestinian territories of the West Bank and Gaza in March 2016; territories that undoubtedly fit the description of a resource constrained and post-conflict context. Although successfully installed, it was soon raised questions whether the targeted organisations would be capable of effectively making use of the new solution. If the innovation are to fulfil its ultimate intended purpose of strengthening human resources and improve the medical practice at the hospitals, it is critically important that the birth attendants are able to actively adopt the solution and make it part of their everyday routine.

This thesis takes the form of a qualitative case study which will utilise insights mainly from the literature on innovation process management for the purpose of exploring and discussing the challenges of achieving implementation of the animation tablets in Ramallah Public Hospital in the West Bank. The decision to focus on this particular hospital is based on an understanding that this is one of the hospitals where implementation, for various reasons, is most likely to occur.

I hope the lessons learned from this thesis, first and foremost, will be of benefit to the entrepreneurs responsible for the development and implementation of the animation tablets, as it seeks to provide some preliminary answers as to where they should focus their future efforts in order to potentially be able to overcome the obstacles they are currently facing. Secondly, as this thesis is grounded in the social scientific field of innovation studies, it seeks to contribute with knowledge and perspectives that up until now have been largely absent in the existing literature on technology and innovation for healthcare purposes in conflict-prone and low-income countries.

The particularities of innovation in the contextual setting of Palestine have also, up until now, been largely unexplored in the literature. I would suggest that the empirical findings from this case study may help provide some preliminary guidelines and inspiration for future
innovation research to establish more appropriate conceptual frameworks for capturing the complexities of managing innovation processes in such contexts.

1.1 Research questions

The underlying concern of this thesis is to explore the particular challenges associated with achieving implementation of an externally developed health service innovation in the context of a Palestinian hospital. In order to fulfil the underlying purpose of this thesis, two subsequent research questions were specified once I had received more information about the case and gained a more detailed understanding of the literature relevant for my case of study. The research questions of this thesis are as follows:

(i) What has been emphasised by the developers as important for turning their idea into reality in the context of Palestine?

(ii) What can explain the Ramallah Hospital birth attendants’ reluctance or inability to make full use of the innovation?

In this thesis, innovation is understood as the process of turning ideas into novel products, processes or services with economic and/or societal significance. The animation tablet is conceptually treated as an innovation because it represents significant novelty to the users within the organisation.

In organisational contexts, implementation is understood to be achieved once an innovation becomes “(...) incorporated into the taken-for-granted assumptions and thought structure of organizational practice” (Van de Ven 1986: 604).
2 Theoretical framework

Due to the special circumstances and particularities surrounding the case I have chosen to explore in this thesis, I will begin this chapter by arguing that no single theoretical framework can fully capture the essence of what has been going on in this specific innovation process. Indeed, due to a lack of previous comparably similar research grounded in innovation studies, it was also initially quite demanding to find strong conceptual or empirical insights of direct relevance to my topic of research and questions of interest.

Nevertheless, as I gained a better understanding of the case and the context, I came to the realisation that certain parts of the literature pertaining to the management of innovation processes in fact proved to be of great value for understanding some of the underlying dynamics and challenges that seemed to be associated also with this particular innovation and implementation process.

Consequently, the main theoretical framework of this thesis is derived from the innovation process and management tradition. Andrew H. Van de Ven’s 1986 essay on the central problems of innovation management is used as a conceptual backdrop and foundation for the theoretical discussions in this section. Furthermore, literature on the concepts of social and frugal innovation have also been included as part of the framework in hope of shedding some light on innovation and its challenges in similar contextual settings, considering how non-profit motivation and resource constraints are believed to be central elements in the understanding of this case.

2.1 Innovation process management

There are many different definitions and conceptualisations of the term ‘innovation’ within the vast and, to a certain extent, fragmented innovation literature. However, for the purpose of this thesis, it is first and foremost important to distinguish innovation from the related concept of invention. According to Jan Fagerberg: “Invention is the first occurrence of an idea for a new product or process, while innovation is the first attempt to carry it out in practice” (Fagerberg 2005: 4).

Behind this distinction lies the notion that good ideas and inventions in themselves do not possess any real value, and that researchers should seek to establish a better understanding of
why some ideas, over time, are transformed into products and processes with real world societal and economic significance. Herein lies the rationale for studying innovation as a process and not as an outcome, pertaining to the sequential, often non-linear, dynamics that unfold as new ideas emerge, are developed and subsequently become implemented in a real world context (Garud et al. 2013: 776). Accordingly, even though this paper mainly is concerned with the implementation of an innovation, it does not view the implementation phase in isolation. Rather it adopts a process perspective that acknowledges the interdependencies between the different stages of the process.

Innovation is a complex and unpredictable process, which is commonly contingent on a wide range of different factors such as the type of knowledge and innovation, sector and geography (Pavitt 2005: 87). Such contextual contingencies were acknowledged by leading organisation and management scholar Andrew H. Van de Ven when he, back in 1986, tried to develop a more general conceptual framework intended to guide future research on the management of innovation processes, which in turn resulted in the extensively cited and highly influential scientific essay “Central Problems in the Management of Innovation” (1986).

The framework derived from this essay provides guidelines as to which key concepts, central problems and managerial responses should be directing the focus for future longitudinal research on the processual dynamics of innovation (Van de Ven 1986: 604). While the innovation landscape undeniably has changed significantly since this framework was originally constructed over 30 years ago, more recent research still consider the identified problems to be central to the management of entrepreneurship and innovation (Van de Ven and Engleman 2004).

Moreover, Van de Ven’s concepts and ideas has proven to be highly applicable and of value to a wide range of different innovation processes across several sectors, albeit having a particular application for longitudinal empirical research on innovation in the healthcare industry, as exemplified by the research conducted as part of the Minnesota Innovation Research Program (e.g. Van de Ven 1991; Van de Ven, Polley, Garud and Venkataraman 1999; Van de Ven, Angle and Poole 2000).

Van de Ven defines the innovation process as “(…) the development and implementation of new ideas by people who over time engage in transactions with others within an institutional context” (Van de Ven 1986: 591). Following the definition, Van de Ven identifies ideas,
people, transactions and context to be the four basic concepts most central to the understanding and management of innovation.

A first, perhaps trivial, but in practice often overlooked general lesson to draw from this definition and perspective is that the success or failure of an innovation will more often than not depend on factors that stretch beyond the pure technical capabilities of the innovation itself. Even the most technically superior product may be rejected by the users within a particular system as a consequence of various psychological, social, political and contextual/organisational factors out of the immediate control of the developers.

As such, from a management perspective, the successful introduction and implementation of new ideas is usually largely dependent on having the ability to appropriately adapt your idea to fit the system in which it is intended to operate, by paying attention to the various non-technical aspects at play. Accordingly, the results from the Minnesota Innovation Research Program has for instance shown how innovation implementation did in fact not occur as a simple diffusion process, but rather by means of integrating the innovation with what already existed (Garud et al. 2013: 777). The studies also indicated that innovation adoption tend to be facilitated if the adopting organisation itself modifies and adapts the innovation to the local context (Van de Ven, Angle and Poole 2000: 686).

In practice however, it should also be noted that managing innovation is not an easy task, and that organisational innovation implementation usually is a “messy” and, in part, uncontrollable process characterised by frequent setbacks, trial and error, re-invention and chance (Van de Ven 1986; 1991; Rogers 2003).

Based on the aforementioned central concepts of ideas, people, transaction and context, Van de Ven (1986) then pointed to four central problems in the management of innovation processes. These are the problems of managing ideas into good currency, managing attention, managing part-whole relationships, and institutional leadership (Van de Ven 1986: 604). In this thesis, the conceptual understanding of how to best manage ideas and attention will be used to frame the discussion about the challenges associated with achieving implementation of the animation tablets in this particular organisational context.
2.1.1 The process problem: Managing ideas into good currency

All truth passes through three stages: First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as being self-evident (quote commonly attributed to Arthur Schopenhauer, cited from Mulgan 2006: 145).

Following the definition and distinction in the preface to this chapter, an idea or an invention does not become an innovation until attempts are being made at implementation or institutionalisation. Accordingly, Van de Ven highlights how “(...) the success of an innovation is largely defined in terms of the degree to which it gains good currency, i.e., becomes an implemented reality and is incorporated into the taken-for-granted assumptions and thought structure of organizational practice” (Van de Ven 1986: 604). Thus, the problem of managing ideas into good currency basically translates to the problem of gaining widespread acceptance for your ideas. What, then, can explain why some ideas gain wide acceptance and become ‘innovations’ while other ideas are rejected and become ‘mistakes’?

Obviously, many ideas and inventions fail to be adopted by their targeted audience simply because they lack visible merits. They may be technically flawed or incapable of solving any real problem. From a management perspective, it can in such cases be argued that there is really not much that can be effectively done until the idea itself, or the execution of the idea, is modified and improved upon. Organisational analysts, however, increasingly identify implementation failure, not innovation failure, as the main reason for why many organisations in the past have been incapable of reaping the potential benefits of novel ideas, products and processes (Klein and Sorra 1996: 1055). This turns our attention towards those ideas that, in essence, were deemed to be good, but still failed to transform into “good currency”.

To help shed some light on this issue, Van de Ven accentuates how innovation, as opposed to the act of invention, should be understood as a collective process where socio-political dynamics come into play (Van de Ven 1986: 591). In reference to the work of Donald Schön, he argues that the innovation process can be compared to the way ideas are transformed into new public policies through collective action. If an idea is to challenge established thought structures and institutions in society, resources first have to be mobilised around the idea in order to attract the public’s attention. Once the idea has reached the threshold of public consciousness and influential actors join the movement, the idea gains momentum and legitimacy in the process of being subjected to endorsement, advocacy and political debate.
In the same way, evaluations about the potency of an idea to change organisational practice should not only be based on the objective merits of the idea, but also on the basis of who takes up the idea and how the idea is being promoted. New ideas in organisational contexts usually have to overcome initial resistance. Research has shown that this often require vigorous promotion by so-called “champions”; dedicated individuals who support, promote and market the innovation through informal channels within the organisation (Greenhalgh et al. 2005: 126). The axiom that an innovative idea without a champion “gets nowhere” is a recurring notion with strong support in the innovation management and –diffusion literature (e.g. Van de Ven 1986; Strang and Soule 1998; Rogers 2003).

This logic also stands out as one of the most central elements in the understanding of why certain social innovation initiatives tend to succeed. As I will explain more in detail later, social innovation scholars tend to place emphasis on the crucial importance of engaging civil society and grassroots movements in endeavours to plant the seeds of an idea for social change into the minds of many (Mulgan 2006). Similar notions are also increasingly being recognised in the innovation systems literature, with researchers pointing to how conscious actions of legitimation should be considered a prerequisite for the successful formation of new technological innovation systems (Bergek, Jacobsson and Sandén 2008: 581).

Thus, while you may have a good idea or invention, inabilities to cope with the complexities and challenges of implementation management could easily prevent you from turning that good idea into good currency. As shown, previous research suggests that such failures often can be appointed to socio-political factors, such as an inability to effectively communicate the merits of the idea, an inability to attract the support from important actors and create a collective “movement” for change, which all in turn result in a lack of legitimacy for the idea or invention as perceived by potential adopters or other relevant stakeholders.

2.1.2 The human problem: Managing attention

In the breast of one who wishes to do something new, the forces of habit rise up and bear witness against the embryonic project (Schumpeter 2011: 86).

While the problem of managing ideas into good currency is mostly characterised by socio-political dynamics, the problem of managing attention relates to the psychological limitations of human beings. From an innovation perspective, managing attention is problematic. This is
partly because people in general tend to be proficient when it comes to performing routine tasks, but adversely lack the ability to focus on non-routine issues (Van de Ven 1986: 594).

Innovation is, per definition, a leap into the unknown, usually involving events of disruption and sudden breaks with the past. People, on the other hand, are creatures of habit with short attention spans and inabilities to handle complexity. People usually develop cognitive routines in their areas of expertise which undermine their ability to pay attention to novel events (Van de Ven, Angle and Poole 2000: 669). They also tend to unconsciously adapt to slowly changing environments, meaning that thresholds for taking action to confront dissatisfaction becomes much higher. Such patterns are usually the norm until people potentially become exposed to “shocks”, which trigger dissatisfaction with the status quo, which in turn trigger the need for innovation and other ways of working (ibid.).

When introducing something new in hopes of challenging established practice, the psychological limitations of human beings thus typically assert itself as one of the most important obstacles for the innovation manager to overcome.

Also adding to this are the inherent inertial forces of organisational life. As shown by various strands of research, organisations tend to be largely designed to focus on, harvest and protect existing practices. From an evolutionary perspective, inertial forces are viewed to be embedded in the established structure of organisations in order to secure reliability and stability through focusing on highly reproducible routines (Lam 2005: 134). Organisations are therefore generally understood to be resistant to change and often incapable of rapidly responding to threats and opportunities in the environment.

Consequently, slight incremental improvements are usually preferred over radical shifts and true creative destruction, especially in large, mature and more successful organisations. As members of organisations, people are constantly exposed to conformity pressure. Groups tend to collectively focus on issues that maximise consensus and minimise internal conflict (Van de Ven 1986: 596).

Thus, organisational members unconsciously conform to the collective organisational culture, values and beliefs, which furthermore undermine their ability to pay attention to and embrace radically new solutions. Van de Ven argues that without the intervention of leadership, organisational members will inevitably (continue to) focus on routine issues and tinkering rather than innovative activities (Van de Ven 1986: 596). The notion that leadership is
especially critical for encouraging organisational members to break norms, routines and convergent thinking has a strong support in the literature (Greenhalgh et al. 2005: 13).

If the innovation is externally developed, you also run the additional risk of encountering the so-called “not invented here”-syndrome among the members of the adopting organisation. This may result in mere formal compliance, but not wholehearted adoption unless the users are given a certain level of autonomy when it comes to how to make use of the new solution (Van de Ven, Angle and Poole 2000: 686).

With the inertial forces of organisational life still in mind, organisational psychologists have found that innovations perceived to fit well with already established and collectively shared organisational values, as a rule, will be much more easily adopted and implemented, as opposed to innovations that challenge these norms (Klein and Sorra 1996). Consequently, getting an understanding of the shared values within the organisation and appropriately adapt the innovation to correspond with these values is often a first key step towards successfully achieving implementation of your innovation in a specific context. At this stage, unexpected problems and setbacks are frequently encountered, and successful implementation therefore tend to require the ability to learn from previous mistakes and setbacks and make efforts to re-invent, reconfigure or redesign the innovation (Van de Ven 1991: 138; Garud et al. 2013: 800).

However, much innovation work is, per definition, countercultural. As an innovation manager or an entrepreneur you would typically want the innovation to challenge existing practices and norms in order to help prevent the organisation from getting stuck in potentially unproductive patterns of behaviour. As explained and illustratively exemplified by the work of Clayton Christensen, a sole focus on incrementally improving the efficiency of the organisation in line with core competencies and norms might be disastrous for the organisation in the long term, when suddenly faced with disruptive technologies and innovations in the market (Christensen and Raynor 2003). As a proponent of change you are therefore often faced with the difficult decision of how much of the novelty and “radicalness” of the innovation you are willing to sacrifice in order to realistically be able to achieve implementation.

Nonetheless, acknowledging the psychological limitations of people and their organisations is considered a key element for understanding the dynamics of innovation processes. In
particular, most innovators are faced with the challenge of overcoming the fact that people in groups do things in certain ways. This requires an understanding of why things are done in certain ways, which again turn our focus towards the underlying collective norms and psychological “deficiencies” dictating everyday practice in organisations.

Van de Ven suggests that people will pay closer attention to new ideas “(...) the more they experience personal confrontations with sources of problems, opportunities, and threats which trigger peoples’ action thresholds to pay attention and recognize the need for innovation” (Van de Ven 1986: 604). This implies that an idea often can be “sold” more effectively to the intended users by helping to create a felt need for the innovation, focusing on establishing a more extensive awareness around the problem the innovation is intended to solve.

2.2 Social innovation

Within the realm of business management, innovation is mainly viewed as a necessary tool in order to achieve company growth, increase profits, and gain or maintain a competitive advantage in the market. Considering the way big private sector companies within the manufacturing industry have traditionally acted as driving forces behind the overall performance of the national economy, it is no wonder that the commercially motivated and R&D-intensive ‘innovative firm’ has been subject of considerable academic research.

Today, however, economies are generally less dependent on manufacturing and increasingly dominated by the growing social service sectors of health and education. Geoff Mulgan, former CEO of the Young Foundation and social innovation scholar, therefore encourages researchers to develop a greater understanding of the patterns underlying the process of social innovation (Mulgan 2006).

Mulgan defines social innovation as “innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly diffused through organizations whose primary purposes are social” (Mulgan 2006: 146). A second definition is provided by the Center for Social Innovation at Stanford University: “A social innovation is a novel solution to a social problem that is more effective, efficient, sustainable, or just than current solutions. The value created accrues primarily to society rather than to private individuals” (Center for Social Innovation 2016). By combining the two definitions we can clearly
distinguish social innovation from business innovation with regard to two important aspects that might affect the innovation process.

First, the entrepreneurial motivation for indulging in innovative activities is not profit maximisation or personal prestige. Rather, the entrepreneur is driven by the desire to meet social needs in society; a desire often fuelled by philanthropic and humanitarian convictions in areas such as poverty alleviation, health and welfare, education and employment, or environment and sustainability.

Secondly, the value created and captured by the innovation should not be measured in economic terms for individuals, but in social terms for society as a whole. This would necessarily have to imply that the innovation process can be regarded as an undeniable success even though the individual entrepreneur or the agency the entrepreneur represents does not receive any kind of social or economic reward for their efforts.

If we follow these definitions of social innovation one would most likely assume that concepts and understandings from this field of research would be of great value for understanding the case of concern to this thesis; a case where the non-profit and humanitarian perspective certainly seem to dominate. Yet, it has nonetheless been argued that ‘social innovation’ is nothing more than a mere “buzz word”; too vague to be productively applied to academic innovation research (Pol and Ville 2009: 878).

I do not wish, in this thesis, to make attempts at either approving or refuting this claim. However, based on my literature search, I do find good reasons to argue that the social innovation tradition often are concerned with elements that largely differ from what scholars within the traditional field of innovation studies tend to place emphasis on. Subsequently, I have also found reasons to suspect that concepts and insights from the social innovation literature will potentially be of less value to the understanding of this particular innovation process, than what was initially expected.

First of all, large parts of the social innovation literature have tended to focus on individuals rather than processes or systems. The focal point has typically been the ‘social entrepreneur’, usually portrayed as a heroic, energetic and impatient individual who creatively finds new and better solutions to tackle social injustice (Lettice and Parekh 2010:142; Mulgan 2006: 148).
One of the most prominent and frequent examples from the literature is Nobel laureate Muhammad Yunus and his immensely successful microcredit-enterprise.

We consequently see a tendency that the social innovation tradition, at least to a certain extent, has been characterised by inspirational “sunshine stories” and simplified “best practice”-models deemed worthy of replication. Here, the process perspective, as we know it from the traditional field of innovation studies, seems to be largely absent. This claim is supported by Lettice and Parekh who similarly argue that the social innovation tradition have suffered from a general lack of research that directly address the social innovation process, and a lack of research that seeks to identify the common barriers to innovation faced by social innovators (Lettice and Parekh 2010: 142).

The social innovation tradition does however tend to place a lot of emphasis on the wider processes of social change, which brings elements of power, politics, social movements and legitimacy into play. Mulgan for instance argues that the success or failure of social innovation initiatives are largely determined by the extent to which the originators of the idea are able to “plant the seeds” of that particular idea into the minds of enough potential supporters (Mulgan 2006: 149). In other words, it is often about attracting the support from committed stakeholders and far-reaching social movements.

We thus observe a tendency that much social innovation research has been more concerned with helping to facilitate these types of collective social grassroots movements, while being less adept at explaining the dynamics that unfold when social (product) innovations are introduced into particular organisational settings. The largely bottom-up, grassroots approach also clearly indicate that the user perspective should be considered an integral part of the process. Mulgan consequently argues that “some of the most effective methods for cultivating social innovation start from the presumption that people are competent interpreters of their own lives and competent solvers of their own problems” (Mulgan 2006: 150).

Lettice and Parekh argue that social innovation can be considered more complex and ambiguous than traditional business innovation, because of the need to satisfy a much wider set of stakeholders. They claim: “As well as tackling technological innovation, those pursuing this path must consider the public’s concerns and perceptions, environmental and social activists’ reactions and many other non-technical issues” (Lettice and Parekh 2010: 141).
Similarly to what was stressed in the previous chapter on innovation process management, we thus see that also the social innovation literature largely underscores the importance of paying attention to the non-technical aspects of the innovation process, in particular with regards to politics and legitimacy. Following the argument of Lettice and Parekh in the previous paragraph, it is also possible to argue that non-technical aspects are even more important when it comes to non-profit, humanitarian innovation initiatives, considering the large amount of various stakeholders that usually become involved in one way or another. Consequently, I argue that, if anything, this notion gives increased support to my decision of largely focusing on the socio-political and psychological aspects of the innovation process in this thesis.
3 Methodology

In this chapter I will explain the methodological approaches and choices I have made throughout the research process. This includes transparent depictions with regard to my choice of research methods and procedures for collecting and interpreting the data. I have strived to, throughout this chapter, always make critical reflections about possible methodological inaccuracies and flaws that could potentially harm the reliability and validity of my research.

3.1 Choice of research method

For the researcher, the choice of research method should be largely dependent on what types of questions you want to ask (Yin 2009: 10-11). For this research, I did not specify any research questions early on in the process. This was simply because, at that point in time, I did not have sufficient information or knowledge about the case. When researching understudied and unfamiliar territory you run the risk of asking irrelevant questions or questions you will not find the answers to if you decide to specify too much early in the research process. Accordingly, this thesis has taken a rather inductive approach to the research, in the sense that it has started with the specific data, which have then been used to develop a theory to account for the data (Chambliss and Schutt 2016: 26). Formulating and specifying the research questions and shaping the general direction of the research has been a largely gradual process, dependent on the information received throughout the research process.

Even though my research design is inductive in nature, I nonetheless knew that I wanted to explore the difficulties of achieving implementation of the animation tablets in a highly specific and unique context. This made me reflect around questions such as how do the users themselves perceive the innovation? And to what extent has the user perspective been integrated into the innovation process? Therefore, using qualitative methods was naturally assessed to be the appropriate response, since I was interested in the subjective perceptions and opinions of relevant informants involved in the process.

Thus, methodologically, this thesis takes the form of a qualitative case study. Case studies are among the most commonly used research methods in the social sciences. They are suitable when you want to get an in-depth understanding of a real life phenomenon, also taking into
consideration how the phenomenon is influenced by important contextual conditions (Yin 2009: 18; Baxter and Jack 2008: 556). The case study approach allowed me to gain in-debt knowledge and understanding of the essential features of the particular innovation process and its context; knowledge that would not have been attained through merely examining previous literature or collecting quantitative data.

Case studies can be descriptive, explanatory or exploratory. This thesis is largely exploratory in character, as the purpose is to provide in-depth knowledge about a previously unmapped phenomenon. Without trying to establish any strict causal relationships, I wanted to open up for a discussion regarding the managerial and organisational challenges to implementation in the specific contextual setting of a Palestinian hospital. The explorative methodological approach also reflects an ambition to help lay a foundation for future systematic research on the subject.

### 3.2 Access to case

The case I chose to explore in this thesis is obviously quite untraditional compared to most other research in the field of innovation studies. Undoubtedly, few students get the opportunity to travel to Palestine to collect data for their master’s thesis. I will therefore now briefly explain how I came up with my unconventional topic of research and how I became aware of, and gained access to, this specific case.

To begin with, I would say that this thesis largely have come in to existence as a result of coincidences and opportunism. The process that eventually led to my exploration of the innovation implementation process at Ramallah Public Hospital started with a general interest in concepts such as social, humanitarian and frugal innovation. More specifically, I was primarily interested in exploring whether entrepreneurial efforts strongly motivated by humanitarian and non-commercial convictions affected the innovation process in certain ways. Secondly, I was interested in finding out more about the way new technology and innovation can contribute to the creation of more sustainable and efficient solutions to worldwide humanitarian challenges.

While still unsure of how I could approach such problems in a master’s thesis, I discussed my general field of interest with my supervisor Magnus Gulbrandsen. During our discussion, he mentioned the Intervention Centre and their ongoing innovation project in Palestine. This
immediately triggered my curiosity, and we therefore decided to go forth and see whether or not this project could be suitable for a case study.

Gulbrandsen helped me get in touch with project coordinator Åse Vikanes from the Intervention Centre, and a meeting involving the three of us was scheduled in late April of 2016. At the meeting, Vikanes told us about their innovation project in detail, and seemed intrigued by the fact that someone from the outside was interested in following the process. She also confirmed that I would get the opportunity to interview representatives from both the Intervention Centre and the Palestinian hospitals, for use in a possible thesis. In addition, she assumed that it would be possible for me to join their team on a trip to the West Bank during the summer.

Based on the information received from the meeting, I concluded that this was basically an opportunity to good to let go. After a consultation with my supervisor, we both seemed to agree that, with a bit of tinkering and creativity, it would be conceivable to use this project as a case for my master’s thesis in innovation studies. While there were still uncertainties regarding a specific research question, I concluded that the main underlying purpose of the thesis would be to help identify the main barriers to successful implementation. Later, I also made the decision to focus on one of the hospitals, namely Ramallah Public Hospital; at the time knowing that I would be able to travel there myself to do field research.

After gaining access to the case, the research process was characterised by a lot of “learning as you go”, which of course represented a challenge. For instance, during my first interview with three representatives from the Palestinian hospitals in May, I was still not exactly sure what I was hoping to find out. However, by asking open questions I was able to gain a better understanding of important elements relating to the implementation barriers. As I collected more and more data, my own research gradually started to take shape. Nonetheless, figuring out how the information I received could fit into an appropriate theoretical framework still required substantial amounts of work, due to the unique features of my particular case of study and the corresponding lack of similar previous research on the topic.

### 3.3 Data collection

Case studies allow for the collection of various sources of evidence. The sources of evidence most commonly used for the purpose of case studies are documents, interviews, observation,
archival records and artefacts (Yin 2009: 101). A good case study should strive to make use of several different sources of evidence, as this is generally believed to increase the quality and credibility of the research (Yin 2009: 114, 116-117).

My case study explores an ongoing project. Unfortunately, this means that no documents shedding light on the innovation process were available to me, except for some research papers describing the medical procedure. The data collected for this thesis therefore mainly comes from interviews with relevant informants. However, in order to fully understand and capture the essence of the implementation process at Ramallah Public Hospital, I made efforts to complement the data received from the interviews with other sources of evidence. Direct observations and informal conversations made during my period of doing fieldwork in Ramallah were important in this respect: Firstly, for assuring and interpreting the information received from interviews, and secondly, for gaining a more in-depth understanding of the socio-political situation in the West Bank and the specific structural and cultural conditions characterising the obstetric department at Ramallah Public Hospital.

3.3.1 Interviews

Case studies are normally concerned with human affairs and behavioural events. Interviews are therefore considered to be one of the most essential sources of case study information (Yin 2009: 108). Interviews are valuable both for learning about the facts of a matter, as well as digging into the respondents’ personal opinions and perceptions about certain events (Yin 2009: 107). In this thesis, interviews were used for both purposes: Both to learn about the hard facts of the case, such as how the innovation was financed and developed, as well as more personal opinions and perceptions that could help shed light on the challenges of implementation.

Because all the respondents, in one way or another, were directly involved in the innovation process, they all had more information and knowledge about the subject than what I did as an “outsider”. I therefore found semi-structured interviews to be the most appropriate method of research. All the interviews I conducted were based on written interview guides with a set of topics that I was interested in exploring. However, semi-structured interviews, while following a given structure, also allows for straying away from the guide when deemed appropriate. Accordingly, the respondents were allowed to add remarks and elaborate on other relevant aspects regarding the case that I personally had not reflected on beforehand. The
semi-structured format also allowed me to follow up the answers I received with improvised questions adapted to the conversation and situation.

The investigator should be aware that the responses he or she receives from interviews might be subject to certain biases, poor recollection and inaccurate articulations (Yin 2009: 108). Furthermore, you have to be aware that the informants might say what he or she thinks you, as the researcher, want to hear. For instance, during the interviews with the Palestinian birth attendants, I sometimes got the impression that certain respondents seemed to believe that I was somehow involved in the development of the animation tablets, and that they therefore wanted to tell me “how good it was”. It was therefore important for me to clearly state the purpose of my study and my role as an independent researcher, in order to avoid pro-innovation biases in the responses.

There is no single way to guarantee that the information collected from interviews will not be subject to various inaccuracies. However, in this thesis, certain efforts have been made to seek validation of the interview data. By conducting several interviews exploring the same topic, I was able to identify those responses that seemed to strongly divert from the general opinion. Furthermore, the information received from interviews was supplemented and corroborated with information from observational data.

In this thesis, I have collected data from a total of eight interviews. A table including general information about the interviews conducted is featured below (Figure 1).

<table>
<thead>
<tr>
<th>Who?</th>
<th>When?</th>
<th>Where?</th>
<th>Duration</th>
<th>Notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Palestinian gynaecologists functioning as project supervisors in their respective hospitals (one from Ramallah, two from Gaza).</td>
<td>19.05.16</td>
<td>The Intervention Centre, Oslo</td>
<td>35 minutes</td>
<td>Group interview</td>
</tr>
<tr>
<td>Ase Vikanes, project coordinator</td>
<td>03.08.16</td>
<td>Gaustad Hospital, Oslo</td>
<td>35 minutes</td>
<td></td>
</tr>
<tr>
<td>Female midwife</td>
<td>24.08.16</td>
<td>Ramallah Public Hospital, The West Bank</td>
<td>15 minutes</td>
<td>With interpreter</td>
</tr>
<tr>
<td>Female head nurse</td>
<td>24.08.16</td>
<td>“</td>
<td>15 minutes</td>
<td>Requested not to be recorded</td>
</tr>
</tbody>
</table>
Figure 1: Overview of the semi-structured interviews in this study.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Time</th>
<th>Language</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female doctor</td>
<td>24.08.16</td>
<td>“</td>
<td>15 minutes</td>
<td></td>
</tr>
<tr>
<td>Male doctor</td>
<td>24.08.16</td>
<td>“</td>
<td>15 minutes</td>
<td>Requested not to be recorded</td>
</tr>
<tr>
<td>Head of the obstetrics and gynaecology department</td>
<td>24.08.16</td>
<td>“</td>
<td>15 minutes</td>
<td></td>
</tr>
<tr>
<td>Male doctor</td>
<td>25.08.16</td>
<td>“</td>
<td>15 minutes</td>
<td></td>
</tr>
</tbody>
</table>

Audio recordings provide the researcher with the most accurate rendition of the interviews, but should at the same time not be viewed as a substitute for listening (Yin 2009: 109). Before every interview, I made sure to ask for permission to record the conversation. As can be seen from the table above, two of the respondents requested not to be recorded, and their requests were respected. During these two interviews I instead used pen and paper to document their spoken words. This obviously poses a challenge to the investigator, as it may divert his or hers attention away from the actual conversation and towards the paper. Additionally, due to a lack of proficiency in English, one of the respondents requested to be assisted by an interpreter during our interview. This may cause some methodological problems in the sense that certain elements or nuances in the response might be lost in the process of translation.

Some additional methodological issues with regards to the interviews conducted in Ramallah should also be noted. In general, the process of gaining access to relevant informants and conducting the interviews could in fact best be explained as being quite chaotic. First of all, this had to do with the time limitations of the informants, since the majority of the interviews had to be conducted during the breaks of an intensive seminar and workshop arranged for the birth attendants by the Norwegian researchers.

Secondly, due to a lack of available rooms at the hospital, the majority of the interviews had to be conducted in the hallway. This meant that outsiders could potentially listen in on parts of our conversation if they wanted to. I find it plausible that this could have affected some of the responses I received, in particular responses relating to the challenging working conditions at their department. There are good reasons to believe that some of the interviewees decided to tone down some of the more critical reflections about their employer, considering the more or less public surroundings. Furthermore, disturbance from the surroundings (e.g. loud conversations in the background, doors slamming shut) at times disrupted the flow of the conversation.
Thirdly, the Norwegian project coordinator and the local project supervisor helped me out in the process of selecting informants among the birth attendants. Although this was of great help to me, it could potentially also represent a problem of bias. The people responsible for developing and implementing the innovation might have an incentive to put me in contact with the employees that they already knew would be most sympathetic and less critical towards the animation tablets. However, I have no reason to believe that this was the case. During all the conversations I had with the project coordinator, both formal and informal, she expressed her desire to get an external, unbiased and scientifically sound evaluation of the animation tablets. In short, for the developers there was really nothing to gain from receiving a biased review, considering their role as ethical researchers themselves. As can be seen by the table, the respondents ultimately selected formed a diverse group with representatives from both the doctoral and the nursing staff.

3.3.2 Direct observations

A case study should, as a rule, take place in the natural setting of the “case” being studied. By placing yourself in the setting you are exploring, you therefore also create the opportunity for using direct observations as a way of getting additional information about your topic of study (Yin 2009: 109, 110). Observations can be strictly formalised, or more casual and informal. Less formal direct observations are often made in conjunction with the collection of other data, and often focuses on environmental conditions and climate, such as the conditions of buildings or workspaces within an organisation, which in turn may tell you something about how the contextual factors affect the phenomena you are studying (Yin 2009: 109).

Direct informal observations were considered to be an essential source of evidence for the case to be explored in this thesis. In fact, I would argue that this thesis would not have been possible if not for the opportunity to personally experience the West Bank and witness the organisational culture and structure of Ramallah Public Hospital first-hand. Thus, my period of doing fieldwork from the 23rd to the 26th of August 2016 gave me access to significant contextual data otherwise difficult to collect.

During this period, I attended a workshop and seminar arranged by the Norwegian researchers intended to teach the medical procedure to the birth attendants. The observations made during this event gave me an impression of how the birth attendants responded to learning new techniques and acquiring new medical knowledge in general. Being present at the hospital
also allowed me to observe the structural conditions at the gynaecology and obstetrics unit, and helped me paint a better picture of the intense workload experienced by the medical personnel. More in general, the fieldwork in the West Bank helped me shed light on various socio-political contextual issues, and how these issues could be seen as constraining external entrepreneurial efforts of creating change in the region.

To the extent that it was possible, I strived to take the role as a neutral observer without allowing any prior bias to affect what I was looking for or in any way affect my interpretation of the data collected. While in the field, I made sure to jot down brief notes about my observations, while at the same time having in mind that writing too comprehensive notes may in fact be disruptive to the field research (Chambliss and Schutt 2016: 212). Immediately after the observation sessions I wrote a more comprehensive field note. In the field note, I have recorded description of events, rather than subjective interpretations, in order to remain neutral and true to what was observed.

3.4 Data analysis

As previously mentioned, the research design of this thesis can be described as inductive, due to the lack of previous knowledge and research about the phenomenon being studied. This means that the starting point is the particular case and the collection of empirical data, rather than some theoretical proposition. While inductive approaches have its particular strengths, it nonetheless may provide the investigator with certain challenges and difficulties when it comes to the analysis and interpretation of the data collected.

In general, it is advised to have a general strategy for data analysis to reduce potential analytical difficulties, usually based on theoretical concepts, rival explanations or other descriptive frameworks (Yin 2009: 162). Considering the inductive design of this thesis, it was not practical or feasible to establish such a strategy early on in the process. Yin states that: “In the absence of such strategies, you may have to “play with the data” in a preliminary sense, as a prelude to developing a systematic sense of what is worth analyzing and how it should be analyzed” (Yin 2009: 162).

Accordingly, analysing the data collected for this thesis required comprehensive efforts, as it was not always obvious what could be considered relevant information. Every interview was transcribed in verbatim (i.e. word for word) by me personally without the use of any
transcription software. I made the choice of not including systematic representations of non-verbal communication in the transcriptions.

After transcribing, making notes and reviewing the data collected from the first couple of interviews, certain concepts and ideas became apparent to me. Substantial work was made to systematically extract the bits and pieces of information that were deemed to be most relevant for answering my research problems.

The initial data collection, in turn, laid the foundation for the establishment of the theoretical framework. In a gradual process, the collected data was “coded” and connected to relevant concepts from the theoretical literature. Throughout the process, alterations of the theoretical framework frequently had to be made. As such, the data was analysed in resemblance to the so-called grounded theory approach; an approach in which data collection and analysis are more or less treated as parallel processes (Folkestad 2000: 3).

While more systematic and formal approaches to case study data analysis is usually recommended, my decision to take a more informal and unstructured approach helped me stay unbiased and true to the data that were gradually gathered throughout the research process; at all times being aware that certain important elements of the case would perhaps not fit that well with already established theory. This can, in turn, be said to reflect the way inductive research and grounded theory approaches often aim at developing new theory, or at least help evolving theoretical discussions to a point beyond previously established concepts and understandings.

### 3.5 Reliability and validity

Questions regarding the credibility, trustworthiness, confirmability and dependability of my research have already been touched upon several times throughout this chapter. In the following paragraphs I will discuss the quality of my research design and summarise some of the methodological concerns raised, in direct relation to the concepts of reliability and validity.
3.5.1 Reliability

The reliability of research refers to how well the investigator has been able to minimise the errors and biases in his or hers study. In general, reliability is measured through the image of replication. If another researcher were to copy your premises and follow all the steps taken to reach your conclusion, the later researcher should also end up with the same conclusions (Yin 2009: 45). In practice, for qualitative research, reliability is often viewed more as a way of determining the ‘trustworthiness’ of the research, rather than as a strict measure of accuracy. Carefully explaining every step you have taken to reach your ultimate conclusions, and making each of these steps as operational as possible, is thus the most common way of approaching the problem of reliability when doing qualitative case study research (Yin 2009: 45).

Accordingly, throughout this chapter I have made efforts to explain, in great detail, the choices I have made and the steps I have taken to reach my conclusions, while at the same time making honest reflections about the various methodological problems and inaccuracies that have been encountered throughout the different stages of the research process. To further ensure the trustworthiness and transparency of the research I have also included interview guides and field notes in the appendix.

3.5.2 Validity

Validity refers to degree to which the results and conclusions of your study answers to the objective of your research. In other words, based on the results of your research, is it possible to draw valid conclusions about the phenomenon you actually intended to study? Evaluating the overall validity of a study is usually based on assessments of the study’s construct-, internal-, and external validity, respectively (Yin 2009: 40).

A study’s construct validity refers to the degree to which the researcher has been capable of identifying the correct operational measures for the concepts being studied. In qualitative case study research, a common pitfall is to instead collect the data largely based on subjective judgements (Yin 2009: 40). It is not unimaginable that case study “guru” Robert K. Yin would argue that I too have fallen slightly into this pitfall with this research, considering how I approached the case and the initial phases of data collection with no clear-cut operational set of measures in mind. Accordingly, I was always aware that this could be viewed as harmful to
the validity of my research. However, it is important to point out that, although not explicitly stated, even the earliest stages in the data collection process were “guided” by my underlying conceptual understanding of (the common barriers to) organisational innovation implementation and (the general antecedents to a successful) social innovation, rather than mere subjective assessments.

A study’s internal validity refers to the extent to which the researcher, with certainty, can establish causal relationships based on the findings (Yin 2009: 40). This thesis makes no attempts at establishing strict causal relationships, and discussions regarding internal validity are consequently not considered relevant to this thesis.

A study’s external validity, on the other hand, refers to the extent to which the results of the study can be said to also apply to a larger population (Yin 2009: 40). It is often claimed that qualitative case studies in general offer a poor basis for making generalisations, and that achieving external validity, in the strict sense of the word, is difficult, if not impossible (Yin 2009: 43). This is also true for my thesis, as I do not claim that the results from my research in any way can be easily transmitted to a broader population. This was never the aim of the research in the first place.

However, case studies can generate analytical generalisations (as opposed to statistical generalisations). This means that the researcher should strive to generalise the results in accordance with some broader theory (Yin 2009: 43). As previously described, I have made considerable efforts to establish connections between the empirical data and the theoretical framework, and consequently discuss the findings of the research in relation to concepts from the innovation literature. Throughout the research process I always tried to have in mind questions such as: What can my empirical findings actually tell us about, for instance, the management of innovation? And oppositely, what can innovation management theory tell us about this specific case?

3.6 Ethical considerations

I made the decision to anonymise the Palestinian informants. Including their names would not add anything of value to this thesis, and could potentially lead to less honest responses. Before every interview I made sure to obtain consent of participation in the study, inform the respondents about the background and purpose of my research, and explain that their
responses could be used as part of the empirical data of the thesis. I also made sure to ask every respondent for permission to record our conversations. As already mentioned, two of the respondents requested not to be recorded, and their requests were respected without any further explanations needed.

The collection and storing of the empirical data has been done in accordance with the ethical guidelines set out by NSD – Norwegian Centre for Research Data. I made sure to get the approval from NSD before I started the data collection process.
4 The case and the context

This chapter aims to describe some of the most important underlying details pertaining to the case and the context. First, a brief description of the history and current situation in Palestine is included as an important backdrop for understanding the particular contextual setting. Secondly, since the ones responsible for developing the innovation are largely affiliated with the Intervention Centre at Oslo University Hospital, a short description of the centre is therefore included to shed some light on the background of the researchers and entrepreneurs. Finally, this chapter also contains detailed descriptions of the underlying research, development, installation and purpose of the specific innovation.

4.1 Palestine

The Palestinian territories are located in the Middle East and consist of the West Bank, including East Jerusalem, and the Gaza Strip. Geographically, the two territories are spatially separated by Israel, with the West Bank bordering Jordan on the east and the Gaza Strip bordering Egypt on the southwest. Although Palestine received its status as an official United Nations non-member observer state in 2012 and are now consistently referred to as the ‘State of Palestine’ in official UN documents, the Palestinian territories have been mostly occupied or otherwise held under the control of the State of Israel ever since the Six-Day War of 1967 (UN 2012).

Figure 2: Map of Israel and the Palestinian territories (source: BBC News 2015).
Prior to the aftermath of World War II, the name Palestine was commonly used to describe the entire geographic region between the Mediterranean Sea and the Jordan River. The United Kingdom administered the region in accordance with a mandate received in 1922, but the mandate was terminated in 1948 as a result of the UN proposal to divide the Palestinian region into separate Jewish and Arab states (Beinin and Hajjar 2014: 4). Consequently, The State of Israel officially declared its independence on May 14th 1948, despite Arab leaders rejecting the proposed two-state solution. A war between The State of Israel and a coalition of Arab states ensued the following day. As a consequence of the war and the 1949 Armistice Agreements that followed, Israel gained control over additional areas originally designated to be part of the Arab state, while Jordan and Egypt seized control over the West Bank and the Gaza Strip, respectively (Beinin and Hajjar 2014: 5).

Years of increased tension between Israel and its neighbouring countries of Egypt, Jordan and Syria followed, leading up to the Six-Day War of 1967. Ultimately victorious, Israel was able to acquire control over the Gaza Strip, The West Bank and East Jerusalem (together with the Sinai Peninsula and the Golan Heights). Soon after the war ended, the State of Israel began the construction of settlements for Jewish Israeli civilians within the recently occupied Palestinian territories.

After decades of territorial dispute and unrest, Palestine launched an uprising against the Israeli occupation of the West Bank and Gaza in 1987, in what became known as the First Intifada (Al Jazeera 2003). This violent period was characterised by increased levels of armed conflict, resulting in a high number of civilian casualties. Promising steps towards creating a peaceful two-state solution were made in 1993, with the signing of the Oslo Accords by the Israeli government and the Palestinian Liberation Organisation (PLO). However, The Oslo Accords quickly proved not to achieve its intended results. Although several similar peacebuilding efforts have since been made, armed confrontations have continued to characterise the Palestinian territories, exemplified by the Second Intifada between 2000 and 2005, and the destructive Gaza Wars of 2008-2009 and 2014.

As of today, Israel continues to expand its settlements in the West Bank and East Jerusalem. In a recent example, a decision by Israeli authorities to advance plans to build around 770 new housing units in the south-western part of East Jerusalem were strongly condemned by the United Nations in July 2016 (UN News Centre 2016). Controversies also surround the
Israeli West Bank Barrier, a 700 kilometre concrete and steel fence constructed by Israel during the Second Intifada, in order to physically separate Israel proper from large parts of the West Bank. In several areas, the barrier cuts deep into what is considered to be Palestinian territory based on the demarcations of the 1949 Armistice Agreements. Within the West Bank, the freedom of movement for Palestinians is also restricted due to Israeli military checkpoints and segregated road systems. In addition, The State of Israel remains in near full control over water resources within the West Bank territory (Corradin 2016).

Figure 3: Separation. Picture taken after crossing the West Bank barrier through the Qalandiya checkpoint en route from Ramallah to Jerusalem (photo by Stian Fossum Larsen, August 27th 2016).

In the case of Gaza, Israel dismantled all of its settlements and withdrew its army in 2005. Nonetheless, the international community still largely consider Gaza to be under occupation (Sanger 2010: 430). Its land- and naval borders are essentially closed, due to the control exercised by the Israeli military. This has severely restricted the free movement of Palestinians, and limited possibilities for effectively getting essential supplies and external personal into the territory. Gaza is also dependent on Israel for the supply of essential public utilities, such as water and electricity. Furthermore, the Israeli military reserves its right to enter the territory at will (Sanger 2010: 429).
4.2 The Intervention Centre

The Intervention Centre is an independent research and development department at Oslo University Hospital. The centre was established at Rikshospitalet in 1996, with the purpose of developing new high-tech and minimally-invasive medical treatment solutions to Norwegian medical institutions (Fosse 2007: 9). The centre is quite unique in the sense that approximately 40 percent of the employed personnel come from a non-medical background, including engineers, mathematicians and physicists. The technical personnel are intended to work in close collaboration with the medical staff comprising of medical doctors, nurses and radiographers, to best serve the purpose of the department (Mørk et al. 2012: 8).

If we go back to 1996, such an interdisciplinary structure of a hospital department was unique of its kind in Norway. Although the establishment of the centre received surprisingly little resistance from the research communities, the idea was nonetheless quite radical and somewhat controversial at that point in time. 20 years later, however, the centre has received widespread recognition for its capability to develop and transfer new practices (Mørk et al. 2012: 2).

From an innovation- and organisational perspective, the Intervention Centre, is thus in itself an interesting case for study; as a department having experienced great success through drawing on various sources of theoretical and practical knowledge for the collaborative development of new high-tech innovations in healthcare.

Erik Fosse, Professor of Medicine with a specialisation in general- and thoracic surgery, has served as head of the department ever since its establishment. Fosse is highly renowned in Norway for his ground-breaking contributions to his field of research. He has also received critical acclaim as an innovator; notably receiving an innovation award from the University of Oslo in 2015, for heavily contributing to the renewal of medical-institutions and practices, frequently patenting new ideas and subsequently founding new sustainable start-up companies (UiO 2015).

Outside of medical and academic circles, Fosse is probably still best known for extensive and long-lasting humanitarian engagement in the Middle East. His first trip to the region was in the late 1970s when he travelled to Lebanon to work as a medical doctor during the Lebanese Civil War. In 1983 he co-founded, and has since served as the CEO of, the Norwegian Aid
Committee (NORWAC), a humanitarian non-governmental organisation working with health-related projects (mainly) in the Middle East. On January 1st 2009, in the midst of the devastating Gaza War of 2008-09 between Israel and Palestine, Fosse and fellow Norwegian medical doctor Mads Gilbert travelled to Gaza to help treating wounded Palestinians in a local hospital. They subsequently received vast international media attention, since they at that time were the only westerners present in Gaza (The Guardian 2009).

4.3 The innovation\textsuperscript{1}

The main purpose of the innovation, i.e. the animation tablet, is to help teach birth attendants (primarily midwives, obstetricians and gynaecologists) how to effectively prevent severe, unintentional perineal tears during vaginal childbirth. Perineal tears are spontaneous lacerations of skin and other tissue in the area between the vagina and the anus. Severe tears may cause long-term discomfort and pain, sexual dysfunction and anal incontinence, and thus adversely affect a woman’s quality of life (Laine et al. 2012: 1).

Perineal tears are a worldwide problem. However, in Norway, incidents of such complications have been drastically reduced in recent years. This reduction has come as a result of targeted efforts at educating and training Norwegian birth attendants in a particular bimanual perineum support technique. In essence, the technique is relatively easy to learn and teach, and involves guiding the head of the baby at a controlled rate while at the same time supporting the perineum (Laine et al. 2012). Medical doctor Katariina Laine is considered to be the leading expert on obstetric anal sphincter injuries in Norway, and has been the one mainly responsible for advocating and introducing the technique in Norwegian hospitals. Laine’s research has laid the medical, academic foundation for the development of the animations.

Based on the success achieved in Norway, researchers from the Intervention Centre at Oslo University Hospital decided they wanted to teach the technique globally in hopes of recreating the results that were achieved back home. They made the decision to start with a region already familiar to them, namely the Palestinian territories of the West Bank and Gaza. Because of the severe resource limitations and the general inaccessibility characterising most Palestinian health service organisations, the researchers quickly came to the realisation that traditional “bedside” methods of teaching would most likely not create the sustainable

\textsuperscript{1} In addition to the cited literature, the depictions in section 4.3 are largely based on the information I received from an interview and informal conversations with project coordinator Åse Vikanes.
changes needed. Providing external educators to train and follow up birth attendants for an extended period of time was not considered to be a feasible option, and they therefore had to come up with a different solution. Consequently, the idea of providing education and training by means of animated instructions was explored:

When it comes to training in new medical techniques in general, some studies have shown that use of animated instructions on mobile phones may be a good alternative to the more traditional "hands-on" or "bedside" teaching methods. In a global perspective, it is important to study the efficacy of mobile units for transferring of new knowledge, especially for use in resource constrained settings (Fosse 2015).

Project coordinator Åse Vikanes, specialist in obstetrics and gynaecology, has served as the main initiator for the development and testing of the animations tablets. Erik Fosse, as head of the Intervention Centre, functions as project manager. With a general interest and some prior experience in the field of film and animation, Vikanes was curious about examining the underlying potential of using animated instructions for human resource development in global healthcare. Previously, Vikanes had spent six years living and working in the Middle East. Her work in the region included the initiation of a project aimed at establishing a National Palestinian Institute of Public Health, and she was thus already largely accustomed to both the culture and the health system of the Palestinian territories prior to this innovation project.

The project has received its funding from the Norwegian Research Council, through its program for global health- and vaccination research (GLOBVAC). Most of the practical development of the animation took place in Norway and at the Norwegian embassy in Cairo. The development was done in collaboration with an Egyptian professor of animation, who was part of a network Vikanes had established during her time living in the Middle East. An unfinished version of the animation was sent to numerous experts on the bimanual support technique in order to get feedback and assure that the instructions on display accurately matched the correct procedure.

The finished animation is approximately four and a half minutes long and demonstrates the entire manual support procedure. Detailed narrations in either Arabic or English are included. After watching the animation, the users are required to register their names and answer three questions with regard to the technique, along the lines of “were you familiar with the technique”? And, “do you think you will make use of the technique”? In this way, the Norwegian researchers are able to register patterns of usage in a database. To serve its purpose, the animation is intended to be watched by birth attendants several times a day.
during working hours. Ideally, the innovation should enable birth attendants in Palestine to learn the technique of perineal protection without having to receive any additional training.

The animation was then installed as an application in tablet computers. These tablets were fitted with custom made wall hangers specifically designed to prevent theft of the devices. In March 2016, the finished product was eventually installed in a total of six Palestinian public hospitals, including hospitals both in Gaza and in the West Bank, one of them being Ramallah Public Hospital.

In conclusion, the animation tablet can be regarded as a health service innovation aimed at strengthening human resources for health. The innovation is intentionally supposed to have a particular value and purpose for transferring knowledge to health service organisations otherwise difficult to reach with traditional methods of education and training. This mainly includes organisations operating in resource constrained and/or post-conflict environments.

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2 One of the animation tablets in Gaza was nonetheless stolen.
5 Empirical findings

In this chapter I will present my main empirical findings. The first section of the chapter addresses the innovation process from the perspective of the developers of the animation tablets, and is mainly based on an interview conducted with main initiator and project coordinator Åse Vikanes from the Intervention Centre. This interview covered several topics relating to all stages of the process; from the underlying research to attempts at implementation. The results to be presented here is a summary of the main findings from this interview relating to how the developers themselves worked to turn their idea into reality. The empirical findings highlight how motivation, contextual knowledge and legitimacy have been three important components for understanding the particularities of managing innovation in the context of Palestine.

The second part of this chapter addresses the perspective of the end-users of the innovation, namely the birth attendants at Ramallah Public Hospital. Here, the empirical findings are mainly based on interviews and observations made during my visit to Ramallah. The gathered data gives us important information about why certain members of the department had decided to reject, or had so far been unable to make full use of, the innovation.

Figure 4: Modern meets old at Ramallah Public Hospital. New buildings for paediatrics, emergency care and specialised surgery were completed in 2010. The old wing (including the delivery rooms displayed in the bottom right) dates back to the 1940s (photos by Stian Fossum Larsen, August 25th & 26th 2016).
5.1 The innovation process

Developing and implementing an innovation for use in Palestinian hospitals is a demanding process. It became evident during the interview that the project coordinator was noticeably aware that they were involved in a high-risk project with a high probability of failure. Accordingly, she made it evidently clear that in order to endure and cope with the intense workload and numerous challenges they have faced throughout the process, a special kind of motivation needs to be in place. This type of motivation extends far beyond personal rewards and economic profit. She told me:

When you are engaged in a project as complicated as this, personal reward is not something you think of (…) Improving the health of the Palestinian female population; that is the reward. If we were in it for personal gains, we would have given up a long time ago, because administrating this project is really quite demanding.

Consequently, the health political and humanitarian perspective has served as a backdrop throughout the entire innovation process, and should be considered crucial for understanding what has driven the process forward, despite frequent setbacks. When putting substantial amounts of work and resources into a project, you have to be able to convince yourself that your efforts are worthwhile in times when you are faced with severe challenges. This has been particularly important for understanding the resilience of the developers in this case, considering how few initiatives aimed at creating sustainable social change tend to succeed in Palestine, and that efforts put into such projects often have to be disproportionally large compared to what you will ultimately be able to achieve. Correspondingly, it is important to be aware that the potential success of this project and innovation should not, and cannot, be measured in economic terms.

Another key aspect that was highlighted during our interview was the importance of contextual knowledge. The Palestinian society is organised in a certain way and consequently also has to be “navigated” a certain way. While motivation is a prerequisite for enduring the struggles you face throughout the process, realistically being able to implement your ideas and solutions also requires an underlying understanding of Palestinian institutions, norms and culture. The acknowledgement and acceptance of the fact that the Palestinian society functions in a completely different way than our own, and the subsequent ability to circumvent the obstacle that this represents, has thus been key to this particular innovation process. In this respect, Vikanes explained to me how their previous experiences from
Palestine had thought them the importance of starting from the top of the complex bureaucracy and gradually working their way down:

This society is very hierarchic. The health minister is for instance involved in the decision as to who gets a PhD. That’s just the way it is. Before you can do anything you have to get permission from the minister of health. Then you have to talk to the hospital directors, the head senior consultants and the head of the midwives. Everybody has to be on your team. But once you get permission from the minister of health, everything of course becomes a bit easier.

We thus see signs of an innovation process that, at least to a certain extent, has taken a top-down, rather than bottom-up approach. The intended end-users of the innovation were not involved in the early stages of the innovation process. Broadly speaking, this can be said to be at odds with success recipes for social and humanitarian innovation initiatives as identified by the literature, but taking such an approach was nonetheless deemed to be a necessity for getting anything done in the first place. As reflected by Vikanes, this also related to the challenges of transferring medical research and know-how across cultural boundaries:

They have not had any focus on this type of problem in Palestine. When we first came down there to provide training as to how they could prevent perineal tears, they told us that they did not have such problems. It is not until recently we started systematically registering incidents of tears. So, the fact that they were initially not aware of the problems, made it impossible for us to involve the doctors and midwives earlier on.

With Åse Vikanes as project coordinator and Erik Fosse engaged as project manager, the team initially responsible for diffusing the innovation consisted of people with extensive prior knowledge and experience from the Palestinian territories. As mentioned, having such resources in the team was important for practically managing and circumventing significant contextual challenges. However, the importance of prior experience also turns our attention towards a third important aspect of this particular innovation process, namely the role networks and collective action has played in the process of gathering support and gaining legitimacy for the perineum protection project and the animation tablets. When we discussed this topic during the interview, Vikanes told me:

To create as much engagement as possible around this project, it is important that everyone contributes. And he [Erik Fosse], as project manager, is absolutely essential for gaining entry; especially in Gaza, but also in the West Bank. It is not enough to come dragging with good ideas. This is a “tribal society”. They have to know you over time. And they have to know that you only want what’s best for them. That is important. In fact, much more important than being “world champion” in something and come down there and present your idea. There are 2000 NGOs currently working in Palestine, a lot of money and a lot of good will. But for them to trust you and make an effort, it requires more. (…) To them, you are someone, because they know you over a long period of time. They know Erik, and to a certain extent they also know me, because I have lived in the region for six years.
In other words it seemed to be clear that, in order to get something done in Palestine, having a good idea is not enough. Equally important has been the ability to transform the idea into reality through gathering support for the project. As previously emphasised in the theoretical framework section, the potency of an idea to change organisational practice should not only be based on the objective merits of the idea, but also on the basis of who takes up the idea and how the idea is being promoted. In this respect, having a project team that include members with status, reputation and extensive networks in the Palestinian territories was understood to be extremely important.

Building trust from various stakeholders has undeniably been a key element to this innovation process, and building trust takes time. As such, it can be argued that the implementation process in fact started a long time before the innovation was even developed (the development team for instance started registering incidents of perineal tears in Palestine approximately one year before the animation tablets were installed).

Vikanes furthermore explained to me how Erik Fosse played an important role both for gaining entry to the Palestinian society and to help convince birth attendants at the hospital about the usefulness of the innovation once it was first installed:

> Everybody in Palestine knows he is a surgeon and he is kind of a hero there, because he was in Gaza during the wars. So he is quite famous both here in Norway and in Palestine. The young doctors came up to him and wanted to learn laparoscopic surgery. Then he told them: Doing this job of learning how to prevent perineal tears is way more important than learning laparoscopic surgery. I think that got to them.

Later in the process, other efforts were also made by the developers to more directly strengthen the legitimacy of the innovation in the eyes of the end-users. Vikanes told me:

> You have to start at the top and work your way down. But it is vitally important to involve those at the bottom as well, to the extent that you can say “bottom” because those are the ones who actually do the job. And in that respect, the midwives are absolutely essential.

At some of the hospitals, including the one in Ramallah, efforts were therefore made to engage certain influential organisational members to implicitly act as “innovation champions” that would work to encourage and remind their colleagues to make use of the animation tablets. This type of encouragement was perceived by the project coordinator to be of great importance for ultimately being able to achieve implementation. She told me that she expected that the birth attendants in those hospitals that did not receive any input from within the organisation probably would find it difficult to watch the animations regularly. In addition to this, the development team also arranged seminars and workshops in Ramallah in order to
communicate the importance of learning the new technique, by focusing on the convincing results achieved in Norway.

5.2 User resistance

The first step towards getting an understanding of how the users had responded to the innovation was made in May 2016, when I interviewed a female gynaecologist working clinically at Ramallah Public Hospital. I got the opportunity to interview her while she was visiting Norway to work on her PhD at the University of Oslo, in hopes of becoming the first female Palestinian gynaecologist with an internationally recognised PhD. As part of this work she has also functioned as project supervisor for the perineum protection project in Ramallah, and has consequently been the one mainly responsible for promoting the animation tablets and encourage usage among her colleagues. By talking to her, I received a lot of valuable information about how the birth attendants in Ramallah had responded to the innovation immediately after they were installed in March.

At that point in time, she told me that the initial response from the birth attendants at Ramallah Hospital generally had been very positive. Most of the intended end-users expressed excitement over the fact that their department had received something that was perceived as, in fact, quite high-tech in the context of their hospital. It was generally perceived as a cool new device, or “invention”, and many seemed to enjoy having it around. Accordingly, the majority of the doctors, as well as the nurses and midwives, expressed both a willingness and desire to make use of the new device on a daily basis. On the surface, there seemed to be little direct resistance towards the innovation from the perspective of the end-users.

However, the gynaecologist also told me that the initial excitement seemed to wear off quickly. In the beginning, many of the birth attendants would watch the animations several times a day. Yet, after a short while they seemed to just forget about it and they started acting like the devices were not even there. Despite initial excitement, it thus seemed as if the birth attendants found it difficult to actually change their behaviour and adopt the innovation as part of their everyday routine.

This highlights the importance of distinguishing between formal adoption and implementation/institutionalisation. While the animation tablets, at this point in time, had
been formally adopted by a department within the organisation, it was by no means yet “… incorporated into the taken-for-granted assumptions and thought structure of organizational practice” (Van de Ven 1986: 604). Thus, despite being formally adopted by the department of gynaecology and obstetrics, it seemed apparent that a lot of work remained before the innovation process could be considered completed.

A couple of months later, I conducted interviews with several of the birth attendants in Ramallah in order to find out more about why many of them found it so difficult to consistently make use of the new solution. The responses I received highlighted three important factors: A lack of time, a lack of interest, and a lack of support.

First of all, all of the respondents claimed that they did not have a sufficient amount of time during their workday to effectively make use of the innovation. The animation is approximately four and a half minutes long, and the employees should ideally watch it several times a day for it to fulfil its intended purpose. As perceived by the users, time was consistently described as the single most important reason for why the animation tablets were often ignored and treated just as a “dead” part of the inventory. The head nurse for instance told me: “I don’t have the time to watch the animations as much. Now, I watch it maybe twice a day. There is more time on the nightshifts.”

When considering the structural conditions at the hospital, this should perhaps come as no surprise. Intuitively, if you only have five minutes of spare time during your workday, you would probably prefer to sit down and take a coffee, rather than watching an animation.

In the gynaecology and obstetrics department at Ramallah Hospital, the number of patients substantially exceeds the capacity. The doctors work hectic 24 hour shifts attending to all sorts of business in the department, while the midwives have their hands full in the maternity ward, usually attending to several women in labour at once. Consequently, on top of an already hectic workday, the extra workload imposed by the animation tablets was, by some, explicitly perceived as a burden: “It is an extra work to learn the technique and a stress for the team as well as the patients”, one of the midwives told me.

Previous research has suggested that positive attitudes towards various eHealth solutions among health workers in post-conflict countries usually stem from the capacity of electronic resources to help mitigate local resource constraints (Woodward et al. 2014: 4). As reflected
by the interviews, the animation tablets did not help solving the everyday problems faced by the birth attendants with regards to resource constraints and overload; in fact it was, by some, perceived as doing quite the opposite. Thus, the needs of the ones the innovation ultimately sought to help (i.e. the Palestinian female population) can, to a certain extent, be said to be disconnected from the perceived immediate needs of the intermediaries having to make use of the innovation (i.e. the birth attendants).

Secondly, while it should be noted that several of the respondents also reflected a positive attitude towards using animations as an educative tool, others were more sceptical towards the innovation on a more fundamental level. Thus, some of the resistance could also be explained on the basis of a lack of general interest and belief in the project and the innovation. One of the doctors for instance told me: “I don’t think the animation was very educative. I think what is more educative is to bring someone to teach them [the midwives]. What’s more convincing for them is for me to stand up and tell them how to do it more than to watch the animations”. Later in the interview, the doctor elaborated on this statement:

If you watch the animation in itself, it’s educative. But the problem is their [the midwives’] interest. The animation is exactly what they explained here [at the workshop], and I found that the same people I ask to watch the animations were way more active when they are with Katariina (Laine) and the others. They are more interested in learning when there is a human being talking to them; not an animation. That’s the problem. I think maybe people here find it difficult to learn from videos and animations.

Another point to be made is that, while all of the respondents themselves claimed they were genuinely interested in learning more about preventing perineal tears and become proficient in using the manual support technique, they also told me that many of their colleagues lacked a general interest in keeping updated on new medical technologies, research and procedures. One of the doctors for instance told me:

In Palestine, we are not raised in a way that we are really integrated in science. I mean, not all people are really interested in seeing how these things are working. They may say something like: “I’m doing my job, I’m sick of it, I’m going out. We don’t want to be bothered with your study.”

Accordingly, while some resistance could be explained on the basis of the perceived usefulness of this particular innovation, the empirical data also suggests that some of the resistance could come as a result of a more general inability among organisational members to break old habits, and a lack of interest when it comes to learning new medical techniques and procedures.
Thirdly, as perceived by the respondents, another problem was the lack of support they received from the management at their department. On the surface, it may seem as if the management at Ramallah Public Hospital enthusiastically supported the adoption and implementation process of the animation tablets. From initial interviews with the project coordinator and project supervisor, I was told that they had not experienced any explicit resistance from senior members within the organisation. The management was in fact generally very welcoming and satisfied with the fact that some external actors wanted to create a better environment for research and clinical practice in their hospital. This impression was also reflected during my interview with the head of the department of gynaecology and obstetrics in Ramallah. He told me:

I am always welcoming for anybody wanting to help us. I’m always happy to exchange experiences with foreigners. It is a big chance for me to learn a lot and to see where we are standing compared to other countries (...) It [the animation tablet] is a good idea. The ones caring for delivering women can see it every day as a reminder. We encourage everyone to see this animation.

However, as perceived by most of the birth attendants I talked to, the support from management seemed to be largely passive, rather than active. Most of the birth attendants told me that they had not received any genuine encouragement or incentives to make use of the innovation from the leadership within the organisation. One of the doctors told me: “I have never been encouraged to watch it. I don’t think he [the head of the department] even knows that there is an animation. He notices it sometimes on the wall, but he has never shown any interest in it.” Another doctor told me that the leadership had been largely absent throughout the project, and that she accordingly considered this to be one of the major challenges for achieving sustained innovation usage. A third doctor, however, was more positive and stated that he genuinely believed the management was supportive, but that they did not have the time to follow the details of the project; reflecting how the management obviously also had a busy schedule and were faced with their own particular challenges relating to a lack of resources and understaffing.
6 Discussions and conclusions

This thesis has followed a project aimed at educating and training Palestinian birth attendants in a new medical procedure through the use of animated instructions on tablet computers. The underlying concern of this thesis has been to explore the particular challenges associated with achieving implementation of an externally developed health service innovation in the context of a Palestinian hospital.

To shed light on the underlying problem of research I found it necessary to ask two subsequent research questions. Firstly, what have been emphasised by the developers as important for transforming their idea into reality? And secondly, what can explain the Ramallah Hospital birth attendants’ reluctance or inability to make full use of the innovation?

The empirical findings of this study suggest that, from an entrepreneurial perspective, motivation, contextual knowledge and legitimacy are three factors highly relevant to the understanding of this specific innovation process. In particular, this study finds good reasons to argue that without an underlying and genuine entrepreneurial motivation based on humanitarian and health political convictions; without having substantial prior knowledge and experience about how to circumvent the distinct challenges associated with operating within the Palestinian system and culture; and without having previously established networks and relationships of trust within the Palestinian society, any attempt to implement such a solution would most likely be futile.

At the same time we have seen that many of the birth attendants at Ramallah Hospital nonetheless found it difficult to consistently make use of the animation tablets. The empirical findings suggest that their reluctance or inability to make full use of the innovation to a large extent can be explained on the basis of a lack of time, a lack of interest and a lack of organisational support.

What, then, does this imply for the management of this particular innovation process and what can it tell us about the possibilities for achieving ultimate implementation in Ramallah Hospital? This final chapter aims to find some preliminary answers to these questions by discussing the empirical findings in relation to the theoretical understanding of innovation process management, as it was described in chapter 2 of this thesis.
6.1 Managing central problems

Based on the empirical data it seems as if some of the central problems in the management of innovations, as identified by Andrew Van de Ven (1986), also can be deemed relevant to the understanding of this particular case. Although the problems may appear in a slightly different manner in such a specific contextual setting, it nonetheless seems clear that some of the most central barriers to implementation also in this case strongly relate to socio-political problems of managing ideas into good currency, and, in particular, the psychological and organisational problems of managing attention.

Managing ideas into good currency

In the case of the animation tablets, the “easy” part of the innovation process has been the development. While it of course required some work to animate the instructions, quality assure the results, create the app and make the custom wall hangers, it nonetheless only required the efforts of a relative few people over a relative short period of time.

Innovation, however, can best be viewed as a collective process (Van de Ven 1986). A good idea usually means nothing unless you also have the capabilities or a network with the capabilities to promote the idea and convince others to join your “movement”. Also in this case, far more comprehensive efforts have, by necessity, been placed on the implementation stage of the process; namely the collective efforts needed to transform the tangible device into an innovation with real world significance and potency to change organisational practice.

Based on insights from the innovation management literature, it can be argued that the developers have handled the socio-political problem of managing their idea into “good currency” in a sensible way. A long time before the device was developed the Norwegian researchers started focusing on creating an awareness of the problem in Palestine in order to establish a felt need for the new technique they advocated.

When an external actor engages in this type of work, it is essential that they have the right type of associates involved. Gaining access and making an impact requires the inclusion of associates, not only with medical expertise and good ideas, but also status and reputation in the Palestinian society. By for instance engaging Erik Fosse as project manager, the development team were able to build on previously established relationships of trust to get “everybody” in the Palestinian health system on-board with their ideas; starting from the top.
with the Palestinian ministry of health and gradually work their way down the hierarchy. We thus see how the advocacy work by influential actors helped gain momentum and legitimacy for the idea, which in turn paved way for the successful installation of the innovation.

Consequently, it can be argued that the practical management of this process has shared many similarities with how new ideas traditionally are successfully transformed into new public policies, as it was described by Van de Ven (1986). A central distinction, however, is that this process has taken a rather clear top-down approach. As previously mentioned, this was deemed to be a necessity, but it has nonetheless contributed to undermine opportunities for effectively “selling” the idea to the ones at the “bottom of the pyramid” as they were not involved and allowed to have their say in the early stages of the process.

The notion that this may represent a problem is strengthened by the fact that this is an innovation project with a clear social, rather than economic ambition. Literature has shown that projects with similar ambitions usually have a better chance of succeeding if they take a more bottom-up and user driven approach and “(…) start from the presumption that people are competent interpreters of their own lives and competent solvers of their own problems” (Mulgan 2006: 150).

While the developers, later on in the process, have placed increased emphasis on advocating the technique and the innovation directly to the end-users, it still seems as if the project and the innovation lack some legitimacy in the eyes of the hospital employees. This, in turn, brings us to the problem of psychological and organisational limitations.

Managing attention

Human beings generally lack capabilities when it comes to handling complexity and focusing on non-routine issues. Such psychological deficiencies are furthermore exacerbated once people become members of organisations, which are usually designed to focus on, harvest and protect existing practices (Van de Ven 1986). Over time, organisational members tend to conform to the collective organisational culture, values and beliefs which further undermine the members’ ability to pay attention to and embrace radically new solutions.

Consequently, such psychological and organisational deficiencies often represent one of the most important obstacles to successful innovation implementation in organisational contexts.
Based on the empirical findings of this thesis, I find good reasons to argue that Ramallah Public Hospital represents an organisational culture that is not particularly receptive to change and innovation. Among the members at the gynaecology and obstetrics department there seemed to exist a basic attitude of “just doing their job and then go home”. In such a context, it is safe to say that attempts at introducing an innovation that neither aligns especially well with existing practices, nor offers the members something that clearly improves upon their workday, should be considered highly ambitious.

The literature on innovation process management suggest that one of the most effective methods for dealing with such psychological and organisational deficiencies is to help create a more thorough and direct awareness about the problems the innovation aims at solving. Van de Ven argues that “(…) people will pay attention to new ideas the more they experience personal confrontations with sources of problems, opportunities, and threats which trigger peoples’ action thresholds to pay attention and recognize the need for innovation” (Van de Ven 1986: 604).

As was previously mentioned, the developers of the animation tablets have made attempts to create more awareness within the organisation by arranging workshops and seminars for the birth attendants and by attracting the assistance of “innovation champions” within the department. While there is a good chance this might have helped convince some of the intended end-users about the merits of the innovation, it nonetheless seems unrealistic to believe that this alone will be sufficient for overcoming the obstacles such a rigid, inflexible and, to a certain extent, unsupportive organisation represents, considering how a number of birth attendants already have reflected how they lack the time and/or interest to consistently make use of the solution.

Building on the underlying notion that implementation rarely occurs as a simple diffusion process, I am instead tempted to argue that any subsequent progress towards achieving routinized usage of the animation tablets would have to start with the acknowledgment that the innovation, in its current form, cannot be “forcefully” implemented. While such an acknowledgment may sound pessimistic, I would rather point to how setbacks and mistakes are identified in the literature as perhaps the most intrinsic features of the innovation process, and how this in turn may provide opportunities for learning through re-invention (Van de Ven 1991; Rogers 2003). If harnessed properly, a setback based on organisational obstacles might
in fact help the developers ultimately come up with a solution that is more appropriately adapted to the organisation and the department in which it is intended to serve a function.

In practice, this might have to include lowering expectations and requirements with regard to how often the birth attendants are intended to watch the animations. Perhaps more emphasis now for instance should be placed on encouraging usage at times when there is less to do at the department, such as during the nightshifts. Previous research has shown that the likelihood of implementation is usually enhanced when the organisational department are allowed to help modify and adapt the innovation to its local context (Van de Ven, Angle and Poole 2000: 686). It therefore seems natural that future minor adjustments should be largely based on the direct feedback received from the users within the organisation, who for instance have expressed a desire to download the application to their personal smart phones in order to watch the animation at home. Such “modifications” could effectively help remove some of the most severe organisational barriers to implementation, although being slightly at odds with the original aspirations of the developers.

6.2 Suggestions for further research and implications for theory

This thesis has employed a largely exploratory approach to help map a contextual setting that has rarely before been investigated from an innovation process perspective. This approach entails some limitations, as the research makes no claim to establish firm conclusions or causal relationships. However, by helping to map a previously unexplored context, this thesis have nonetheless contributed with laying some preliminary guidelines and a foundation for conducting future research on global health innovation in resource constrained contexts; research that is highly recommended due to the increasingly important role technology and innovation seem to play when it comes to meeting international aspirations in global healthcare.

In particular, the empirical data from this thesis suggest that future research on similar subjects should acknowledge and systematically address the factors of motivation, contextual knowledge, legitimacy, and the structural and cultural limitations of the recipient organisation, in order to develop a better contextual understanding and subsequently develop appropriate frameworks for discussing the managerial and organisational barriers to
innovation implementation in resource constrained health service organisations in post-conflict environments.

In the theoretical framework chapter of this thesis I included a section dedicated to social innovation literature and research. The rationale behind this was that it would hopefully help shed some light on the particularities of innovation processes in similar contextual settings. At least by definition (see Mulgan 2006; Center for Social Innovation 2016), the social innovation tradition should intuitively be able to tell us something relevant about the facilitating and hampering mechanisms associated with a non-profit innovation project with a clear humanitarian motivation.

Although seemingly well adapted to the context of concern to this case study, I nonetheless discovered that this branch of the literature largely epitomises an agenda and purpose that strongly differs from traditional innovation studies’ objectives of uncovering the stages of invention, development, implementation and diffusion of single, tangible innovations. The process- and systems-perspectives that dominate research in the field of innovation studies in fact seem to be largely absent in the social innovation literature. Accordingly, for the purpose of this thesis, the social innovation literature did not prove to be as valuable as first expected. Instead, the discussions in this thesis were mostly fuelled by adopting a more traditional view on innovation process management; using insights with strong empirical evidence from years of longitudinal research (e.g. Van de Ven 1986; Van de Ven, Angle and Poole 2000).

In this respect, I would also like to make use of this opportunity to encourage future research to help build new links and bridge some of the gaps that exist between two areas of research that currently do not cooperate particularly well. The aim should be the establishment of more scientifically robust conceptual models that capture the most essential features of the social innovation process; a process that still, I would argue, suffer from at least some degree of conceptual ambiguity. Hence, for the social innovation tradition, I believe there potentially could be a lot to gain from incorporating some of the more traditional perspectives and sub-concepts of innovation that goes further in acknowledging its complex, evolutionary and systemic nature. In essence, even though your innovation intends to “save the world” you still have to deal with the way the innovation process actually unfolds.
6.3 Concluding remarks

It is beyond the scope of this thesis, and it would in fact also be impossible, to predict whether or not this particular innovation will eventually be successfully implemented in the gynaecology and obstetrics department at Ramallah Public Hospital. Based on the empirical data of this thesis there is nonetheless good reasons to argue that it seems difficult to “force” implementation of the innovation in its current form. It quite paradoxically seems to be evident that the type of organisation that would intuitively benefit the most from a solution such as the animation tablets, also are the type of organisation that would find it most difficult to change practice and implement such innovations. If the innovation is not perceived to offer the organisational members anything that clearly improves upon their workday, the implementation process will undeniably become problematic and even the most substantial efforts at implementation may not achieve its desired results.

At this point, any further progress would therefore probably have to start with an appreciation of the structural and cultural deficiencies that exist at the organisation and the department. This, in turn, offers opportunities for learning through re-invention, and adjusting the innovation (and perhaps also the initial ambitions) based on the experiences made and user-feedback received during the implementation process. First attempts at innovation implementation are almost certain bound to involve some level of failure, and trial and error should be viewed as a critical component for ultimate succeeding with any kind of innovation endeavour.

As a final note, I would like to add that regardless of whether the animation tablets will be successfully implemented and achieve its desired results in any of the Palestinian hospitals, the efforts of the Norwegian researchers and entrepreneurs have nonetheless, through their project, made an important impact. First and foremost, they have managed to create a better environment and culture for systematic registration of health data in many of the hospitals. Secondly, they have come far in the process of educating the first three Palestinian gynaecologists to internationally recognised PhD-levels. These are two important steps for reaching their ultimate goal of improving the diagnosis and quality of treatment of obstetric injuries in Palestine. Hopefully, the innovation will prove to contribute further.
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Appendix A: Interview guides

Interview guide 1: Entrepreneur

Part one – Information

- Informal conversation. Repeat the purpose of my thesis. Inform about the progress of my research since our last meeting.

- Clarify that the responses I receive might be used as part of my thesis.

- Ask if there are any questions before we begin.

- Ask for permission to record – if okay: ‘start recording’.

Part two – Background

1. Can you tell me a little bit about your background and experiences from living and working in the Middle East?

2. Can you explain the main motivation that underlies the decision to initiate this project?

3. Can you tell me a little bit about Ramallah Hospital and its challenges? E.g. workload, economy and prior experiences with research, technology and restructuring.

Part three – Core questions: The innovation process

4. Can you tell me a little bit about the research behind the decision to educate Palestinian birth attendants by means of animated instructions?

5. How was the animation tablets developed?

6. How did you go about getting permission to install the tablets? Have you encountered much resistance?

7. What kind of feedback have you so far received from the hospitals? Are the birth attendants actually making use of the animation tablets?
8. Is there anything that has been actively done to facilitate implementation? E.g. engage “champions”, include stakeholders.

Part four – Summing up

- If anything was unclear – make sure I understood the responses correctly by asking.
- Any questions? Anything you would like to add? Something else you would like to share?
- Thank you for your time and your contribution.

Interview guide 2: Birth attendants

Part one – Information

- Present myself, my background and my field of study.
- Explain the purpose of my master’s thesis (emphasise my role as an independent researcher: I have not, in any way, been involved in the development or the installation of the animation tablets).
- Clarify that responses might be used as part of my thesis, but that names will be anonymised.
- Ask if there are any questions before we begin.
- Ask for permission to record – if okay: ‘start recording’.

Part two – Background: Context and attitudes

1. Can you briefly describe your position and role here at the hospital?

2. Can you describe how it is like to work here at the hospital – is there anything that is particularly challenging?

3. To what extent do you believe perineal tears are a big problem in Palestine? Are you eager to learn more about perineal tear prevention?
Part three – Core questions: Perceptions of the innovation

4. Do you regularly make use of the animation tablets – why/why not? And what about your colleagues?

5. Have the introduction of the animation tablets affected your workday in any way – positively or negatively? How?

6. Can you explain what kind of encouragement or incentives you have been given to make use of the animation tablets? E.g. from the hospital management, from the project supervisor or from the Norwegian researchers.

7. To what extent do you know Erik Fosse, Åse Vikanes and the other Norwegian researchers?

Part four – Summing up

- If anything was unclear – make sure I understood the responses correctly by asking.

- Any questions? Anything you would like to add? Something else you would like to share?

- Thank you for your time and your contribution.
Appendix B: Field note

Tuesday, August 23rd 2016, Ben-Gurion Airport

I arrive with an earlier flight than the team from Oslo University Hospital, so I wait for them at Ben Gurion Airport. One of the midwives has stamps in her passport from countries such as Sudan and Djibouti, and is therefore treated as a security threat. She is thoroughly interrogated for three hours before being allowed entry to Israel.

Wednesday, August 24th 2016, Ramallah Public Hospital

I attend a workshop and seminar arranged by the Norwegian researchers for birth attendants at Ramallah Public Hospital. We are in one of the new buildings of the hospital, completed in 2010. The head of the department of gynaecology and obstetrics briefly welcomes the Norwegians before he leaves. The seminar is led by Katriina Laine, who is assisted by project coordinator, Åse Vikanes and two Norwegian midwives from Oslo University Hospital.

All the birth attendants actively participate in the manual training exercises. There is laughter and discussions. Some of the birth attendants express that the technique is different from what they have previously learned, and some are a bit sceptical because of it. Everyone nonetheless seemed excited about doing practical exercises and learning something new.

Thursday, August 25th 2016, Ramallah Public Hospital

I am allowed to visit the old wing of the hospital; the wing in which include the maternity ward. This part of the hospital is visibly worn. The hallway is crowded with people waiting for their turn. It is quite loud and chaotic. I take a look inside the maternity ward. The rooms are frugally equipped and clearly not up to modern standards.

Saturday, August 27th 2016, Qalandiya

I take a local bus back to Jerusalem, and cross the Qalandiya border checkpoint. The border is not crowded and I am relatively quickly able to cross. As a European citizen I can remain seated on the bus while crossing. Armed Israeli border security come on board, check my passport and tell me to have a good day. The Palestinians, despite having exit permits, are subject to more thorough examination, and have to exit the bus and physically walk across the border. Locals advised me against crossing Qalandiya on Friday, because of the large crowds and subsequent protests that commonly occur there in conjunction with Friday prayers (Jumu’ah).