



BI Norwegian Business School - campus Oslo

# GRA 19502

Master Thesis

Component of continuous assessment: Thesis Master of Science

Innovation in Networks: Challenges and opportunities in the Norwegian aid industry

Navn: Melina Louise Forsmo Danielsen

Start: 02.03.2017 09.00

Finish: 01.09.2017 12.00

---

## Content

<b>CONTENT</b> .....	<b>I</b>
<b>LIST OF FIGURES</b> .....	<b>III</b>
<b>SUMMARY</b> .....	<b>IV</b>
<b>1. INTRODUCTION</b> .....	<b>1</b>
1.1 RESEARCH QUESTION .....	2
<b>2. CONTEXT</b> .....	<b>6</b>
2.1 THE AID INDUSTRY .....	6
2.2 THE NORWEGIAN AID INDUSTRY .....	7
<b>3. ACTORS</b> .....	<b>8</b>
3.1 POLYNOR AS .....	8
3.2 LESS AS.....	9
3.3 BRIGHT PRODUCTS AS.....	11
3.4 NOREPS.....	12
3.5 NOREPS MEMBERSHIP .....	13
<b>4. LITERATURE REVIEW</b> .....	<b>15</b>
4.1 INNOVATION .....	15
4.1.1 <i>How innovation occurs</i> .....	16
4.1.2 <i>Profiting from innovation</i> .....	18
4.2 A NETWORK PERSPECTIVE ON BUSINESS .....	18
4.2.1 <i>The Strategic Network Perspective</i> .....	20
4.2.2 <i>The Industrial Network Perspective</i> .....	21
4.3 RELATIONSHIPS.....	22
4.3.1 <i>Actors, resources and activities</i> .....	23
4.3.2 <i>Actors</i> .....	23
4.3.3 <i>Resources</i> .....	24
4.3.4 <i>Activities</i> .....	25
4.4 INNOVATION IN NETWORKS .....	25
<b>5. METHODOLOGY</b> .....	<b>28</b>
5.1 RESEARCH STRATEGY .....	28
5.2 RESEARCH SETTING.....	29
5.3 RESEARCH DESIGN .....	31
5.4 RESEARCH METHOD .....	32
5.4.1 <i>Interviews</i> .....	32
5.4.2 <i>Interview objects</i> .....	34
5.4.3 <i>Interview guide</i> .....	34

5.4.4 Documents and observations.....	34
5.5 DATA ANALYSIS .....	35
5.6 RESEARCH QUALITY .....	37
<b>6. FINDINGS .....</b>	<b>39</b>
6.1 CURRENT SITUATION OF PARTICIPATING FIRMS .....	39
6.1.1 POLYNOR AS.....	39
6.1.2 LESS AS.....	40
6.1.3 Bright Products AS.....	41
6.2 CHALLENGES .....	43
6.3 OPPORTUNITIES.....	48
6.4 NOREPS AND THEIR POTENTIAL INFLUENCE ON OPPORTUNITIES AND CHALLENGES .....	50
<b>7. ANALYSIS AND IMPLICATIONS.....</b>	<b>54</b>
7.1 RELATIONSHIPS AND THE CHALLENGES AND OPPORTUNITIES THEY ENTAIL .....	54
7.1.1 Relationships and innovation .....	54
7.1.2 Customers.....	54
7.1.3 Suppliers.....	56
7.1.4 Other network partners .....	56
7.2 ACTORS.....	57
7.2.1 Background .....	58
7.2.2 Cultural differences.....	58
7.2.3 Trust .....	59
7.2.4 Opportunistic behaviour.....	59
7.2.5 Risk aversion .....	60
7.2.6 Common goals.....	61
7.3 RESOURCES .....	62
7.3.1 Knowledge.....	62
7.3.2 Capacity.....	63
7.3.3 Impulses and ideas .....	63
7.4 ACTIVITIES.....	64
7.4.1 Procurement procedures .....	64
7.4.2 Knowledge exchange.....	64
7.4.3 Communication .....	65
7.4.4 Customer involvement .....	66
7.5 THE NOREPS EFFECT ON OPPORTUNITIES AND CHALLENGES FOR COLLABORATIVE INNOVATION .....	67
7.5.1 How NOREPS creates value.....	67
7.5.2 Connectivity.....	68
7.5.3 Conductivity.....	69
7.5.4 Structural challenges.....	70
7.5.5 The NOREPS effect.....	71

<b>8. CONCLUSION .....</b>	<b>72</b>
8.1 KEY FINDINGS .....	72
8.2 THEORETICAL CONTRIBUTION .....	73
8.3 MANAGERIAL CONTRIBUTION .....	73
8.4 LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH .....	74
<b>9. APPENDICES .....</b>	<b>75</b>
9.1 INTERVIEW GUIDE FIRMS .....	75
9.2 INTERVIEW GUIDE NOREPS .....	76
<b>10. REFERENCES.....</b>	<b>77</b>

### **List of figures**

Figure 1: The POLYSAFE® Safety Box .....	8
Figure 2: LESS' stretcher .....	10
Figure 3: The SunBell.....	11
Figure 4:The NOREPS network (NOREPS, 2017) .....	13
Figure 5: The Network Model (Håkansson, 1987).....	23
Figure 6: Illustration of relationship between study objects.....	30
Figure 7: Categories identified in the gathered data.....	37
Figure 8: Main challenges and opportunities identified .....	57

---

## Summary

Pursuing innovative activities in collaboration with other actors in a network may entail both challenges and opportunities for firms. While the traditional approach to innovation was that firms should keep their work secret to ensure a head-start over any potential competitors, the focus is turning towards the benefits of collaborative innovation. The idea is that firms that combine their skills, knowledge, and resources may achieve ends that none of the firms could have achieved in isolation. Innovative partnerships may occur between customers, suppliers, or other actors that a firm may obtain access to through its network. To be able to facilitate such innovative partnerships, in-depth knowledge of the challenges and benefits firms experience in such situations are pertinent.

The Norwegian aid industry has a pressing need to constantly improve the solutions it offers to humanitarian issues. Additionally, the Norwegian aid industry has a constructed network established by the governmental funded network provider NOREPS, which aim is to foster humanitarian innovation. Three case firms have participated in this multiple case study. Through various approaches, they have developed new and innovative products that satisfies different needs in the aid industry. Their different methods, needs, and varied success ensures interesting contributions to the question of opportunities and challenges related to collaborative product and market innovation.

This study identifies customer and supplier relationships as the most valuable and most used partnerships among the participating firms. Collaboration across business logics, here represented by profit-seeking firms and non-profit humanitarian organisations, present the most challenges and opportunities. The main challenges identified are social and cultural differences, lack of trust, lack of communication, risk aversion, low degree of knowledge transfer, late customer involvement, unawareness of common goals and tender based procurement procedures. The main opportunities are those factors that enables firms to overcome these challenges and make use of the existing actor variety in terms of skills, knowledge and resources. Increased communication, a focus on common goals, risk reduction measures, early customer involvement, and mutual understanding for the other's way of operating represents great opportunities for collaborative innovation.

---

## 1. Introduction

It seems to be an integrated part of human nature to constantly look for ways to make improvements, both in our everyday life and in business. Throughout time, innovations such as electricity, the internet, different means of transportation, and many more have changed the context in which we operate. Firms that succeed with their innovative efforts achieve a competitive advantage. Those that do not may face severe challenges. Innovations can be the result of internal work or external collaboration with suppliers, customers, or even competitors. An extensive network consisting of valuable members can be highly beneficial for the innovative actions of a firm because access to a varied set of experience and learning is essential for innovations to occur (Johnsen & Ford, 2000). As Leonard-Barton (1995, p. 56) argued: “*innovations occur at the boundaries between mindsets, not within the provincial territory of one knowledge and skill base*”. Still, cooperating with others to create new products, processes, market opportunities, or develop organisational features also represents challenges such as reduced control over processes and knowledge, and the risk of opportunistic behaviour by partners (Dodgson, 2014) .

In the aid industry, firms’ ability to constantly improve existing products and develop new ones is of essence to the success of tomorrow’s humanitarian actions. The industry is characterized by multiple actors, numerous recipients, and the need for efficient, innovative and cost saving products. Solutions to problems identified in developing countries and humanitarian emergencies are often based on exiting knowledge in other industries such as oil and gas, sustainable energy, construction, or the health sector of industrialized countries. However, the occurrence of cross-industry and cross-company innovations may seem random. This apparent randomness trigger the question of what drives or impedes such collaborative innovative actions.

This thesis endeavours to investigate the opportunities and challenges of collaborative innovation in the Norwegian aid industry with an added focus on the impact of the network provider NOREPS (Norwegian Emergency Preparedness System). To gain a deeper understanding of this phenomenon, a multiple case study of three firms operating in the industry has been conducted. The firms are; POLYNOR AS, a producer of safety boxes for disposal of used syringes; Bright

---

Products AS, a producer of solar power products; and LESS AS, a provider of emergency evacuation solutions. All three firms have, through various approaches, developed new and innovative products that satisfies different needs in the aid industry. Their different approaches and success makes interesting contributions to the question of opportunities and challenges related to product- and market innovation in collaboration with others. The three firms are connected to NOREPS, which is a unique, government lead, network provider currently working to foster humanitarian innovation among Norwegian actors in the aid industry. NOREPS' potential to connect a wide set of suppliers and customers provides interesting opportunities for the participating firms ability to conduct innovation in collaboration with network partners.

Industrial network theory and the value chain model by Porter (1985) will be applied to understand the dynamics of POLYNOR, LESS and Bright Products. Industrial network theory provides a valuable framework distinguishing between how actors, resources and activities affects different aspects of the interfirm relations that lays the foundation for the opportunities and constraints firms faces in relation to collaborative innovation (Ford, Gadde, Håkansson, & Snehota, 2011). Strategic network theory and Stabell and Fjeldstad's (1998) model for value networks will be applied to understand how NOREPS can contribute to or hinder innovation among its members. Strategic network theory assumes that networks can be defined and managed (Huemer, Becerra, & Lunnan, 2004), which makes it suitable to understand NOREPS as it is an organisation designed to be the coordinating centre of its network with easily identified members..

### ***1.1 Research question***

Norwegian authorities believe innovation to be essential for local firms' ability to survive in competitive markets, and have described increasing innovative capabilities among Norwegian firms as an important political goal (Wilhelmsen, 2016). In order to map the innovative activity in Norwegian firms, Statistics Norway (SSB) conducts a bi-annual survey. The survey provides high-quality data, yet lacks a deeper understanding of the dynamics that drives or impedes innovation as the quantitative questions of the survey only establish *how many* participating firms had innovative activities in the given period. The question of *why* some firms

---

innovated and others did not remain unsatisfactory answered. To provide political assistance on how to contribute to innovation, a more thorough understanding seems to be necessary.

Innovation is both an outcome and a process, incremental or radical, and concerns the development of products, processes, and ways to organize work or relations with markets (Wilhelmsen, 2016). Schumpeter (1983) famously noted that innovation involves the recombination and reconstruction of resources. His observation highlights the importance of combining and coordinating people, knowledge, finance, and technology (Dodgson, Gann, & Philips, 2014). Innovation used to be understood as an in-house activity, shielded from the rest of the world by the walls of a firm. Today, the potential that resides in collaborating with other actors on these kinds of activities receives increasing attention. If innovation is the recombination of existing resources, then making actors from different firms work together should enhance the potential for innovations to occur. Combining the field of innovation with the field of strategic network approaches provides interesting insight to the dynamics of innovation in collaboration with other actors within a firm's network. This study will contribute by exploring how firms perceive challenges and opportunities related to innovation in networks combined with their experience with a political initiative (NOREPS) to foster innovation through an intentional network. It is believed that collaborative innovation can increase the value of firm activities, and consequently that a better understanding of what drives or impedes such collaborative efforts will be beneficial both for firms and for governments working to foster this kind of activities. In this thesis, the focus will be on product innovation and development of markets as these two aspects of innovation constitutes the most important topics of the operations of the participating firms.

The Norwegian aid industry act as an interesting context for this study as the need for innovative solutions is high and the focus on innovation in networks in the industry is pertinent. The term "aid industry" refers to the million-dollar business that arise from the ambition of trying to improve the lives of people in developing countries and to provide emergency relief in the aftermath of disasters. The existence of NOREPS as a network provider specialising in connecting actors in the aid industry to foster innovation between collaborating firms and organisations,



---

makes the context particularly interesting as one may assume that their existence increases this type of activity. To add insight to the above-mentioned dynamics, the following research question and sub-question has been developed:

*Which opportunities and challenges exists for product and market innovation in collaboration with other actors for firms in the Norwegian aid industry?*

*In which ways has the NOREPS network affected the participating firm's opportunities and challenges related to innovation in collaboration with other actors?*

Research on innovation in networks focus to a large extent on the external environment of a firm. Phelps (2010) investigates how the structure and composition of a firm's network influence its exploratory innovation. Similarly, Wang, Rodan, Fruin, and Xu (2014) studies how structural holes and degree centrality affects researchers exploratory innovation. Rodan and Galunic (2004) look at the relationship between knowledge heterogeneity in social networks and its effect on managers' overall performance and innovativeness. Ahuja (2000) studies how the tie modality of a firm affects its innovations. Shan, Walker, and Kogut (1994) investigated how the number of collaborative relationships a firm formed affected its innovative output, and Powell, Koput, and Smith-Doerr (1996) found that the subsequent growth of a start-up is affected by its centrality in a network.

Through seminar papers prepared for IMP (Industrial Marketing and Purchasing) conferences, Johnsen and Ford (2000, 2001) approached the topic of how to manage collaborative innovation and how to manage networks of supplier and customer relationships for innovation. Their initial case studies and exploratory interviews concluded with multiple questions for further research regarding networks as constraints and enablers of collaborative innovation. Rubach, Hoholm, and Håkansson (2017) highlights the importance of achieving a better understanding of the consequences of politically motivated networks, such as NOREPS, aimed at facilitating innovation in networks.

I wish to add insight to the field of innovation in networks by studying firm experience and thoughts regarding innovation in collaboration with others and the usefulness of NOREPS as a network provider aiming to facilitate collaborative innovation. I will explore how firms perceive their surroundings and the

---

opportunities and challenges of doing an important value creating activity in collaboration with others, instead of making conclusions of their potential based on outside judgement of network structures. The network perspective is relatively new in the strategic approach of assessing firm performance (Powell & Grodal, 2005), and the sub-field of innovation in networks seems to benefit from a deeper understanding of its dynamics. Kastle and Steen (2014) also note the need to start investigating the micro-level behaviours that determines the macro-structures of networks.

The structure of this thesis is as follows: Chapter 2 will address the context in which the participating firms operate. Then, NOREPS and the firms will be presented in chapter 3 along with the firms' relationships with NOREPS. Next, important theoretical contributions on the subjects of innovation and networks will be addressed in chapter 4. Chapter 5 presents the methodological choices and limitations of the conducted study. The following chapter 6 describes the findings of the study which are then further discussed and analysed in chapter 7. Chapter 8 presents concluding remarks and key findings.

---

## 2. Context

### *2.1 The aid industry*

The aid industry as we know it today is relatively young dating back to the post World War II period in the 1950s when western, industrialized countries fully embarked on the quest of saving “the rest”, also known as developing countries (Moyo, 2009). Each year, large sums of money are transferred between countries in an attempt of making the world a better place for more people. The success of development aid is often measured in terms of how large percentage of donations that reaches the end-user. However, as industry-specific issues have been identified over time and after humanitarian emergencies, the need for tailored products and improved coordination, administration and collaboration has been identified and more funds have been allocated to these types of goals. As this thesis aims to examine the business aspect of the aid industry, the following description will focus on cash flows and the goals of financial contributors. In 2015, the thirty members of OECD Development Assistant Committee (DAC) contributed with 131.6 billion USD to the global aid industry (OECD, 2016). This represents a rise of 6.9% compared to the previous year. This increase was largely driven by host countries’ spending on refugees (OECD, 2016). The largest net donors of the DAC members are the US, the UK and Germany. Listed according to contribution relative to their annual gross domestic products, Sweden, Norway and Luxembourg scores the highest (OECD, 2016).

The UN spent a total of 3 089 million US dollars on procurements in 2015 (UNDP, 2015). The three largest categories of goods bought were air transportation services, chemical and petroleum products, and food rations and catering services. Twenty percent of the purchases were from the United Arab Emirates, 15% from the US and 7% from Russia (UNDP, 2015). However, with the exception of 2015, the US has been the number one provider of goods to the UN since 2007. From 2007 to 2015, procurements from Norway, as percentage of total UN procurements, has increased from 0.05% to 0.06%. In 2015, the purchases from Norway equalled \$1.7 million US dollar (UNDP, 2015). One of the goals of NOREPS is to increase the UN procurements from Norwegian producers.

---

## ***2.2 The Norwegian aid industry***

*«We have to rethink humanitarian crises. By using the best business models from the private sector, we can reach more people in need. Innovative Norwegian firms have a lot to contribute with.»*

The Norwegian Minister of Foreign Affairs, Børge Brende, to  
Bistandsaktuelt 24.05.2016.

Norwegian aid has increased from 8.4 million NOK in 1960, to 36 557 million NOK in 2016 (Norad, 2017). In 2016, 43% of the Norwegian aid was directed towards multilateral organisations, of which the UN received the largest amount. 32% were directed towards public administration in Norway and other donor countries (Norad, 2017). The third largest receiver were Norwegian non-governmental organisations. The three countries receiving the largest contributions in 2016 were Brazil, Afghanistan, and Syria. In the same year, Norwegian donations equalled 1.11% of gross domestic product (Norad, 2017).

Norwegian aid is focused on the five main topics: Education; health; business development and job creation; the environment and renewable energy; and humanitarian aid (UD, 2017). Innovation is perceived as a central concept in order to achieve UN's sustainability goals by 2030, and 150 million NOK has been dedicated to foster innovation in health and education services over the next three years (UD, 2017). While commercial considerations do not direct the Norwegian aid, the government wishes to exploit the benefits of private company knowledge and skills to increase innovation and efficiency in the aid sector (UD, 2017).

---

### 3. Actors

This thesis will focus on three firms and their experienced challenges and opportunities in relation to collaborative innovation with other actors in their network. Additionally, the effect of NOREPS on the firms' challenges and opportunities will be explored. While the three firms provide value to their customers through the products they offer and can enhance this value through innovation, NOREPS provides value through its ability to connect members and facilitate relationships that enables valuable transactions between the actors. The better NOREPS manage these tasks, the more able they are to facilitate collaborative innovation among their members.

#### 3.1 POLYNOR AS

POLYNOR was established in 1994 when the founder identified an unmet need for safe and efficient deposit of used syringes in developing countries. In areas without proper procedures for handling waste after medical treatment, such as vaccination campaigns, syringes easily end up unsterilized in waste disposal areas, or simply buried nearby where they were used. This increases the risk of spreading of diseases, as others may come in contact with contaminated syringes. The founder of POLYNOR developed the POLYSAFE® Safety Box. POLYSAFE® Safety Box is made of recycled solid board. When filled with used syringes, it can be set on fire. Its design ensures a sufficiently high temperature to sterilize the syringes, and the syringes can then subsequently be disposed of without representing a risk for spreading diseases.



Figure 1: The POLYSAFE® Safety Box

Today, POLYNOR consists of two employees ensuring an average annual income of 12 million NOK over the financial years 2013-2015 (Proff, 2017c). The POLYSAFE® Safety Box is patented; however, the protection of their patent has proven difficult. When the firm began operating, there were no competitors on the

---

market. With time, several have emerged. Smurfit Kappa, the former producers of POLYNOR's box, now provides their own similar deposit box called TimSafe. Others, like Indian based Hindustan provides an almost identical box. POLYNOR has put extensive efforts into trying to stop plagiarism of their product. Given their limited size and capacity to follow the violators of their patent, these efforts have proven unsuccessful. The WHO now recommends seven providers of safety boxes including POLYNOR (WHO, 2016).

The Pan American Health Organisation (PAHO), Pfizer, Doctors Without Borders (MSF), and Angelical Medical Supply in Kenya are the current largest customers of POLYNOR. Procurements by large organisations such as PAHO, MSF and the UN have previously been based on relationships and proven track record of reliability and product quality. As these organizations are in the process of changing their procurement process towards tender based systems, the need to be cost-efficient increases and the competitions from large cardboard producers such as i.e. Smurfit Kappa intensifies.

While their current performance is good, POLYNOR sees a need to ensure continued development of products and markets in order to have a solid position also in the future. Their product offering is restricted to one main product, and this makes the company vulnerable to market changes. To broaden their income base, POLYNOR would also like to expand to new markets, both geographically and in terms of industries. The question is where and how, and the firm's main challenge is limited resources and capacity. In other words, both product and market innovation are pressing issues for the firm.

### **3.2 LESS AS**

LESS was established in 2003 by two engineers with an innovative idea to reduce patient injuries caused during transportation. The two entrepreneurs brought competent, long-term investors and cash from the sale of their previous firm. After several years of product development, a floating, lightweight stretcher made out of styrofoam was ready for sale in 2008. Throughout the product development stage, a collaboration with Stiftelsen Norsk Luftambulans (The Norwegian Air Ambulance Foundation) was important as it provided research based legitimacy for

---

the stretcher. This was important to be able to enter the medical market. The two founding engineers have now left the firm and delegated the responsibility of making a profit to employees with business backgrounds. Today, LESS aims to provide holistic patient evacuation solutions, and their product portfolio has expanded to also encompass carrying harnesses, thermal bags, triage labelling, tents, decontamination solutions, disease control solutions, flood barriers, and other products that aims to enable efficient evacuation of patients in emergencies and disasters.



*Figure 2: LESS' stretcher*

The stretchers are produced by LESS at their office in Kapp in Oppland. As their income increases, the machine park has gradually expanded making the production more automatized. The other products are bought from manufacturers in China, Germany, Sweden and Denmark. LESS currently consists of six employees and have an average income of approximately five mill NOK over the years 2014-2016. The firm still struggle to generate a profit (Proff, 2017b).

Today, their largest customer is the Norwegian Civil Defence. Countries located in geographical areas which implies high probability of natural disasters such as Nepal, Japan Turkey, Indonesia and Bangladesh are the main target when LESS search for new customers. Countries with large emergency departments such as Russia's EMERCOM (Emergency Control Ministry) are also prime targets. However, due to political differences and legal entry barriers, these customers are both difficult to approach and to sign deals with. LESS is currently not familiar with any direct competitors that tries to compete with their ambition of providing holistic evacuation solutions. Their current greatest challenge is to achieve economies of scale in their production. To achieve this, LESS need to attract more large customers and reach new markets. In other words, market innovation is their most pressing issue.

---

### 3.3 *Bright Products AS*

BRIGHT began with the idea for a solar lamp adapted to the needs of developing countries and emergencies. Despite high competition in the market for sun-powered lamps, the entrepreneurial designer of the lamp, left his old design firm to establish BRIGHT and focus on selling the lamp to the world market. Today, the company aims to develop sustainable energy solutions for off-grid communities. Their major markets are Africa, Asia and Latin America. BRIGHT's main product is the "SunBell" which is a stand-alone solar LED lamp and phone charger. In 2015, the firm was nominated for the Norwegian Tech Awards because of the innovative lamp. Lighting solutions have shown to increase children's possibility to do homework, women safety after sunset, and poor people's ability to work after dark.



*Figure 3: The SunBell*

Solar power technology has been known for several years and the technological entry barriers to the market has become relatively low due to the spread of the technology and the recent cost reduction in necessary components such as lithium batteries and solar panels. BRIGHT has conducted several field trips and adjusted their lamp according to observed needs by refugees. While their competitors typically offer a solution where the sun panel is integrated in the lamp, BRIGHT lamps have 3m wire which enables you to keep the lamp itself inside while hanging the panel out in the sun. This lengthens the lifespan of the battery, which is otherwise greatly reduced when exposed to heat over longer periods. The lamp's long lifespan combined with its ability to endure tougher conditions than many competing lamps is important to its success in the aid industry.

Because of UN regulations, any potential provider to the UN system has to be able to prove operations for at least three years before they can compete for tenders. To overcome this obstacle, the newly established Bright Products began a partnership with W. Giertsen Energy Solutions. The partnership enabled Bright to win a large tender with The United Nations Refugee Agency (UNHCR) for solar powered lamps.



Today, BRIGHT consists of 12 employees. The firm was established in 2012 and after several years of product development and low income, the firm recently experienced a substantial increase in annual income from approximately 16 mill NOK in 2014, to 165 mill NOK in 2016 (Proff, 2017a). Their main customer is the UNHCR. The firm use factories in Thailand and China to manufacture the lamps. Their main challenge at the moment is to reinvest their current profit into other successful solar based products and to reach more customers of substantial size to reduce their dependency on UNHCR as the main source of income.

### ***3.4 NOREPS***

The Norwegian Emergency Preparedness System (NOREPS) was established as a reaction to inadequacies identified in the humanitarian response to the crisis in North Iraq in the aftermath of the 1991 Gulf War. During this crisis, the need for coordination of the myriad of providers and actors in the aid industry was recognized (Norad, 2008). When disasters strike, speed, quality, and logistical excellence are of the essence in order to deliver the right help at the right place at the right time. NOREPS was established by the Norwegian Ministry of Foreign Affairs. Originally, three forces were driving the establishment: Norway's policy to support the UN as the leader of humanitarian response, the political goal of positioning Norway as a major humanitarian actor, and a wish to boost the UN's procurements from Norwegian suppliers (Norad, 2008). Today, NOREPS provides standby personnel, a ready-to-deploy stock of relief goods and life-saving equipment. The organisation aims to facilitate cooperation and innovation between firms, humanitarian organisations, and the Norwegian government in order to reach their common goal of serving developing countries and the aid industry. Over the years, NOREPS has been subject to several revisions and changes of direction. The

network is administered by Innovation Norway (NOREPS, 2017).

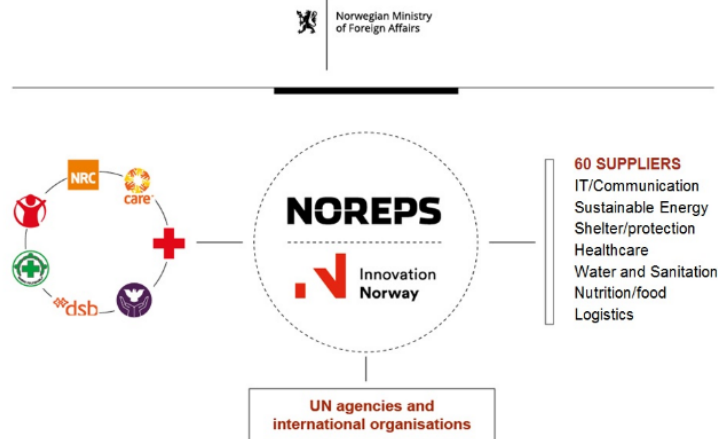


Figure 4: The NOREPS network (NOREPS, 2017)

A network provider offers value through connectivity and conductivity. According to a lecture held by Stabell at BI 23.03.17, connectivity concerns whom or what members are able to connect to through the network and conductivity concerns what they are able to transfer between the connected parts and how fast. A network provider has three types of primary activities that overlap and have to be performed simultaneously. Network promotion and contract management concern the inclusion of value-contributing actors and the exclusion of members that are less compatible with the others (Stabell & Fjeldstad, 1998). Service provision are those linking activities that the members are willing to pay for, and infrastructure operation consists of activities necessary to run and maintain a physical and information structure (Stabell & Fjeldstad, 1998). NOREPS ability to conduct these primary activities will determine its ability to facilitate innovation among its members.

### 3.5 NOREPS membership

All three participating firms have until recently been members of the NOREPS network. However, their experience with the network is varied, and their future membership situation consistently different. POLYNOR first joined NOREPS in the early 2000. Then, in 2009, the firm terminated their membership due to a perceived lack of return on membership fee. In 2013, POLYNOR again decided to join the NOREPS network as the network changed the aim and direction of their work. POLYNOR have felt slightly neglected over the last years, as the focus of

---

NOREPS has been to attract new members. However, POLYNOR believes that this attitude is changing, and that more relevant programs are now offered also for established members. POLYNOR has been accepted to participate in the Global Growth program by NOREPS starting April 2017. The aim of this one-year long program is to increase the participant's knowledge about the humanitarian sector and its needs. POLYNOR wish to participate to motivate internal innovation and to receive feedback on ideas.

BRIGHT met its first and currently largest customer, UNHCR, during a NOREPS arranged field trip to a refugee camp in Kenya. Here the company got the opportunity to show UN workers the benefits of their solar power lamp over traditional kerosene lamps. Their partnership with W. Giertsen Energy Solutions which enabled them to compete for UN tenders was also initiated by NOREPS. BRIGHT too participates in the Global Growth program where they hope to identify new areas for their sun powered products and new customers. One of the company's twelve employees has a background from NOREPS, and overall the firm express great satisfaction with their membership in the network.

Like POLYNOR, LESS became a member of NOREPS in the early 2000. Through several years of membership, they have participated at various events. Among other things, the CEO of LESS has participated in a feedback-group established by NOREPS to receive comments from their commercial members regarding their network provision. Despite these initiatives, LESS believes that their feedback has not been taken into account and that the payoff from their membership fee has been non-existing. Overall, they remain unsatisfied with the network service provided by NOREPS, and currently consider terminating their membership.

---

## 4. Literature review

This section will begin by mapping important theoretical contributions to the field of innovation. Then the network approach to firms will be presented with a distinction between strategic network theory and industrial network theory. Both network approaches will be addressed due to their ability to explain the different networks surrounding the participating firms and their impact on the opportunities and challenges of innovation in collaboration with network partners. NOREPS represents a constructed network which applies to the strategic network approach, while the firms are surrounded by emerging networks which applies to the industrial network approach. To analyse a relationship between two actors, the industrial network approach use the actor-resource-activity framework. This framework will be presented here and later used to analyse the opportunities and challenges for collaborative innovation that the participating firms face. Lastly, theoretical contributions aiming to combine the two fields of innovation and networks will be presented.

### ***4.1 Innovation***

Innovation is said to be “*an essential means by which organizations survive and thrive*” (Dodgson, Gann and Phillips 2014, 5). Defined by Schumpeter (1983) as the recombination and reconstruction of resources, innovations has contributed to our economic welfare and way of life. Schumpeter’s notion emphasize that the novelty of an innovation lies in its way of combining components that already exists (Salter and Alexy 2014). The term innovation is used to describe both incremental changes such as product improvements, and radical innovation such as the change from horse to car. While the latter typically receives more attention, incremental innovation is more commonly pursued by firms (Salter and Alexy 2014). Radical innovation is both capital intensive and risky, and hence most firms prefer to look for ways to make small improvements to existing products (Salter and Alexy 2014).

Innovation concerns both the outcome and the process, and is often categorized as the development of products, processes, organisations, or relations with markets (Wilhelmsen 2016; Dodgson, Gann and Phillips 2014). Product development includes product improvement and the launch of new goods or services, while process innovation involves changes in the ways products are produced (Salter and Alexy 2014). Organizational innovation may include new ways to organize the

---

process of production in a firm or arrangements across firms. Market innovation involves the exploitation of new markets (Fagerberg, 2005). This thesis focus on development of products and markets.

#### *4.1.1 How innovation occurs*

For a long time, social science considered innovation to be a random phenomenon and few attempts were made to explain its occurrence (Fagerberg, 2005). Schumpeter (1983), however, began to approach the question by identifying the context that typically surrounds innovation. He identified three important aspects; the fundamental uncertainty, the need for speed, and the social resistance towards changes. The outcome of every innovation process is highly uncertain, and the need for speed concerns the issues of competitors reaching the market first or imitators reaping the profit of an innovation. The inertia, or resistance, towards change was identified by Schumpeter at all levels of society and represented a threat to all novel initiatives. Based on these contextual aspects, Schumpeter (1983) defined innovation as the outcome of continuous struggle between entrepreneurs and social inertia.

Schumpeter's attempt to approach the innovation process has later been supplemented with insight from the importance of team work, firm size and organizational structures in the innovation process (Lam, 2005). Following the logic that an innovation consists of a new combination of existing ideas, capabilities, skills and resources, any system with a greater variety will have a higher likelihood of producing innovations (Håkansson & Waluszewski, 2007; Johnsen & Ford, 2000). As one move away from the understanding of firms as islands and towards the understanding of their existence in networks with multiple relations, surrounding firms have to be taken into account when evaluating the innovative possibilities of a focal firm. This is of particular importance to small firms, which has to compensate for a lack of internal resources by interacting with their network (Fagerberg, 2005; Håkansson & Waluszewski, 2007; Johnsen & Ford, 2000). The increasing complexity of knowledge necessary for innovations also pushes larger firms to search in their surroundings for complementing knowledge. The ability to absorb knowledge from the outside is hence a prerequisite for today's innovative firms (Fagerberg, 2005).

Von Hippel and Dosi have been important sources of inspiration to industrial network theory with respect to innovation (Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009). Von Hippel (1988) argues that a network with superior knowledge-transfer mechanisms between customers, suppliers and manufacturers will be better positioned to achieve innovations than networks with less effective knowledge-sharing routines. At the firm level, Dosi (1988) define the locus of innovation as firm knowledge of, or believe in, some unexploited technical or scientific opportunities combined with a believe in demand for their new product or process, and an expectation of an economic profit, net of the innovation cost. In other words, firm commitment of resources to innovation must involve a perception of opportunities and an effective set of incentives.

Innovation is neither a linear process from A to B, nor a process that can be done in one way only. Pavitt (2005) structure the innovation process into three partially overlapping, sub-processes: the production of knowledge; the transformation of knowledge into products, systems, processes and services: and the continuous matching of the latter to market needs and demands. Necessary knowledge for innovation processes are increasingly specialised and professionalized, and this makes firms more and more path-dependent (Pavitt, 2005). The path-dependency both reflect the conservatism of professional groups and the cognitive limits of firm members' knowledge about technologies, markets, and changes in these two areas (Pavitt, 2005). Cohen and Levinthal (1990) adds the importance of firms' ability to exploit external knowledge by recognizing the value of new information, assimilating it and apply it to commercial ends. They argue that this ability depends on a firm's prior knowledge and hence includes the path-dependency argument as an explanation of a firm's innovative abilities.

Different firms will stress different aspects of the innovation process. Small firms will, for example, be more likely to depend on feedback from users in their innovation processes, while larger firms producing for the mass market will have less interaction with their end-users (Pavitt, 2005). The organisation of the innovation process will also vary from firm to firm. Innovation in larger firms typically involve a large number of people in specialized functions. Small firms,

---

with less available resources, will to a larger extent depend on the competence and behaviour of senior managers and their ability to recognize opportunities, allocate resources and coordinate functional activities (Pavitt, 2005).

#### *4.1.2 Profiting from innovation*

Simply accomplishing an innovation is, however, not enough for a firm. The next challenge is to profit from the investment. Capturing the returns from an innovation may prove to be difficult, and the more rapidly others manage to imitate your innovation, the less return you may harvest before others take their share. This reduces companies' incentive to invest in innovative activities (Leiponen 2014). Further, typically only a fraction of a firm's inventions accounts for the lion's share of the total returns. Thus, the field of innovation is concerned with finding the rare event that captures significant return (Salter and Alexy 2014). Teece (1986) argues that a firm's ability to capture profit from its innovative investments depends on external factors such as the efficiency of legal mechanisms of protections and the nature of the technology. Patents and other mechanisms trying to protect intellectual property rights are imperfect as competitors often work their way around them (Teece, 1986). Patent holders may also find themselves unable to fight violators of their patents, as it often requires extensive time and resources (Teece, 1986). The nature of an innovation technology can be based on tacit and codified knowledge. Innovations mostly based on tacit knowledge may be easier to extract profit from, as they are more challenging to copy than innovations mostly based on codified knowledge. Codified knowledge is easier to articulate, transmit and receive, while tacit knowledge typically only can be transferred when somebody in possession of that knowledge demonstrates it to somebody else (Teece, 1986).

#### *4.2 A Network Perspective on Business*

Traditionally, firms have been evaluated according to their internal situation and their external competitive environment. A firm's resources have been perceived as constrained to what is available within its legal boundaries. The network perspective adds a new level of understanding to the question of why firms differ in performance by emphasizing the characteristics of the networks firms participate in (Gulati, Nohria, & Zaheer, 2000). This perspective also adds valuable insight to the question of a firm's ability to innovate by incorporating its ability to draw on the resources of other actors in the firm's network. Two prominent lines of thought

---

have emerged among network scholars: strategic network theory and industrial network theory. While they differ in many aspects, this section will first emphasize their commonalities and what distinguish network theory from other strategic approaches used to analyse firms.

Ford et al. (2011) argue that no firm is complete, in the sense that no firm has full control of all the skills and resources they need to operate. Hence, the network of a firm is a crucial determinant of its success or failure. Networks have been described as reciprocal patterns of communication and exchange (Powell, 1990). Snow, Miles, and Coleman (1992) use the term network to describe any relationship or useful contact an executive may make use of. Both horizontal and vertical relation with customers, distributors, suppliers, and competitors make up a firm's network (Mattsson & Johanson, 1987). These relationships may exist across industries and countries (Gulati et al., 2000). The ties may be weak or strong, collaborative or competitive, and can be organised as alliances, joint ventures, long-term buyer-supplier relations, or in other ways (Gulati et al., 2000). The characteristics affect the value of the relationship, the opportunities and challenges it entails, and the inimitability to competitors (Ford et al., 2011; Gulati et al., 2000). To exemplify how network members can provide value, J. H. Dyer and Singh (1998) finds that the typical American manufacturer purchase 55 percent of the value of each product they produce from partners. Many of these inputs are highly customized by suppliers, indicating a close tie between buyer and supplier.

Rather than analysing firms as separate entities, they are seen as participants in sets of relationships that may offer both opportunities and constraints for activities such as innovation. A good network may provide a firm with access to resources, information, markets and technologies. It represents opportunities for learning, sharing of risk, and economies of scale and scope (Gulati et al., 2000). An inefficient network may function as an impediment, preventing a firm from networking with more advantageous partners (Ford et al., 2011; Gulati et al., 2000).

Rubach et al. (2017) highlights the distinction between "constructed" networks and "emerging" networks. Although every network are the result of human efforts, constructed networks are the result of intentional work. Constructed networks (which is the basis of the strategic network approach) may be financed by the government, established to reach certain goals and are typically controlled by one



---

or few actors (Rubach et al., 2017). Emerging networks (which is the basis of the industrial network approach) on the other hand are typically the result of long-term business interactions between actors that have emerged without anyone having control of the whole network. Both emerging and constructed networks are argued to be important for innovation. Rubach et al. (2017) finds that for a constructed network to be positive for innovation, the participants in the network have to be motivated by the opportunity to work together and explore opportunities together with others. Such motivation, it is argued, arises when the participants share a common business interest.

#### *4.2.1 The Strategic Network Perspective*

Strategic network scholars (e.g. Gulati) argues that networks have clearly defined boundaries and that one may identify which organisations that belongs to different networks. The members of a network are expected to have similar goals and to cooperate. Once beyond the boundaries of a network, competition rules (Huemer et al., 2004). Through appropriate governance mechanisms, strategic network scholars believe that networks can be managed. Routines for interfirm knowledge-sharing should be established, partner expectations should be managed, necessary changes to network members should be made and appropriate relation-specific investments have to be done (Huemer et al., 2004). Networks are dynamic constructs, constantly changing and adapting. As a firm's needs evolve over time, so should the firm's network. Entries, exits, and repositioning changes the value of a network, and should, ideally, be adjusted to fit with the needs of the firm (Faulkner, 2003). Networks entail indefinite, sequential transactions that depend on trust, reliance, indebtedness, and long-term relations. Building and sustaining a relationship with a network partner takes considerable time and effort. Hence, choosing to forge a network with certain firms inhibits you from pursuing similar ties with others. Thus, partners should be chosen with care (Powell, 1990).

Strategic network scholars argue that networks can be governed by central "hub" firms that occupy a powerful position within a network. Faulkner (2003) classifies networks into two distinct categories: the dominated network and the equal partner network. In the former, one firm manages bilateral relations with a number of smaller firms. In the latter, a number of firms develop close relationships with each other and work together in different configurations. The dominated network is

---

controlled by a hub firm that acts as the “brain and central nervous system” of the network. The equal partner network is characterized by reciprocal, preferential, and mutually supportive collaboration. Reputation and trust guide this type of network. In contrast to the dominant network, the equal partner system has no single partner that sets up and controls the network’s activities. Every type of network is a unique variation along a continuum from highly dominated by one firm, to equally dominated by several firms. The strength of a company is reflected by its position in the network as firms that occupy a central position within their network have better access to resources possessed by other firms (Faulkner, 2003; Gulati et al., 2000).

#### *4.2.2 The Industrial Network Perspective*

The industrial network perspective has its origins in the 1970s International Marketing and Purchasing project which aim was to add insight to the ways firms exchange resources and the importance of long-term, stable relationships between firms (Axelsson & Easton, 2016). Industrial network scholars argue that a firm cannot choose whether to have relationships (Ford et al., 2011). Rather, it is an inevitable consequence of existing in a market. They further argue that there is no hub firm which governs the network and that the network boundaries are unclear (Huemer et al., 2004). The existence and significance of business relationships are essential (Gadde, Huemer, & Hakansson, 2003). A popular analogy used to differ the industrial network perspective from the classical competitive approach of scholars such as Michal Porter, is the “jungle” versus the “rainforest” perspective. While the jungle approach refers to a reality where the business environment is characterised by competitive strengths, industry positioning and survival of the fittest, the rainforest approach indicates cooperation, interdependence and interaction between firms as the natural way of business and the way to succeed as a firm (Håkansson et al., 2009). In relationships characterised by cooperation and mutual dependence, the scope of strategy shifts from that of pursuing a victory over others to somehow making it together (Ford et al., 2011). The focus of attention is not what happens *within* the firm, but what happens *between* them (Håkansson et al., 2009). The core of strategy becomes the ability to build and maintain relationships with other actors (Løwendahl and Revang 1998). As a consequence,

---

questions regarding innovation have to be dealt with across companies, not just within companies (Håkansson et al., 2009).

### ***4.3 Relationships***

According to Ford et al. (2011) relationships are a company's most valuable asset. Defining a relationship may however be challenging. Håkansson and Snehota (2002, p. 162) define it as "*mutually oriented interaction between two reciprocally committed parties*". Like physical assets, relationships have to be built up over time by incremental investments of time and capital. Carefully choosing which relationships to forge is important in order to achieve a profitable return on the relationships' investments (Ford et al., 2011). Relationships may result in innovations that neither of the involved parts could have produced in isolation (Håkansson & Snehota, 2002). Håkansson and Snehota (2002) further define relationships as social entities where the potential benefit relies on the dedication of the two parts. The participants' willingness to invest, adapt and learn is essential (Ford et al., 2011). Firms' relationships will vary in content, strength, importance and duration. The characteristics of a relationship determines its ability to foster collaborative innovation. The content of a relationship is evident in its routine interactions and the efforts by the involved parts to change or develop the relationship (Ford et al., 2011). The importance depends on the value and technological transfer of the relationship. The duration of a relationship is correlated with the participants' commitment, investment and adaptation (Ford et al., 2011). What happens in a relationship, is contingent upon the past events and experiences in that relationship and the participants interpretations and memory of these events (Ford et al., 2011). Every relationship evolves over time as a consequence of continued interaction. The process is shaped by the intentions and interpretations of those involved in it and by the evolution of other relationships a firm is involved in (Ford et al., 2011).

A relationship should not be evaluated in isolation, but rather as a part of a portfolio of relationship assets (Ford et al., 2011). Even though relationships represent prosperous opportunities for example for collaborative innovation, one must also keep in mind that they represent potential problems and that they can be difficult to handle. Limited ability to forge similar relationships with others, partner

differences in expectations for a relationship, and cultural, technical or administrative differences are some of the relationship challenges firms may face (Ford et al., 2011).

#### 4.3.1 Actors, resources and activities

The industrial network perspective highlights three important dimensions of every relationship: resources, actors and activities. These dimensions of a relationship may be adapted, developed or transformed over time (Ford et al., 2011). Relationships determines the conditions for which opportunities and challenges a firm face related to innovation in collaboration with network members. Breaking down relationships into the three ARA-dimensions (actors, resources and activities) provides insight to the dynamics of relationships and highlight its potential effect on network members innovative ability. Håkansson (1987) illustrates the relationship between the three dimensions in this way:

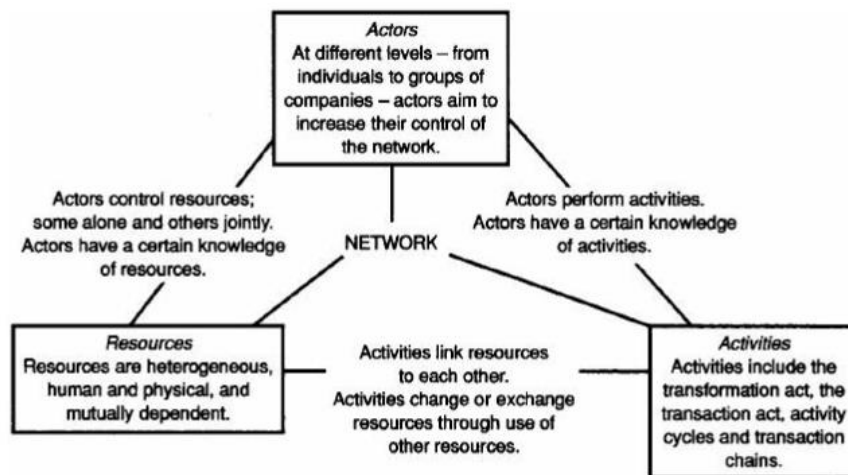


Figure 5: The Network Model (Håkansson, 1987)

#### 4.3.2 Actors

A relationship often starts with an initial contact between firm members from two companies. To be able to collaborate with regards to innovation, issues such as social, cultural, technological and time distance must be overcome (Ford et al., 2011). Social distance concerns the actors unfamiliarity with the others way of thinking and working. Cultural differences reflects any normative or value-related distance between two firms. Technological distance refers to differences in managed technologies, and time distances refers to the fact that the actors may discuss business that will first occur at some considerable time in the future.

---

Interpersonal interaction is essential for the development of substantial relationships and this contact cannot be separated from the context in which it occurs (Ford et al., 2011). Based on this interpersonal contact, actor bonds can be formed between individuals. Actor bonds are based on mutual trust, learning and commitment (Ford et al., 2011). Actors are defined by their performance of activities and their control over resources (Dubois, 1998). When the value of a resource depends on how it is combined with other resources, knowledge and learning about resources becomes important to actors (Dubois, 1998). Defined as a new combination of existing resources, innovation depends on actor's knowledge about their own and other's resources.

#### *4.3.3 Resources*

The depth and breadth of a firm's relationships determines its ability to utilize the resources of another firm and high-involvement relationships provides the greatest access. Access to other firm's resources may facilitate innovation. However, high-involvement relationships also require substantial investments both in terms of time and capital (Gadde et al., 2003). High-involvement relationships results in relationship specific assets and adaption of firm activities. These investments make it costly to change partners and narrow a firm's field of vision in terms of looking for new partners (Gadde et al., 2003). A company can only handle a certain number of high-involvement relationships (Ford et al., 2011). Gadde et al. (2003) argues that the value of a resource changes with the way it is combined and later recombined with other resources. New resource dimensions and innovative products can be identified and developed when firms interrelate their activities (Gadde et al., 2003).

A firm's position within a network affects its learning potential. An information-rich position is important for a firm to make use of the potential residing in joint resource combination. Learning improves a firm's opportunity to utilize complementary resources which it can access through other firms for example for innovation purposes (Gadde et al., 2003). Sanchez and Heene (1997) further argue that complementary resources are likely to reside in firms in the same industry or in related industries. Because of the unlikeliness of one firm possessing all the

---

resources it needs to achieve innovation, firms may frequently have incentives to cooperate.

J. H. Dyer and Singh (1998) highlights the challenge of finding and recognising the potential value of a partner resources in combination with its own. A firm's ability to identify a suitable innovation partner depends on the firm's prior alliance experience, its capability to search and evaluate other firms, and its position within a network. A firm's position determines its ability to acquire information about potential partners.

#### *4.3.4 Activities*

Activities carried out by an actor concerns production or transformation of resources. Activities carried out *between* actors are defined as exchange or transactions of resources (Dubois, 1998). The exchange of knowledge may for example lead to innovation. Ford et al. (2011) argues that relationships can only evolve into business opportunities if there is some interlocking of behaviour, such as interdependent activities, between firms. Transactions will over time lead to activity links which involves adaption and interdependence of the activities of the other firm (Ford et al., 2011). For example, product design may be adjusted, production processes may be aligned, and logistic operations may be synced with the activities of the other firm (Ford et al., 2011). Interlinking activities is a way to rationalize important operations that extends beyond the legal boundaries of a firm (Gadde et al., 2003). Interlinked activities leads to interdependencies with other firms. How a firm build and manage these interdependencies becomes crucial for its success (Gadde et al., 2003). Linked activities requires coordination efforts and identifying the scope of action is an essential strategizing task (Ford et al., 2011; Gadde et al., 2003).

#### ***4.4 Innovation in Networks***

Interorganizational collaboration may be beneficial for diffusion of information, sharing of resources, access to specialised assets, and interorganizational learning, all of which contribute to innovative activities in a firm (Håkansson & Waluszewski, 2007; Johnsen & Ford, 2000; Rubach et al., 2017). Both Freeman (1991) and Hagedoorn (1995) find empirical evidence of the positive correlation of firm R&D intensity and technological sophistication, and the number of and

---

intensity of the same firm's strategic alliances. Freeman (1991) especially highlights the importance of collaboration with users and external sources of technical expertise for successful innovation. Hagedoorn and Schakenraad (1990) analysed firm motivation for entering collaborations with other firms. They found technological competence and market position of a partner to be the main motivations for collaboration, while access to financial resources only motivated a very small number of collaborations.

Early research on firm behaviour in networks showed that firms tend to be influenced by other network members in their decisions and that they adopt different practices and structures from each other (Beckman & Haunschild, 2002). However, limited to the question of imitation or no imitation, this early understanding of firm behaviour in networks were too narrow. Beckman and Haunschild (2002) therefore added a learning perspective and emphasized firms' ability and opportunity to learn from its network members. Networks composed of partners with heterogeneous experience will have a greater opportunity to learn and will be exposed to added opportunities (Beckman & Haunschild, 2002). Leonard-Barton argued that this access to a varied set of experience and learning is essential for innovations to occur because innovations occur "*at the boundaries between mindsets, not within the provincial territory of one knowledge and skill base*" (1995, p. 56). A wide and diversified network provides access to a variety of activities and actors, which broadens the resource base and the knowledge base network partners can draw on (Johnsen & Ford, 2000). Burt (2004) emphasize the homogeneity of opinions and behaviour within a group. With this as the foundation for his research, he finds that people connected with others outside their own organization will be familiar with alternative ways of thinking and behaving, which then have implications for creativity and structural change. Trust and confidence are important factors for innovation in networks. Cultural aspects such as language, educational background, and experience also influence collaborative efforts for innovation (Freeman, 1991).

Different types of ties or relationships between network partners have different implications for innovation. In addition to analyse a relationship according to the ARA-framework, Powell and Grodal (2005) adds the distinction between weak and

---

strong firm ties. Strong ties occur between partners with frequent and continued exchange relationships. Strong ties may be useful for managing and maintain openness, trust and commitment, which provides a foundation for collaborative innovation (Fagerberg, 2005). Complex information is more effectively exchanged through strong ties (Powell & Grodal, 2005). However, strong ties are often related to established networks and convergence towards a common perception of reality, which again reduces innovative processes in a system (Fagerberg, 2005). Weak links, or more occasional exchange relationships, may benefit innovation by enabling firms to easier make changes in their network when necessary (Fagerberg, 2005). Weak ties also introduce novelty to a firm as these ties have a longer reach which may introduce a firm to new ideas and information (Powell & Grodal, 2005).



---

## 5. Methodology

A qualitative approach has been chosen to answer the research question of this thesis. POLYNOR AS, LESS AS and Bright Products AS have been chosen as the case firms and focal study objects, while the analysis of the influence of NOREPS adds an important dimension to the challenges and opportunities related to collaborative innovation that the firms face. The research method has been interviews, observations and secondary analysis of official statistics. Confidentiality has been granted extra attention when on-going innovative efforts have been discussed with participants as the discretion of these activities are important for firm value and potential profit.

### *5.1 Research strategy*

A qualitative approach enables information concerning firm experience and reflections regarding innovation in collaboration with others and regarding the role of NOREPS as a network provider aiming to facilitate collaborative innovation to be able to obtain. Hoholm and Araujo (2011) argues that the numerous quantitative studies conducted on issues related to the innovation process lack an adequate understanding of the complexity of situated processes. The authors believe that a qualitative approach adds valuable insight that may complement previous quantitative studies addressing similar topics (such as e.g. Ahuja (2000), Phelps (2010), Wang et al. (2014)).

According to Yin (2011) qualitative research incorporates the contextual conditions, which are often left out of quantitative research. The contextual conditions of the industry in which the participating firms operate highly influences the challenges and opportunities the participants experience, and is therefore essential to include in the study.

Creswell (2014) argues that a topic with a lack of prior research favours a qualitative approach. The lack of research on the micro-level behaviours that determines the macro-structures of networks as noted by Kastle and Steen (2014), and the limited previous research on challenges and opportunities experienced by firms in relation to collaborative innovation, makes a qualitative approach meaningful. An inductive, qualitative study is suited for investigating the thesis topic at hand as it allows for concepts and ideas to be discovered that was not known before the research began, and that could have remained undiscovered if a quantitative

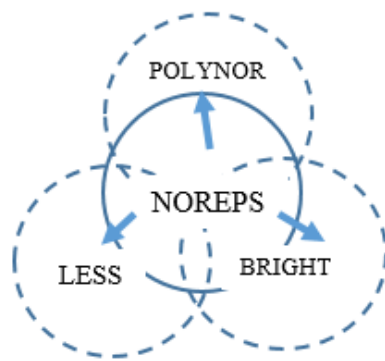
---

approach based on surveys and preconceived theories had be chosen (Bryman & Bell, 2011; Yin, 2011).

Creswell (2014) further points to the usefulness of following up quantitative data, such as official statistics, with qualitative data to help explain dynamics left unexplained by the former. Consequently, a qualitative study seems appropriate to investigate questions left unanswered by quantitative data, such as the bi-yearly innovation study conducted by SSB.

## ***5.2 Research setting***

The Norwegian aid industry serves as a highly interesting context for studying the dynamics of collaborative innovation from a network perspective. Both because of the unique NOREPS network and their focus on collaborative innovation, and because of the participating organisation's common understanding of the importance of innovation in collaboration with other actors. POLYNOR AS, LESS AS and Bright Products AS were chosen as the company cases for this study. NOREPS will be incorporated into the study as an external influencer on the three firms' opportunities and challenges. Because of NOREPS' different value creation logic and ability to impact the opportunities and challenges the firms face, it will not be studied as a fourth firm, but rather as an organisation affecting the premises under which the three firms operate. The NOREPS network can be characterised as a constructed network according to the definition by Rubach et al. (2017). This is illustrated by the solid line around NOREPS in the model below. Additionally, each of the participating firms have their own emergent networks (Rubach et al., 2017) illustrated by the dotted lines. The different networks represents different opportunities and challenges for innovation. All firms are related to the network of NOREPS, and to some extent with each other (i.e. LESS and BRIGHT have used the same product designer K8 and the three firms aim to target many of the same customers). The arrows illustrates the influence by NOREPS on the firms. The firm's relationships and the opportunities and challenges they represent will be analysed with an emphasis on the influence by NOREPS. The empirical findings shows that the firms' abilities to influence NOREPS is relatively low, and hence this effect will not be incorporated into this study.



*Figure 6: Illustration of relationship between study objects*

The three firms have been analysed to different extents. POLYNOR AS was introduced as a business case by Professor Bente Løwendahl during a master course at BI Norwegian Business School, fall 2015. The firm opened up for master thesis applicants, and my application was chosen. I have been lucky to follow POLYNOR AS for almost two years, starting October 2015 and until September 2017. The contact have been in the shape of company visits, informal lunches and conversations, and formal interviews. Through this extensive contact, the thesis topic was identified. When identified, the study was broadened to incorporate two more business cases; LESS AS and Bright Products AS, and the network provider NOREPS in order to gain valuable information regarding the research questions of the thesis. The companies have been chosen due to their connection to NOREPS and their similarity in size. NOREPS organise their member firms into different categories, and the category for health related suppliers, where POLYNOR was located, was chosen as the basis for identifying more case studies. LESS belonged to the health related category. Unfortunately, not all firms in the category had the opportunity to participate, and hence Bright, which belongs to the group of sustainable energy providers, and had interesting contributions to the thesis topic, was incorporated.

The participating firms represent three interesting cases. They are all small, Norwegian firms with less than 15 employees, which have experienced varying degrees of economic success. Their business is based on self-developed products designed to solve certain issues in aid industry in a novel way. They have chosen different strategies for product development and production, and strive to more or less reach the same customers. To be able to win the large, international contracts,

---

firms in the development industry needs to provide the best solution to the different issues identified in the field. The participating firms' varied experience with NOREPS and varied economic results makes them interesting cases for a comparative case study.

### ***5.3 Research design***

A comparative, multiple case study allows the researcher to compare and contrast findings derived from several case studies (Bryman & Bell, 2011). This research design was chosen to allow a focus on what is common and what is unique for the three company cases and their activities related to NOREPS. The three business cases and their unique context is the main focus of the study, while the influence of NOREPS adds an additional dimension. The idea behind a comparative design is that a better understanding of social phenomena can be achieved when one compare two or more meaningfully contrasting cases (Bryman & Bell, 2011).

A case study design enables the researcher to understand the dynamics which are present within a setting (Eisenhardt, 1989). According to Yin (2009) a multiple case study design is preferred over a single case design when the researcher have the choice and the resources. This, he argues, is because the evidence from multiple cases is considered more robust. Bryman and Bell (2011) also argues that the comparison of two or more cases improves theory building.

Eisenhardt (1991) claims that the multiple case design develop more elaborate theory, and that the researcher can draw a more complete theoretical picture by bringing together several patterns from multiple cases. Eisenhardt and Graebner (2007, p. 27) claim that through a multiple case design the resulting theory becomes "*better grounded, more accurate, and more generalizable*". A universal favouritism of the multiple case study design is however not present. Among others, W. Dyer and Wilkins (1991), Siggelkow (2007) and Langley (1999) are sceptical to Eisenhardt and Yin's preference for the multiple case design, and urges the reader to keep the benefits of the single case study in mind. They argue for the single case study's unmatched ability to provide rich, in-depth information. There is however no one single right or wrong design. Rather, the design has to be chosen in accordance with the aim of the research (Dubois & Gadde, 2014). The multiple case design was chosen because analysing more than one firm related to the same network provides a more nuanced picture regarding experienced challenges and

---

opportunities. The limitation of firm cases to three companies was done due to time and resource constraints.

#### **5.4 Research method**

A good qualitative case study relies on several forms of data to provide an in-depth understanding of the case in question (Creswell, 2014). Data sources used to obtain information have been interviews, observations, accounting information, reports, and the most recent innovation survey by SSB.

The principle of triangulation refers to the goal of seeking three or more ways to verify facts, events or descriptions that emerge as the result from a research (Yin, 2011). Denzin (1970) identifies four different ways triangulations can be performed in social science: the use of multiple data sources, multiple researchers, multiple methodological approaches or multiple theoretical perspectives. Only the first type of triangulation is applicable to this thesis. Interviews and observations have been triangulated with written sources of information and previous studies in an attempt to establish a common set of facts and to minimize the potential contamination the researcher's own interpretations can inflict to the narratives of the participants. The use of multiple data sources through triangulation is argued to reduce biases, increase validity and strength of the study, and provide multiple perspectives (Joslin & Müller, 2016). As the information obtained from interviews is perceived as constructed narratives, rather than as direct access to experience, extra care has been taken to triangulate the obtained information with information from additional sources to ensure that the interviews are useful sources of data.

Writing alone involves certain challenges, and hence bi-weekly meetings with a co-student has been arranged to discuss issues, progression, structure and wording.

##### **5.4.1 Interviews**

The primary data gathering method has been semi-structured, open-ended interviews. As noted by Seidman (2006, p. 9), the objective of the semi-structured qualitative interview is to pursue an "*interest in understanding the lived experience of other people and the meaning they make of that experience*". This makes semi-structured interviews appropriate to achieve one of the goals of qualitative research,

---

which is to “*depict a complex social world from a participants perspective*” (Yin, 2011, p. 135). All interviews were conducted in Norwegian.

When possible, face-to-face interviews have been preferred due to the richness of information that becomes available when inter-personal contact is established between the respondent and the interviewer. The value of conducting face-to-face interviews becomes evident when regarding the information obtained from the long-term, in-depth study of POLYNOR, the seven-hour long visit to LESS, and the face-to-face interview with NOREPS, compared with the online Skype interview with Bright Products AS. Due to the location of the representative of Bright Products AS, this interview had to be done with the help of technological intermediaries, and the result was a lower degree of trust between the interview object and the interviewer. This lack of trust resulted in the interview object being less open and less willing to share information than the other respondents. Unfortunately, the researcher was only able to obtain one interview with the company and this thus represents a weakness for the study.

To counter the challenge of simultaneously interviewing and taking notes without adding unnatural pauses to the conversational nature of semi-structured interviews, all but one interview were recorded. Recording the interviews allowed the researcher to be a good and intense listener, which encourage the flow of information from the interview object and enabled the researcher to “*hear the meaning*” of what was being said (Yin, 2011, p. 135). The interview with the representative from Bright Products AS was not recorded due to inadequate sound quality during the Skype interview. To compensate, extensive notes were taken. However, the focus on note taking made the interview more static, and may have contributed to the lack of trust and reduced willingness to share information as described above.

The interviews have been transcribed to be able to code the gathered information and look for patterns, dissimilarities and commonalities. Elements of retrospect in the study adds the potential issue of post hoc rationalization and/or interpretation by the respondents (Hoholm & Araujo, 2011). As such, the interview responses are treated as actively constructed “*narratives*” involving activities which themselves demand analysis, rather than as direct access to “*experience*” (Silverman, 2013).

---

#### *5.4.2 Interview objects*

Both the Managing Director and the Marketing and Business Development Manager of POLYNOR AS participated in interviews. From LESS AS, the Managing Director and the Sales Manager were interviewed. From Bright Products AS, the Manager of Humanitarian Sales and Programs was the representing voice. NOREPS was represented by a Senior Advisor. A total of seven interviews have been conducted, ranging from one to six hours. The longest interview took the form of a combined in-depth, semi-structured interview and observations.

#### *5.4.3 Interview guide*

A semi-structured interview guide was developed (see appendices) and sent to the participants prior to the interviews. When the participants had found the time to read the question in advance of the interview, the results was better prepared conversations, where the interviewee had had the possibility to double-check the factual information they provided. The semi-structured interview guide allowed flexibility throughout the interviews, while it at the same time provided structure and focus for the conversation (Bryman & Bell, 2011). The interview guide developed for NOREPS differed slightly from the one developed for the participating firms.

Previous research and available information found online was taken into consideration when the interview questions were developed. As advised by Rubin and Rubin (2011), technical terms were avoided or thoroughly explained. Effort was also made to avoid leading questions. The open-ended nature of the questions sometimes lead to too lengthy and partially irrelevant answers. Other times, they lead to unanticipated and interesting information. The interview guide was revised several times during the initial face of the thesis project and occasionally after an interview when room for improvement was identified.

#### *5.4.4 Documents and observations*

Documents such as official accounting information, reports, and official statistics, were used to complement and triangulate the information gathered from interviews. Among these is a semi-annual survey of innovation among Norwegian firms conducted by SSB. The Norwegian government perceives innovation to be essential for the success and survival of firms operating in competitive environments. The

---

goal of the survey is to collect data on Norwegian firms' ability to change and develop, the consequences of innovation activities for Norwegian firms, and to map which factors influence innovation processes (Wilhelmsen, 2016). The survey is based on guidelines developed by Eurostat and is performed as a part of EU's Community Innovation Survey. 5 968 firms participated in the 2012-2014 survey. The survey provides high-quality data, which has been used to gain a basic understanding of the innovative environment Norwegian firms operate in and complement the narratives given by the respondents in this study. The survey provides some insight to the sub-topic of innovation in networks, but lack a deeper insight into the dynamics that enables and impedes innovation, both in networks and in general. NOREPS is regularly subject to thorough evaluations ordered by NORAD (Norwegian Agency for Development Cooperation). The most recent evaluation was conducted in 2008 by the Nordic Consulting Group and Channel. Their report highlights both the contextual issues of innovation in the humanitarian sector in general and in NOREPS in particular. Its findings have been used to complement the findings of this study.

Participant observations allows the researcher to immerse in a social setting for a given time to observe and gain an understanding of internal dynamics (Bryman & Bell, 2011). Observations were done during the NHO (Confederation of Norwegian Enterprise) conference on how to use the sustainability goals of UN as a business opportunity. The conference gathered several of the actors in the industry and was an opportunity to observe how members from relevant organisations used the networking opportunity and how the industry approaches this type of business opportunity. Additionally, internal firm dynamics have been observed during lunches, product demonstrations, and visits to production sites. These opportunities to observe were useful as they provided new insight that subsequently helped the researcher identify interesting follow-up questions.

### ***5.5 Data analysis***

The gathered data has been analysed following the five-phased cycle suggested by Yin (2011). The five phases includes: Compiling, disassembling, reassembling, interpreting, and concluding. This process does not have to be linear, but rather allows the researcher to move back and forth between the different steps (Yin,

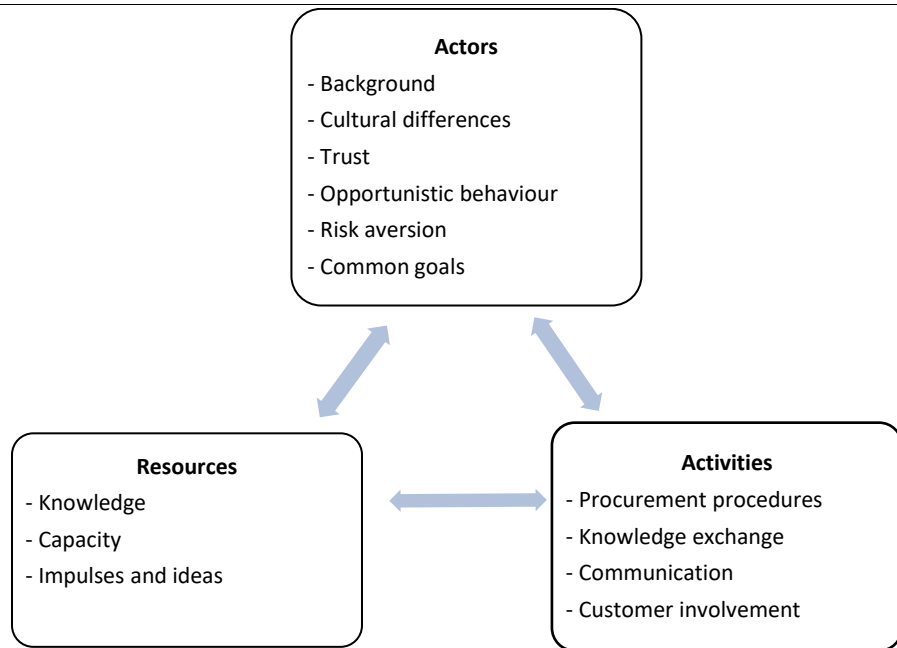


---

2011). Bryman and Bell (2011) and Glaser and Strauss (2017) further argues that continuously analysing data throughout the research process is fruitful for a qualitative study as it allows themes to emerge and to be incorporated into the study. However, a danger with simultaneous data collection and analysis, is that the researcher may reach premature conclusions because of particularly vivid, unusual, or interesting data (Hartley, 2004). As such, some analysis of gathered data were done with care throughout the research process to be able to incorporate interesting, emerging themes, while the majority of the analysis were reserved for the final phase of the thesis project.

The first of the five phases described by Yin (2011), is compiling. Compiling involves a careful and methodic organizing of the gathered data. This has been done by transcribing hand written notes and interviews, going through printed reports and other printed material, and the transcribed material. Superfluous information was removed. Going through all gathered information also re-familiarised the researcher with the data, and provided a mental overview and clean-up of what had been collected.

Next, the data has been disassembled with the help of open coding. The aim of this was to generate thematic categories (Yin, 2011). Care was taken to identify a higher conceptual level of similarities without losing the uniqueness of the original data. While similarities were identified and assigned the same code, care has been taken to keep unique wording intact. The number of themes was limited to avoid the generation of superfluous themes with similar underlying ideas. When the categories were identified, they were reassembled and organised according to the ARA-framework to provide a structure for the forthcoming analysis. The categories identified were:



*Figure 7: Categories identified in the gathered data*

Then, the data was analysed and interpreted. The researcher has strived to do this in a fair, accurate, and value-adding manner. To take advantage of the comparative research design, cases have been compared and contrasted to identify commonalities and differences.

Finally, a conclusion was made to capture the significance of the conducted study. The conclusion consists of key findings, theoretical and managerial implications, limitations, and suggestions for further research.

### ***5.6 Research Quality***

Retrospective studies of innovation processes may be subject to post hoc rationalization and/or interpretation by the respondents (Hoholm & Araujo, 2011). This is a potential methodological weakness as part of this research is based on such records. No method offers truth beyond doubt, dialog or revision (Mouritsen, Mahama, & Chua, 2010). However, two methods have been applied to handle this challenge: cross-checking of the accuracy of historical records and keeping in regular contact with key informants when possible (Hoholm & Araujo, 2011). Regular contact may enable the researcher to catch up with events while they are still ongoing and their meaning has yet to be collectively stabilized (Hoholm &

---

Araujo, 2011). Information was cross-checked with other informants from the same organization and/or historical documentation. However, the founders of all three companies had left the firms by the time of the interviews, and as such, the records of the initial innovation process that led to the companies' first products may suffer from inaccuracies as they are based on second hand anecdotes told by the entrepreneurs to their successors, and then to the researcher. Only in the case of POLYNOR AS has it been possible to follow *ongoing* innovation processes.

Quotes from interviews have been translated from Norwegian to English. During this work, the focus has been to ensure the content of the information rather than to provide a direct translation. Quotes have been included in the thesis to illustrate the foundation of the researcher's interpretations and to allow the reader to make up his or hers own opinion.

The limited access to Bright Products as illustrated by one obtained interview with one respondent provides some limitations to the study. The opportunity to interview more members of the firm could have provided a different insight to the firm as a case. Fortunately, several sources of secondary data are available on the history and current situation of the firm and this has enabled a thorough triangulation of the information obtained in the interview.

Confidentiality was a concern for all involved firms. To encounter this issue, concepts, ideas, and products will be discussed on a general level in the findings and analysis section. This has been done to avoid leaking sensitive information while at the same time being able to discuss theoretically interesting topics and findings. Additionally, quotes have been anonymised to avoid damaging consequences to the participating firm's collaboration with any network partners in general, and with NOREPS in particular.

As advised by ABS Ethics Guide, sufficient information regarding the aim of this study was provided so that the participants could make an informed decision on whether or not they wished to participate in this study (Bryman and Bell, 2015, p 139). Interviews were recorded with the permission of the respondents.

---

## 6. Findings

This section summarise the findings of the conducted study. It will begin by mapping the current situation of the firms to broaden the readers understanding of the challenges and opportunities they experience. Then, challenges experienced by the participating organisations related to collaborative innovation will be illustrated before the opportunities are presented. Lastly, the influence by NOREPS on these matters, as experienced by the respondents, will be presented. The influence of NOREPS is interesting as it illustrated to what extent the network provider manage to fulfil its mission as a facilitator of innovation in the Norwegian aid industry. Some of the quotes represents critical comments on the work of NOREPS. To avoid damaging further collaboration between NOREPS and the firms, the quotes are not referenced to the respondent giving them.

### *6.1 Current situation of participating firms*

#### *6.1.1 POLYNOR AS*

The firm is currently in a situation where their profit depends on one product: the POLYSAFE® Safety Box. As the product has proven economically successful for many years, the need for innovation and development has been less pressing. Now, however, they feel the need to establish new and strengthen current sources of income. In terms of product innovation, POLYNOR is working on several incremental changes to meet requests from both customers and competitors. The product development is specified by POLYNOR and carried out by their contract supplier. To further strengthen their position, POLYNOR is also looking at new market opportunities, such as the veterinary industry, and new geographical markets either through distributors or by themselves. To be able to enter the American veterinary industry, the safety boxes has to be FDA (US Food and Drug Administration) approved which involves a costly application process. To enter new geographical markets, local regulations and demands has to be meet.

*Supplier relationship:* POLYNOR has no in-house production, and has outsourced the task to a producer located in Trondheim, Norway. The relationship with the factory is of major importance as their efficiency determines the cost per safety box, and the technical competency of the factory determines the product development. When the employees of POLYNOR have an idea for a new product or for product

---

improvements, they turn to the product designers of their supplier to solve the related technical challenges. The important question of who owns these types of innovations arise. As long as both parts strive to maintain a good relationship, this unclarity does not represent any immediate challenges. However, should any of the two parts deviate from their current contract and seek to nourish other relationships, this area of vagueness may become a challenge. Their relationship is good, and POLYNOR highlights their satisfaction with the production partner's high quality products, innovative solutions upon request, and reliable service. The frequent interaction between the two firms and the length of their relationship implies that the tie between them is strong. The location of the supplier is, however, inconvenient and this increases transportation time and costs. Because their production is limited to one factory, POLYNOR risks full production stop in the case of challenges such as strike, fire, or natural disasters.

*Customer relationships:* In the beginning, the business was based on direct customer contact. Today, more and more customers change to tender based procurement processes. Competing for tenders is tedious work and often result in loss. The importance of fairs have increased, and POLYNOR find it useful to participate at these to meet new customers. POLYNOR also experience that more customers strive to consolidate the purchase of several items to as few suppliers as possible. This intensifies the need for POLYNOR to provide more, and preferably complementary, products to their existing safety box.

### 6.1.2 LESS AS

The firm's current focus is to achieve economies of scope and scale through an enhanced customer base and by offering complete solutions to emergency and evacuation situations. The company currently use few resources on product innovation. If they identify a need for a complementary product to their existing product portfolio, the firm search for partners that can deliver the product.

In terms of international market innovation, LESS struggle with legal barriers prohibiting foreign suppliers. Another challenge they often encounter is identifying the right decision maker in the organisations they approach. As an example, they mention their attempt to do business with the Civil Defence in Spain. Although the Civil Defence in Norway is their largest customer, they found themselves clueless

---

in their search for the chief of procurements in the Spanish Civil Defence, which hierarchy is remarkably different from the Norwegian counterpart. LESS has also met more challenges than anticipated in their meeting with public customers, because of their long decision-making and procurement processes. The stretcher is patented and LESS has so far not experienced any issues with violations of their patent. The product is relatively hard to copy, and the holistic solution for evacuation that LESS aims to provide, is even harder to replicate. Most competitors only offer single products to solve single issues.

*Supplier relationships:* Their main product is produced in-house. Additional products comes from European and Chinese partners. The ties to these partners can be characterised as semi-weak. They have lasted for some time and transactions are relatively frequent, however, firm specific investments are relatively low and other providers can be found if necessary.

*Customer relationships:* The Norwegian Civil Defence is currently the largest customer of LESS products. LESS used to have products in stock in Brisindi and Dubai, two of the UN's large, global crisis depots. The UN organisations' demand for LESS products however turned out to be too low, and the transportation cost of sending their products from the central depots to the crisis areas too high.

### 6.1.3 Bright Products AS

Because the firm managed to achieve a large contract with UNHCR for the SunBell lamp, their operation has so far been highly successful. Their main challenge at the moment is to reinvest their current profit into other successful solar based products and to reach more customers of substantial size. They currently work on two concepts: Solar homes and a pay-as-you-go solution for their existing lamps. Several competitors provide sun powered lighting solutions, but so far, no firm has tried to copy their whole product. The SunBell lamp is partially patented.

*Supplier relationships:* Bright has an in-house product development team which is often strengthened with the help of an external industrial design firm. The relationship with the external industrial design firm can be characterised as relatively strong. They have frequent contact and share important information.

Additionally, the original idea for the SunBell lamp was developed by an employer of this design firm, which later decided to leave the company to start on his own. Partners in Thailand and China manufacture the products. The ties to the producers are relatively weak as Bright can change their production site without too much trouble.

*Customer relationships:* UNHCR is currently their largest customer and their main source of income. The contract with UNHCR is, however, limited to three years, and their future interaction is dependent of Bright winning the next tender. Because of the uncertainty this customer represents, Bright is fully devoted to their search for new customers.

#### 6.1.4 Case firms' foundations for collaborative innovation

Some of the firms' main features have been collected to compare and contrast the different case firms of this study. All three firms were established around one respective innovative product. With time, more products have been added to the firms' product portfolios.

	<b>POLYNOR</b>	<b>LESS</b>	<b>BRIGHT</b>
Product development	Partner	In house/ import	In-house + partner
Production	Partner	In house/ import	Foreign partners
Income	Medium	Low	High
Product cycle life (main product)	Has already reached its peak	Yet to take off	On peak
Focus on product portfolio expansion	High	Low	High
Focus on new markets/customers	Medium	High	High
Competitive environment	High	Low	Medium
Patenting issues	High	Low	Medium

Based on the current situation of the firms, their main challenges and opportunities related to collaborative market and product innovation can be identified.

## **6.2 Challenges**

Several challenges emerged through the interviews. Some were experienced by all three firms, while others were only mentioned by one or two firms.

### Lack of early customer involvement

As advocated in the theory, early customer involvement was perceived by the respondents as important for the success of an innovation process, and the lack of it as a challenge.

*« We would like to see more collaboration between companies and NGOs (Non-governmental organisations) on an early stage. This would increase our opportunity to learn from each other.»*

*«We believe that a dialog on a much earlier stage is crucial for the success of an innovation process. We see that early customer involvement leads to trust and a higher level of mutual understanding.»*

Not only is the lack of early collaboration between firms and NGOs a challenge. The distance between the firms and the end-users (ex. refugees) is another challenge. Both the geographical distance and the distance created by the risk of visiting conflict areas represent barriers that makes firm – end-user interaction challenging.

*“It is challenging for firms to do field work on their own. You have to be invited by an organisation to visit certain areas. Avoiding “refugee tourism” is another concern preventing firms from visiting, and so is the threat of terrorism. Visits has to happen within the established structures”.*

### Lack of communication

A general lack of communication between firms and NGOs has been highlighted as another important obstacle for collaborative innovation. The absence of communication makes it challenging for firms to identify the problems their customers need solutions to, and for the humanitarian organisations to tell the producers what they want.



---

*«The lack of communication between companies and NGOs is a huge problem»*

*« Firm and NGOs have to communicate better»*

*“We want to create places where firms and NGOs can meet and discuss. To make this happen, we have to do a great job convincing the two parts of the benefits of communication and collaboration”*

*“UNICEF even has a policy not to talk to commercial firms”*

*“Especially the NGOs have to be persuaded and convinced of the benefits of communication and collaboration to participate in meetings”*

*“After the first meeting we held of this kind, the response was: “We have to talk more””*

### Cultural differences and a lack of mutual understanding

The cultural differences between commercial firms and humanitarian organisations stand out as an important obstacle to collaboration between the two types of organisations. Their different missions seems to isolate them from each other. While commercial firms strive to make a profit, humanitarian organisations want to avoid profit seeking at any cost to preserve their image as philanthropic projects.

*“These are two sectors with a history of being freighted by each other. One aims to make money while the other is driven by ideology”*

*“The humanitarian organisations sees commercial firms as irritating actors trying to push products the humanitarian organisations do not want.”*

*“Commercial firms often believe their products or solutions to be perfect as they are, and see no need to collaborate”*

*“The cultural barriers between the two types of organisations are so severe that we have to push them to collaborate. Even though everyone agrees on the importance of innovation for the industry and that collaboration is a way to achieve this innovation”*

*«The lack of understanding for the other parts mission and operations is a huge problem»*

*«It is hard to figure out how to establish good (corporate – humanitarian) collaborations»*

*«The cultural challenge is the key to everything we work for, and it is one of the reasons we focus on increasing the participant’s knowledge. Not just about the procurement systems of NGOs, but about the other parts mind set and procedures”*

*“Stereotypes and prejudice is an important obstacle for collaboration”*

### Lack of trust

The different objectives of charity and profit often also results in a lack of trust between suppliers and customers that further obstructs collaborative innovation activities.

---

*“The lack of trust between firms and NGOs is evident. Both parts glares at each other from a distance and criticise the others goal and mission.”*

*«A fundamental trust needs to be established in the industry»*

*«It is important that the participants in the industry understands the others role. This may reduce unhealthy and unnecessary distance and scepticism»*

*«It is important that NGOs and the commercial companies establish a higher understanding for the other parts mission and operation. Only then can we collaborate to find solutions to shared problems».*

*«The aid industry lacks a common strategy. The result is a bunch of small humanitarian organisations fighting first and foremost for their own survival rather than the greater good.”*

The aid industry’s focus on response rather than preparedness is also a source of mistrust between the corporate and the humanitarian side.

*«There is fundamental system failure in the global aid industry. Instead of only responding to crises when they have happened, we have to prevent them from happening. The latter is much more cost efficient, but it will force the humanitarian organisations to change their current way of operations, something they are reluctant to do. They don’t necessarily focus on what is best for poor people, but rather on their own survival”*

### High risk aversion

The fear of failure in the humanitarian industry also represents an obstacle for innovation. Innovation inevitably involves risk and this results in resistance from NGOs.

*«Errors in the humanitarian industry is a matter of life or death, and people’s tax money»*

*«Mistakes quickly makes it to the front page of the newspaper»*

*“It is not so that Norwegian NGOs are stupid in any way, or that they do not want more, but there is a great risk related to innovative thinking and trying out something new”*

*« We currently work on a project that explores the possibilities of block chain solutions and refugees. The immediate reaction from the UN to this project was “but what if it does not work?”*

*“A principle of UN operations is “do no harm”. This is an important principle, but it also leads to an aversion against innovation”*

### Procurement procedures

Tender based procurement processes represents a challenge for innovative products as the tenders are based on yesterday's products instead of asking for solutions to a problem.

*“The UN asks for products they already know well even though the products don't necessarily provide the best results”*

*«We often see that Norwegian firms are better at innovation than the humanitarian organisations are at absorbing them»*

*«We had to submit our product as a head lamp to be able to present it to the UN, even though that is not its primary function”*

At the NHO's conference on internationalisation and development held on the 2<sup>nd</sup> of March 2017, a representative of UNOPS (United Nations Office for Project Services) also acknowledged the challenge of selling innovative products to the tender based UN system, and added:

*“The UN has now developed “The Possibilities Portal”. Here firms can describe their innovative products and their use”.*

### Organisational inertia

Despite the common belief in the importance of innovation in the aid industry, Norwegian NGOs have proven to be relatively slow compared to other nations to make necessary organisational changes to facilitate and welcome innovation processes.

*“The Norwegian refugee council is so far the only Norwegian NGO to have an employee dedicated to work with innovation.”*

*“NOREPS currently support a project to strengthen the internal innovation ability among Norwegian NGOs»*

*«Today, more and more NGOs establish own, separate innovation labs. The aim is to take the innovation activities out of the daily operations. This way it does not have to be restricted by the organisations mandate and risk aversion to the same extent”*

---

### Reduced control

Collaboration with other actors implies a reduction in the control each firm or organisation has over an innovation process. This is the case whether the collaboration is with a supplier, a customer, or other network actors. Daring to take this risk may be important and fear to do so may be an essential obstacle.

*“People’s mind set is the greatest challenge to collaborative innovation. The fear of unknown territories and the uncertain outcome of a partnership are important obstacles”*

*“Communication and trust are important steps to make different actors in the industry less afraid of each other and more open to share the control of innovative processes”*

*“To counter the loss of control and the uncertainty related to collaborative innovation, we currently work on a set of laws to further strengthen the intellectual property rights of the involved parties in such situations”*

### The risk of opportunistic behaviour

In relation to an ongoing product development process in collaboration with a potential customer, one firm draws attention to the potential challenge of opportunistic behaviour by the partner.

*“Has she (the potential customer) talked to anybody else?”*

Organisations face the same risk when collaborating with suppliers. One firm notes:

*“Our first supplier is now one of our greatest competitors. After we left the collaboration, they used our recipe and started making a similar product on their own”*

The risk of opportunistic behaviour is also present when collaboration with other network actors such as competing or complementing firms.

### Time and resource constraints

One firm emphasised the benefit of collaboration and explained their lack of such activities by highlighting how time consuming it is. The lack of internal capacity and time reduces a firm’s ability to pursue strong collaborative innovation relationships with customers, suppliers, or others in the firm’s network.

*“Internal capacity limits our possibility to pursue such activities. We simply do not have the time to search for potential partners for collaborative innovation”*

---

### 6.3 Opportunities

Both Kjetil Roland (Norfund) and Mai Oldegard (Telenor) emphasises the benefits of collaboration at the NHO's conference on internationalisation and development this year. They both commented that:

*“Norwegian firms need more partnerships”.*

The participating firms in this study also expressed a generally positive attitude towards collaborative innovation, whether it is with customers, suppliers, or other network members. The respondents highlights new impulses and product improvements as potential outcomes.

*“Collaboration provides new impulses, especially for a small firm”*

*“Networking is very important to us. We see great advantages related to collaboration with others in our network”*

*“Our firm is contact seeking by nature”*

*“The more actors we collaborate with, the better our products become”*

Further, the fear of losing control does not seem to be high enough to keep them from collaborating.

*“I don't think we would have gone the other way and asked our competitors for help in products development, but it is great that they have asked us”*

*“If you can't beat the enemy, join them.”*

*“Others copying our products as the result of collaboration is not a particular concern for us. That happens anyway.”*

*“None of us will manage to cover the entire world market on our own so it is better to share it”*

#### Increased capacity

One respondent also highlighted increased capacity as a benefit of and an opportunity for collaborative innovation. This could be the case when collaborating with suppliers, customers, or others in the firm's network.

*“Our firm has few employees. That comes with benefits and drawbacks. It enables us to make quick decisions, but it also limits our capacity. Collaborative innovations processes could enable us to draw on more resources”*

---

### Common background

In accordance with the previously mentioned finding of cultural differences being a challenge for collaboration, a common background is mentioned as an advantage that opens up for collaboration. Employees with working experience from an NGO may experience other opportunities for collaboration with NGOs than those without such prior experience because it increases the cultural, organisational, and operational understanding.

*“Coming from an NGO myself I believe it might be easier to get a foot in the door”*

### Common goals

Rubach et al. (2017) finds that actors in a network will be motivated to work together if they share a common business interest. The goal of developing new solutions to unsolved issues can be one such goal that invites to collaboration and overcomes the potential challenge related to collaborative innovation.

*“Off course there is some risk related to doing innovation in collaboration with others, but if it had not been for her (the costumer) we would never have thought of this product development”*

*“If she (the customer) leaves the project, we will still have a new product that we think others would like to buy”*

The UN Sustainable Development goals is another set of goals that provides incentives for innovative collaboration. The UN has decided on 17 issues for which it seeks solutions. To solve different issues, the UN seek packages of products and services. This makes more and more firms realise the need to collaborate to be able to provide complete solutions.

*“Before we focused on clusters, today we focus on gathering companies that together can provide complete package solutions to the sustainability issues stated by the UN”*

*“A solution to the issues the UN focus on typically requires multiple competencies today”*

*“The Sustainable Development Goals provides common goals for us and the NGOs”*

The need to cut costs and the wish to provide solutions that may save more people for less money is another common goal that could provide opportunities for collaborative innovation.

*“The NGOs constantly puts a high pressure on us to reduce costs”*

---

### Knowledge exchange

The respondents also emphasise the need for and the opportunities that could arise from increased communication and knowledge exchange. The customers have important knowledge of which issues need solutions, and the supplier know different ways to solve the issues.

*«We need to talk more with people. Especially our customers»*

*“We are not frightened by the idea of sharing our knowledge”*

*“We experience that there is a lot of attention directed towards the need for firms and NGOs to collaborate»*

One firm relies entirely on their supplier’s product development expertise when they want to implement changes or improvements. Another firm reports that they combine in-house resources with external expertise to develop new products.

*“Our supplier is usually very efficient when we request changes to our product. We tell them what we want, and they find a way to make it happen”*

*“We currently focus on expanding our product portfolio. To develop new ideas, our development guys collaborate with a product design firm”*

Collaboration with other network members is another way a firm may make use of external knowledge. How to introduce new products to the big customer in the industry, the UN, is a returning issue and sharing knowledge on how to do this successfully is highlighted as an opportunity that could come from collaboration with network members.

*“We have not introduced a new product in years. How do we best do this if we want to target the UN?”*

*“Maybe others in our network have some recent experience, but I don’t think they will have the time to help others. Everybody here has time and capacity constraints”*

### **6.4 NOREPS and their potential influence on opportunities and challenges**

The participating firms differ in their views on NOREPS. One has received a lot of help and is highly content with their service.

*“We are very pleased with our membership”*

*“We believe that NOREPS works as a facilitator, enabling commercial/ humanitarian partnerships”*

*“We think that their new focus on innovation is nice”*

---

*“We believe that they can be a valuable discussion partner that can offer information about what is going on in the market”*

Others see more room for improvement.

*“So far we have not experienced that our participation in the network has led to any new customers”*

*“They are very late to respond to our emails”*

*“We have been disappointed by their service in the past, but believe that this can change and that it will be beneficial to continue our participation in the network”*

*“The point of the global growth project is to help each other, but whether that will actually happen, remains to see”*

*“A network is supposed to facilitated collaboration, but I have not seen much of that. We eat and drink, and have a nice time, but that is all”*

*“NOREPS work as a party planner. They serve excellent food and coffee, but where is the content of the meetings?”*

#### NOREPS facilitated partnerships

Despite several negative comments related to the usefulness of NOREPS, all three participating firms have some projects or partnerships that was enabled by the network provider.

*“NOREPS put us in contact with the Norwegian Church Aid and informed us about a tender where we could submit a new product we try to launch in the market”*

*“We collaborate with a Norwegian tent provider that we meet at a NOREPS meeting”*

*“Our first big contract was achieved due to a collaboration facilitated by NOREPS”*

#### Talking about their members

Promoting their members is an important part of a network providers service. The participating firms’ experience with NOREPS practice of doing so is varied. Two reports that they experience NOREPS as good promotor of their firm, while the third believe it to be absent.

*“NOREPS often talk about us to others”*

*“We feel that they often promote us”*

*“NOREPS only talk about the NGOs and rarely about the firms in the network”*



---

### Political influence

Some of the respondents reported a wish for more political work by NOREPS to promote their interests.

*“We wish NOREPS did more to direct Norwegian aid money towards Norwegian providers”*

*“We wish NOREPS could work towards the UN to establish relevant clusters for cooperation. We don’t have the time to do that kind of work”*

Others reported politics to be a challenge to the operations of NOREPS.

*“The funds they hand out are too determined by politics rather than business perspectives”*

*“Norway has a departmental agreement with EMRCOM (Russian ministry of emergency), one of the world’s largest organisations for crisis preparedness. The agreement states that we are to collaborate on crisis in third part countries. NOREPS has the executive responsibility for this agreement, but because of the “political climate”, they refuse to touch it. Just think about all the knowledge exchange that could have happened if we were allowed to cooperate with the Russians”*

### Structural challenges

The governmental funding that goes through NOREPS is reserved for the NGOs and the network provider is criticised for not being a neutral provider, but one that prioritise the needs of the humanitarian organisations.

*“The fact that they finance the NGOs is one of the major problems with NOREPS. It makes them biased”*

*“They (NOREPS) are too concerned with the needs of the NGOs over ours (commercial firms)”*

Despite the focus on preparedness in their name (the Norwegian Emergency Preparedness System), the network provider is criticised for their lack of preparedness thinking and their focus on response in the aftermath of disasters. One respondent highlights how this focus is in conflict with goals articulated by the UN.

*«Even the UN tries to move away from the response approach. They have stated that: “We need to change our focus; to manage risk rather than managing disasters” (UNISDR)”*

The response focus represents an obstacle to the responding firms operations and innovative activities.

---

Another structural challenge highlighted by a respondent, is the lack of nodes in the network.

*“In a well-developed network, all actors should be connected so that if you “touch” one actor, the whole network vibrates. This is not the case for the NOREPS network”*

#### Employee background and lack of relevant competencies

Related to the critique of NOREPS being biased towards the NGOs, the employees working for NOREPS was criticised for not having backgrounds that covers the needs of the participating firms.

*“None of the NOREPS employees have sufficient market knowledge seen from a business perspective”*

*“Their employees only have experience from humanitarian organisations. Social scientist are fine, but they should at least have some employees with a business background”*

---

## 7. Analysis and Implications

This study aim to answer the question of which opportunities and challenges exists for product and market innovation in collaboration with other actors for firms in the Norwegian aid industry. Additionally, the effect of the NOREPS network on the participating firms' opportunities and challenges are investigated. To identify the implications of the conducted study, this section will begin by analysing the relevant relationships identified. Then the actor-resource-activity framework will be used to provide a structure for the analysis of the empirical data and the identification of opportunities and challenges. Lastly, the influence of NOREPS is explored. The different value creation logics of firms and the network provider are emphasised to illustrate the framework in which the organisations exists and may provide value for one another.

### *7.1 Relationships and the challenges and opportunities they entail*

#### *7.1.1 Relationships and innovation*

The participating firms in this study are related to multiple actors through various ties which affects the nature and their scope of action (Wilkinson & Young, 2002). The firms' relationships vary in content, strength, importance, and duration (Ford et al., 2011). Strategizing in a network is about building, maintaining, and exploiting relationships *with* others, rather than competing *against* others (Løwendahl & Revang, 1998). Based on the empirical data, the customer and supplier relations of the participating firms appears to be the most important ones in terms of challenges and opportunities related to collaborative market and product innovation. The potential benefit of a relationship depends on the dedication of the participating actors. Their willingness to invest, adapt and learn is essential (Ford et al., 2011). The following section will begin by analysing the participating firms most important relationships according to type (customers, suppliers, others) and strength (strong, weak), before the identified challenges and opportunities for collaborative innovations are discussed.

#### *7.1.2 Customers*

The participating firms face three different types of customers: Humanitarian organisations, governmental organisations, and commercial customers. The interface between humanitarian organisations and commercial firms represent the

---

most interesting challenges and opportunities for collaborative innovation in the industry, and will hence be granted an emphasis in this analysis. The conducted study identifies customers as important contributors of new ideas as identified by numerous previous studies (i. e. Biemans, 1995; Gemünden, Ritter, & Heydebreck, 1996; Hippel, 1988; Håkansson, 1987). The importance of customer input in innovation processes can partially be attributed to the size of the participating firms. Pavitt (2005) finds that small firms are especially dependent on customer feedback in innovative processes and his findings coincides well with the situation of the firms in this study.

*Humanitarian organisations:* The UN appears to be the crucial customers for firms operating in the aid industry. The size of their aid budget and their number of relevant sub-organisations makes them a highly influential purchaser of aid and emergency products. Other NGOs also represents important customers for the participating firms despite their smaller budgets. The UN base their procurements on tenders. This approach limits both their involvement in, and the duration of, supplier relationships as the competition reopens once a tender expires. Several other NGOs also base their procurements on tenders today, with the same result in terms of relationship strengths with producers.

The relationship one of the participating firms have with the UNHCR can be categorised as semi-strong because of currently frequent purchases of considerable size, but uncertainty in the long run as the relationship is unclear beyond the point of the three year long contract. Strong ties are supposed to be beneficial for collaborative innovation as it can increase the openness and trust between organisations (Fagerberg, 2005). The firm has gotten the opportunity to conduct important fieldwork to camps run by UNHCR, and this seems to be the result of their semi-strong tie. During the field trips, the firm has been able to observe customer needs and make necessary product improvements. However, their difference in size and influence makes the firm far more dependent on the UNHCR than the other way around. This obstructs exchange on equal terms between the parties. The two other firms in the study have had previous contracts with the UN, but now struggle to find new ways to win UN tenders.

---

*Governmental organisations:* Governmental organisations relevant to the participating firms, such as the civil defence, appears to be characterised by their slow procurement and decision-making processes. Their procurements are also largely tender based, and the distance it creates between customer and supplier appears to limit the exchange of information. Governmental organisations were not reported to represent significant challenges or opportunities for collaborative innovation.

*Commercial costumers:* All three participating firms also serve commercial customers. One of the participating firms highlighted smaller commercial customer relationships as a source of product and market innovation. These relationships were relatively weak and exposed the firm to several new ideas and impulses.

### *7.1.3 Suppliers*

The cost of purchased goods and services represents one of the main costs for all participating firm. As such, their supplier relationships are important determinants of their efficiency and efficacy (Ford et al., 2011). To make the most of a supplier relationship, both buyer and supplier have to forge extensive interpersonal interaction, coordination of activities and mutual adaption of resources (Gadde & Snehota, 2000; Takeuchi & Nonaka, 1986). One of the participating firms relies heavily on their supplier as all production and product innovation is outsourced (Gadde & Snehota, 2000). Their relationship can be characterised as strong due to their frequent interaction over several years. The strength of their relationship appears to facilitate openness, trust and commitment. The two other firms have less dependent supplier relationships as they have kept parts of their production and/or product development in-house. These lower involvement relationships are easier to change if new and better partners are identified. Weaker ties can position firms to be more open for new ideas and information (Powell & Grodal, 2005).

### *7.1.4 Other network partners*

The customer and supplier relationships of the participating firms represents the currently most valuable and most used relationships for collaborative innovation. This finding is in accordance with the discoveries of SSB. Other network partners, such as competitors with complementary knowledge may, however, represent

interesting and untapped opportunities and challenges. To develop innovative solutions to humanitarian issues, more and more types of knowledge are necessary. NOREPS acknowledge this need to match previously unfamiliar actors and frequently experiences that their members' needs knowledge held by firms or clusters outside the NOREPS pool, such as financial or educational technology clusters, to develop innovative solutions to humanitarian problems. Due to the participating firms' lack of experience with innovation in collaboration with other network partners than customers and suppliers, collaboration with other network partners will not be further explored here.

The firms' most important relationships will now be analysed according to the categories identified with the help of the Actor-Resources-Activities framework.

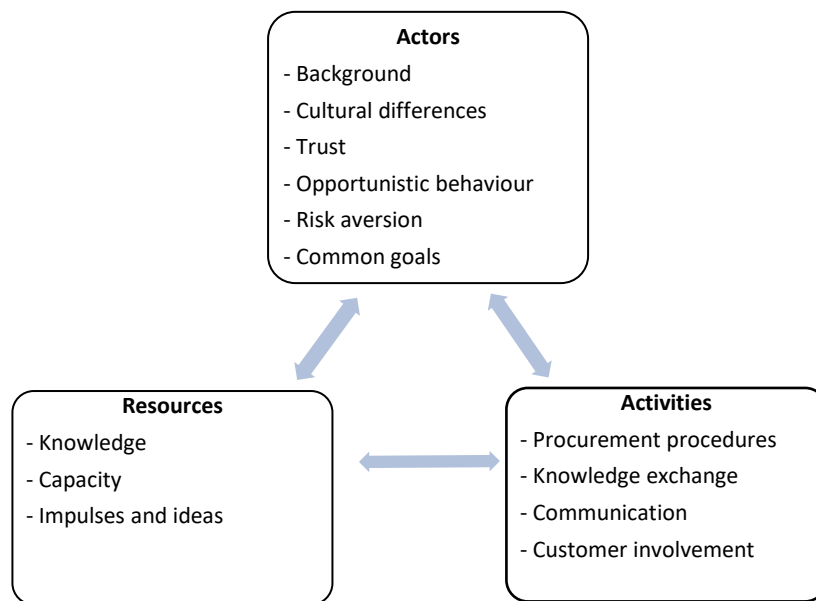


Figure 8: Main challenges and opportunities identified

## 7.2 Actors

A relationship typically starts with an initial contact between members from two organisations (Ford et al., 2011). As evident in the empirical findings, the characteristics of the actors and the bond they form highly influence the relationship and the opportunities and challenges the relationship entails. Actor bonds condition the ways firms engage in activity coordination and resource exchange (Gadde et al., 2003). The actors' background, the risk of opportunistic behaviour by partners, trust issues, a lack of mutual understanding, cultural differences, actors' risk aversion,

---

goals, and control issues affect the opportunities and challenges for collaborative innovation.

### *7.2.1 Background*

The empirical data indicates that actors with a similar background have an increased potential for collaborative innovation. This is particularly evident in the relationship between humanitarian organisations and the participating firms. Both educational background and previous working experience appears to have an impact on the actor bonds that can be formed across companies. Employees of commercial firms typically have a business education combined with previous working experience from other commercial firms. Employees of humanitarian organisations often have an educational background from social science and previous working experience from voluntary work. The lack of communalities in their background appears to represent a challenge to collaboration because of the social distance it creates. Social distance involves an unfamiliarity with the others way of thinking and working (Ford et al., 2011). The same challenge is not present in the participating firms' relationships with commercial customers or with their suppliers. Further, the data suggests that having one or more employees with experience from the other type of organisation, i.e. experience from a humanitarian organisation and now working for a firm, or with an atypical educational background, i.e. a degree in social sciences working in a commercial firm, may ease the work of creating beneficial actor bonds and open up for opportunities for collaborative innovation.

### *7.2.2 Cultural differences*

While different backgrounds results in social distance between actors, cultural differences reflects any normative or value-related distance between two firms. The value-related distance between commercial firms, which are profit seeking, and humanitarian organisations, which are based on a non-profit ideology, is particularly evident and has been highlighted as an issue by all respondents. Their different business logics inhibits a mutual understanding for the other type of organisation's way of operating. The NGOs appears to believe that the profit seeking nature of firms limits their ability to contribute to humanitarian projects. The firms, on the other hand, express a scepticism to the genuineness of the NGOs dedication to the greater good over their own survival. This mutual scepticism, lead

---

by stereotypes and prejudice, leads to a lack of trust and confidence, which are important factors for innovation in network (Freeman, 1991). Their absence creates challenges for collaborative innovation. However, as Leonard-Barton (1995) notes, innovation happens at the intersect between different mindsets and experiences. This indicates that if the cultural differences are managed in a good way, the current obstacle to collaborative innovation could potentially be turned into a great opportunity. NOREPS actively try to facilitate communication between the different types of actors and tries to increase their knowledge of the others to reduce the negative effect of cultural differences. Cultural differences has not been highlighted as a problem in relation to commercial customers or suppliers.

### *7.2.3 Trust*

From an industrial network perspective, trust is an alternative to institutional arrangements (Gadde et al., 2003) and a prerequisite for actor bonds (Ford et al., 2011; Hakansson, 2015). The empirical data shows that the lack of trust between humanitarian organisation and commercial firms is an important obstacle to collaborative innovation as it inhibits the development of actor bonds. The lack of trust appears to be related to the cultural and social distance between the actors in the two types of organisations. According to Huemer, Krogh, and Roos (1998) a lack of trust can further inhibit knowledge sharing, which is of particular importance to the actors in the aid industry. The lack of trust can be the result of the weak ties between the participating firms and the humanitarian organisations, which again is the result of, among other things, tender based procurement procedures. Base on the work of Huemer et al. (1998), the trust issue identified in this study appears to be of a social and moral character based on emotions and different identifications and organisational identities. Trust was not highlighted as an issue between the firms and commercial customers or suppliers.

### *7.2.4 Opportunistic behaviour*

The risk of a partner deviating from the goal of creating something that is mutually beneficial for the sake of something else that maximises the benefits a partner obtains is a risk when collaborating with others. Ford, Hakansson, and Johanson (2002) argues that the establishment and development of interorganizational



---

relationships requires a “mutual orientation”. Without a mutual orientation, actors focusing on their own benefits may preclude the gains from collaborative innovation. The gathered data shows that the firms perceives the risk of opportunistic behaviour by partners as present when collaborating with commercial customers and suppliers. The risk of a commercial customer talking to several firms about the same idea or product development is perceived as potentially damaging.

The risk of suppliers using knowledge obtained from the collaboration with the participating firms is both an experienced issue and a current worry. The respondents express different challenges related to patenting issues. Relationships with suppliers largely consists of knowledge that can be articulated and written down. Products based on codified knowledge are easier to copy than those based on tacit knowledge (Teece, 1986). Additionally, the legal protection of collaborative innovation is deficient. NOREPS currently contributes to the development of a new set of local laws that is hoped to increase the protection of collaborative innovation work conducted in Norway. Despite any patenting issues, the firms’ need of the suppliers’ technical knowledge appears to surpass the risk of the suppliers stealing their product receipt on a later stage.

The risk of opportunistic behaviour by humanitarian customers was not mentioned by any of the respondents. The reason for this might be that there are other more pressing issues that prevents the respondents from highlighting this topic, or simply that they haven’t experienced humanitarian organisations deviating from collaborative goals.

#### *7.2.5 Risk aversion*

The fear of failure is prominent in the aid industry and represents another obstacle for innovation. Innovation inevitably involves risk (Schumpeter, 1983) and this results in resistance by the NGOs as testing out new products and solutions may lead to the loss of lives among people in need. Because failures may entail great consequences, the industry is particularly conservative. Foreign NGOs may have some more slack when it comes to risk taking as they are often privately founded. Norwegian NGOs on the other hand are typically founded over the state budget. If a Norwegian NGO makes severe mistakes, it quickly makes it to the front page of newspapers along with critiques of their spending of tax money.

---

For innovation to occur, a reasonable profit that outweighs the risk and cost of undertaking such actions must be present (Dosi, 1988). Even more so is this the case when collaborating with others on innovative activities as the participants may experience reduced control over the process (Dodgson, 2014) and hence higher risk related to the project. At the NHO's 2017 conference on internationalisation and development, the CEO of NHO Kristing Skogen Lund, drew attention to the need of providing risk mitigation to Norwegian firms in the aid industry. NOREPS is aware of this challenge, and aims to provide risk mitigation by supporting innovation in the industry with capital, resources and shared responsibility.

Another way to overcome the challenge of risk aversion among humanitarian organisations, is to extract innovative activities out of the daily work. UNHCR have for example established innovation-labs that allow them to experiment with new solutions without being restricted by the organisation's mandate and daily operations. However, the empirical findings indicates that Norwegian NGOs exhibits a certain degree of organisational inertia and have jet to implement such measures to facilitate innovation.

Risk aversion among suppliers and commercial customers have not been identified as a challenge.

#### *7.2.6 Common goals*

Rubach et al. (2017) finds that actors in a network will be motivated to work together if they share a common business interest. The actors in the aid industry have several goals in common such as the wish find cost efficient solutions that can save more people for less money, and the goal of developing new solutions to unsolved issues. The industry is also trying to work with the business opportunities represented by the Sustainable Development Goals (SDG) developed by the UN. The SDGs represents the 17 issues the UN wish to focus on and direct their money towards. NOREPS currently try to implement the SDGs in their work and aims to organise the network member firms they believe can provide good solutions together. To reach the SDGs, the UN seek providers that can offer packages of products and services. This makes more and more firms realize the need to collaborate to win UN contracts. Cultural differences, the lack of mutual

---

understanding, and the lack of communication are obstacles to collaborative innovation as they hinder the actors' ability to realise their coinciding goals. If these challenges are overcome, however, their common goals represent opportunities for collaborative innovation.

### **7.3 Resources**

The breadth and depth of a relationship between two organisations determines their ability to draw on the other's resources (Gadde et al., 2003). Strong ties with suppliers represent interesting opportunities, while the weaker ties to humanitarian customers represent a more challenging situation for sharing of resources. The opportunity to interact with network partners is of particular importance to small firms, such as those participating in the study, as they have to compensate for a lack of internal resources (Håkansson & Waluszewski, 2007; Johnsen & Ford, 2000). The NOREPS network and the participating firms' own networks are diversified and provides access to a variety of organisations which broadens the resource base network partners potentially can draw on.

#### *7.3.1 Knowledge*

Knowledge is identified as the most important resource for innovation in the study. Technical knowledge related to product development and knowledge regarding customer needs stands out as crucial for successful operations and innovation among the participating firms. According to Gadde et al. (2003), the value of a resource (such as knowledge) changes with the way it is combined and later recombined with other resources (for example the knowledge of another actor). The combination of different types of knowledge is an opportunity for innovation, and the participating firm's ability to absorb knowledge from the outside and combine the technical knowledge of suppliers with knowledge regarding customer needs determines their innovative ability. None of the participating firms possesses all relevant knowledge themselves and hence has to be able to exploit external knowledge. In order to do so, firms need to be able to recognise the value of new information, assimilate it and apply it to commercial ends (Cohen & Levinthal, 1990; Fagerberg, 2005). The lack of communication between humanitarian organisations and commercial firms in the industry reduces the participating firms' ability to make use of relevant external knowledge.

J. H. Dyer and Singh (1998) highlight the challenge of identifying partners with resources that may be valuable in combination with its own resources. They argue that a firm's ability to find a partner with for example knowledge that can turn into profitable innovations when combined with the firm's own knowledge, depends on the firms prior alliance experience, its capability to search and evaluate other firms, and its position within a network. The firms studied have limited prior alliance experience and a limited capacity to search and evaluate other firms. Their position within the network only provides access to limited information about potential partners. This is, however, an area where NOREPS have proven valuable as a creator of opportunities for collaborative innovation. Acting as hub in their constructed network, they have connected organisations where they have identified opportunities for collaboration on multiple occasions. Because of their central position in the network, they have access to information about the different network members and can help members find valuable partners.

### *7.3.2 Capacity*

Increased capacity is highlighted as an opportunity related to collaborative innovation. As all participating firms are relatively small in terms of number of employees and often preoccupied with administrative work and following up existing products, their capacity to pursue different innovation opportunities are limited. By collaborating with others, this capacity can be increased by using human resources and knowledge from other firms. On the other hand, limited capacity was also identified as an obstacle to collaborative innovation. Collaboration is time consuming, both before, as one has to spend time finding a suitable partner, and during the innovation process itself. If a firm lack the capacity to pursue such activities, this will limit their collaborative innovation.

### *7.3.3 Impulses and ideas*

The relatively weak ties between the participating firms and their commercial customers does not represent any profound opportunities for exchange of complex knowledge. They do, however, represent excellent opportunities for new ideas and impulses. One of the participating firms have several ongoing product improvement processes because of input and requests from commercial customers. This finding

---

coincides well with the findings of Powell and Grodal (2005) who identifies weak ties as way to introduce novelty to a firm as weak ties have a longer reach and may provide new ideas and information.

#### ***7.4 Activities***

The activities of the participating firms and their network partners represents the last group of challenges and opportunities to collaborative innovation. During the conducted study, the following aspects were identified as the most interesting: Procurement procedures; exchange of knowledge; communication; and customer involvement. Activities are carried out by actors and concerns the production or transformation of resources, and transactions between organisations.

##### *7.4.1 Procurement procedures*

The humanitarian organisations' tender based procurement procedures represents a challenge for firms trying to sell innovative products. The nature of tenders makes NGOs ask for yesterday's products instead of asking for the best solutions to a problem. When the NGOs only ask for certain products, it becomes challenging for firms to find ways to make the NGOs even consider their new products. The attendance-pattern to the increasingly popular trade shows in the industry has also been noted as a challenge for innovative products. Programme staff rather than procurement employees typically attend trade shows. Procurement staff specify what they would like to procure, and their absence from trade shows limits their insight to new, available products and reduces humanitarian organisations demand for innovative products (Norad, 2008). The UN is aware of these challenges and tries to implement measures to facilitate other types of procurement procedures that opens up for innovative products. The possible effects of these measures requires more time to mature.

##### *7.4.2 Knowledge exchange*

As previously argued, knowledge is identified as one of the most important resources for the participating firms' innovative ability. The actor's ability to perform the activity of knowledge exchange therefore becomes equally important. Rapid technological advancement makes it challenging for a firm to keep up with

---

the development in every area of expertise that it depends on. Suppliers specialised in certain fields are, however, much better positioned to keep up and provide the latest technologies to a buyer (Ford et al., 2011). The case firms collect information about customer needs and transfer this knowledge to the producer, which then combine their technical knowledge with the customer knowledge to make product improvements. The challenge to collaborative innovation is again to be found in the humanitarian – commercial firm relationship. Their lack of strong ties inhibits exchange of complex and valuable information regarding customer needs. Cultural differences and a lack of communication combined with mistrust are some of the obstacles that inhibit efficient knowledge exchange and lead to challenges for collaborative innovation.

Von Hippel (1988) argues that a network with superior knowledge transfer mechanisms will be better positioned to achieve innovations. Strategic network scholars assume that routines can, and should, be established for interfirm knowledge-sharing (Gulati et al., 2000). Many of the respondents, including the representative of NOREPS, highlight the importance of knowledge sharing for innovation. Still, few formal structures for systematised knowledge sharing between the members were identified during the study. The gathered responses indicate that lunches and other network meetings are the most frequently occurring happenings where knowledge sharing between members can take place. Programs such as Global Growth appear to be organised primarily as knowledge-transfer from NOREPS to the firms, and secondarily as a potential knowledge-sharing arena for the firms.

#### *7.4.3 Communication*

The empirical findings show a lack of communication between different actors in the network and several respondents highlight this as a major obstacle to collaborative innovation. Martone (2002) draws attention to the compartmentalisation in the aid sector and how this inhibits communication. Different organisations such as human rights agencies and humanitarian assistance providers often work side by side, towards similar goals, without any form for collaboration or communication. This slows down learning and restricts

---

interchange of ideas, knowledge, and experience. Compartmentalisation is also evident between the humanitarian sector and the commercial sector. Direct links between humanitarian actors and commercial actors are relatively rare, except for procurement links or support for humanitarian work as corporate social responsibility initiatives (Norad, 2008). The geographical distance in the industry, both between different providers and between customers and providers, adds another obstacle to communication between the actors in the industry (Norad, 2008).

The lack of communication between NGOs and firms amplifies the trust issues. NOREPS aims to facilitate meetings where different members can learn about each other and discuss changes in the humanitarian environment. An important component of NOREPS' work is not only to offer time and place for collaboration, but also to convince the different actors of the usefulness of communication. Commercial suppliers often perceive their existing products as unique and complete without really knowing the needs of the humanitarian organisations. The humanitarian organisations on the other hand shun sales representatives from commercial suppliers and believe that the firms will push goods they do not need. The empirical findings indicates that facilitating communication to mitigate the cultural differences and enable the network members to take advantage of the possibilities that exists in the variety the network represents, is one of NOREPS's most important tasks. Communication issues in the industry is something NOREPS currently focus on, but further work remains to enable the actors in the network to make full use of the opportunities that exists for collaborative innovation.

#### *7.4.4 Customer involvement*

Both the literature and the respondents argue for the value of early customer involvement in innovation processes, as knowledge about their needs and expectations is a key factor for success (Håkansson & Waluszewski, 2007; La Rocca, Moscatelli, Perna, & Snehota, 2016; Tuli, Kohli, & Bharadwaj, 2007). Several cases of early customer involvement in innovative processes were found between the participating firms and commercial customers. This finding is in accordance with, among others, Von Hippel (1988) who argued for the dominant role of users in generating ideas.

In the relationship between humanitarian organisations and commercial firms, the lack of early customer involvement is highlighted as a challenge. The respondents argue that the lack of early customer involvement leads to firms developing products they believe the NGOs want, but that the firms' guess of their customers' needs often fail. The result is incomplete products and NGOs feeling harassed by firms trying to sell products that does not solve their problems. Early customer involvement in innovation processes could increase the participants' opportunity to learn from each other and improve the success probability of an innovation process. NOREPS acknowledge the benefits of early involvement and tries to encourage their members to do so. NOREPS believes that trust and mutual understanding can be accomplished by earlier customer involvement.

### ***7.5 The NOREPS effect on opportunities and challenges for collaborative innovation***

#### ***7.5.1 How NOREPS creates value***

To understand how NOREPS affects the challenges and opportunities for the participating firms in relation to collaborative innovation, one can distinguish between the different types of value creation logics among the study objects. The value creation logic of the participating firms is best described as a chain configuration (i. e. Stabell & Fjeldstad, 1998). They provide value by transforming input into products, either by in-house production or with the help of contracted manufacturers. The better their products solve the issues of their customers, or the more their products can reduce the operation costs of the customer, the higher the customer value.

The value creation logic of NOREPS is best described as a network configuration (i. e. Stabell & Fjeldstad, 1998). NOREPS provide value by connecting members and enable exchange relationships between them. These exchange relationships may consist of goods, capital, and/or knowledge. The current goal of NOREPS' service is to foster humanitarian innovation and preparedness. The services provision of NOREPS consists of monetary support to humanitarian organisations in Norway and the UN, training courses to increase firm knowledge of the



---

humanitarian industry, networking-events, and advisory services. The infrastructure operation of NOREPS consists of their office in Oslo with six advisors and their web page where information about their service and events are communicated. NOREPS is a constructed network financed by the government and established to reach specific goals. The boundaries of NOREPS can be defined by membership fees, and a group of individuals have been employed to manage the network. They manage it through service provisioning and by making changes to the membership base. NOREPS takes on the role as hub in the network and tries to act as the central nervous system that connects all the participating firms and organisations. The impact of NOREPS will in the following be analysed according to their ability to provide connectivity and conductivity. The main challenges are identified as structural challenges.

#### *7.5.2 Connectivity*

NOREPS can facilitate collaborative innovation in the Norwegian aid industry by positively affecting whom or what member are able to connect to. The empirical findings of this study shows, however, that not all members feels adequately connected to the rest of the network. Respondents highlighted a wish for more promotion by NOREPS of the different firms in the network and indicated that the network lack sufficient nodes connecting the different network members. This reduces the perceived connectivity, which again reduces the value of participating in the network.

NOREPS can positively affect members' ability to connect to valuable partners through provisioning of partner information. The participating firms have limited access to information about their network partners and searching for good partners for collaborative innovation is time consuming and challenging. Because of their central position within their network, NOREPS have access to information about the different network members and can help members find partners with complementary resources. This can facilitate opportunities for collaborative innovation.

---

To further increase the connectivity in the network, NOREPS tries to increase their members' awareness of their common goals. A constructed network can foster innovation among its participants if the network members are motivated by the opportunity to work together. This motivation is present when the members share a common business interest (Rubach et al., 2017). Huemer et al. (2004) takes a set of common goals as a prerequisite for the survival of a strategic network. Although the different member of the NOREPS network have several common goals and a common business interest in identifying cheap, efficient and innovative solutions to humanitarian problems, their awareness of their coinciding goals seems to be low and obstructed by cultural differences and mistrust. NOREPS tries to enhance their members' knowledge about their common goals by increasing members' knowledge about one another and foster communication.

### 7.5.3 Conductivity

NOREPS can also foster possibilities for collaborative innovation by affecting *what* members manage to transfer between them and how *fast* they can do it. Knowledge transfer between the different organisations in the study is an important activity for innovations to be realised. The lack of knowledge transfer is one of the major challenges identified, and an important field where NOREPS can contribute. Communication and knowledge transfer is obstructed by the social and cultural difference between the actors, their lack of trust and lack of communication. NOREPS tries to facilitate communication between the different types of actors and to increase their knowledge of one another in order to increase mutual understanding and build trust.

Additionally, NOREPS frequently experiences that their members needs knowledge held by firms or clusters outside the NOREPS' pool to develop innovative solutions to humanitarian problems. To facilitate necessary cooperation, NOREPS wish to ease the accessibility for non-members to the network and tries to help members search for partners outside their network boundaries. One example of such a case is illustrated by UN's wish to explore the possibilities of block chain in relation to refugees without identity papers. To enable this, NOREPS invited and convinced non-typical member groups with the right knowledge, such as hackers and FinTech firms, to participate in its problem solving sessions.

To impact the timing of knowledge exchange, NOREPS tries to facilitate early customer involvement in innovative processes. The network provider believes that early collaboration is a key to successful innovation, and work to convince their members that early collaboration is beneficial for both parties. NOREPS believes that trust and mutual understanding can be accomplished by earlier customer involvement.

Both the fear of opportunistic partner behaviour and the NGOs general risk aversion in relation to innovations represent obstacles for knowledge exchange and collaborative innovation. NOREPS aims to reduce their members experienced risk of opportunistic partner behaviour by contributing to ongoing work on a new Norwegian regulatory framework for collaborative innovation that protects the different participants' interests. The network provider also tries to offer risk mitigation by supporting innovation in the industry with capital, resources, and shared responsibility.

The empirical data indicates the importance of NOREPS' work on facilitating knowledge exchange and communication, but also that their work may be at a premature stage and in need of continued focus to enhance its members' opportunities for collaborative innovation. By facilitating knowledge exchange and communication, NOREPS can enable their members to take advantage of the possibilities that exists in the variety the network represents.

#### *7.5.4 Structural challenges*

A bias towards the humanitarian organisations were also expressed during the interviews, and such a bias would indicate that NOREPS inadequately fulfils its role as hub for all its members. This bias seems to stem from the way the network is designed. NOREPS allocate certain funds, but only to the humanitarian organisations in the network. Respondents expressed a concerned that NOREPS first have the NGOs best interest in mind, and secondly the interest of the firms. This bias seems to be further fuelled by the employees that NOREPS choose to hire. Respondents argued that the network provider lack competencies on issues relevant

---

for the firms such as marketing and business, as their employees typically have a background from the social sciences and/or humanitarian organisations.

#### *7.5.5 The NOREPS effect*

Overall; the respondents express different levels of satisfaction with the network provider. NOREPS appear to have their focus on the right issues, but turning that focus into results that fosters opportunities for collaborative innovation in the Norwegian aid industry still requires continued work. Reviewing their current structure and design to ensure that they equally represent all network members may be fruitful if the network provider truly wish to increase their members' opportunities for collaborative innovation. The humanitarian organisations and the commercial firms appears to have the same need for a mediating actor that can facilitate cross-organisational collaborations and all voices have an equal need to be heard if the industry is to achieve this goal.

---

## 8. Conclusion

The conducted study has revealed several challenges and opportunities for collaborative innovation in the Norwegian aid industry. Some more important than others. The following conclusion will highlight the key findings from the study along with theoretical and managerial implications. Finally, suggestions for further research will be presented.

### *8.1 Key findings*

This study identifies customer and supplier relationships as the most valuable partnerships for collaborative innovation among the participating firms. Collaboration across business logics, here represented by profit-seeking firms and humanitarian not-for-profit organisations, represent both most challenges and opportunities. The main challenges identified are social and cultural differences, lack of trust, lack of communication, risk aversion, low degree of knowledge transfer, late customer involvement, unawareness of common goals, and tender based procurement procedures. The main opportunities are those factors that enables firms to overcome these challenges and make use of the existing actor variety in a network in terms of skills, knowledge and resources. Increased communication, a focus on common goals, risk reduction measures, early customer involvement, and mutual understanding for the others way of operation represents great opportunities for collaborative innovation. More collaborative innovation in the Norwegian aid industry may result in new products and solutions that can benefit people in need, humanitarian organisations and firms across the world.

NOREPS has both been applauded and criticised for their ability to connect members and enable exchange relationships between them. The network provider has changed their focus several times over the years, and their current orientation towards facilitating innovation among their members represent interesting opportunities. NOREPS appears to be well aware of the most pressing issues that represents challenges to collaborative innovation among their members, and appropriate measures to counter these seems to be in place or on their way. However, issues such as ensuring communication, reducing mistrust, and facilitating knowledge exchange is tedious work that requires more time before a final evaluation of the degree of success related to their efforts can be determined.

---

### ***8.2 Theoretical contribution***

The empirical data gathered contributes with insights to certain micro-processes that affects the macro-structures of networks as requested by Kastle and Steen (2014). The challenges and opportunities actors in networks experience will determine their activities within that network. Based on the assumption that cross-organisational collaboration is beneficial for the participants, this type of insight provides guidelines for work related to increase the collaboration among network members. This is particularly the case in constructed networks where one organisation functions as the centre and tries to manage the dynamics within the network.

The study further adds insight to the particular issue of collaboration between different types of business logics, such as the humanitarian non-profit organisation and the classical profit-seeking firm. The study uncovered an unexpected number of issues specific to this type of collaboration, and actors trying to make it in this industry appears to benefit from a better understanding of the special challenges and opportunities they face.

### ***8.3 Managerial contribution***

Based on the underlying premise that collaborative innovation is valuable for the actors that participate, and that collaboration can result in ends which none of the participating firms could have achieved in isolation, the findings from the conducted study implies that managers should prioritise the time and effort it takes to both find and nourish good relationships. The findings further suggests that awareness of firm differences is a key to successful collaborative innovation. When relevant differences are identified, actions that enables firms to make use of the opportunities that exists in these differences can be taken. If the differences are not handled, they will continue to represent challenges.

The identified challenges and opportunities to innovation in collaboration with other network partners overlap and are interrelated to some extent. The different challenges represent prosperous opportunities for managers who finds a way to turn them into opportunities. The process of turning challenges into opportunities does,

---

however, not seem to be a linear one, but rather a circular process connecting various actions and outcomes. It seems that communication can facilitate trust, and trust may also be the source for more communication.

#### ***8.4 Limitations and suggestions for further research***

While this study has identified opportunities and challenges for innovation in networks, the next step should be to further investigate *how* to best make use of the opportunities and overcome the challenges. Interesting avenues for further studies is, for example, how to establish trust, facilitate communication, and facilitate knowledge exchange between actors who are distanced by social and cultural differences.

Another interesting direction for further studies would be to focus on other network partners, such as competitors. Competitors may have complementary knowledge that represents interesting and untapped opportunities and challenges. To develop innovative solutions to humanitarian issues, more and more types of knowledge are necessary. Due to the participating firms' lack of experience with innovation in collaboration with competitors, it was not possible to investigate this dynamic in the conducted study.

This study has focused on small firms. It would be interesting to conduct a similar study with a focus on larger firms, and a comparison of the challenges and opportunities firms of different sizes face with regards to collaborative innovation. Following up the findings of this qualitative study with a quantitative study of more firms connected to the NOREPS network to further test the validity of the findings discovered in this work would be another fruitful avenue of research.

## 9. Appendices

### 9.1 Interview guide firms

Introduction	<ul style="list-style-type: none"> <li>- Ask for permission to record</li> <li>- Provide a definition of innovation.</li> <li>- Explain purpose of study</li> </ul>
Brief history	<ul style="list-style-type: none"> <li>- Start up history of firms</li> <li>- Which competencies did the newly established firm possess?</li> <li>- How did you conduct product development/ find suppliers?</li> <li>- How did you establish your first customer relationship?</li> <li>- Which markets/industries did you serve in the beginning?</li> </ul>
Current situation	<ul style="list-style-type: none"> <li>- How has the company developed up until today?</li> <li>- Who are your three largest customers today?</li> <li>- How many employees do you have?</li> <li>- Which markets/industries do you cover today?</li> <li>- How is the competitive situation today?</li> </ul>
Collaborative innovation	<ul style="list-style-type: none"> <li>- How do you conduct current product development? Alone? With partners?</li> <li>- Are you looking for ways to expand to other markets/industries? Alone? With partners?</li> <li>- What do you see as the greatest challenges when/if working with others to develop new products or reach new markets?</li> <li>- What do you see as the greatest benefits?</li> </ul>
NOREPS membership	<ul style="list-style-type: none"> <li>- When did you become a part of the network?</li> <li>- What is your experience with the network?</li> <li>- Have you conducted any market of product innovation in collaboration with other NOREPS members? Do you have any plans to do so?</li> <li>- Which possibilities/challenges do you believe there is to collaborative innovation with other network partners?</li> <li>- Is there any areas you wish the network provider could be better at?</li> </ul>
End	<ul style="list-style-type: none"> <li>- Any final comments?</li> <li>- May I send you an email if more related questions arise?</li> <li>- Thank you</li> </ul>



## 9.2 Interview guide NOREPS

Introduction	<ul style="list-style-type: none"> <li>- Ask for permission to record</li> <li>- Provide a definition of innovation.</li> <li>- Explain purpose of study</li> <li>- Background and position in NOREPS</li> </ul>
Shift in focus from prepositioning to innovation	<ul style="list-style-type: none"> <li>- Could you elaborate on this change?</li> <li>- How do you work to facilitate innovation among network members?</li> <li>- What do you perceive as opportunities and challenges of doing innovation in networks?</li> <li>- Are you familiar with what drives or hinders your members from doing innovation in networks?</li> </ul>
Membership	<ul style="list-style-type: none"> <li>- How does one become a member of NOREPS? <ul style="list-style-type: none"> <li>- Fee?</li> </ul> </li> <li>- How do you perceive future growth in the industry? Opportunities/ challenges?</li> <li>- What do you believe is your member's greatest current challenge?</li> <li>- Could you elaborate on the rapid growth in the membership base?</li> <li>- How can Norwegian firms compete in the global market?</li> <li>- Do you provide any "back office services"?</li> </ul> <p>Ex accounting, export advice, adding your product to the UN procurement base, office space or meeting places.</p>
Projects	<p>Could you elaborate on the following projects?</p> <ul style="list-style-type: none"> <li>- UN Women Innovation Partnership</li> <li>- Global growth</li> </ul> <p>How do they facilitate collaborative innovation?</p> <ul style="list-style-type: none"> <li>- How will it be structured?</li> </ul>
	<ul style="list-style-type: none"> <li>- Does similar neighbouring national organizations exist? <ul style="list-style-type: none"> <li>- Like "SWEREPS"?</li> </ul> </li> <li>- Has NOREPS conducted any surveys lately among their members concerning innovation in networks?</li> </ul>
End	<ul style="list-style-type: none"> <li>- Any final comments?</li> <li>- May I send you an email if more related questions arise?</li> <li>- Thank you</li> </ul>

---

## 10. References

- Ahuja, G. (2000). Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative science quarterly*, 45(3), 425-455.
- Axelsson, B., & Easton, G. (2016). *Industrial networks: a new view of reality*: Routledge.
- Beckman, C., & Haunschild, P. (2002). Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions. *Administrative science quarterly*, 47(1), 92-124.
- Biemans, W. G. (1995). *Internal and external networks in product development: a case for integration*. Paper presented at the Product Development: Meeting the Challenge of the Design-Marketing Interface.
- Bryman, A., & Bell, E. (2011). *Business Research Methods 3e*: OUP Oxford.
- Burt, R. (2004). Structural holes and good ideas. *American journal of sociology*, 110(2), 349-399.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative science quarterly*, 35(1), 128-152.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage publications.
- Denzin, N. K. (1970). *The research act: A theoretical introduction to sociological methods*. New Brunswick: Transaction publishers.
- Dodgson, M. (2014). Collaboration and Innovation Management. In M. Dodgson & D. P. Gann, N. (Eds.), *The Oxford Handbook of Innovation Management* (pp. 462-481). United Kingdom: Oxford University Press.
- Dodgson, M., Gann, D., & Philips, N. (2014). Perspectives on Innovation Management. In M. Dodgson, D. Gann, & N. Philips (Eds.), *The Oxford Handbook of Innovation Management* (pp. 3-24). United Kingdom: Oxford University Press.
- Dosi, G. (1988). Sources, procedures, and microeconomic effects of innovation. *Journal of economic literature*, 1120-1171.
- Dubois, A. (1998). *Organizing Industrial Activities Across Firm Boundaries*. Florence, United States: Taylor and Francis.
- Dubois, A., & Gadde, L.-E. (2014). "Systematic combining"—A decade later. *Journal of Business Research*, 67(6), 1277-1284. doi:10.1016/j.jbusres.2013.03.036
- Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of management review*, 23(4), 660-679.
- Dyer, W., & Wilkins, A. (1991). Better Stories, Not Better Constructs, to Generate Better Theory: A Rejoinder to Eisenhardt. *Academy of management review*, 16(3), 613-619.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532-550.
- Eisenhardt, K. M. (1991). Better stories and better constructs: The case for rigor and comparative logic. *Academy of management review*, 16(3), 620-627. doi:10.2307/258921

- 
- Eisenhardt, K. M., & Graebner, M. (2007). Theory Building from Cases: Opportunities and Challenges *Academy of Management Journal*, 50(1), 25-32.
- Fagerberg, J. (2005). Innovation: A Guide to the Literature. In J. Fagerberg, D. Mowery, & R. Nelson (Eds.), *The Oxford Handbook of Innovation* (pp. 1-26). New York: Oxford University Press.
- Faulkner, D. (2003). Strategic Alliances and Networks. In Faulkner & Campbell (Eds.), *The Oxford Handbook of Strategy* (pp. 118-156). UK: Oxford University Press.
- Ford, D., Gadde, L. E., Håkansson, H., & Snehota, I. (2011). *Managing business relationships* United Kingdom: John Wiley & Sons Ltd.
- Ford, D., Hakansson, H., & Johanson, J. (2002). 2.3 How do companies interact? *Understanding Business Marketing and Purchasing: An Interaction Approach*, 78.
- Freeman, C. (1991). Networks of innovators: a synthesis of research issues. *Research Policy*, 20(5), 499-514.
- Gadde, L. E., Huemer, L., & Hakansson, H. (2003). Strategizing in industrial networks. *Industrial Marketing Management*, 32(5), 357-364.
- Gadde, L. E., & Snehota, I. (2000). Making the most of supplier relationships. *Industrial Marketing Management*, 29(4), 305-316.
- Gemünden, H. G., Ritter, T., & Heydebreck, P. (1996). Network configuration and innovation success: An empirical analysis in German high-tech industries. *International Journal of Research in Marketing*, 13(5), 449-462.
- Glaser, B., & Strauss, A. (2017). *Discovery of grounded theory: Strategies for qualitative research*. New York: Routledge.
- Gulati, R., Nohria, N., & Zaheer, A. (2000). Strategic networks. *Strategic Management Journal*, 21(3), 203-215.
- Hagedoorn, J. (1995). Strategic technology partnering during the 1980s: Trends, networks and corporate patterns in non-core technologies. *Research Policy*, 24(2), 207-231. doi:10.1016/0048-7333(94)00763-w
- Hagedoorn, J., & Schakenraad, J. (1990). Strategic Partnering and Technological Cooperation. In C. Freeman & L. Soete (Eds.), *New Explorations in the Economics of Technical Change* London: Pinter.
- Håkansson, H. (2015). *Industrial Technological Development: A Network Approach*. New York: Routledge Revivals.
- Hartley, J. (2004). Case Study Research. In C. Cassell & G. Symon (Eds.), *Essential Guide to Qualitative Methods in Organizational Research* (pp. 323- 333). London: Sage Publications Ltd.
- Hippel, V. (1988). *The Sources of Innovation*. New York: Oxford University Press.
- Hoholm, T., & Araujo, L. (2011). Studying innovation processes in real-time: The promises and challenges of ethnography. *Industrial Marketing Management*, 40(6), 933-939.
- Huemer, L., Becerra, M., & Lunnan, R. (2004). Organizational identity and network identification: Relating within and beyond imaginary boundaries. *Scandinavian journal of management*, 20, 53-73.
- Huemer, L., Krogh, G. V., & Roos, J. (1998). Knowledge and the concept of trust. In G. Von Krogh, J. Roos, & D. Kleine (Eds.), *Knowing in firms: Understanding, managing and measuring knowledge* (pp. 123-145). London: Sage Publication.
- Håkansson, H. (1987). *Industrial Technological Development: A Network Approach*. London: Croom Helm.
-

- 
- Håkansson, H., Ford, D., Gadde, L.-E., Snehota, I., & Waluszewski, A. (2009). *Business in networks*: John Wiley & Sons.
- Håkansson, H., & Snehota, I. (2002). Analysing business relationships. In D. Ford (Ed.), *Understanding Business Marketing and Purchasing: An Interaction Approach* (pp. 162-182). Cornwall: Thomson Learning.
- Håkansson, H., & Waluszewski, A. (2007). *Knowledge and innovation in business and industry: The importance of using others*: Routledge.
- Johnsen, T., & Ford, D. (2000). *Managing collaborative innovation in complex networks: Findings from exploratory interviews*. Paper presented at the 16th Annual IMP Conference.
- Johnsen, T., & Ford, D. (2001). *Managing networks of supplier and customer relationships for technological innovation: initial case study findings*. Paper presented at the Proceedings of the 17th IMP Conference.
- Joslin, R., & Müller, R. (2016). Identifying interesting project phenomena using philosophical and methodological triangulation. *International Journal of Project Management*, 34(6), 1043-1056. doi:10.1016/j.ijproman.2016.05.005
- Kastelle, T., & Steen, J. (2014). Networks of Innovation. In Dodgson, Gann, & Phillips (Eds.), *The Oxford Handbook of Management* (pp. 102-117). United Kingdom: Oxford University Press.
- La Rocca, A., Moscatelli, P., Perna, A., & Snehota, I. (2016). Customer involvement in new product development in B2B: The role of sales. *Industrial Marketing Management*, 58, 45-57.
- Lam, A. (2005). Organizational Innovation. In J. Fagerberg, D. Mowery, & R. Nelson (Eds.), *The Oxford Handbook of Innovation* (pp. 115-147). New York: Oxford University Press.
- Langley, A. (1999). Strategies for Theorizing from Process Data. *Academy of management review*, 24(4), 691-710. doi:10.2307/259349
- Leonard-Barton, D. (1995). *Wellsprings of knowledge: Building and sustaining the sources of innovation*. Boston: HBS Press.
- Løwendahl, B., & Revang, Ø. (1998). Challenges to existing strategy theory in a postindustrial society. *Strategic Management Journal*, 755-773.
- Martone, G. (2002). The compartmentalisation of humanitarian action. *Humanitarian Exchange*, 21, 36-38.
- Mattsson, L.-G., & Johanson, J. (1987). Interorganizational relations in industrial systems: a network approach compared with the transaction-cost approach. *International Studies of Management and Organization*, 17, 34-48.
- Mouritsen, J., Mahama, H., & Chua, W. F. (2010). Actor-Network Theory and the Study of Inter-Organisational Network-Relations. In H. Håkansson, K. Kraus, & J. Lind (Eds.), *Accounting in networks*. New York: Routledge.
- Moyo, D. (2009). *Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa*. New York: Farrar, Straus and Giroux.
- Norad. (2008). *Evaluation of the Norwegian Emergency Preparedness System (NOREPS)*. Retrieved from Oslo:
- Norad. (2017). Norsk bistand i tall. Retrieved from <https://www.norad.no/om-bistand/norsk-bistand-i-tall/?tab=geo>
- NOREPS. (2017). Norwegian Emergency Preparedness System. Retrieved from <http://www.innovasjon Norge.no/en/start-page/noreps/>
- OECD. (2016). Development aid rises again in 2015, spending on refugees doubles. Retrieved from <http://www.oecd.org/dac/development-aid-rises-again-in-2015-spending-on-refugees-doubles.htm>
-

- 
- Pavitt, K. (2005). Innovation Process. In J. Fagerberg, D. Mowery, & R. Nelson (Eds.), *The Oxford Handbook of Innovation* (pp. 86-114). New York: Oxford University Press.
- Phelps, C. C. (2010). A longitudinal study of the influence of alliance network structure and composition on firm exploratory innovation. *Academy of Management Journal*, 53(4), 890-913.
- Porter, M. E. (1985). *Competitive advantage : creating and sustaining superior performance*. New York: Free Press.
- Powell, W. (1990). Neither market nor hierarchy: Network forms of organization. *Research in Organizational Behaviour*, 12, 295-336.
- Powell, W., & Grodal, S. (2005). Networks of Innovators. In J. Fagerberg, D. Mowery, & R. Nelson (Eds.), *The Oxford Handbook of Innovation* (pp. 56-85). New York: Oxford University Press.
- Powell, W., Koput, K. W., & Smith-Doerr, L. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative science quarterly*, 116-145.
- Proff. (2017a). Bright Products AS. Retrieved from <https://www.proff.no/selskap/bright-products-as/oslo/-/ZOIRVV0I/>
- Proff. (2017b). LESS AS. Retrieved from <https://www.proff.no/selskap/less-as/kapp/redningsutstyr/ZOIOCEY/>
- Proff. (2017c). Polynor AS. Retrieved from <http://www.proff.no/selskap/polynor-as/gj%C3%B8vik/papir-og-papirprodukter/ZOIOKPI/>
- Rodan, S., & Galunic, C. (2004). More than network structure: How knowledge heterogeneity influences managerial performance and innovativeness. *Strategic Management Journal*, 25(6), 541-562.
- Rubach, S., Hoholm, T., & Håkansson, H. (2017). Innovation networks or innovation within networks. *IMP Journal*, 11(2).
- Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. California: Sage.
- Sanchez, R., & Heene, A. (1997). Reinventing strategic management: New theory and practice for competence-based competition. *European Management Journal*, 15(3), 303-317.
- Schumpeter, J. (1983). *The Theory of Economic Development*. New Brunswick: Transaction Publishers.
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (3 ed.). New York: Teachers College Press.
- Shan, W., Walker, G., & Kogut, B. (1994). Interfirm cooperation and startup innovation in the biotechnology industry. *Strategic Management Journal*, 15(5), 387-394.
- Siggelkow, N. (2007). Persuasion with Case Studies. *Academy of Management Journal*, 50(1), 20-24.
- Silverman, D. (2013). *Doing qualitative research: A practical handbook*. Thousand Oaks, California: Sage Publications Ltd.
- Snow, C. C., Miles, R. E., & Coleman, H. J. (1992). Managing 21st century network organizations. *Organizational dynamics*, 20(3), 5-20.
- Speed, J. (2016). Milliardmarked for nødhjelps-innovasjoner. *Bistandsaktuelt*. Retrieved from <http://www.bistandsaktuelt.no/nyheter/2016/fra-lagring-til-innovasjon/>
-

- 
- Stabell, C. B., & Fjeldstad, Ø. D. (1998). Configuring value for competitive advantage: on chains, shops, and networks. *Strategic Management Journal*, 413-437.
- Takeuchi, H., & Nonaka, I. (1986). The New New Product Development Game. *Harvard Business Review*, January/February, 137-146.
- Teece, D. J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15(6), 285-305.
- Tuli, K. R., Kohli, A. K., & Bharadwaj, S. G. (2007). Rethinking customer solutions: From product bundles to relational processes. *Journal of Marketing*, 71(3), 1-17.
- UD. (2017). *Felles ansvar for felles fremtid Bærekraftsmålene og norsk utviklingspolitikk*. Oslo.
- UNDP. (2015). Statistics. Retrieved from <https://www.un.org/Depts/ptd/statistics/2015>
- Wang, C., Rodan, S., Fruin, M., & Xu, X. (2014). Knowledge networks, collaboration networks, and exploratory innovation. *Academy of Management Journal*, 57(2), 484-514.
- WHO. (2016). Prequalified Devices and Equipment ; Product List. Retrieved from [http://apps.who.int/immunization\\_standards/vaccine\\_quality/pqs\\_catalogue/categorypage.aspx?id\\_cat=39](http://apps.who.int/immunization_standards/vaccine_quality/pqs_catalogue/categorypage.aspx?id_cat=39)
- Wilhelmsen, L. (2016). *Innovasjon I Norsk Næringsliv 2012-2014*. Statistisk Sentralbyrå.
- Wilkinson, I., & Young, L. (2002). On cooperating - Firms, relations and networks. *Journal of Business Research*, 55(2), 123-132. doi:Doi 10.1016/S0148-2963(00)00147-8
- Yin, R. K. (2009). *Case study research: Design and Methods*. Thousand Oaks: SAGE publications.
- Yin, R. K. (2011). *Qualitative research from start to finish*. New York: Guilford Press.