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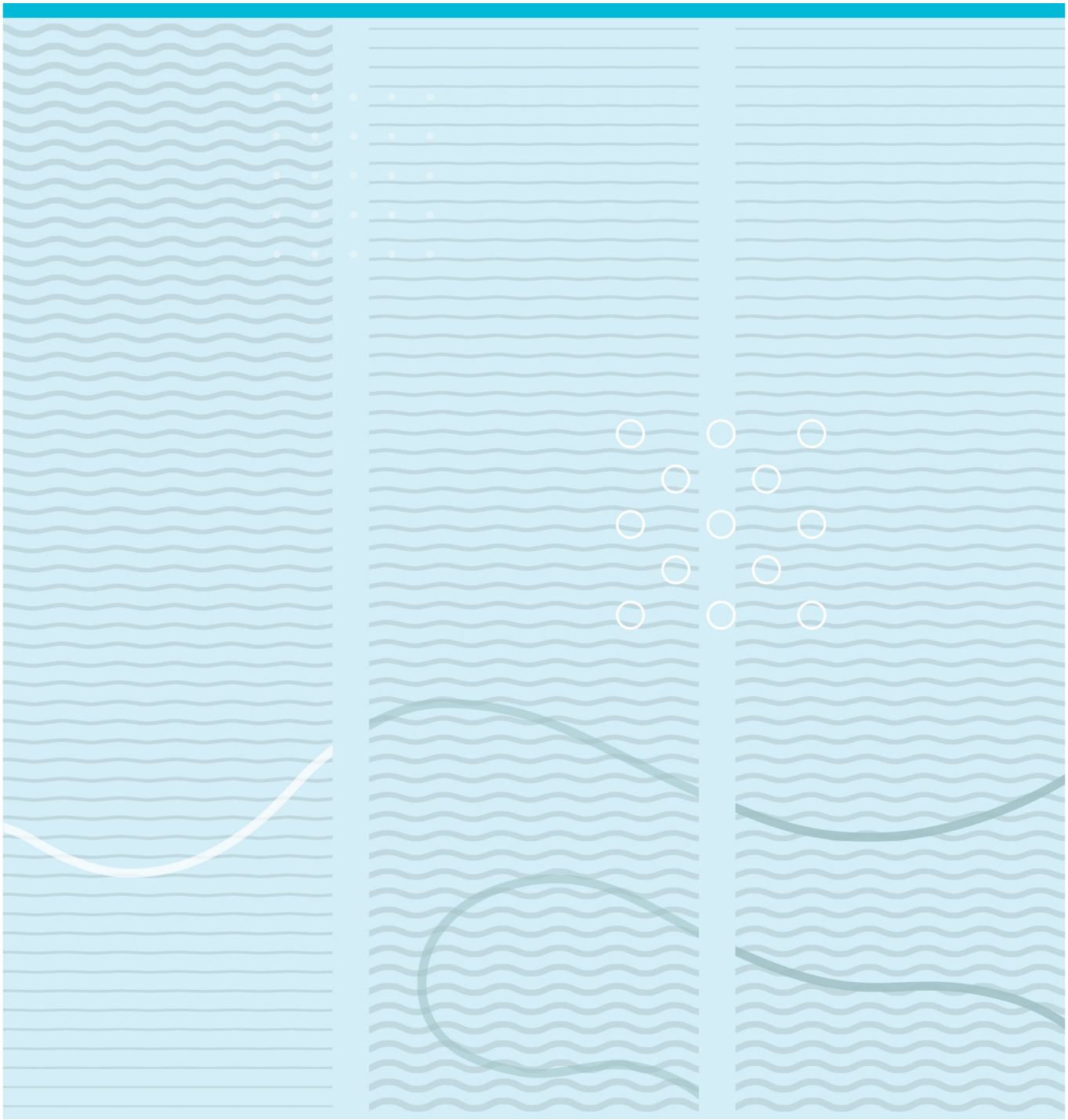
Building Dynamic Capabilities

A case study investigating the strengths of collaboration in Prosthetic and Orthotics education and services: In what way do learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities?



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This thesis is worth 45 study points

Sammendrag

Denne studien handler om kunnskapsdeling, dynamiske kapabiliteter og bedrifters samfunnsansvar (SCR), i den forstand at den undersøker om og hvordan et bistandsprosjekt og partnerskap initiert av et selskap i Norge kan være fordelaktig for alle fire enhetene i partnerskapet. De fire partnerne er et akjseselskap i Norge, et statlig eid sykehus i Malawi, og to skoler som befinner seg i Tanzania og Malawi.

Målet med denne studien er finne ut av hvordan individuell læring i et bistandsprosjekt kan overføres til organisatorisk effektivitet og konkurransefortrinn gjennom konseptet dynamiske kapabiliteter.

Den teoretiske basen for denne studien er ressursbasert teori. Ressursbasert teori beskriver kunnskapsarbeidere som organisasjoners viktigste ressurs. Forskningsmetoden benyttet er kvalitativt casestudie, med et embedded multiple-casedesign, og de fire enhetene i bistandsprosjektet utgjøre casene. Fokuset i studien er; på hvilken måte læring og kunnskapsdeling i et bistandsprosjekt/partnerskap kan bidra til å utvikle dynamiske kapabiliteter.

Våre funn foreslår at kunnskapsdeling i et slikt bistandsprosjekt/partnerskap har potensiale til å utvikle dynamiske kapabiliteter gjennom utveksling av ansatte, ved at det øker bevisstheten rundt «know how» og «know why», som bidrar til økt læringskapasitet. Rasjonale er at man må vite hva man gjør for å vite hvordan man kan gjøre det bedre.

Det foreligger begrenset forskning på hvordan dynamiske kapabiliteter utvikles, særlig i forhold til hvordan individer kan påvirke en organisasjons utvikling av dynamiske kapabiliteter. Av den grunn finner vi det svært interessant å forske på forbindelsen mellom individuell læring, læringsmekanismer og dynamiske kapabiliteter.

Abstract

This study is about knowledge sharing, dynamic capabilities and Social Corporate Responsibility (SCR), in the sense that its ambition is to investigate if and how a development aid project and partnership, initiated by a for-profit company in Norway, has benefited all the four entities in the partnership; a for-profit company in Norway, a governmental hospital in Malawi, and two schools; one in Tanzania and one in Cambodia.

The purpose of the study is to seek answers on how individual learning, in a development-aid partnership, translates into organizational effectiveness and competitive advantage through the concept of dynamic capabilities defined as:

> *A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness. (Zollo & Winter, 2002, p. 340)*

The theoretical basis for the study is a resource-based perspective, which describes human resources as the firm's most important resource. The research method applied is qualitative case study, with an embedded multiple-case design. The four entities in the development aid partnership, serve as case studies. The thesis focus on in what way learning and knowledge sharing in a development aid partnership can contribute to build dynamic capabilities?

There is limited research established on how dynamic capabilities develop, and how the individuals can affect an organizations development of dynamic capabilities. We find it very interesting to investigate the links between individual learning, learning mechanisms and dynamic capabilities.

Our findings suggest that knowledge sharing in development aid partnership, through long term exchanges of staff, has the potential to develop dynamic capabilities through increasing the awareness about "know how" and "know why", which increases the

individual learning capacity. The rationales being that you have to understand what you are doing, to be able to do it better.

Contents

Glossary of terms

FK/FK Norway – FK Norway (in Norwegian: Fredskorpset) is a Norwegian Government agency under the Ministry of Foreign Affairs, mandated to finance international exchange of personnel within the framework of institutional cooperation (FK Norway, 2015).

FK-participant/Participant – The term FK participant and Participant is used to address the personnel going on a one-year exchange (to one of the other entities in the partnership) (FK Norway, 2015). North participants refers to participants from Norway, while South participants refers to participants from Malawi, Tanzania and Cambodia.

The Project/ The partnership - The project and the partnership is used interchangeably, it consists of the four entities, KCH, TATCOT, CSPO and SMO, that cooperate to exchange personnel.

KCH - Kamuzu Central Hospital, is a governmental hospital located in Lilongwe, Malawi.

TATCOT – Tanzanian Training Centre for Orthopaedic Technologists, is a government training institution located in Moshi, Tanzania.

CSPO - Cambodian school of Prosthetics and Orthotics (CSPO), is located in Phnom Penh, Cambodia and is an educational centre where men and women learn how to prescribe, manufacture and fit artificial limbs (prostheses) and orthopaedic braces (orthoses) (CSPO, 2016).

SMO - Sophies Minde Ortopedi AS is a private company owned by Oslo University Hospital (OUS). Their core activity is to produce orthopaedic appliances (i.e. orthoses and prostheses).

Prosthetist & orthotist/P&O - Prosthetists and orthotists provide care for people who need an artificial limb (prosthesis) or a device to support or control part of the body (orthosis). Their work plays an important part in the recovery of patients who might otherwise struggle with physical movement (National Careers Service, 2016).

A Prosthesis - A prosthesis is a device that replaces a missing body part. P&Os design and fit artificial limbs (prostheses) to replace those lost through amputation or limbs missing at birth (National Careers Service, 2016).

An Orthosis - An orthosis is fitted to an existing body part. Orthotists design and fit surgical appliances (orthoses) such as braces, callipers, neck collars and splints. These can be used to support limbs or the spine to relieve pain, aid movement or prevent physical conditions getting worse. Orthoses may be worn permanently by the patient or used temporarily (National Careers Service, 2016).

Orthopaedic device/device - can be a prosthesis and/or orthosis

NGO – A non-governmental organization (NGO) is any non-profit, voluntary citizens' group which is organized on a local, national or international level. Task-oriented and driven by people with a common interest, NGOs perform a variety of service and humanitarian functions, bring citizen concerns to Governments, advocate and monitor policies and encourage political participation through provision of information. Some are organized around specific issues, such as human rights, environment or health. They provide analysis and expertise, serve as early warning mechanisms and help monitor and implement international agreements. Their relationship with offices and agencies of the United Nations system differs depending on their goals, their venue and the mandate of a particular institution (NGO Community, 2015).

CSR - Corporate Social Responsibility involves companies integrating social and environmental concerns into their day-to-day operations, as well as into their dealings with stakeholders. CSR is what companies do on a voluntary basis beyond complying

with existing legislation and rules in the country in which they are operating (Report No. 10 to the Storting (2008-2009), 2009).

Dynamic capabilities - A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness (Zollo & Winter, 2002, p. 340).

Learning mechanisms - routinized activities directed to the development and adaptation of operating routines. / (Deliberate) mechanisms, which can help an organization to develop dynamic capabilities (Zollo & Winter, 2002).

Effectiveness - the degree to which objectives are achieved and the extent to which targeted problems are solved (WebFinance, 2015).

Capacity building - refers to the activities that help the organizations to fulfil its mission, and sustain itself.

Home organization – refers to the organization that the participant is normally working in.

Host organization – refers to the organization which the participants is working in during the exchange period.

Learning – The ability to renew knowledge, derived from reflection upon past experience (Zollo & Winter, 2002)

ISPO – International Society for Prosthetics and Orthotics, is a global multidisciplinary non-governmental organization aiming to improve the quality of life for persons who may benefit from prosthetic, orthotic, mobility and assistive devices.

Preface

This study is the final part of our MBA in Master economy and leadership, with specialization in strategy and competence management at The University College of Southeast Norway (Høgskolen in Sørøst-Norge). The study is about Social Corporate Responsibility (SCR), in the sense that its ambition is to investigate if and how a for-profit company in Norway has benefited from a partnership and development aid project with non-profit organizations in low-income countries.

The idea for this study were developed as a result of former knowledge about the development aid project and from studying learning in and between organizations and dynamic capabilities. From a strategic point of view, we find this topic very interesting. And we feel fortunate to have had the opportunity to do this study on a cross-cultural partnership, giving us opportunity to learn both on a professional and personal level.

During the process of this study we have met a number of challenges, from the process of collecting data from informants in three different continents, to the final conclusions. In this process we found it very useful to work as a team in term of the value of having someone to discussing options and problems with.

We want to thank all the organizations and participants that we have interviewed during our study. We appreciate the willingness and honesty we have met and are very grateful for all the help we have received from informants, family and friends.

We owe our supervisor, Etty Ragnhild Nilsen, a big thank you, for valuable support, insightful help and discussion. We have never felt a lack of support and are grateful that she has had believed in our study from the beginning.

This study would not have been possibly conduct without all of you.

Bøverbru, 18. Mai 2016

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1 Introduction

In Africa, they have a saying;

> *If you want to go fast, go alone. If you want to go far, go together*
>
> *(Gunn, 2009)*

It has become increasingly popular to collaborate, or to enter alliances, with other organizations. Often alliances and collaboration are initiated because both parties typically want something from the other, aiming for a win-win situation. Huber (1991) claims that most of the various motives for creating strategic alliances are linked to the partner organizations' process of learning how to improve their operations. Alliances are often a part of an organization's competitive strategy and can be seen as a means for achieving competence development (Larsson, Bengtsson, Henriksson, & Sparks, 1998) 1998).

1.1 Background: Aiming for a win-win collaboration

The background for this study is a strategic alliance between four partner organizations in Norway, Africa, and Asia. The objective for their collaboration has been to learn from each other to improve their services. This has been done through several mutual one-year exchanges of staff. The strategic alliance is a development-aid project, and the Norwegian company receives support from the Norwegian government to carry out the staff-exchanges. In that sense the Strategic alliance can be viewed as a Corporate Social Responsibility (CSR) activity. In *Report No. 10 to the Storting (2009): Corporate social responsibility in a global economy*, the Norwegian government seek to raise awareness of social responsibility in both the private and the public sector, and to encourage them to engage in such activities. The Norwegian governments position is that

> *Corporate Social Responsibility (CSR) involves companies integrating social and environmental concerns into their day-to-day operations, as well as into their dealings with stakeholders. CSR is what companies do on a voluntary basis*

> *beyond complying with existing legislation and rules in the country in which they are operating.* (Report No. 10 to the Storting (2008-2009), 2009)

In the same report, the Norwegian government encourages greater Norwegian investment in poor countries, and invites companies to enter into strategic partnerships to improve their development impact. They consider partnerships between authorities, civil society and the private sector to be potential beneficial in terms of both economic development and other development goals.

Many companies and managers engaged in CSR-activities perceive it as nothing more than cosmetics; something they do to showcase the companies´ social and environmental good deeds, to satisfy public responses or prevent negative public responses.

Porter (2006) states that Non-governmental organizations (NGOs), governments and companies must stop thinking in terms of ”corporate social responsibility” and start thinking ”corporate social integration”, and perceive social responsibility as building shared value rather than as damage control and brand-management. The argument is that successful corporations need a healthy society, and that a healthy society needs successful companies. The mutual dependence of corporations and society implies that both business decisions and social policies must follow the principle of shared value. That is, choices must benefit both sides. If either a business or a society pursues policies that benefit its interests at the expense of the other, it will find itself on a dangerous path. A temporary gain to one will undermine the long-term prosperity of both. We can conclude that according to Porter the main objective with CSR activities is to create a win-win situation. This is often also the case with Strategic alliances. However, companies seem to struggle to find the key to successful CSR-activities and successful strategic alliances.

According to Kale and Singh (2007) generally half of the alliances fail. Even though it is more and more popular to enter an alliance, they are often hard to manage and have a

low success rate. Those who do succeed with their alliances, are those who figure out how to manage and create value out of them (Kale & Singh, 2007).

Porter (2006) states that corporations are not responsible for all the world's problems, nor do they have the resources to solve them all, but each company can identify the particular set of societal problems that it is best equipped to help resolve and from which it can gain the greatest competitive benefit. This is what Porter (2006) claims is the link between competitive advantage and Corporate Social responsibility – and the key how to succeed with CSR-activities.

From our point of view, The Norwegian Company in this study seems very well equipped to help low-income countries to meet the need of assistive devices, by sharing their competence and expertize. But has this activity contributed to help them create a competitive benefit? And have the three entities actually benefited from this CSR-activity? Has the Norwegian company found their link between competitive advantage and CSR? Has the collaboration been successful in terms of improving the three entities in Malawi, Tanzania, Cambodia – and Norway? Has the partnership fostered a win-win collaboration, or has there been a temporary gain to one, at the sacrifice of other(s)?

By looking into the outcomes of this alliance, we want to contribute to increased knowledge about the potential gains that can be found in CSR-activities, such as strategic alliances with low-income countries.

1.2 Research question

The core of the partnership is the exchange of personnel and thus the development of human resources, and the individual's ability to learn. Individual learning translates into organizational effectiveness and competitive advantage through the concept of dynamic capabilities defined as:

> *A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness. (Zollo & Winter, 2002, p. 340)*

Dynamic capabilities were introduced as criticism towards the Resourced Based view (RBV). Resource Based View (RBV) is well known in the strategy literature and focuses on firm-specific assets and abilities as a key to create a competitive advantage. In the resource based view the human resources, the staffs competence, is viewed as the most important resource or asset in the firm (Wernerfeldt, 1984). With base in RBV, Teece, Pisano and Shuen (1997) argues that if control over scarce resources is the source of financial gain, then it follows that such issues as skill acquisition, the management of knowledge, and learning become fundamental strategic issues.

According to Zollo and Winter (2002) Dynamic capabilities arise from learning, they constitute the firms systematic method for modifying operating routines. Eisenhardt and Martin (2000) argue that alliancing is a dynamic capability, in the sense that it brings in new resources from external partners and/or sources. We assume that the entities in the partnership have some degree of alliance capability. But the question remains if The Project has helped the four entities to develop other dynamic capabilities. We look into the outcomes of The Project with the aim to explore how dynamic capabilities are built.

The main emphasis in creation and development of DC has been directed towards learning mechanisms. Zollo and Winter (2002) has made a framework where they explain how dynamic capabilities can evolve from the coevolution of three different learning mechanisms. However, although Zollo and Winter´s (2002, p. 349) framework – the relationship among learning, dynamic capabilities and operating routines – constitutes a significant clarification of the structure of the phenomena, they state that the inquiry is still in its infancy. We know little, for example of how the characteristics of the organizational structure and culture interact with the features of the task to be mastered in determining the relative effectiveness of the various learning behaviors."

For example, why is it that certain firms, with comparable levels of expertise, codify a set of activities more than others do? In addition, under what conditions does that enable as opposed to inhibit, performance? To what extent is intentionality necessary to produce adaptive adjustments in existing routines? When using Zollo and Winters (2002) framework in examining the development aid project, coined The Project for simplification, we will address some of these questions – aiming at enhancing the theory of dynamic capabilities. Are Zollo and Winters three learning mechanisms central in the development of Dynamic capabilities in the partnership, or are there also other relevant factors? I.e. how does what the participant learn affect the Dynamic capabilities that are being built? Are there other central aspects than learning mechanisms that are relevant to develop DC in the partnership?

The subject for this study is development of DC, in a cross-country partnership, and our research question is:

In what way does learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities?

- What and how do the participants learn during their exchange?
- How has the individual knowledge and skills been shared with the home organization?

In the next chapter we will present the case; the partnership, their project and their objectives. Based on the case description DC is identified as a suitable theoretical framework. Next we present the literature review of DC, before continuing with methodology, results, discussion and conclusion.

2 Background: The Project

The partnership subject for examination started in 2004 on the initiative of a for-profit company in Norway. Together they created a programme, consisting of several one-year projects, where they exchanged staff for one year, with the purpose to learn from each other. The partnership has developed and grown over the years, and when the last project ended in 2015, it consisted of four partners; (1) Sophies Minde Ortopedi AS (SMO); a (for-profit) corporation in Norway, (2) Kamuzu Central Hospital; a government hospital in Malawi (non-profit), (3) Tanzanian Training Centre for Orthopaedic Technologists (TATCOT); a government education institution in Tanzania (non-profit), and (4) Cambodian School of Prosthetics and Orthotics (CSPO); A Non-Governmental Organization (NGO) /semi-public clinic and school in Cambodia (non-profit).

The four entities provide rehabilitation services to people with physical disabilities, through provision/manufacturing of customized prosthetics and orthotics (P&O). Their focus area and their common goal is to improve the quality of life for people with disabilities through comprehensive physical rehabilitation services. In addition to the partnerships' common goal, each of the four partners have also formulated their own objectives, expressing each partner`s focus area needed to reach the overall goal. These objectives are presented in *table 2-1 objectives for each of the four entities.* The name of The Project is *"Capacity building in Prosthetics and Orthotics educational centers and services in low-income countries".*

FK Norway (Fredskorpset) is a part of the Norwegian national development policy, and has supported this exchange project financially, through their health exchange-program ("the scheme") (Fredskorpset, 2015). FK Norway define the personnel going on exchange as both a means of achieving objectives on an organizational and community level, as well as being a target group for the scheme in their own right (Fredskorpset). The Scheme is also a part of The European ESTHER Alliance, which is a solidarity-based initiative, where the focus is on strengthening the capacity of health professionals

through peer-to-peer partnerships; they are a part of the global movement to address the Human Resources for Health (HRH-) crisis (Doyle & Kelly, 2013).

Table 2-1 Objectives for each of the four entities

Sophies Minde Ortopedi AS (SMO)	
1	Provide services of high quality to our patients by developing, motivating and retaining highly qualified and dedicated personnel
2	Become a WHO collaboration Centre, with competence on how to build capacity in prosthetic and orthotic educational center and rehabilitation services in low income countries.
Kamuzu Central Hospital (KCH)	
1	A sustainable workshop at KCH delivering high quality services to physically disabled in the central regions of Malawi established.
2	A Community Based Rehabilitation (CBR) programme established in the central region.
3	Delivering assistive devices within prosthetics and orthotics with appropriate quality following international requirements.
Tanzanian Training Centre for Orthopaedic Technologists (TATCOT)	
1	A recognized level of education and training in the P and O school is sustained in regard to technology in respect to international standards.
2	Full-time Lectures/Instructors are equipped to teach prosthetics and orthotics according to international standards and the gait lab is used for educational and research purposes.
3	Collaboration between P&O school in Cambodia and Tanzania established.
Cambodian School of Prosthetics and Orthotics (CSPO)	
1	A high academic and practical level among the P and O lecturers with regard to different technologies and components
2	Collaboration between P&O school in Cambodia and P&O school in Tanzania established
3	Collaboration between P&O school in Cambodia and KCH in Malawi established

2.1 Activities

The scheme consists of several rounds of one-year exchanges of personnel. In The Project the personnel exchanged (the participants) has to be educated Prosthetist/Orthotist (P&O`s), and have a minimum of two years' work experience. The

partners also conduct shorter-expert-visits/seminars (1-3 weeks), to complement the long-term exchanges (11-13 months). They also have a grant for procurement of equipment necessary to transfer specific knowledge (for instance within modern technology) between the entities. Through The Project, the partners seek to identify successful "standards" or "best practices" within the partnership.

2.2 Monitoring

The partnership has been monitoring The Project using an annual online questionnaire, gathering self-reported impact and skills, on both individual and organizational level, and through specific indicators belonging to each of the set objectives.

2.3 The Partnership

The partnership shall, according to FK Norway, be based on equality, meaning that everybody shall benefit from the collaboration. In the implementation of The Project, they use the guidelines given by WHO: *The Prosthetics and Orthotics Project Guide, the Prosthetic and Orthotic Programme Guide, Guideline for training personnel in developing countries for Prosthetic and orthotic services.* The WHO's working definition of partnership is "a collaborative relationship between two or more parties based on trust, equality and mutual understanding for the achievement of a specified goal. Partnerships include risks as well as benefits, making shared accountability critical" (WHO, 2009).

The Project's objectives cannot be reached through the exchange of personnel only. The partnership also depends on collaboration with several other organizations and NGO`s, schools, universities and research institutions. In that regard the partnership is a part of a bigger global network. For instance, each of the four entities is dependent on collaboration with suppliers and "donors" for the materials and components needed to make the devices. In Norway the suppliers are many different private companies and The Norwegian Labor and Welfare Administration (NAV) mainly cover the costs, making it possible for the Norwegian company to make a profit. In Cambodia, Tanzania and

Malawi the suppliers are mainly The International Committee of Red Cross (ICRC), and the cost are covered through charity organizations, NGO´s, donors and the governments.

2.4 Capacity building

The Projects core is capacity building in Prosthetic and Orthotics education and services. Since “Capacity” is a word that can be very unclear, it means “all things to all people”, it is necessary to clarify what lies in the term “capacity building” in the context of the partnership.

Capacity building is a very common concept in international development work. Today capacity building is included in the programs of most international organizations that work in development, for instance The World Bank, The United Nations (UN), World Health Organizations (WHO), and non-governmental organizations (NGOs). The concept of capacity building focuses on understanding the obstacles that inhibit people, governments, international organizations and non-governmental organizations from realizing their development goal while enhancing the abilities that will allow them to achieve measurable and sustainable results. In The Project, the focus is on community capacity building. FK Norway focuses on “change through exchange” the model being that changes in individuals, leads to changes in organizations, which leads to changes in the community. Community capacity building often refers to strengthening the skills, competencies and abilities of people and communities in developing societies so they can overcome the causes of their exclusion and suffering. Organizational capacity building is used by NGOs to guide their internal development activities. The objectives in The Project and the activities and actions performed by the partnership are about improving the organization’s effectiveness. Whereas effectiveness is understood as the degree to which objectives are achieved and the extent to which targeted problems are solved (WebFinance, 2015). In contrast to efficiency, effectiveness is determined without reference to costs and, whereas efficiency means, “doing the thing right”, effectiveness means “doing the right thing” (WebFinance, 2015). In short, capacity

building refers to the activities that help the organizations to fulfill its mission, and sustain itself.

An essential mechanism for capacity building is partnership development. Partnerships give organizations access to: knowledge and skills; innovative and proven methodologies; networking and funding opportunities; replicable models for addressing community needs and managing resources; options for organizational management and governance; and strategies for advocacy, government relations and public outreach (CounterpartInternational).

In the context of “capacity building” partnership is considered an important means to achieve development and change, however capacity building is usually not a concept used by for-profit organization. If the purpose of the paper were only to map the outcome for the three entities in Asia and Africa, it would probably be most beneficial to use a capacity-building framework. However, we want a framework that also is relevant for the for-profit company, and preferably include the competitive advantage.

3 Dynamic capabilities

We wanted a framework that could help us examine if The Project helped the Norwegian company to build competitive advantage, and at the same time gave us an answer to how all the four entities had benefited from the collaboration.

Competitive advantage for the Norwegian company means providing services of high quality so that their company is the patients' preferred choice. Given that the services are custom made by the P&Os, the company's human resources become the key element of their competitive advantage. A good reputation and the company's ability to meet the patient's expectations and needs is an important part of attracting and retaining patients. However, the Norwegian company's success is also dependent on their collaboration with NAV, and that the general conditions, which they now operate under, remains the same. The basic assumption is that working in a low-income country exposes participants from Norway to more complex and complicated patient cases. While at the same time the participants only have access to appropriate and basic technology. Simply they get more experienced, and they become better at making the right choices when doing their job. Based on the above, we assume that the potential benefit for the Norwegian company that can provide a competitive advantage lies in the increase in effectiveness. The theoretical framework need to provide an understanding of how individual learning translates into organizational effectiveness. The concept dynamic capabilities, provides us with an understanding of how individual learning translates into organizational effectiveness.

Teece et al (1997) developed the theory on Dynamic Capabilities to explain how combinations of competences and resources can be developed, deployed and protected. They defined dynamic capabilities as:

> *...the firm`s ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environment (Teece et al., 1997, p. 516).*

The name “dynamic capabilities” refers to the two core aspects that distinguish the theory from previous strategic perspectives. The first core aspect “dynamic” refers to the capacity to renew competences to adapt to the changing environment, while the second core aspect “capabilities” emphasizes the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources and functional competences to match the requirements of a changing environment (Teece et al., 1997, p. 515).

The dynamic capability approach emphasizes the development of management capabilities, and difficult-to-imitate combinations of organizational, functional and technological skills, it integrates and draws upon research in such areas as the management of R&D, product and process development, technology transfer, intellectual property, manufacturing, human resources, and organizational learning (Teece et al., 1997).

3.1 “Dynamic capabilities” – a complex concept

Some previous references to the concept of Dynamic Capabilities can be found in the literature, but it is after the publication of Teece et al`s (1997) article that the dynamic capability view generated a rapidly growing flow of research. The literature, however, has been largely fragmented and pointing in different directions. For example scholars have defined and operationalized the concept differently, giving the concept different content and meaning (Eisenhardt & Martin, 2000; Teece et al., 1997; Winter, 2003). Secondly, some scholars seem to think that dynamic capabilities are born, not made – i.e., they doubt that deliberate efforts to strengthen such capabilities are a genuine option for managers (Winter, 2003). Scholars are also disagreeing in regards to the effects of dynamic capabilities. Some scholars follow Teece et al (1997) and suggest a direct link between dynamic capabilities and firm performance, while others argue that the value of dynamic capabilities lies in the resource configuration that they create, and not in the capabilities themselves (Eisenhardt & Martin, 2000; Zollo & Winter, 2002). Some scholars consider dynamic capabilities only relevant in high-velocity markets (i.e.

Teece et al., 1997) while others argue that they are useful also in more stable environment (ï.e. Zollo & Winter, 2002). The table below (table 3-1), includes some of the main definitions of DC, and further highlights the concepts complexity. The table is based on Barreto`s (2010) table, and is organized chronologically in time. We have added two definitions to Barreto`s original table; its Barreto`s own definition and a "newer" definition from 2011.

Table 3-1 Main dimensions of Dynamic Capabilities

Study	Definition
Teece and Pisano (1994)	The subset of the competences and capabilities that allow the firm to create new products and processes and respond to changing market circumstances
Teece, Pisano and Shuen (1997)	The firm`s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments
Eisenhardt and Martin (2000)	The firm`s processes that use resources – specifically the processes to integrate, reconfigure, gain, and release resources – to match and even create market change; dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split evolve and die
Teece (2000)	The ability to sense and then seize opportunities quickly and proficiently
Zollo and Winter (2002)	A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness
Winter (2003)	Those (capabilities) that operate to extend, modify, or create ordinary capabilities
Zahra, Sapienza and Davidsson (2006)	The abilities to reconfigure a firm`s resources and routines in the manner envisioned and deemed appropriate by its principal decision maker(s)
Helfat et al (2007)	The capacity of an organization to purposefully create, extend, or modify its resource base
Teece (2007)	Dynamic capabilities can be disaggregated into the capacity (a) to sense and shape opportunities and threats, (b) to seize opportunities, and (c) to maintain competitiveness through

	enhancing, combining, protecting, and when necessary, reconfiguring the business enterprise`s intangible and tangible assets
Barreto (2010)	A dynamic capability is the firm`s potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base.
Drnevich and Kriauciunas (2011)	Those capabilities used to extend, modify, change and/or create ordinary capabilities

The table shows that there are many different definitions of DC in the existing literature. Teece et al (1997) define DC as an "ability" (or "capacity"), stressing the essential role of Strategic Management. In so doing, Teece et al. extended the RBV by suggesting a special kind of capability. Many have followed Teece et al, and defined DC as abilities (or capacities), for example Winter (2003) and Helfat et. al. (2007). Others however define DC as processes or routines; Eisenhardt and Martin (2000) presented DC as specific identifiable processes; Zollo and Winter (2002) define DC as processes or as learned and stable pattern of activities.

3.2 Capabilities versus dynamic capabilities

There are different views in the literature concerning the differences between capabilities and dynamic capabilities. Looking at the definition in table one, Winter (2003) and Drnevich and Kriauciunas (2011) distinguish between two types of capabilities in their definitions. They see capabilities as the organizations' ability, as routines, how to solve a task or as Winter (2003) put it; "how we earn a living now". While the dynamic capabilities are understood as the ability to change these ordinary or operational capabilities. Zollo and Winter (2002) distinguished between two types of routines; those employed in the operational activity of the firm (the "operating routines") and those dedicated to the modification of the operating routines (the "dynamic capabilities").

Other scholars, however, do not distinguish between capabilities and dynamic capabilities as they believe that routines and capabilities together may have the potential to contribute to change in a company, thus being a dynamic capability. Some researchers seem to look at capabilities and dynamic capabilities as two different approaches to competitive advantage.

3.3 Main types - and dimensions - of dynamic capabilities

We have so far described what dynamic capabilities are and looked at different definitions of DC. In this chapter the purpose is to look at different approaches, that explains what dynamic capabilities consist of. To understand how and why DC develop, we need to have a better understanding of what they are. We will in this chapter, present Madsen's (2009) four main types of dynamic capabilities to get a better understanding of the concept. We start by explaining figure 3-1 A dynamic capability framework.

Zollo and Winter (2002) describes searching/variation and evaluation/selection as two of the three steps that explains dynamic capabilities. According to Madsen (2009) and the figure below, these two steps can be understood as activities that lead to exploration, while codification (routinizing) can be understood as an exploiting activity. According to March (1991) exploration includes activities as searching, variation, experimentation, discovery, innovation and variation, while exploitation includes activities like production, effectiveness/efficiency and implementation. Furthermore, integration and renewal of internal resources can, according to Madsen, be understood as exploration, while reconfiguration and acquisition of resources can be understood as exploitation.

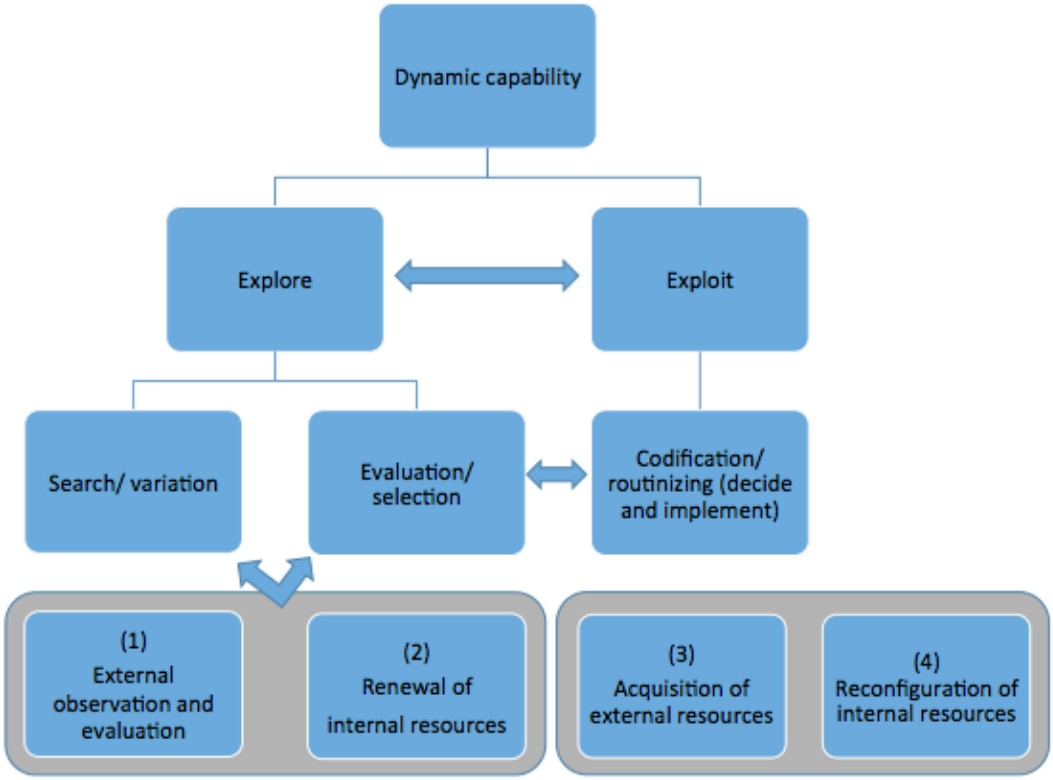

Figure 3-1 A dynamic capability framework (Madsen, 2009)

With the basis in figure 3-1 one can assume that dynamic capabilities consist of capabilities on three different levels. The four main types of dynamic capabilities on the bottom level are derived from the tree processes described above. The four main types of dynamic capabilities are (1) External observation and assessment, (2) Internal resource renewal, (3) External resource acquisition and (4) Internal resource reconfiguration (Madsen, 2009).

According to Madsen (2009), with base in figure 3-1, it is possible to place the four main types of dynamic capabilities in a new figure that illustrates what dimensions are included in each of the dynamic capabilities. The figure 3-2 can be helpful to show that organizations can have different focus on the different kinds of dynamic capabilities.

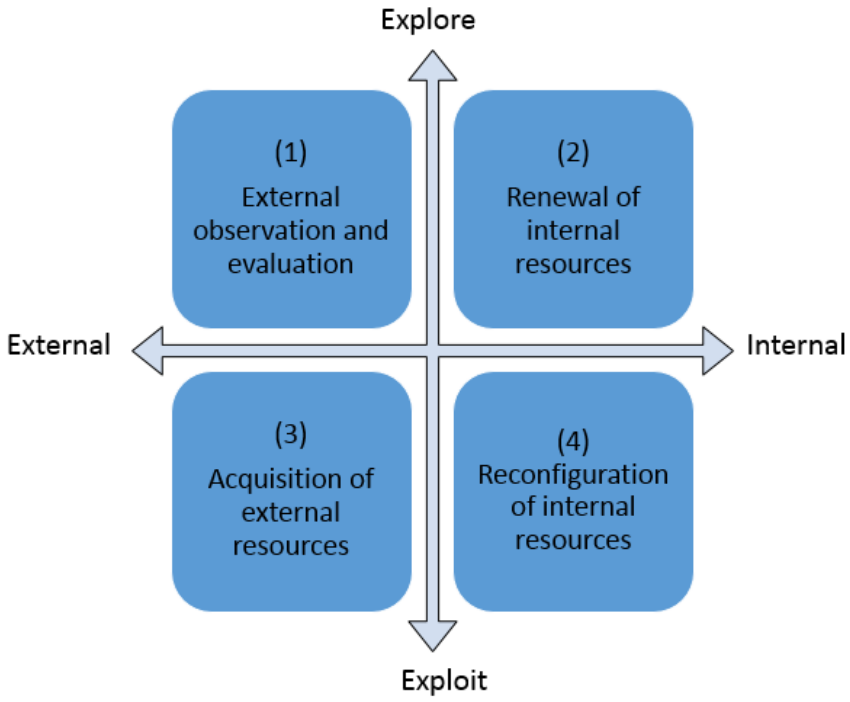

Figure 3-2 Main dimensions and main types of dynamic capabilities (Madsen, 2009)

Figure 3-2 contains the dimension internal/external and exploration/exploitation, and have the following quadrants: external exploration, external exploitation, internal exploration and internal exploitation. As shown in the figure, (1) External observation and assessment is a dynamic capability that are exploring by observing the market to discover potential opportunities. This dynamic capability is placed in the first quadrant. The second quadrant is (2) Renewal of internal resources. This dynamic capability is also exploring, but the focus is now inward, on configuration and integration of resources inside the organization. The new resources have to be embedded in the existing resource configuration in order to create value. The employees are a very important factor to carry out this dynamic capability. A mobilization of the employees to increase the capacity and encourage creative thinking can often have a big impact. They also have to be open to frequent changes in work tasks, routines/procedures and responsibilities (Madsen, 2009). (3) External resource acquisition is in quadrant three. The focus is on acquiring resources from external sources and exploits them. Dynamic capabilities that acquire external resources through different connections with relevant organizations, where both parties typically want something from the other, pursuing a win-win collaboration. By establishing personal relationships built on trust with relevant

business connections, the organization can reduce the risk of opportunistic behavior, and get access to important resources (Madsen, 2009). (4) Internal resource configuration is dynamic capabilities that convert or alter internal resources, and are placed in quadrant 4. A simple organization structure can often be an advantage, offering fewer internal obstacles, that increases the flexibility.

We consider this figure very relevant and useful in regards to The Project. The exchange of staff can enhance the renewal of internal resources, while at the same time the participant can be a source of external resources. Furthermore, the participants can help the organization to look at their own organizations with "new eyes", and help start an internal resource allocation process, encouraging creativity.

3.4 Means for development of dynamic capabilities

As mentioned above, in connection with figure 3-1, one can assume that dynamic capabilities consist of capabilities on three different levels, where the four main types of dynamic capabilities on the bottom level are derived from the tree processes described above. These three processes are search/variation, evaluation/selection and codification/routinizing (implementation) (Zollo & Winter, 2002; Zott, 2003). The search (variation) is about finding a solution to challenges or problems; it is the process where the organizations are searching for ideas how to meet the challenges in the best possible way. The next step is selection/evaluation; here the ideas are being evaluated based on previous experiences and with the objective to increase the organizations effectiveness. Risks and opportunities are considered as well as the value creation potential. The last step is routinizing or implementation. This is the process where the organizations implement the selected ideas.

According to Madsen (2009) there are especially two main approaches explaining how dynamic capabilities develop/evolve. The first main approach is the one described above, while the second main approach explains dynamic capabilities as several processes and mechanisms engaged by the organization to address changes in the

environment. These processes and mechanisms integrate, build and reconfigure internal and external competencies (Eisenhardt & Martin, 2000; Teece et al., 1997). Eisenhardt and Martin (2000) suggested that the main learning mechanisms are likely to be repeated practice (and consequent experience), past mistakes, and the pace of experience. Cohen and Levinthal (1990) and Zahra and George (2002) support this view, claiming that organizational capabilities are developed through repeated practice: "As firms exercise their capabilities in similar and dissimilar circumstances, they learn more about cause-effect relationships and how to achieve desired results". This is very relevant in regards to The Project. The staff going on exchange to another country gets increased experience and the possibility to practice and apply their knowledge and skills in dissimilar circumstances.

However, the main emphasis in creation and development of DC has been directed toward learning mechanisms. Zollo and Winter (2002) claim that dynamic capabilities is a function of a coevolution of three learning mechanisms; (1) experience accumulation, (2) knowledge articulation and (3) knowledge codification. To get a better and deeper understanding of how dynamic capabilities develop, it is useful to look at how this actually happens through the different learning mechanisms. This will be our focus in the next chapter.

3.5 From learning mechanism to dynamic capabilities

According to Zollo and Winter (2002) dynamic capabilities arise from learning; they constitute the firm`s systematic methods for modifying operating routines. Zollo and Winter (2002) have three well-established learning mechanisms in their research on how dynamic capabilities evolve.

Figure 3-3 *Learning, Dynamic Capabilities, and Operating Routines* shows how organizations develop dynamic capabilities through the three learning mechanisms experience accumulation, knowledge articulation, and knowledge codification - encompassing both the relatively passive experiential processes of learning ("by doing")

and more deliberate cognitive processes having to do with the articulation and codification of collective knowledge.

Experience accumulation is often considered more passive, while knowledge articulation and knowledge codification are more deliberate cognitive processes, derived from reflection upon experiences (Zollo & Winter, 2002).

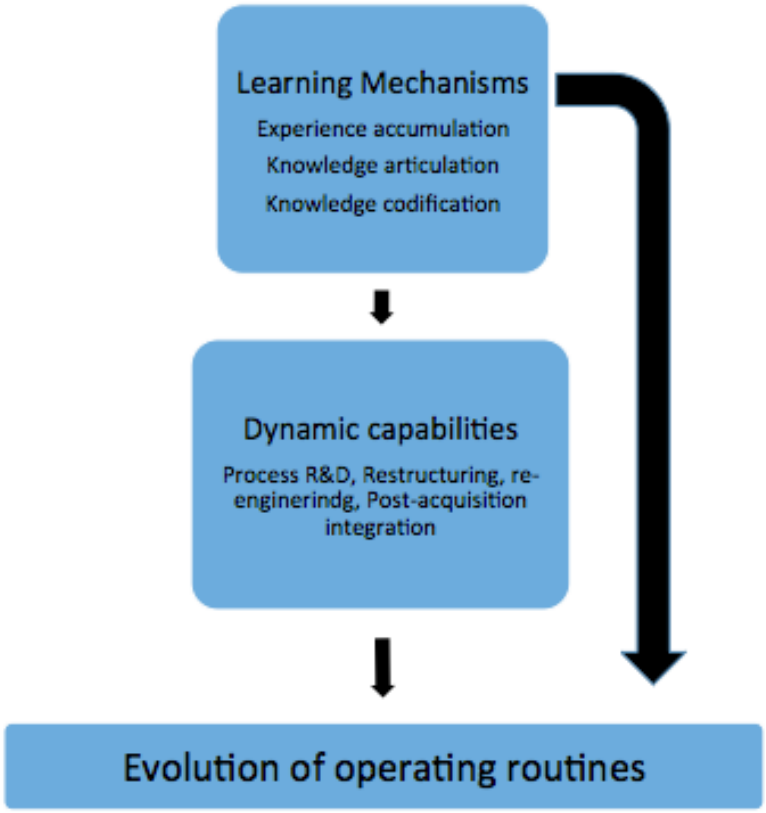

Figure 3-3 Learning, Dynamic capabilities and Operating routines (Zollo & Winter, 2002)

3.5.1 Experience accumulation

The first learning mechanism, Experience accumulation, refers to the central learning process by which routines traditionally have been developed. Routines are stable patterns of behavior that characterize organizational reactions to different, internal or external stimuli (Zollo & Winter, 2002). Zollo and Winter (2002) compare a simple production process, with a decision to upgrade the production system, changing the

production process, claiming that the two patterns of behavior present a theoretically relevant distinction. The first type of routine involves the execution of known procedures for the purpose of generating current profit, while the second seeks to bring about desirable changes in the existing set of operating - in this case production – routines for the purpose of enhancing profit in the future. Effective operating routines are always a necessity, and superior operating routines are always a source of advantage (Zollo & Winter, 2002).

In a relatively static environment, a single learning episode may be enough to provide an organization with operating routines that are adequate, or even a source of advantage, for an extended period. Incremental improvements can be accomplished through the tacit accumulation of experience and sporadic acts of creativity (Zollo & Winter, 2002).

In a context where technological, regulatory, and competitive conditions are subject to rapid change, persistence in the same operating routines quickly becomes risky, and can be harmful for the organization. Systematic efforts for change are needed to track the environmental change; both superiority and viability will prove short-lived for an organization that has no dynamic capabilities. Such capabilities must themselves be developed through learning. If change is not only rapid but also unpredictable and variable in direction, dynamic capabilities and even the higher-order learning approaches will themselves need to be updated continually (Zollo & Winter, 2002).

3.5.2 Knowledge articulation

The second learning mechanism, Knowledge articulation – is deliberate processes through which individuals and groups express their opinions and beliefs, engage in constructive confrontations and challenge each other`s viewpoints, and figure out what works and what doesn`t in the execution of a certain organizational task (Argyris & Schon, 1978).

Organizational competence improves as members of an organization become more aware of the overall performance implications of their actions, and is the direct consequence of cognitive effort more or less explicitly directed at enhancing their understanding of these causal links (Zollo & Winter, 2002).

By sharing individual experiences and comparing their opinions with those of their colleagues, organization members can achieve an improved level of understanding of the causal mechanisms intervening between the actions required to execute a certain task and the performance outcomes produced. It is important to note that only a small fraction of articulable knowledge is actually articulated, and that organizations differ substantially on the degree to which they transform potentially articulable knowledge into articulated statements (Winter, 2003). Such articulation efforts potentially require a significant effort and commitment on the part of the members of the organizations, but can produce an improved understanding of the new and changing action-performance links, and therefore result in adaptive adjustments to the existing sets of routines or in enhanced recognition of the need for more fundamental change (Zollo & Winter, 2002).

3.5.3 Knowledge codification

Knowledge codification - is the mechanism in the figure that requires the highest level of cognitive efforts, and is when individuals codify their understandings of the performance implications of internal routines in written tools, such as manuals, blueprints, spreadsheets, decision support systems, project management aware etc. Knowledge codification is a step beyond knowledge articulation where the latter is required in order to achieve the former. The difference between the two lies in that knowledge codification is a process where the knowledge is structured to achieve a joint understanding. Codification is potentially important as a supporting mechanism for the entire knowledge evolution process, not just the transfer phase. It can, for instance, facilitate the generation of new proposals to change the currently available routines, as well as the identification of the strengths and weaknesses in the proposed variations to the current set of routines (Zollo & Winter, 2002).

Each of these learning processes are responsible for the evolution in time of two sets of organizational activities: one geared towards the operational functioning of the firm (both staff and line activities), which are referred to as operating routines: the other dedicated to the modification of operating routines, which Zollo and Winter (2002) identify with the notion of dynamic capabilities.

As we can see from figure 3-3, dynamic capabilities arise from so-called learning mechanisms. Learning mechanisms are the basis for the organizations ability to systematize methods to change operational routines - called dynamic capabilities. Learning mechanisms are directly involved in shaping the first step (evolution of operational routines) and are the basis of the middle step, the dynamic capabilities.

To understand the learning mechanisms, we find it necessary to clarify what learning is, in the context of this study. This will be our focus in the following chapter.

3.5.4 What is learning?

According to Teece et al (1997) learning is a process by which repetition and experimentation enable tasks to be performed better and quicker. It also enables the identification of new production opportunities. In this study learning is a term that represents the ability to renew knowledge. Zollo and Winter (2002) argue that a common understanding and in-depth knowledge about the operating routines within a firm, in combination with external and internal stimuli, triggers the need to change and adapt their operating routines. The rationale being that one needs to know what and how one is doing, to be able to do it better.

Following Zollo and Winter's argument and model (Figure 3-3 Learning, Dynamic capabilities and Operating routines), we can assume that for organizations to develop DC, they need to acquire new knowledge on a continuous basis. The employees are viewed as important contributors; through the employees the organizations learn, they represent the foundation for the development of dynamic capabilities. However

individual learning alone is not enough to develop dynamic capabilities. The value of individual knowledge depends on how it is applied in a specific organizational setting. In the context of the firm, if not more generally, learning has several key characteristics (Teece et al., 1997, p. 150); (1) First, learning involves organizational as well as individual skills. While individual skills are of relevance, their value depends on how they are applied, in a specific organizational setting. Learning processes are intrinsically social and collective and occur not only through the imitation and emulation of individuals, as with teacher-student or master-apprentice, but also because of joint contributions to the understanding of complex problems. Learning requires common codes of communication and coordinated search procedures. (2) Second, organizational knowledge generated by such activity, resides in new patterns of activity, in "routines", or a new logic of organization. Where routines are patterns of interaction that represent successful solutions to particular problems. These patterns of interaction are resident in group-behavior, though certain subroutines may be resident in individual behavior. The concept of dynamic capabilities as a coordinative management process opens the door to the potential for inter-organizational learning.

Soft and Hard knowledge

Zollo and Winter´s model from learning mechanisms to dynamic capabilities seems to some extent to be based on the notion that Knowledge can be managed. However, Hildreth and Kimble (2002) claim there are aspects of knowledge – broadly "what people know" – which cannot be articulated, abstracted, codified, captured and stored (in databases, manuals, books and reports). They (2002) argue that some knowledge simply cannot be captured, and that a method is needed which recognize that knowledge resides in people: not in machines or documents.

The management of knowledge can bee seen from different points of view. Nonaka (1994) divides the creation of knowledge into tacit and explicit knowledge and the interaction between them. According to Nonaka (1994) tacit knowledge is personal, it lies in the individual and is difficult to formalize and articulate. Explicit on the other hand are formal and systematic and can be expressed verbally or through numbers or

illustrations and consequently the explicit knowledge is easy to communicate and share. Nonaka (1994) has come up with a framework how to make tacit knowledge explicit, making the tacit knowledge made available to others. Like Nonaka (1994) divide knowledge into tacit and explicit, Hildreth and Kimble (2002) also divide the knowledge in two; soft and hard. The ”hard knowledge” being the part of what people know that can be articulated, while ”soft knowledge” is the part of what people know that cannot be articulated. According to Hildreth and Kimble (2002) tacit knowledge can be a part of soft knowledge, alongside with internalised experience and skills. Soft and hard knowledge co-exist and the precise boundaries between the softer and harder aspects are fluid and subject to change, but when knowledge is articulated they argue that there is always a part that cannot be externalized (Hildreth & Kimble, 2002, p. 14), like Nonaka (1994) suggests.

Hildreth and Kimble (2002) argue that a degree of soft knowledge is needed to be able to make appropriate use of procedures and rules. I.e. Old-timers who have developed soft knowledge and experience will ”break” the procedures where necessary, whereas newcomers will follow the rules slavishly (Hildreth & Kimble, 2002, p. 14). Often artefacts like procedures and rules is of little use outside the context of the community in which it was created: knowledge taken out of context is just noise. Knowledge about how to use the procedure is gained from people who form the community (Hildreth & Kimble, 2002). Hildreth and Kimble (2002) stress the need to recognize that knowledge is in people – either it is soft or hard. Hildreth and Kimble (2002) argue that in the case of knowledge management projects there are much emphasis on the “hard” aspect of knowledge.

Learning can occur through both experience accumulation and social interaction, therefore learning will necessarily involve both soft and hard knowledge. Hildreth and Kimble (2002) stress that it is important to take into consideration that knowledge exist in people’s heads and that when hard knowledge has been committed to paper, it becomes information. A way of sharing soft aspects of knowledge can be through making it visible without making it explicit. “The ability to bring to the surface implicit assumptions, and the role that this can play in developing a shared understanding

around a particular issue, is perhaps one of the best means of building an appreciation of what is tacit without going through the (probably wasted) effort of attempting to make it explicit" (Hildreth & Kimble, 2002, p. 15). In the case of The Project, if the participants can show through their work what they have learned, there might not be a need to stress learning mechanisms as knowledge articulation and codification.

According to Hildreth and Kimble (2002) Communities of practice can be viewed as possible way to develop knowledge through interaction with others. Stressing that a key part of the management of knowledge is facilitation of communication and interaction between people.

3.6 Learning mechanisms and the role of task features

According to Zollo and Winter (2002) the effectiveness of the learning mechanisms depends on the characteristics of the tasks that the organization is attempting to learn and of the operating routines that it is interested in adjusting or radically redesigning. To be able to investigate if The Project is helping the four organizations to be more effective we need to learn about the task features. We need to understand what learning mechanisms that will be most suitable to use with the basis in the characteristics of the tasks. In regards to The Project we need to find out what kind of learning mechanism that will be most suitable to use when training/building the capacity of P&Os. This can also help us provide and understanding of if The Project can help the organizations to become more effective, "doing the right thing" as opposed to "doing things right". This section will focus on three specific dimensions of the task or operating routines at hand: (1) frequency, (2) degree of heterogeneity and (3) the degree of causal ambiguity.

3.6.1 Frequency

Frequency – is how often a task gets triggered and executed within a specific period of time. Based on their model Zollo and Winter (2002) argues that at increasing frequency levels, the capability-building mechanisms based on tacit accumulation of experiences

in the minds of "expert" personnel becomes increasingly effective as a learning mechanism relative to the more explicit investments in knowledge articulation and knowledge codification processes. They argue that at lower frequency levels knowledge codification becomes increasingly effective relative to the knowledge articulation, which in turn becomes more effective than tacit experience accumulation. According to Zollo and Winter (2002) the reasons for this lay in *Individual memory*, *coordination costs* and *opportunity costs*.

Individual memory; the experience accumulation mechanisms relies on the memory of individuals exposed to previous occurrences. Other things being equal, this suggests the more frequent the event is, the higher the likelihood that individuals will have retained their impression as to what worked and what didn`t work in the previous experiences. Indeed, the success of codification efforts may be limited because the results of tacit learning are too entrenched and people might believe the consultation and application of task-specific tools to be redundant.

Coordination Costs. The knowledge articulation and codification becomes increasingly complex and costly to coordinate as the frequency of the event increases. Individuals need to meet to brainstorm, and typically need face-to-face contact to coordinate the completion or upgrading of a manual or a decision-support system.

Opportunity Costs: Conducting debriefing sessions and updating tools after the completion of the task cannot be done to often without diverting attention away from day-to-day operations.

3.6.2 Heterogeneity

Heterogeneity is about the variance in the characteristics of the task as it presents itself in different occurrences presents a different type of challenges with respect to the frequency problem. The issue here is that individuals have to make conclusions as to the applicability of lessons learned in the context of past experiences to the task presently at hand. As task heterogeneity increases, conclusions often become more difficult to make, consequently the risk of drawing the wrong conclusions becomes

higher. Zollo and Winter (2002) argue that at higher degrees of task heterogeneity, explicit mechanisms like articulation and codification will be relatively more effective in developing dynamic capabilities, compared to tacit experience accumulation. The rationale is that the risks of inappropriate generalizations (drawing wrong conclusions) can only be decreased via an explicit cognitive effort aimed at uncovering the interdependence between the dimension(s) of heterogeneity and the action-performance relationships. The need to understand what works and what doesn't in the different contexts experienced requires an explicit investment in retrospective sense-making, which fosters the development of specific capabilities to address the different contexts in which acquisition might be completed in the future (Zollo & Winter, 2002).

3.6.3 Causal Ambiguity

Causal Ambiguity relates to the action-performance links, or how easy it is to derive clear indications as to what should or should not be done in the execution of the task. Regardless of the degree of expertize developed in handling a certain task, there are a number of factors that makes these cause-effects linkages un-clear. The number and the degree of interdependence of subtask obviously are important considerations affecting the uncertainty as to the performance implications of specific actions. Another important factor is the degree of simultaneity among the subtasks. If the subtasks can be managed in a sequential fashion, it will be easier to pinpoint the consequences of each part of the performance of the entire process (Zollo & Winter, 2002).

Zollo and Winter (2002) suggest that one implication of their analysis is the suggestion that knowledge codification (and to a lesser extent knowledge articulation) activities become superior mechanisms with respect to the accumulation of expertize as the frequency and the homogeneity of the tasks are reduced. This learning-oriented appraisal runs counter to the logic of codification that now dominates both theory and practice. (ex. ISO-certification). (Zollo & Winter, 2002, p. 349)

3.7 DC framework to map the outcomes of The Project

We are interested in finding out if learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities, thus leading to competitive advantage for the Norwegian company, and increased effectiveness for the non- profit organizations. The assumptions are that exchange of P&Os increases the P&Os knowledge and skills. The P&Os «knowledge & skills» acquired during the exchange contribute to build dynamic capabilities. The P&Os working at the partner organizations for one year, develop/acquire other «knowledge and skills» than they would normally do when only working in the organization in their home country – affecting the dynamic capabilities that are built.

Given that learning is the focus of The Project, and that Zollo and Winters (2002) framework provide a model where dynamic capabilities are developed through three learning mechanisms, we use this model as a base when examining the outcomes of The Project. We use this model in combination with Madsen`s (2009) four main types of dynamic capabilities. This gives us the following model:

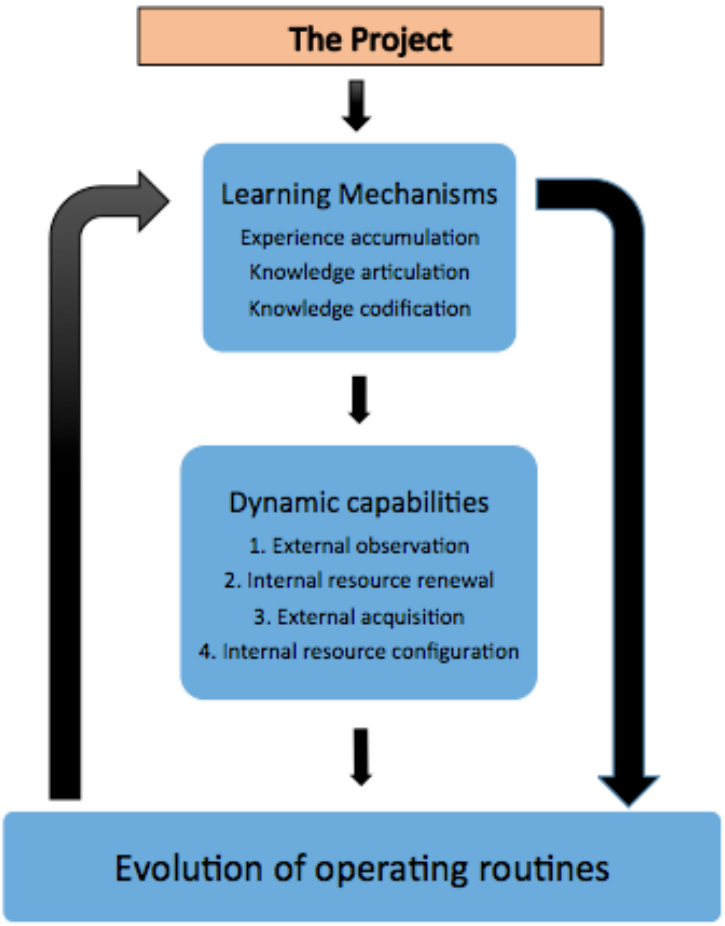

Figure 3-4 From learning to dynamic capabilities

The above model helps us provide an understanding of how individual learning translates into organizational effectiveness. It helps us to understand how learning mechanisms and dynamic capabilities, affect the routines in the organizations and the ability to change and improve.

4 Methodology

The purpose of this chapter is to show what methodological decisions that have been made during this study. We will go through the choice of research method and justify our choice of research design. Further, we will elaborate on the process of selection of cases and informants, data collection, transcription and data analysis. At last, we will discuss the quality of our study through the terms of reliability and validity and discuss the research ethics.

This study of how dynamic capabilities can be build is based upon interviews of 32 P&Os, who have participated in a cross-cultural exchange program.

4.1 Qualitative Methodology

The word method means to follow the road towards a certain goal. According to Savin-Baden and Major (2013), methods are the procedures undertaken for carrying out the study. The methods are the tools of the investigation (Savin-Baden & Major Howell, 2013, p. 333). Vilhelm Aubert, as read in Hellevik (2002), states that a method is a means to solve problems and to reach new knowledge. Our methodological path started with a specific case, that lead to a thorough literature review, resulting in a research question (Yin, 2014).

4.1.1 Selection of research method

Which research method to use depends on the research question. Our research question is:

"In what way does learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities?".

The phenomena examined in this study are how dynamic capabilities develop through learning. Dynamic capabilities and learning mechanisms are complex phenomena and we consider a qualitative research design to be the best approach, since our study seeks to understand how dynamic capabilities develop (Yin, 2014). Even though there is a lot

of research on the subject, there still are many gaps in the literature. A qualitative approach seems to be well suited and it allows us to go in depth with the situation and give the participants the possibility to elaborate their answers.

The number of informants also yields for a qualitative research approach. Since we "only" had 49 informants available, a quantitative approach would not be a possibility.
Savin-Baden and Major Howell (2013, p. 11) define qualitative research as social research that aims to investigate the way people make sense of their ideas and experiences. The aim of this study is to find out in what way learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities. We look into this by interviewing participants in a staff-exchange programme, getting them to tell us about their experiences from their exchange, what they have learned and how.
Further, we find support in phenomenology as a research approach which allows us to investigate the human experience at a fundamental level, seeking the essence of lived experiences as it is (Savin-Baden & Major Howell, 2013). Phenomenology points at an interest in understanding social phenomenon from the participants' point of view. Phenomenology describes the world as it is experienced from the participants own perspectives, from the understanding that the real world is the one that individuals perceive (Kvale & Brinkmann, 2009).

4.2 Selection of research design

Research design is about choices, what to observe and how. It is a logical plan considering how we will go about the study, from research questions, collecting of data, analysis to interpretations (Yin, 2014).

Further on when choosing a qualitative research design, you have to consider three conditions, the type of research question, the extent of control the researcher has over actual behavioural events, and the degree of focus on contemporary events (Yin, 2014). Our research question, *"In what way does learning and knowledge sharing in a*

development aid partnership contribute to build dynamic capabilities?" looks at in what way, in terms of how. Qualitative research seeks to go in depth of the phenomenon and increase the understanding and knowledge. To ask HOW will therefore give us the possibility to explore and understand. Our study is explanatory in the sense that it seeks to understand in what way the partnership has been useful for the involved entities. We have no control over behavioural events, and the study focuses on contemporary events as opposed to historical (events). These conditions calls for a case design. A case study will allow us to go in depth with the phenomenon that we are investigating.

4.2.1 Case design

According to Yin (2014) there are four possible case designs, single-case holistic, single-case embedded, multiple-case holistic and multiple-case embedded design. In our study we are conducting an embedded multiple-case design. Meaning there are two units of analysis in each case, both individual level and organizational level (Yin, 2014). In each case we look at what and how the individuals learn to seek understanding of how this would affect the organizations ability to develop dynamic capabilities, the organizational outcomes. Compared to single-case design, multiple case-design has both advantages and disadvantages. The multiple-case design is often considered more robust and compelling, and if it is possible to do a multiple-case the chances for doing a good case study will increase (Yin, 2014). Using a multiple-case design might contribute to strengthen the conviction of possible results. The disadvantages is that a multiple-case design can be hard to manage, due to requirement of extensive resources and that it is time-consuming (Yin, 2014).

In our study we have four cases, the four partners in the project. We define each of the four partners as a case because they are separate organizations with different cultures, working towards a mutual goal through the partnership. By using the four cases as separate cases, we can see differences and similarities to help answer our research question. Four cases would make it possible to provide an increased understanding of the phenomenon in the study and will make it possible to see if there are any patterns that can give us even more answers and can contribute to (or expand) theory (Yin, 2014)

4.2.2 Selection

When choosing participants for a study it is important to choose participants who might provide the best answers to the research questions (Savin-Baden & Major Howell, 2013). Factors to consider when sampling is time, population and accessibility.

Since one of us has worked on the project as a coordinator for several years, and even being on exchange for one year, it was easy to establish contact with the organizations and get participants for our study. In that sense we had an easy access to the participants. However, because the organizations are situated in four different countries, it needed some planning and travelling to accomplish all the interviews. Not all participants were available, and some had left the organizations or were not in the area at the time of our visit. Because we had to travel to Tanzania, Malawi and Cambodia, the interviews had to be conducted in a limited timeframe, meaning that we had to do several interviews per day with sometimes short time in between. This can be seen as a weakness in our data collection, since in an ideal setting we would have preferred to take some time between each interview to do some reflections.

As a starting point we had a plan about collecting data from all the available participants from “the project”, and so we did. The only criteria were that they were available at one of the four (selected) organizations. In total we had a selection of 49 participants. Further on we identified the need to set some additional selection criteria’s. We excluded participants that had left the profession and/or the organizations, the ones that did not have a formal P&O education, and participants that had very poor English (language) skills. During the transcription of the interviews, it occurred to us that the language sometimes was a problem. Not all of the participants had a verbal English language that made sense to us. Sometimes it was so poor that it would not be justifiable to use the data in terms of validity due to the risk of interpreting the statements in a wrong way. We therefore chose to eliminate the interviews that did not satisfy the language criteria.

In our study we are seeking to find out in what way learning and knowledge sharing in a development aid partnership can contribute to develop dynamic capabilities. Therefore, it is crucial for the study that the participants have a direct or indirect connection to one of the four organizations. Direct, meaning that they still work for their home organization. Indirect, meaning they are in a position to influence the everyday practice of the P&O business. They can, for example, be involved in other organizations, like International Society for Prosthetics and Orthotics (ISPO) that sets standards and criteria's for the profession.

Based on the above criteria, 17 participants were excluded, and we remained with 32 informants.

4.3 Methods used for data collection

According to Yin (2014) there are six possible sources for data collection suitable for case study. We relied on interviews as the source for data collection. We considered using secondary data from questionnaires used by FK to monitor The Project during the five year-period of the exchange. We got a lot of data out of the interviews and because of the time limitations, we decided not to use the survey results. If we had used secondary data, like the survey results, and thereby have data triangulation, it could have strengthened our study.

4.3.1 Interview

Interview is one of the most important sources of case study evidence (Yin, 2014), and is very common in case studies. The interviews were based upon a semi structured interview guide rooted in the literature review and the questionnaire that the partnership itself has used to monitor The Project. The partnership has been monitoring The Project using an annual online questionnaire, gathering self-reported impact and skills, on both individual and organizational level. The questionnaire concerned the participants' improvements of skills during the exchange. We chose decided to use the questionnaire as a guide to designing the interview guide because of the presumption that the knowledge and skills listed in the questionnaire, was based on the objectives

for the partnership, and hence would help the organizations to become more effective. By investigating what they had learned from the exchange, we got axcess to how they had learned, which according to Zollo and Winter (2002) is important to develop dynamic capabilities. The knowledge and skills listed in the survey are also emphasised in ISPO education guidelines[1] and in The Bachelor programme in Prosthetics and Orthotics at Oslo University College[2].

We chose to have an interview guide to help us start the interview and to help us if the conversation got stuck. We wanted the participants to speak freely about their experiences to make the interview seem more like a conversation rather than an inquiry. According to Savin-Baden (2013), the researcher should seek to establish rapport, meaning a close relationship or connection with the participant, to facilitate a conversation. Due to the research question, we have chosen to interview as many participants as possible, including the leaders of the organizations. The interviews were guided by two different interview guides, one for the individuals and another interview guide for the leaders concerning the organizations. This because we wanted to find out what and how the participants learn and how the individual learning has affected on organizational level, hence both individual and organizational level are our two units of analysis in each case. Allowing us to investigate whether it has contributed to build dynamic capabilities or not.

One of the strengths when using interviews as a method for data collection is that it focuses directly on the topic and the research question. It is insightful in the way that it provides explanations as well as personal views (Yin, 2014). The interviews provided us with in-depth answers, and gave us the opportunity to get the participants to elaborate and explain their answers to us. There are also disadvantages by using interviews. For example, it is necessary to develop questions of good quality, as poorly articulated questions more likely can give bias. In qualitative research, honest participants are

[1] ISPO Education guidelines, source: http://www.ispoint.org/standards-guidelines
[2] Bachelro Programme at Oslo University College, source; http://www.hioa.no/Studier-og-kurs/HF/Bachelor/Ortopediingenioer/Programplaner-for-tidligere-kull/Programplan-for-bachelorstudiet-i-ortopediingenioerfag-kull-2013-oppdatert-2015

important to avoid response bias. A common problem is that the participants answer according to what the interviewer wants to hear (Yin, 2014). As one of us has a connection to The Project, and are familiar with the participants we were conscious about how we asked the questions and what we asked about, trying to avoid this issue. Rather than directly asking, we tried to encourage them to tell us their story. Since the interviews mostly were conducted in English, apart from the interviews with the Norwegian participants, they were conducted in a language that was neither the participants' first language nor ours. By using interviews as opposed to for example survey as a method for data collection, we could rephrase our questions if anything was unclear or the participants didn't understand the questions.

As the interviews took place in Cambodia, Malawi, Tanzania and Norway, we had to deal with four very different cultures. Different cultures can be a challenge as you have to consider that each culture may have different forms of interaction. During the interviews, we had to consider cultural aspects such as hierarchy, directness, and how we addressed the informants.

4.3.2 Transcription, coding, analysis

The data collected must be analysed and interpreted and as researchers, we have to choose how to go about this. When it comes to analysis of case study evidence, there are few fixed formulas. Yin (2014) describes four general strategies for analysis of case study evidence and one of them is *relying on theoretical propositions.* This means that you will follow the propositions that led to your case study. This suits us in the way that we started out with an interesting potential case that we had some thoughts about, and did a thorough literature review which led us to a set of research questions.

The process of data collection has been as follows: before the interviews were conducted we sent out an email to the organizations, informing them about what we were doing and why we wanted to interview them. The interview guide was not sent out because we didn't want the participants to prepare too much and thereby answering according to what seemed to be right. We wanted the answers to be honest and immediate. After the interviews, we conducted the transcription. Because of the

severe amount of data, we used a transcription assistant on nine interviews. All of the interviews were recorded, and the interviews were transcribed verbatim including aspects as pauses, laughter and timing. Because of some differences in the quality of the language and the quality of the sound recorded, some sentences have not been included due to validity problems. We found that it could lead to mis-interpretation of what the participant meant to say. After the transcription of all the interviews, we started categorizing and coding. The coding was done by hand not using any computer-assisted tools, using colours to categorize statements and information according to themes from the theory and themes developed from our interview guide and resource questions. The coding was conducted through several rounds. In the second round we cut into the data, removing text that we didn't find important for our study. Through systematization of the data, some new codes emerged. During the process, we saw that some citations could be relevant under several different codes, and we had to choose to use them under the codes that seemed most fit. During the work with the data we found some citations that led us back to theory, more about this in chapter 4.4.2.

We started out with an analysis that seemed deductive. In a deductive approach you test the known theories, while in an inductive study you develop new theory or expand/contribute to known theories. As we are doing a study seeking to find out in what way learning and knowledge sharing can contribute to build dynamic capabilities, we are seeking to contribute or add to existing theory. During the analysis, we saw the need of making some adjustments considering our direction and research question. According to Yin (2014, p. 149) explanation building can have a iterative nature, meaning that the eventual explanation most likely will be the result of a series of iterations. Doing these adjustments made it possible for us to explore the subject related to our research question, to see if we could find something new that would contribute with new aspects on the phenomenon under investigation.

The interpretations, which are done in this study, can be documented in the data and through the presentation of the data. To ensure validity in the study we have used an

amount of citations from the interviews that refer to different relations and interpretations for this study (Savin-Baden & Major Howell, 2013).

4.4 Validity and Reliability

The purpose of this chapter is to assess the studies quality and credibility based on the assessment of the study's validity and reliability. When qualitative researchers speak of research validity they usually refer to qualitative research that are plausible, credible, trustworthy and therefore defensible (Johnson, 1997). The reliability on the other hand should show in what way the study is consistently conducted and relatively stable over time across researchers and methods (Savin-Baden & Major Howell, 2013).

4.4.1 Reliability

Reliability shows to how reliable the results are. According to Yin (2014, p. 49) the goal is to minimize errors and biases. By documenting and describing what we have done during the process, the objective would be that other researchers might be able to do the same study again and get the same results (2014). We have tried to achieve reliability by recording all the interviews, thereby making it possible to go back to the record if something is questionable. During the work with the analysis, we have worked closely together, to ensure we categorized the material with the same meaning, and to compare it. Further, we have explained and discussed the methods and the procedures we have used. At last, we have made an effort of presenting extracts of data in the rapport alongside with summaries.

4.4.2 Validity

To assure validity we have relied on a framework from Johnson (1997). His framework includes ensuring the following types of validity: descriptive validity, interpretive validity, theoretical validity, internal and external validity.

Descriptive validity refers to the factual accuracy of the account as reported by the researcher (Johnson, 1997, p. 284). This type of validity is important because

description often is a big issue in qualitative studies. Descriptive validity is attended to by using investigator triangulation (Johnson, 1997), we have been to master students working together during this study. By that we can ensure that the actual events are as accurate and correct described as possible. We have met this threat by both being present in most of the interviews, and by working closely during the whole process as described below.

None of us have former experience as researchers. Inexperienced researchers can weaken the study related to higher risk of making mistakes during the process. We have considered this by working together to ensure that issues, problems, and discussions have been addressed. We have also sought guidance and advice from our supervisor and others, and this has made it possible for us to correct and adjust our path during the study.

In a qualitative study it is important that we as researchers manage to accurately interpret and describe the meaning attached by the participants to what is being studied (Johnson, 1997, p. 285). We need to understand the subject from the participant's perspective and give a valid account of these. During the interviews, we asked the participants if we could contact them later on, if we had any questions or if it was unclear whether we interpret them correctly. We also conducted summaries at the end of the interviews to sum up what the participants had said, and if we had understood them correctly. This would help ensure the interpretative validity, as it concerns accuracy to the understanding of the participants' thoughts, feelings and experiences.

To have theoretical validity, the theories developed from the study have to fit with the data to be credible and defensible (Johnson, 1997, p. 286). Theory development provides an explanation of the phenomena. As we want to make an addition to Zollo and Winters (2002) model this is a important issue for us. We have attended the issue of theoretical validity by using investigator triangulation and theory triangulation and discussions with others (Johnson, 1997).

During the work with the data, we found some interesting citations that lead us back to the theory. These citations from the participant where about something the participant called hard and soft knowledge. To keep the structure, we found it most proper and orderly to present all the theory together, and the theory that arise from the interviews are presented under chapter 3.5.4.

Internal validity concerns in which degree the results according to the cases and the phenomenon are valid, in which degree we are justified in concluding that an observed relationship is causal (Johnson, 1997). As we seek to find out how learning and knowledge sharing can contribute to build dynamic capabilities, it is important that we as researchers stay close to the data and careful consider optional explanations, until the "final explanation" is made (Johnson, 1997).

External validity is about in which degree the research can be transferred, in which degree it can be generalized. It is about in which degree we achieve to present descriptions, concepts, interpretations and explanations that can be useful in other areas (Johnson, 1997). Potential readers can then use this information to decide to whom the results can be generalized to. If the information about number of informants, selection, methods used, data analysis etc. are thorough and correctly given, others will also have the information they need if they should want to replicate the study (Johnson, 1997). However, generalization is not the objective of our study. We consider that the interview guide and the study can be used as guidance for further studies of dynamic capabilities and learning mechanisms.

Researchers role

In qualitative research it has been argued that researcher bias is a problem, in the meaning that the researchers find what they want to find (Johnson, 1997). This can be a result of the selective observation and selective recording of information, and that the researchers let their personal view affect the data. However, personal views will always be present, and there will never be a totally objective mind set, there will always be a selective part of the research. We have addressed this by engaging in critical self-

reflection about potential bias and predispositions. Through reflexivity, we as researchers become more self-aware.

As Malterud (2001) says, a researchers background and position will affect the research, and relates this to preconceptions. This study has been conducted by two master students, whereas one of us had severe knowledge about The Project in advance, and the other did not. Doing research in own organization has both advantages and disadvantages. It has helped us understand the difference in the cultures between the four organizations and the context. Second, it made it easy to establish contact with the informants. By being self-aware and open about the background, we found it indeed valuable to have background knowledge about the project and organizations that makes our cases.

"Preconceptions are not the same as bias, unless the researcher fails to mention them." (Malterud, 2001, p. 484)

4.5 Research ethics

Ethical assessments have to be done both before, under and after conducting a study. According to Norwegian National Committees for Research Ethics, it is four overall principles to comply with: Respect towards the participants in the research, seek to ensure good consequences throughout the study. Fairness in the projects design and implementation and integrity (The Norwegian National Committees for Research Ethics, 2014).

Our study is reported to and approved by Norwegian centre for research data (NSD). In our study, we find it important to take the participants and organizations that are involved under severe considerations. We have therefore emphasized good information towards all who were affected by the study, hereunder-free consent, confidentiality and our part in the study. In advance of conducting the interviews, we sent out an e-mail with information to all the organizations. In the beginning of the interviews, we asked

the informants if they had received the information. We asked if they knew why we would like to interview them, we allowed them to ask questions and get us to elaborate if anything was unclear. We informed the participants about confidentiality, about that data would be anonymized and that it would not be able to trace their statements and quotes. Further, we asked if we could record the interviews. Informed consent was given verbally from the participants, consenting on the interviews, the recording of the interviews and that they would be anonymous. Most of the interviews were conducted on the informant's work place, others on a café, in non-disturbing surroundings.
For the organizations, we sent out an email after the interviews were conducted to get permission to use the organizations names in the study. All the organization gave consent that we could use their identity.

Through the process of the study, we have acted honestly and openly and have worked systematically with focus on good documentation.

5 The four cases

The four cases are the entities in the development aid partnership. All of the four entities operate within the same business. We start with a presentation of the P&O profession and business, which they operate in, before continuing with a presentation of each of the four entities.

5.1 The P&O – profession and business

Oslo University College present the Prosthetic and Orthotic (P&O) profession as complex; consisting of elements from technical-, medical-, health-, and social sciences. P&O professionals need as wide range of knowledge and skills to be able to do a god job. The P&Os specific work process is more or less the same all over the world; conduct subjective and objective patient assessment, take individual measurements, casting/ scanning and make the design for the device. P&Os work closely in interdisciplinary teams with orthopaedic technicians, to achieve the best possible result for the user. Participating in multidisciplinary teams surrounding the patient, establishing a rehabilitation plan for the user, is an important part of P&O education and work. Multidisciplinary team normally includes; Othopaedic surgeon, Physiotherapist, Occupational therapist, Nurse and social worker. ISPO is funded on the idea of the importance of the multidisciplinary team, being an organization open for all professionals with an interest in rehabilitation. It is necessary that P&Os understand the complexity in, and the options and possibilities that lie in the different manufacture methods. Creativity and having an interest to develop new technical solutions is an important driving force in the P&O profession. This requires good manual skills and technical understanding.

Due to higher life expectancy, and an ageing population it is very likely that the need for Orthopaedic - and other assistive - devices will increase in the future. WHO initiated in 2014 the Global cooperation on Assistive Technology (GATE-initiative) to address the future needs for assistive technology. WHO estimates that today, more than one billion

people need assistive technology, and by 2050 the number will rise beyond two billions (World Health Organization, 2016). It is also an increasing demand for P&Os that are willing to take on missions in developing countries. Oslo University college claims that it is important – both in national and international context – that P&Os has multicultural skills.

5.1.1 Sophies Minde Ortopedi AS (SMO)

Sophies Minde Ortopedi AS (SMO) is a private company owned by Oslo University Hospital (OUS). Their core activity (mission) is to produce orthopaedic appliances (i.e. orthoses and prostheses), of good quality, fit and function for people living with a physical disability – in accordance with their agreement with The Norwegian Labor and Welfare Administration (NAV). SMO is one of several suppliers of orthopaedic appliances that NAV has an agreement/contract with. SMO receives patients from all over Norway, but their five department´s is situated in south of Norway. SMO have 96 employees, where 25 are Prosthetist Orthotists (P&Os). Currently six P&Os that has participated in The Project are working at SMO. In addition they have 3 P&O interns; in Norway P&Os have two year internship after they have finished their bachelor degree.

The foundation for SMO was made in 1892, and up until 2003 SMO was a government institution. Today the company is one of the market leaders, and one of the biggest competence centers in Norway within its field. SMO has continually focused on increasing the staff's competence.

In general the P&O business in Norway has been quite stable, with little competition and high degree of predictability. Over the last years there has been some signs indicating that the industry may be less predictable in the future. The Norwegian government (NAV) is becoming increasingly more demanding, i.e. in terms of the quality of the services. In 2015 SMO became ISO-certified to be better prepared to meet possible future quality demands from the government. The Scandinavian neighbor countries often have a considerable influence on how things are done in Norway. I.e. in 2010 the government initiated a review of the current P&O system (NOU 2010:5, 2010), after there had been major changes in one of the neighbor countries. However, it didn't

result in any huge changes in the current system, although many changes were suggested. The P&O industry has also experienced increased competition the last years, especially due to foreign companies (i.e. Blatchford Ortopedi AS) buying Norwegian P&O companies, working towards increasing their market shares.

SMO's strategy is directed towards being the market leader within its field. This is achieved through focusing on objectives directed towards (1) The "users", meaning people with physical disabilities, (2) The Employees, and (3) The Company, as a whole:

(1) SMO shall provide a predictable and god service. Achieve the best possible solution, through communication and facilitate user-participation.
(2) SMO shall attract highly competent professionals, and maintain existing expertise and competence within advanced orthopaedic technology - and develop it further.
(3) SMO shall increase their market share within their field (2014-2016). Be the main supplier of orthopaedic devices for OUS. Offer services nationwide, and protect the users right to use the supplier of their choice. SMO shall seek new, and maintain existing collaborations with local, national and international professional communities. Maintain the brand "Sophies Minde".

5.1.2 Kamuzu Central Hospital (KCH)

Kamuzu Central Hospital (KCH) was established in 1977, and is a governmental hospital in Lilongwe, Malawi. It is the major hospital in the central region. Due to poor referral system in the region KHC provides both primary and secondary health care services, although it was planned to serve as a tertiary health care hospital. Consequently, there is congestion at the hospital. Currently KCH is a 1200 bedded hospital. Six major facilities exist within KCH campus, including: The College of Medicine, The Kamuzu College of Nursing, Lilongwe School of Health Sciences, Baylor College of Medicine and the UNC project.

In relation with an on-going development of the orthopaedic surgical department of the hospital, a new Prosthetic and Orthotic Centre (P&O-Centre) was built and opened in

2009. The P&O-Centre is currently managed and funded by 500-Miles, a Scottish NGO. 500 Miles and the Ministry of Health in Malawi have signed a Memorandum of understanding (MoU)[3]. The long term objective agreed upon is that 500 Miles will contribute to train and develop the Malawian staff, and to build the capacity and the economics and practical efficiency of the P&O-center to the optimum level, and then hand over the responsibility for managing, running and funding the center to KCH and MoH. The P&O-center has seven employees and is in these days confronting massive work related to organizing the physical rehabilitation services for the central region of the country. The center focuses on providing Prosthetic & Orthotic devices of good quality and high standard services to people with disabilities. Four of the employees have been participants in The Project.

Many of the patients are referred to the P&O-Centre by KCH or other medical services and NGOs in the area such as Children of the Blessed Trust, and many of the patients "walk-in" because they have heard about the service. The last years the P&O center has actively pursued an outreach programme to make the service available to everyone in central region. The P&O-center collaborate closely with a number of partners.

The P&O-center at KCH, Malawi is the only provider of P&O-services in the central region, and since the clinic was established in 2008, they are now overwhelmed with clients. The center's objective is to make their service available to all people with disabilities that are in need of a prosthetic or orthotic device.

The overall strategy and Vision for the P&O-Centre is reflected in objective 1, presented in *table 2-1 Objectives for each of the four entities* – "A sustainable workshop at KCH delivering high quality services to physically disabled in the central regions of Malawi established".

[3] Memorandum of understanding (MoU) – a document tha expresses mutual accord on issue between two or more parties. The MoU are generally recognized as binding, even if no legal claim could be based on the rights and obligationa laid down in them.
Source: http://www.businessdictionary.com/definition/memorandum-of-understanding-MOU.html

5.1.3 Tanzanian Training Centre for Orthopaedic Technologists (TATCOT)

TATCOT was founded in 1981, and is a government training institution located in Moshi, Tanzania. TATCOT is organized under the Tanzanian Ministry of Health and Social Welfare. The institution provides courses in the field of orthopaedic technology and enrolls students from all English speaking African countries as well as Asian continent and other interested countries. TATCOT main objective is to educate the professionals who are required to provide technical services to people with amputations and other neuromuscular disorders such as poliomyelitis, paralysis, cerebral palsy, clubfoot and trauma among others. TATCOT offers a three-year diploma course in Prosthetic and Orthotics and several shorter course´s up to one year. Since 1999 TATCOT has also provided a four-year Bachelor program in Prosthetics and Orthotics. Currently TATCOT have a staff of more than 40, were approximately half are teaching staff, (P&Os). Ten of the P&Os has participated in The Project since 2010. All of them are still working at TATCOT.

TATCOT faces challenges in regards to the lack of jobs for the graduates. The need for P&O services are huge in Tanzania, but the service delivery doesn't keep up with the pace of the training of P&Os. Many of the graduates face unemployment when they are finished, despite the big need of their competence. Attracting students to TATCOT is hard if there is no job for them after they graduate. Over the last years there has also been a growing number of training institutions worldwide, which makes it a bit more challenging to attract students and also to retain staff. TATCOT address these issues by focusing on quality education, continuing professional development of all members of staff, and participating in and advising on the improvement and development of technical orthopaedic services.

TATCOT´s vision is to be a centre for excellence in producing competent professionals in the field of prosthetics and orthotics in Africa. Their mission is to produce competent professionals in the field of prosthetics and orthotics through training, research and service provision by mobilizing and utilizing available resources.

5.1.4 Cambodian School of Prosthetics and Orthotics (CSPO)

Cambodian school of Prosthetics and Orthotics (CSPO) was established in 1994 and is located in Phnom Penh, Cambodia. It is run Exceed Worldwide, a UK registered charity as the only school of Prosthetics and Orthotics in the world with ISO 9001:20008 certification. The school has been fully staffed by Cambodians since 2010, earlier they were dependent on expatriates to run the school. The core activity is about sustaining the profession, and training the local people to serve the local need. Cambodia need roughly around 300 to 350 P&Os. So far CSPO have graduated just over one hundred Cambodians. Since they have an excess capacity around 50 % of the student body is international. In fact they cannot rely on only local people for the school to continue. The aim of CSPO is to create the foundation of sustainable physical rehabilitation services by producing qualified specialists with the skills and knowledge to provide support for people with disabilities. To achieve this, CSPO holds International Society for Prosthetics and Orthotics-ISPO Category II accreditation. Graduates will be recognized internationally as professional Prosthetist – Orthotists ISPO Category II and will be qualified to upgrade to a degree level in the future.

The school is operating on behalf of the government, although there has been very little contribution from the government in the last 21 years concerning the development of the school. However, the government; the ministry of social affairs are proud of the school and what has been achieved, but it has always been Exceed and the other partner organizations like ICRC, ISPO, USAid, and major donors in the region and outside the region, that has supported the school.

CSPO enrols approximately 12 to 14 students per year per program. They currently have students from 13 different Asian nations, and also have students from African countries. CSPO is situated in the same location as one of the largest physical rehabilitation centres in Cambodia, and has a central role in coordinating the rehabilitation services in Cambodia, delivered by four non-profit International Organizations. All services are incorporated in the national rehabilitation program; hereof there is a close collaboration with the Health Authorities and other rehabilitating services. The school overall vision, as a part of Exceed worldwide, is “creating possibilities, exceeding

expectations, future without limits". Their mission is to "work in partnerships to deliver high quality, sustainable services that equip, enable and empower persons with disabilities" (Exceed, 2016).

6 Results (analysis)

In this chapter we analyse the material we have gathered from the interviews. The purpose is to show and compile the data in relation to our sub-questions. The analysis from the sub questions will guide the study towards an answer to our main research question, which will be the focus in chapter 8.0. Our research question is:

In what way does learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities?

- *What and how do the participants learn during their exchange?*
- *How has the individual knowledge and skills been shared with the home organization?*

6.1 What and how do the participants learn from the exchange?

In this chapter we compile the information given by the informants concerning what the participants have learned on an individual level during their exchange. We needed to focus on what they had learned to be able to get access to how they had learned, since the knowledge of how you learn is often tacit. What the participants has learned is compiled in subjects that are relevant for the P&O profession, in regards to increasing the P&Os effectiveness. The subjects were chosen based on the result from the questionnaire that the partnership used to monitor The Project in combination with the theory of dynamic capabilities, in the sense that the subjects can be linked to exploiting and exploring activities. Each subject is divided in one section for the informants from south, and one section for the informants from north – to ensure the anonymity of the participants. The north participants are the participants from Norway (SMO), while the South participants are all the participants from Malawi (KCH), Tanzania (TATCOT) and Cambodia (CSPO).

6.1.1 Technical and clinical skills

Clinical skills are related to all the work tasks or processes performed by the P&O that impacts the final outcome for the patient. Clinical skills require critical thinking (judgment based upon your own knowledge and experience); the P&O must analyze the situation and determine appropriate actions for each patient. Clinical skills are broadly defined as every action, behavior and decision made by the P&O, motivated by/or rooted in the patients need. Clinical skills include technical skills (related to different components), clinical examination (patient assessment), non-technical skills such as teamwork and communication, and cognitive skills such as clinical reasoning and decision-making. Clinical skills are basically about the P&Os capability to achieve a god outcome for the individual patient; how they combine and apply the knowledge to reach the best possible outcome for the patient. Our data confirmed the result from the questionnaire, that the participants had improved their clinical skills.

The North-participants – The data show that the north participants that had been working as lecturer experienced that they had gotten better clinically as a result of teaching theoretical subjects. During their time as lecturer they had to prepare a lot of teaching material and teach, which made them understand the theory ("Know why") better. Through being exposed to patient cases that they had only read about, or only seen a few times in Norway, the north participants also found that they gained clinical skills. The north participants found it very interesting to work in a low-income country were they were exposed to more complex and complicated patient cases, compared to what they see in Norway. Also several of the participants expressed that they produced a lot more devices during their year there, compared to what they produce in a year in Norway. They got a lot of training with taking casts and working fast, which improved their clinical, technical and hand skills.

> *"I got a lot of experience (…) saw a lot of different types of patients… and the systems is a lot more primitive, so you are forced to know more about the basics, like instead of using x-ray, you have to take measurements." North-participant*

The South-participants – The data show that the south participants got better at understanding the causal-links of their actions. By gaining skills during the exchange about different types of for example "socket design", and through making and learning about different approaches of making a device, the participants learned and understood more about when and how they should use the different types of socket design. Instead of making the socket according to the P&Os liking, they learned more about patient assessment, and how the patient assessment should decide what and how they should make the device. The participants saw the benefit of following the patient and the patient's condition instead of following a normal/standard design. The data shows that the participant learned to take the patient's story and the patient's needs into consideration when making the device, putting the patient's needs in first line.

> *" (…) when I went to (South country) I realized that I have to know more about my patients. I have to know more about my clinical work before I decide what to do. (…) So I learned that I have to think more about the patient and that helps me to make a better equipped device, I've seen it."*

Another South-participant said that mainly, his/hers technical and clinical knowledge came from his/hers experience from working in Norway.

6.1.2 Collaboration and communication skills

With Communication and collaboration, we mean the participants ability to communicate with others, verbally and nonverbally, and their ability to work in teams and collaborate with other colleagues, in multidisciplinary teams, and interdisciplinary teams. Overall the collected data shows that the participants experience that they have improved their collaboration and/or communication skills.

The North-participants – the participant that had worked as lecturer experienced that they had gotten better at explaining things in a simple way as a result of teaching students, and answering their questions.

"(…) In Norway, I collaborate a lot with the technicians. There are often a lot of questions (from the technicians). I have gotten better at explaining things. Before I often expected or assumed that they understood what I was communicating. But it isn't always like that. So, I have gotten better at detecting when people don't understand what I mean, and I can explain a little better.

As a result of working in another country and interacting with people with different cultures, knowledge and background the data revealed that the participants has become more aware, and think more about how they communicate with patients, next of kin, but also with colleagues, P&O-interns and students. One participant compared giving good information to the patients with having a short- teaching session. In general the participants expressed that working and living in another country, interacting with different kind of people, had improved their "people skills".

"50% of my job is related to patient contact. You need to talk to the patient to be able to make a good device. So all experiences related to dealing with different types of people in different kind of situations, I think is of great benefit in my job." North Participant

The participants that were exchanged to Malawi felt they had gotten better at collaboration in general. Due to the size of the P&O center and the lack of different equipment, you often had to collaborate very closely.

The South-participants - The data shows that the participants have learned something about the value of teamwork, and that they feel they have gotten better at collaborating in teams. Realizing that putting more ideas on the table from several persons, coming from different places, can give a better outcome. One of the participants stated;

"I really learned a lot and I really saw the effect of it, that it is really important to have teamwork, - and its really nice way, - from different places, ideas, when you mix it and

make it one, it becomes much-much better, than if you would have done it in your own way" South-Participant.

Through working in bigger organizations operating in a different system, the participants had to learn how to collaborate and communicate with a lot of different people. This helped improve the participant's social skills, how to deal with different kind of people. One participant that was on a south-south exchange, expressed that s/he hadn't learned much hand skills, but more soft skill related to communication, increased confidence and empathy. Dividing the skills in "soft" and "hard". Explaining that the colleagues that went to Norway had learned more hard skills from the exchange, compared to him/her.

6.1.3 Problem-solving and creativity

Problem solving and creativity is related to the P&Os ability to find good solutions for the patients challenges, - and are closely linked to Clinical and technical skills, and collaboration and communication skills. The data show that all the participants, both the north and south participants expressed that they felt they had gotten better at problem-solving, especially in terms of being creative, and the ability to "think outside the box", was mentioned by several of the participants.

The North-participants - As mentioned in chapter 6.1.1 working in developing countries exposes participant from Norway with more complex and complicated patient cases. The data show that this has enhanced their creativity, problem-solving skills and level of knowledge. The participant's had to find solutions with the material at hand (one of the participants compared it with the TV-show "MacGyver"). The participants had to a larger extent use and rely on the basic theory and their own knowledge, instead of relying on expensive and advanced technology, or your more experienced colleagues to solve the problem.

"Practice makes perfect! The more different types of patients you see, the more you learn. During your year as a participants you see patients that often has more severe disabilities (compared to what you see in Norway), while you at the same time only

have access to limited materials, components, things like that, which forces you to think differently. This I think increases the creativity." North participant

Several of the participants saw a lot more patients during their time in the south, compared to what they see in Norway during one year. The frequency of difficult patient cases is also a lot higher in low-income countries compared to Norway, and in addition they don't have access to the same amount of resources (components, materials, colleagues etc.) as they have in Norway. This has affected what they "define" or "perceive" as a challenge or problem. In Norway you have all the resources you need available, so it's not a problem to take on "difficult cases", they believe they will figure it out. This has made the become more flexible, better at dealing with unexpected situations, and that they more often took on "difficult cases" that they before would decline. In the data we also found that the participants have gotten a lot of practice in coping with stressful situations, from finding themselves in situations that they never could have anticipated in advance. The participants expressed that they found themselves in situations that they never would have experienced in Norway.

"I have gotten a lot of practice in how to tackle stressful situations or unexpected situations." North participant

Due to the limitation in resources, component and material, the participants also learned to improvise and be creative. In Norway they often just try different components. This has made the participant more aware of the causal link between the use of material, hand skill and the outcome**.** The material is not necessarily that important for a good outcome. It is the combination of the type of material you use and what you do with it.

"I think that… I´m a better P&O…. there are certainly some who do not think it makes me a better P&O… because I´m used to try to solve things with simple solutions. If I´m making a orthosis I maybe more often chose a basic solution, and use the theory, rather than using expensive components; and hoping that

will solve it. If it makes me a better P&O, I don't know, but at least I cost less for the Society. North participant

The data shows that the experience from working as a teacher also helps increase the problem solving skills.

"(..) when you work closely with students… every student is different, so they have different needs, so you have to somehow constantly solve problems for individual students, so, I think that has made me much better at seeing things from other perspectives (…) I feel I have gotten much better at seeing things from different…views. That help me very much in problem-solving." North participant

The South-participant - The data show that the participants had gotten a bigger "tool-box" related to how to solve problems after being in Norway. Seeing different solutions and way of doing things in Norway gave ideas how they could do things different and better in their own work place.

"(…) so it give me the creativity, so here I have to change this so that it can be much better. " South Participant

From working in Norway, where the P&O were separated in specialized departments, the participants learned that there are some staff that are better than others within specific areas. And if they faced a problem in Norway they learned to identify the one who was best skilled to help them with their different work task.

" You know we learn a lot, we listen, we observe, so those things, they give me the clue like if we have the patient case like this, so who can help you. Who can we work with." South Participant

6.1.4 Modern components, technology and facilities

This chapter is only relevant for the south participants. The data shows that the participants that went to Norway, gained a lot of hand skills, and they got a lot of ideas from working with and working in a modern "high-tech" environment. The objective was to learn about modern components, however the data show that the participants that has been working in Norway get a lot of new ideas. It increased their creativity. Basically they learned a lot from working with modern components, not only about the modern components itself, but also about how they could use the material at home differently, to achieve the same outcome as they saw in Norway.

> "*When I was in Norway I see a lot technique, casting, like TF; Trans-Femural, In Africa is quadrilateral (socket) system, but when I was in Sophies Minde I learned MAS-socket, mmm… those things. How to take cast of congenital patients.»*

The south-participants that normally worked as lecturers/teachers, found it very useful to work as clinicians in Norway for one year, producing ortopaedic appliances with high tech components. They got to update their knowledge and hand skills, learn new techniques, and work with modern components and materials. The majority of the staff had never worked with modern components and materials, though they were teaching about it at the schools. They expressed it was easier to teach and answer the questions from the students when they had seen, touched and worked with the things they were teaching about, as opposed to before the exchange. It also gave a wider thinking, and the possibility to offer more options to the patients.

6.1.5 Teaching and supervision skills

During the exchange many of the participants worked as teachers and/or had a role as a supervisor. The data shows that the participants gained professional confidence and some new teaching techniques or methods to share their knowledge from being on the exchange program.

The south-participants - The participants that were exchanged between CSPO and TATCOT saw different ways of teaching and organizing the practical and theoretical work for the students. They picked up small things like the use of PowerPoint presentations, using case´s as an alternative to just presenting the theory to the students. The participant also learned about different ways to do examination of the students and different grading system. All the differences between the schools made the participants reflect over their own workplace, and the disadvantages and advantages with their own way of working and teaching. It also gave the schools a kind of quality measure/comparison, given that they technology and the overall conditions in the country are not so different (compared to south and north). Providing them with a frame of reference, in terms of quality. They also learned about cultural differences, and how to approach those differences.

The south-participants that normally worked as lecturers/teachers, found it very useful to work as clinicians in Norway for one year, to update their knowledge and hand skills, learning new techniques, and working with modern components and materials. The majority of the staff had never worked with modern components and materials, though they were teaching about it at the schools. They expressed it was easier to teach and answer the questions from the students when they had seen, touched and worked with the things they were teaching about, as opposed to before the exchange. It also gave a wider thinking, and the possibility to offer more options to the patients.

The North participants - The north-participants expressed that they learned a lot from working as a teacher for a whole year. Especially related to communication (see chapter 6.1.2). After they have returned to Norway several of the participants from The Project has been used as lecturer and as examinators at Oslo University College.

> *"..the greatest thing I got out of the exchange was my teaching skills. Its no problem for me to teach, and I have no problem standing in front of 30 people and talk about prosthesis… I have all the material, and now I´m even teaching at Oslo University College."*

However, also the participants that didn't work as lecturers has learned something about how to transfer their knowledge and skills to others. Participants that did not work as lecturer during their exchange have also been working at Oslo University College, either as examinator or lecturers. Several of the participants expressed that they had learned a lot about how to teach but had trouble expressing exactly in what way they had improved in that area, other than improved how to explain things to others.

6.1.6 System, processes and management

The data revealed that the participants learned and reflected about systems, processes and management. Both in regards to how the organizations were organized, different support systems - that helped them in their daily work, and in relation to different work processes and management.

The South-participants - Being exposed to another work place and another system, made the participants reflect about their own organization and how they are organized. They start comparing the system in the home country with the system in the host country. Although the system was different, the process of working was the same. Because of the system at CSPO the participant that was on exchange felt that fewer mistakes were made.

> *"...It was nice actualization. It gives exposure to individual and you learn something different from other place and compare to where you are. ...compare it with technology. Compare with here.. You can also even let yourself; Where are we in this field. Are we in the right side or…? What are we lacking?! There are lot of things. Sometimes you find, you find that we don't have this, why we don't have?"*

The participants from TATCOT and SMO that were exchange to CSPO learned a lot about the quality management system. Some participant referred to it as a transparent system, where everyone knew who was doing what and where, and that the management involved the employees in the decision making. They saw that there was

collaboration between the schools in Asia, and that they shared materials and not only human resources. They also got to learn about the rehabilitation process in Cambodia, and their Community Based Rehabilitation program (CBR-program).

The participants from south learned about self-management and time-management, from working in an organization and society where time is perceived as very important. When in Norway facing the consequences of not managing to get the device finished on time, and then forgetting to cancel the patient's appointment.

The North participants – From working and living in society's that are less organized than Norway, the participants have gotten increased awareness about the importance of having good systems, processes and management in place. Overall the data show that the participant has reflected over the system, administration and management in the places they have been working as a participant. They have compared the system or lack of system with what they know from Norway, and they have found pros and cons, and increased their knowledge about systems, processes, management, and administration.

From working within a less organized community, without a well functioning healthcare system the participants expressed that they had gotten more independent and confident. The participants working in Malawi had a lot more responsibility compared to when working in Norway. Without any support from a "system" the responsibility are to a larger extent placed on the single individual. Consequently the participants had to learn to rely on their own knowledge and skills.

> *"You just have to treat the patients that comes through the door. And you have to be the specialist. You feel very alone in the health care system. If we didn't take responsibility nothing happened. It was very frustrating"*

> *"I learned the value of having good systems in place. I think more about that now, then before. Before I don't think I sacrificed one thought thinking about the system; it didn't have anything to do with me. But now I´m.. very concerned with… that there are good systems in place. That things should be done properly, also formally. I think that was*

probably what I missed in (…). So it has become more important to me that the workplace has a god system, and a good management."

It also increased their overall understanding about how the system in Norway help and support them in their work. The participants that worked at CSPO, learned a lot about their ISO Quality Management System. Some found it to be very rigid, and difficult to influence, while at the same time they saw the advantage of having that kind of quality control, when everything has to be done in a certain way. Some also found great support in the system, especially related to follow-up of the students. Working within a more rigid system compared to what they were used to at home, made them reflect about their own "rigidity". The participant working in TATCOT were a lot freer in how to approach the work, compared to CSPO. But that also meant a lot more responsibility was placed on them.

The participants working in Malawi has had very different roles. Some of them have been managers others have been working some with administration and some as a P&O, while others has been strictly working as P&Os. Overall working in small center has influenced their knowledge about management and administration. Even the participants that didn´t work as managers or had an administrative role, still have been involved to some extent in the management of the center. I.e. through close collaboration with the manager. The participants that worked as managers at KCH gained a lot of experience.

"I had no formal qualifications in management. So I think… I learned a lot about management… it was very much about communication. To understand what others said, not just verbally, but the meaning behind the words. I also had to learn, you know, there were FK Norway, and you had 500 Miles, and then there were the management at the hospital – so getting messages, instructions and ideas from all of those three partners, and to be unifying - that was very difficult."

6.1.7 Personal development

Personal development concerns development related to professional confidence, increased motivation, change in attitude etc. The data shows that the participants have grown both on a personal and professional level, and gained professional confidence as a result of increased knowledge, skills and experience. The data shows that being a participant – working in another country for one year - does something with the individuals not only on a professional level but also on a personal level.

The south-participant - The data shows that the South-participants have grown both on a personal and professional level, and gained confidence as a result of increased knowledge and skills gained from being on the exchange program. By getting more confident in the work one of the participants managed to be more effective in her work and to produce better devices. Before going on exchange se just show up and did her work, now she feels highly motivated, professional and wish to do everything better.

> *"It has changed me a lot. I have grown first of all as a person (…) and secondly my, I improved so much in my work. If you compare the devices that I did before I went and after I came back they are different. I even get surprised myself, if somebody comes for a repair that I did a long time ago, I'm like: "I'm not the one who made this" (laughing).. "I have to take another cast!". Yeah, it's like two different people now. I have really grown, even in my work and even in production. I make, eh, a lot of them in a short time, but also good devices." (…) "I think I have learned and improved a lot..actually, it makes me feel professional. And it makes me love my work (…) and it gives me motivation everyday, than just, before I went I just did it, I didn't care what they do with it. Didn't even give me much motivation."*

One participant expressed that it was a life experience being on the exchange. Meeting with different people and cultures, learning to adapt, and how to be flexible and open-minded. Which in turn affected the receptiveness in terms of learning and seeing other ways of doing things. Several of the participants expressed that without seeing what can be done, you will never know what can be possible to do or to change and improve.

One used the “the frog in the well” as an example. “The frog in the well” is a Chinese idiom that refers to a narrow minded person who doesn’t see the larger world around them, or whose knowledge is so limited that he or she has no ideas about anything aside from the world of their own. The story is a bout a frog who live happily in a well. He has no idea what’s outside of that well. One day a turtle comes along and tells him about the great wide worlds, and the beautiful blue ocean. The frog becomes embarrassed when he realizes he has been living in such a small sheltered world.

> *(..)don’t leave people, don’t let people living in the well see only small portion of the sky, you have to put money to bring them from that well, out to see the world not the sky. …the world is so beautiful, the world is soooo big, there are so many things they can learn from there. South participant*

Several participants said they had become more independent, linking it to preparations in relation to living and working overseas for one year. One participant said this made her feel stronger than before the exchange, feeling s/he could manage on her own and even feel more motivated.

One of the informants used the example of the “frog in the well”. “The frog in the well” is a Chinese idiom that refers to a narrow-minded person whose knowledge is so limited that he or she has no ideas about anything aside from the world of their own. The frog lives happily in a well and has no idea what’s outside of that well. One day a turtle comes along and tells him about the great wide worlds, and the beautiful blue ocean. The frog becomes embarrassed when he realizes he has been living in such a small sheltered world.

> *“ (..)don’t leave people, don’t let people living in the well, to see only small portion of the sky, you have to put money to bring them from that well, out to see the world, not the sky. (…), the world is soooo big, there are so many things they can learn from there.” South participant*

The data show that the participants has gotten more aware of what is outside of their work place and country, from being on the exchange program. And they view the exchange of participants as a source to update the organization on what is going on in the P&O field, and as a source to find out where they are in the field, compared to others. One of the informants termed it; "so that we are not left behind".

> *"...It was nice actualization. It gives exposure to individual and you learn something different from other place and compare to where you are. ...compare it with technology. Compare with here.. You can also even let yourself; Where are we in this field. Are we in the right side or…? What are we lacking?! There are lot of things. Sometimes you find, you find that we don't have this, why we don't have?"*

The North-participant - Coping, and solving difficult patient cases without having more experienced or older colleagues to consult with increased the participant's confidence. They discovered that they knew more than they were aware off, on a conscious level. The participants that go on exchange are mostly young people (age under 35). Working in a low-income country is a role-change for them. In Norway they are the ones with least knowledge and experience, they often rely very much on consulting with other more experienced staff. In the low-income country, they are suddenly the experts. They are treated like experts, and the local staff often expects them to know what to do. The "training wheels" come off very quickly when working in a low income country. Suddenly they have to make more decision on their own, without the advice from others, more experienced P&Os.

> *"I trust myself more, after being "alone" for one year. I gained professional confidence."*

> *"..for me it was a very good experience. Like a. a personal development. (..) I have learned a lot from all the stuff I did there. Working as a teacher, is something, which I haven't had the guts to do before – I'm very scared to do such things, talk in front of people, and especially in English! It has been a personal accomplishment. To be brave enough to do it.!"*

6.1.8 "Learning by doing"

The south participants have been working as lecturer, clinician or manager. The North participants has been exchanged to all the three south countries, either working as lecturers, clinicians or manager. The South participant have been exchanged to Norway or to one of the other south countries (Cambodia, Tanzania, Malawi).

When explaining what they had learned the participants used phrases like "I saw", "I worked with", "touched it" – explaining how they gained the skills or knowledge. For example, the north participants expressed that they had improved their clinical work, as result of preparing teaching materials; learned and understood the theory "know why" better. The data shows that through the exchange the participants have been generating experience – through "learning by doing"; made mistakes and learned from it. They have learned from working in another country, in a different type of organization, which is organized in a different way compared to what they are used to. Some has worked closely with the local staff, as a part of a team; others have been working more independently. Overall the participants has been mainly "learning by doing" struggling to learn and to adapt themselves to the system, people and work culture in the host organization.

> *"..touched it. You have tried it, you have seen how the patient are walking on this. You´ve seen the effect of between component a and component b. So its easy to explain, rather than something which you are reading but you never see it."*

The data shows that working in different organization with different system the participant have made reflections about their own organization and how things are done at home, comparing their own organizations with the host organization.

According to the data the participants learned by being exposed to different settings and systems. Working side by side with the local P&O's, observing how they worked and what they did. The data also shows that the participants learned by talking with different people. Making it possible to see and understand what is the way of behaving

in other cultures, and how to communicate and collaborate in an effective way. Some learning was done by communication with the locals, especially for the Norwegians who went to Malawi. Some learned through talking with colleagues and getting feedback. Mainly the learning occurred by seeing new and different things, listening, asking questions, observe and participate in the normal working routine at the work place, which they were exchanged to. The north participant learned from working in an environment with less resources, while the south participants on exchange to Norway learned from working in a more resourced environment. The participants on south-south exchange gained experience about Asian and African culture, and how two schools located in Africa and Asia, are organized in a very different way.

6.1.9 Summary

The participants have gained a lot of knowledge and skills relevant to the different areas of the P&O profession. We have summarized the main points from each sub-chapter in table 6.1 below. We found that the common theme between all the areas the participants had learned about where increased awareness. Especially related to the performance and causal links between the works task, and their own strengths and weaknesses. The analysis shows that working in a different organization in a different country has increased the individuals overall awareness, both on a professional and personal level. The data also revealed that what the participant learns seem to differ according to where they were exchanged. A south participant that went to another country in the south experienced that he learned other things than his colleagues that went to Norway. He termed the difference as hard and soft knowledge. Soft knowledge being difficult to tell, while hard knowledge being related to things you could tell. He experienced that his colleagues that went to Norway had a lot more to tell (hard knowledge) then him.

It seems as though the learning potential is linked to the differences between the home and host organization. The differences related to technology, work methods, collaboration, communication etc. increases the participant's awareness, and has made them reflect about how things can be done differently in their home organization, and affected their creativity and flexibility etc. Mainly the learning occurred by seeing new

and different things, listening, asking questions, observe and participate in the normal working routine at the work place, which they were exchanged to. The participants were "learning-by-doing", applying their skills and knowledge in a different setting, relative to their home organization.

Table 6-1 Summary of what and how the participants learn

1. Technical and clinical skills	North participants; Increased theoretical knowledge ("know why"). South participants; increased awareness related to the causal links of their actions ("know why")
2. Collaboration and communication	North participants; more aware about how they communicate and collaborate with others. Increased "people skills" South participants; the value of teamwork, and that they had gotten better to collaborate with people
3. Problem-solving and creativity	North participants: Increased creativity, "thinking outside the box" Increased flexibility, changed perception of what is "difficult", wider perspective, increased awareness about the relationship between hand skills, materials and outcome The South participants; Identifying a more competent colleague, Increased creativity and problem-solving-skills
4. Modern components, technology and facilities	South participants had gotten a lot of ideas after being on the exchange program, related to have they can improve the devices with the material they have got
5. Teaching and supervision skills	North participants: (new) teaching skills, increased professional confidence and theoretical knowledge (know why) South participants: Improved teaching skills
6. System, processes and management	Both the north and south participants got increased awareness related to the importance of having good support systems in place
7. Personal development	Increased professional confidence. Actualization about the P&O business and the conditions in low- vs. high income countries
8. Learning-by-doing	The participants were included in the daily-work routine, working side-by-side with the local staff. They have made mistakes and

	learned from it. Applying their knowledge in a new and different setting

6.2 How has the individual knowledge and skills been shared with the home organization?

Chapter 6.1 shows that the participants come home "changed" with new knowledge, skills and perspectives. Through the exchange the participants have been generating experience – through "learning by doing"; made mistakes and learned from it. Next we will look at how the new acquired competence has been transferred and utilised/allocated in the home organization. Have the participants contributed to any changes in the organizations, and how has this happened? Again we are looking for improvements in the organizations caused by The Project, to detect if and how the knowledge has been transferred to the organizations.

All the south-participants, with a few exceptions, have arranged a homecoming seminar, on a specific topic, for their colleagues in their home organization after they have returned from the exchange. In addition, they have made a final written report that has been shared with the management and/or the staff in their home organization. None of the north-participants has been conducting a homecoming seminar, with a few exceptions. In this section our focus is directed towards what the organizations focus are on learning.

The analysis is guided by Madsen's (2009) four main types of dynamic capabilities, and Zollo and Winter´s three learning mechanisms. Since we are looking for organizational outcomes, resulting from the project, each entity is given one sub-chapter each.

6.2.1 SMO (Norway)

When the Norwegian participants return from the exchange they have a lot more knowledge then before they left, consciously or unconsciously. Although SMO has had no deliberate effort to allocate the knowledge gained through The Project the participants have been used as a resource due to their experience from working in The

Project. For example, in 2015 when SMO became ISO certified, the participants that had been exchanged to CSPO (CSPO is ISO certified), were used as a resource in that process. Several of the participants from the FK project has also been used as lecturer and/or examinators at Oslo University College, and has contributed to enhance the collaboration between SMO and Oslo University College. At SMO currently three out of four head of departments were involved in The Project: One is the coordinator of The Project, the other two has been participants. Several P&Os have also started working at SMO because of The Project, and the opportunity it offers to work overseas for one year. However, what was viewed most important, by the project manager at SMO, was that The Project challenged the P&Os;

> *"I think the most important thing with the FK-project is that the participants are forced to step out of their comfort zone."*

The Project - through both sending and receiving participants - can hinder the staff at SMO - from getting stuck in certain patterns, and encourage creativity. Since the P&O profession in Norway is very stable, the P&Os can easily get stuck in a certain pattern. When they step out as participants in the FK-project it opens up to other "worlds", for example they to do things that they normally don't do in Norway; management, administration, teaching, participate in international meetings etc. And all of this put them in a new "group" or "league". So, it is much more likely that they take more responsibility after they have returned from exchange, for example when it comes to managerial tasks and development of the company. The head also find that having "visitors" coming from outside, help increase and develop the competence among the staff;

> *"(…) having "visitors" forces you to think and reflect more over what you are actually doing. You have to be able to explain it, and maybe also show it, in a systematic way, so that the "visitor" see that you have a system in what you are doing… this forces them out of their comfort zone, like, compared to when they are just working on their own, or in a small team where everybody knows everyone (…) when an outsider comes into their little community, they have to be able to show and tell, how…".*

The Head of department is generally very conscious about the importance of learning, and try to facilitate that learning his happening on a continuous basis, for example through receiving students, interns and FK-participants, which he considers to be an important part of keeping the level of knowledge and competence high at SMO. He also tries to give the P&Os as much autonomy as possible, giving them freedom to acquire the knowledge they need to solve their work tasks (different patient cases). According to the head of department there is a constant exchange of views between colleagues at SMO. But it doesn't happen in a formalized structure. The colleagues at SMO seem to have what is resembling to "communities of practice". They have a culture for sharing ideas, views and experiences. The Head of department strives to be a good example in that regard, setting a standard for how things should be done, how processes should be executed, encouraging knowledge sharing and discussions in the workshop.

The Head of the department state that flexibility and sharing resources is an "individual thing". Some are more concerned about sharing than others and some does not like to work in teams, others constitute teams and asks questions and for help if they need it. In general, the Head of the department experience that most P&Os are willing to share their knowledge, and actively pursue discussions with other colleagues. It's their way of working.

> *"…we bang our heads in the ceiling all the time, concerning what is possible to do, (…) we work clinically with patients and just solve the problems, or challenges in relation to the rehabilitation of the individuals. So there is no, like, conscious research happening, that is documented in anyway.*"

SMO is the biggest company in terms of number of employees. The Flexibility in terms of using resources across the organization is encouraged, but is very much dependent on the individuals.

6.2.2 KCH (Malawi)

In terms of capacity building a lot have been achieved at KCH, due to the FK-project. All staff at the P&O center at KCH has been involved in the FK-project, either as a participant or being exposed to, trained by, or collaborated with a FK participant from Norway and/or Cambodia. The FK-project has provided training of staff, different tools and improved systems and work processes, that has contributed to making the clinic in Malawi more effective. For example KCH has learned a lot about store keeping from the Cambodian participants, as well as patient filing system and quality control systems. Knowledge have actively being shared between the FK-participants and the staff at KCH, working in teams, doing patient assessments and discussing difficult patient cases together. As a result from the FK-exchanges each P&O possess different type of knowledge, and the staff goes to each other for advice when needed. This way of working together, in teams also encourage continuous learning and development, it facilitate further development of the clinic.

The P&O clinic at KCH seem to be the exception, concerning viewing the participants coming from CSPO and SMO as a resource to develop and improve their work-place. The data show that the participants has been very well integrated with the local staff. One of the participants that were exchanged to Malawi expressed that the clinic were very small, which made it very easy to collaborate and "interfere" or be interactive with the local staff; explore and discuss different approaches and solutions in patient cases, sharing knowledge and ideas. The local Malawians are both learning from being exchanged as a participant, and from having participants working with them at the center. The manager considered this to have been very important for the growth of the clinic.

> *"(…) I think having - it might be FK or something else – but having that external knowledge in terms of processes and, there it's not just putting a device on someone, it does need to be a process and see… Whether they've been in another developing country or in a western country, I think just having that outside influence, cause I think the culture here,*

there's not, there isn't forward thinking, it doesn't happen that way, it's just what's happening here and now. So its´ seeing the bigger picture."

6.2.3 TATCOT (Tanzania)

TATCOT has gained a lot from the FK-project on an institutional and individual level. The FK-project has provided important support training in modern technology. With funds from FK, TATCOT has bought modular components to use for demonstration in teaching, and training equipment. The Project has brought new knowledge to TATCOT that has been distributed to their staff and students.

"Those who has come (back from exchange), they have always told us what they have learned. What they think could be put in place here and, and (…) they come with technology which they are continuing to teach, (…) to their colleagues. And colleagues are also teaching the students so it has continued to expand more and more and more."

Because of knowledge gained through the FK-project TATCOT have been able to add to and update their training package. TATCOT has developed new courses/modules on different areas eg. Upper limb, MAS (Marlo Anatomical Socket), lamination cupboard orthoses, and at the time of the interview they were in the process of creating a module for their gait-lab. TATCOT have a gait lab, similar to the one at Oslo University Hospital, but when The Project started in 2009, TATCOT did not know how to use it. Because of the exchange TATCOT now have the knowledge and competence needed to operate the gait lab, for teaching purposes, research and patient treatment. The managerial skills in the institution has been enhanced, and there has been initiated a pilot study on designs and local material. TATCOT has also reviewed their curriculum, moving from knowledge based to competence-based curriculum. Competence based curriculum is viewed as a more effective and systematic way of teaching, making sure all subjects are taught. The Head experienced that the overall knowledge and skills among the teaching staff has increased, especially in regards to specific technologies. TATCOT also highlighted the motivation factor in relation to the exchanges:

"(…) our staff who has been outside for one-year exchange have come back with different sort of looking things and they are really positive working with us here.(…) they have another exposure somehow. And that to me is also (…) worth to mention, as an outcome of our exchange, the motivation factor, which has come from the individuals who attended this program (…)."

In terms of (modern) technology transfer, staff that went to Norway came back with specific skills, which they transfer to their teaching colleagues. And the teaching colleagues transfer it to the students. Because of the FK-project TATCOT now have a new lamination room, which help them maintain the quality and health and safety of the school. The lamination room was set-up after idea from Norway. Safety issues concerning the use of machines etc. has been improved, three years back the facilities was very different. The participants that has been exchanged to Cambodia has learned a lot from CSPOs quality management system, and has suggested to implement a similar support system at TATCOT. At the time of the interview, TATCOT were in the process of implementing their intranet. Due to the lack of a centralized system TATCOT haven't been able to be very flexible in terms of using resources across the organization. All the information has been stored at the individual level. With the new centralized server, all information will easily be updated and accessible for everybody that needs it, whether it´s teaching material, or policy's for the institution. TATCOT has high expectations to their new centralized system:

"I think with the introduction of the intranet, then that flexibility I think is going to be there. And Maybe it will also change the way well be operating. I hope that is going to give us much more light, how things should be done differently."

One of the first FK-participants from TATCOT that was exchanged to Norway in 2010 is now the Head of the school. Together with his colleagues they have made a strategic plan for the school. This did not exist before. The new strategy consists amongst other things of a clear plan concerning the development of the human resources. The intention with the new strategic plan is to give TATCOT a clear direction for the future.

Help them assess themselves, and to monitor the progress. TATCOT hope the new strategic document will lead to a new direction for the school, and hopefully motivate more people to work together and pull in one direction:

"We are driving this vehicle together. Maybe that can also take us to another stage."

On a general basis the FK-project has increased TATCOT´s (the staffs and management's) awareness about what can be done to improve the school, institution and the overall services towards people with disabilities. It has helped the school to think ahead, how to meet the future. TATCOT report that the FK-project has overall been very positive to them.

The FK-participants from Norway and Cambodia, working at TATCOT, has mainly been assigned to lecture one class together with another local staff. TATCOT has not had a system for sharing teaching resources with each other, this causes the teaching material to be stored and kept with the single individual. Since there was no centralized system, where information were stored and available for new participants, there were also very difficult for the participants to find the information they needed to do their job, and to detect things that they can help improve or update in regards to the teaching materials. The participants that were exchanged to TATCOT had to make all the teaching material from scratch. Most of the participants have handed over a lot of their teaching materials to a colleague or contact person before they returned to their home organization. But none of them knew what TATCOT had done with the material.

6.2.4 CSPO (Cambodia)

Both the facilities and teaching resources at CSPO has been improved due to the FK project; teaching material, curriculum, high tech components for demonstration, other teaching facilities to support the teaching operations. The staffs have also started using a wider variety of teaching techniques, like case´s and instructional movies (made by the lecturer). The participants returning from the exchange have improved the workshop environment. For example they have modified different tools, and copied

equipment they have seen in Norway (glue cabinet, cast remover), and Tanzania (casting stand). CSPO cannot afford to buy these installations, but they have experimented and found a way to make similar installations that cover the same need. CSPO has used both their own (Cambodian) participants and the Norwegian participants in updating their curriculum and teaching material. This has resulted in an increased quality of education and their diploma course had recently been updated and accepted as a national bachelor degree at the time we were conducting the interviews. This has been an important acknowledgement for the school and for the P&O profession, also in terms of sustaining the profession.

> "*The last five years the quality of the education here has been improved, we have modified our curriculum with more modern technology, because we have more staff that come back and are able to teach high techs better, with more confident. But also with better skill."*

The move from a local diploma course to a Bachelor Degree is a huge step for the institute. Through FK exchanges, the school ensures that the human resources with the right skills, competence and experience are available to deliver the course in a higher level. At CSPO, after seeing how they use multidisciplinary teams in treatment of patients in Norway and Malawi, they have introduced multidisciplinary approach first of all in spinal-cases. Cambodia did not have a qualified spinal P&O before the FK project, now they have one. This has resulted in closer collaboration with hospitals and other rehabilitation centers; they now experience a increase in referrals of patients with spinal injuries.

One participant came back with an idea from Tanzania, a casting stand for the trans-femoral with a ring, which they now have made and use in the clinic at CSPO.

> *"(…) he saw in Tanzania they have what we call a casting stand for the trans-femoral with a ring. So he actually came back and then he drew me the, he drew the design, and then he tested and I think maybe he made two of that, but the ring, you know the*

casting-stand for the trans-femural. SO, it has been a blended approach and everybody brought in different pieces of development to the school. You know, it has been good, students are happy and I think we are doing much better then before we started the FK program. Just giving people opportunity to see, and to develop and to innovate what can be possible. So've been good."

"The cast remover" that they now use in their clinic, where made and implemented after idea from a participant that had been to Norway. "The cast remover" allows them to save material and they use less time on that specific work task compared to using the old method. This has helped them to save money and time. This installation was also shared and implemented at the clinic in Malawi through a participant from Cambodia that was exchanged to Malawi a while after they have started using the installation at CSPO. In general CSPO seem to have a strong culture for learning, where their human resources are encouraged to be creative. The data shows that participants who have new ideas as a result of the exchange program has been encouraged to try it out. Do a pilot study, as in the examples above, with the cast remover and standing ring. Sharing at CSPO often is conducted through try - and if you succeed - show it. If they have a good result to show then it is easier to implement it across the organization. The manager at CSPO emphasized the effect from just giving people the opportunity to see and learn from things that are different from where you are.

"I think one of the things that we as the management, professional or clinician, noted that if you if you give opportunity to people to see what can be done differently in different settings, in different resources, and they come back they bring ideas. Sometime it take them one month, two month, to develop their idea into their accomplishment as the new innovative project, some people, you know, have taken it even earlier, quicker so, there are so many things as a significant product of the FK."

According to the data CSPO is the organization with the clearest strategy concerning what they wanted to gain from FK-project. They have a system how to make the knowledge acquired from the exchange benefit CSPO as an organization. For example, several of the FK-participants from CSPO have been given a new position after they

have returned from the exchange; a position with greater opportunity to influence the organization.

> *"So.. in the system, the people have been returning from the FK exchange program with the leading lecturing team. So it has been opportunity for them to actually provide, ah, giving them the opportunity to improve the system. Taking up their point. Mainly because the FK-program has been very structured for us, ah, every year we have different set of objectives, and every person that went on the mission for Norway has been trained up on specific topics, so after they came back they have been used as the local resource person on the different area, so like Lower limb prosthetic, lower limb orthotics, spinal orthotics, upper limb orthotic, so it has been very very ah, good for the school because we know who we should go an ask if we have any problem on different thing, so when we have a, question of things, and say: "OK, this person is best because he has been on this program …"*

According to the data CSPO seems to have the highest focus on using their resources across the organization. They have a strong focus on working in teams, and the management change the lecturing teams every school year, creating new resource combinations. CSPO is showing a high degree of flexibility by using their staff and resources across the organization, - and across the region. The lecturers are also working in the clinic, when their expertise is needed. They are also encouraging flexibility by not demanding perfection at the first time and by having confidence in their staff. Thereby creating possibilities for creativity and innovativeness. When someone in the staff has an idea, they are often encouraged to try it out, allowing them to make mistakes and experiment.

> *"(…) because we are stretch in resource, we don't have so many people. So it mean people have to be multi skilled to be able to, to support the school.".*

> *"Go and try and do it, if you get stuck, come back and we discuss and then we give you support." "(…)if you call it a mistake people are disappointed, if you call it an experience, I think it is very positive attitude.". Country Director CSPO.*

The FK-participants from Tanzania and Norway, working at CSPO, has been included in the lecturing team with the local staff. The participant from Malawi has been working in the clinic. CSPO have to some extent used the participants, especially the ones from Norway, to improve their systems and update their teaching resources. For example, the participants from Norway updated CSPOs foot orthotic manual, improved the library, and made a lot of teaching material that were stored at CSPOs server. A lot of PowerPoint presentations has been updated and improved by Norwegian participants especially in regards to modern components, techniques and materials. These are still available at the server at CSPO and has been used and developed further by other Norwegian FK-participants in the following exchange rounds, - and by the local staff at CSPO. CSPO also experienced that having people from "outside" working with the local staff had encouraged creativity in the organization;

> *"(…) after we have been hosting the people on the FK program and then lots of ideas coming out, from the program (…)".*

6.2.5 Summary

Chapter 6.1, show that the participants come home "changed" with new knowledge, skills and perspectives. In chapter 6.2 we found that their new acquired competence has been transferred to the home organization through "learning-by-doing", where what has been transferred is determined by the challenges, or the needs for learning that arises on a day-to-day basis, through performing the operating routines.

The FK exchange program is viewed as a source for new ideas, and updated knowledge concerning the development of the profession – world wide, that helps them improve the quality of the schools – and the quality of the services. The exchange of participants has resulted in new knowledge and consequently innovations and organizational improvements. In sum the data show that the FK project has led to increased quality in the four entities service delivery, and more efficient work methods (tools, processes and systems, techniques). This has happened through learning-by-doing, through sporadic acts of creativity and incremental improvements of existing routines.

According to the data all of the participants share their knowledge on day-to-day basis, collaborating with colleagues. There are some differences between the entities concerning to what extent the management is facilitating collaboration in the staffs daily work, related to the degree of autonomy and to what extent collaboration and teamwork are facilitated by the management. All the participant in south has conducted a practical homecoming seminar, where they show, tell and demonstrate what they have learned to their colleagues, - in a deliberate effort to transfer the knowledge gained through the exchange. SMO has no similar (deliberate) activity or organized system for transferring the knowledge from the participants to the overall organization. At SMO most of the learning is happening (voluntarily) between colleagues in their day-to-day activities. This is also the case for KCH, TATCOT and CSPO. The responsibility for sharing their knowledge is mainly put on each of the individual P&Os. In table 6-2 below we have summarised the organizational outcomes resulting from the FK-project, and how the transfer of knowledge leading to the organizational outcomes have happened.

Table 6-2 Organizational outcomes / innovations / changes: How was the knowledge transferred to the organization?

	Organizational outcomes / innovations / changes How was the knowledge transferred to the organization?
1. SMO (Norway)	Organizational outcomes/changes: Better service delivery. Increased awareness, receiving and sending participants increases the organizations ability to learn. Knowledge sharing: Have a strong culture for learning, similar to "community of practices". Knowledge acquisition and learning are motivated by the needs of the patient. Learning is happening continually through discussions, collaboration, inter- and multidisciplinary teamwork. The work environment and facilities are organized in a way that allow social interaction and collaboration while working, which makes it possible for the P&O to interact and exchange knowledge when they need it (i.e. difficult patient cases). SMO are ISO certified but the system is not currently being used as

	a tool for continual improvements.
2. KCH (Malawi)	Organizational outcomes/changes: Several. I.e. Improved processes, tools, stock system, working methods. Knowledge sharing: Conduct practical homecoming seminar ("show and tell"), work in teams, discuss difficult patient cases when needed
3. TATCOT (Tanzania)	Organizational outcomes/changes: updated their training package and overall teaching quality, tools, improved health and safety, implementation of intranet for sharing information and teaching resources Knowledge sharing: Conduct practical homecoming seminar ("show and tell"), work in teams, discus and exchange views with colleagues
4. CSPO (Cambodia)	Organizational outcomes/changes: teaching material, curriculum, high tech components for demonstration, improved teaching facilities to support the teaching operations, health and safety, work processes Knowledge sharing: Conduct practical homecoming seminar ("show and tell"), work in teams, discuss and exchange views with colleagues. ISO certified.

7 Discussion

In this chapter we will discuss the results from our analysis in chapter 6.0, in regards to the theory in this study. Each sub-question is given one chapter, and every sub-chapter is followed by a sub-conclusion. The sub-conclusion from each of the sub-chapter will guide us towards providing an answer to our research question, which is:

In what way does learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities?

- *What and how do the participants learn during their exchange?*
- *How has the individual knowledge and skills been shared with the home organization?*

7.1 What and how do the participants learn during their exchange?

In this chapter we attempt to give an answer to the sub question *"What and how do the participants learn during their exchange?".* We discuss our findings from chapter 6.1, using the theory presented in this study. The sub chapters are organized according to the findings from our analysis.

The analysis shows that what the participants learn during their exchange can help the entities to build their internal dynamic capabilities, as a result of getting impulses and ideas from the other partners through the exchange of human resources.

7.1.1 Internal dynamic capabilities

Zahra et al (2006) describes the development of DC as learning processes were capabilities (Resource persons) are developed into dynamic capabilities following a specific pattern. Development of DC is dependent of access to new knowledge that can be integrated in the company. Through the exchange of participants, the company get

access to new knowledge – both through the participants that are coming to their institution and those that are exchanged to the other partners. This can be related to the dynamic capability that Madsen (2009) term *(3) External resource acquisition.* Through The Project the south participants and consequently the organizations are also updated on what is going on in the P&O business i.e. in terms of technology. The Projects provides the entities with a channel for external observation, which the entities have used to search for ideas how to improve their own organization. This can be related to the dynamic capability that Madsen (2009) term *(1) External observation*. I.e. the south participants have gotten many ideas from The Project, which they have brought with them home and exploited. The north participants have in addition gotten a better understanding about global health issues, and challenges related to rehabilitation issues in low income countries, which has led to more links with the outside world, for example through participation in the GATE initiative[4] and ISPO Educators Committee[5]. The Project has contributed to expand SMOs network and influence on the development of the P&O profession in an international context. However, the analysis revealed that the focus in the project has been on how the entities can use the other entities to improve their own organization. Placing The Projects impact on the entities on the right side in figure 7-1 below. It is mainly about exploiting the external resources to renew their internal resources. Due to the feedback from the participants that has been on exchange, our main focus is directed towards what the participants learn during their exchange and how this has affected the organization after they return home. It is often easier to change your own organization than try to change another organization - which you are only working with for one year. Consequently we will in this section focus on the two internal dynamic capabilities, that Madsen (2009) call *(2) Internal resource renewal* and *(4) internal resource configuration.*

[4] The GATE (Global Cooperation on Assistive Technology) initiative, source: http://www.who.int/phi/implementation/assistive_technology/phi_gate/en/

[5] ISPO Educators Meetings, source; http://www.ispoint.org/educators-meetings

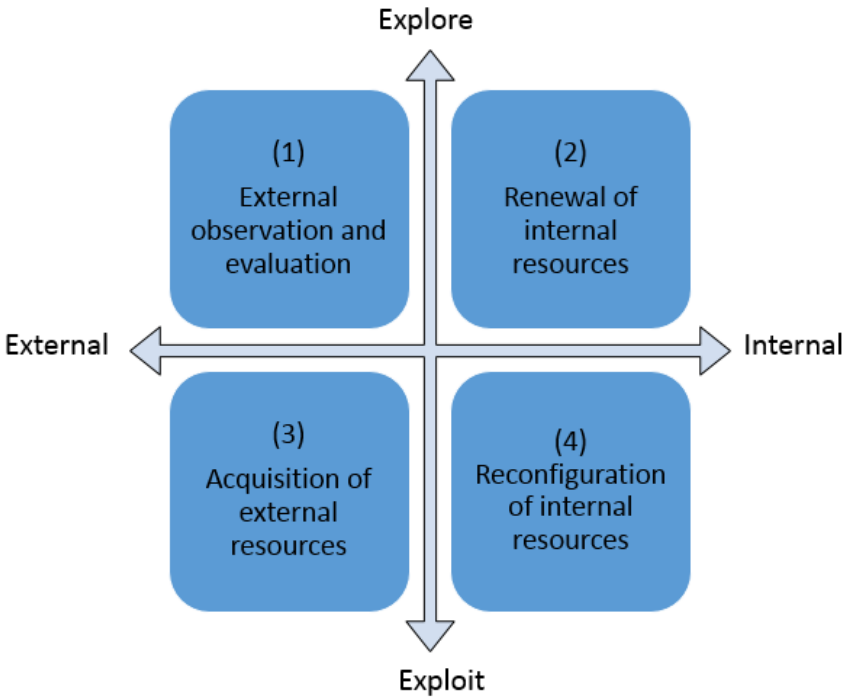

Figure 7-1 Main dimensions and main types of dynamic capabilities (Madsen, 2009)

7.1.2 Organizational capabilities developed through repeated practice (and in a foreign context)

Cohen and Levinthal (1990) and Zahra and George (2002) claim that organizational capabilities are developed through repeated practice: "As firms exercise their capabilities in similar and dissimilar circumstances, they learn more about cause-effect relationships and how to achieve desired results". Through the exchange the participants increased their professional competence by applying their skills in dissimilar circumstances. Teece et al. (1997) argue that learning requires common codes of communication and a shared understanding of the objectives. Since the theory and process of producing an orthopaedic device is basically the same all over the world, The Project creates a great opportunity for the participants to practice and apply their knowledge and skills in dissimilar circumstances. According to Cohen and Levinthal (1990) learning performance is greatest when the object of learning is related to what is already known, which supports that the learning potential that lies in the exchange

project is good. This is also supported by the data collected for this study, confirming that the participants have learned a lot from the exchange. The Participants has the necessary knowledge and "common codes" to be able to learn from each other – regardless of which country they are coming from (related to cultural differences and language barriers).

Renewal of internal resources (Quadrant 2 in figure 7-1)

This dynamic capability is related to the organizations ability to integrate new resources in the organization, manipulating resources into new value creating strategies (i.e. product- and service development and strategic decision making) (Eisenhardt & Martin, 2000). In The Project we relate this to in what way the entities have been able to make use of the participant's knowledge after they have returned to their home organization, to improve or change their resource base. The new resource has to be embedded in the existing resource configuration in order to create value. We argue that the P&Os ability to collaborate and share their knowledge with others, making their knowledge available to the colleagues, is crucial to create new value in the organization after the participants has returned. If the participants only stay with the knowledge in their heads it will not benefit the organizations to the same extent. The P&Os willingness to share their knowledge, and ability to be creative and flexible is an important ingredient for the entities to be able to renew their internal resources in accordance with their overall mission and vision. The overall staffs have to be open to changes in work tasks, routines/procedures and responsibilities (Madsen, 2009). I.e. when the south participants come home with new knowledge within a specific area, the management should allocate a positon for the P&O in the organization that allow the P&O to make the most out of what s/he learned, maximizing the value creation. This may mean that another P&O has to step aside, to give room for the "new" P&O. The result from our analysis show that through the exchange the participants becomes multi-skilled, they get increased professional confidence and are more willing to take on work tasks that they before would decline. Suggesting that The Project can help to create a dynamic organization were the staff are positive to change and improvements. We also found that the exchange of staff had an impact on the overall organizations flexibility; having several participants that had been in the exchange seemed to increase the

organizations ability and willingness to change. We conclude that The Project contributes to a mobilization of the participants through increasing the individual's capacity and developing their creativity. According to Madsen (2009) this is a very important ingredient for organizations to be able to renew their internal resources.

Internal resource configuration (Quadrant 4 in figure 7-1)

This dynamic capability is related to the organizations ability to exploit the organizations resource base, through reconfiguration of the internal resources. Learning through repetition and experimentation (Teece et al., 1997), resource allocation and collaboration routines (Eisenhardt & Martin, 2000), can have an impact on organizations ability to reconfigure their internal resources. The Project allowed the participants to both experiment and learn through repetition. I.e. the volumes of devices that are produced in the south-countries are quite extensive compared to Norway. While the south-participants exchanged to Norway worked with, and so "experimented" with modern technology.

Eisenhardt and Martin (2000) identify contact with research- and education institutions, and other professional environments, as possible sources to acquire the knowledge that is needed to develop this type of dynamic capability. We argue that The Project provides this link, given that there are two educational institutions in the partnership, and that SMOs collaboration with Oslo University College is strengthened through the participants that have been on the exchange program. Madsen (2009) add that improved knowledge capabilities is also important to accomplish a sustained competitive advantage, and Teece et al. (1997) argue that increased skills in all departments of the organization creates resources that are difficult to imitate and identify. These knowledge capabilities serve as a source to continual development of all resources in the company, and also provide the operational competence necessary to execute the company's current strategy (Zollo & Winter, 2002).

Madsen (2009) identify extensive information links with the outside world (to increase the range of new impulses), and routines that provide relevant exchange of experience

between teams and functions as important learning processes to build this dynamic capability. We find that The Project facilitates both these learning processes, and that it has resulted in increased competence for the involved entities.

7.1.3 Experience accumulation

What the participants learned guided us towards how the participants learned during their exchange. The data show that the main learning mechanism during the exchange was experience accumulation (Zollo & Winter, 2002), which is the relatively passive experiential process of learning ("by doing"). We also found that knowledge articulation happened, especially in the context of inter- and multi-disciplinary teams. However, due to the language barrier, we don't view this as a very dominating learning mechanism during the participant's exchange. For example, the south-participants would often observe, instead of participate - in for example group discussions. Instead we found that the knowledge sharing often happened through making soft knowledge visible.

7.1.4 Sub-conclusion

Based on what and how the participants learn during the exchange we argue that The Project can contribute to develop dynamic capabilities. The project provides an environment where the P&O can practice their skills in similar and dissimilar circumstances, causing them to learn about cause-effect relationships and how to achieve desired results. According to Cohen and Levinthal (1990) and Zahra and George (2002) this is how organizational capabilities are developed - through repeated practice, an by applying their skills in similar and dissimilar. Through the exchange of human resources, the participants start questioning the processes, systems and routines in their own organizations, which in turn trigger a search process how they can improve their own organization. The Project supplies diverse stimuli and substance for internal reflections on possible application to the improvement of existing routine (Zollo & Winter, 2002). The Project increases the overall awareness ("know why" and causal links) related to the work tasks performed by the P&Os.

7.2 How has the individual knowledge and skills been shared with the organizations

In this chapter we attempt to provide an answer to the sub question *"How has the individual knowledge and skills been shared with the home organization?"* We discuss our findings in chapter 6.2, using the theory presented in this study. The sub chapters are organized according to the findings from our analysis.

7.2.1 Learning mechanism: Experience accumulation

To get a better understanding of how the participants knowledge has been shared with the organizations - it is useful to identify to what extent the organizations focus on learning, and what kind of learning mechanism the entities are most focused on. According to Zollo and Winter (2002) dynamic capabilities arises from learning; they constitute the firms systematic methods for modifying operating routines. Zollo and Winters (2002) framework explains three types of learning mechanisms, experience accumulation, knowledge articulation and knowledge codification.

North partner – Our analysis didn't reveal any changes in the operating routines at SMO resulting from The Project. We believe this can be because they are operating on a high level and already have effective and superior routines. According to Zollo and Winter (2002) superior operating routines can be a source of advantage, meaning there might not be necessary to change the operating routines. SMO have no deliberate strategy concerning how learning should be happening in the organization, in terms of deliberate activities like knowledge articulation and codification. However, SMOs low investments in learning, does not mean that they don't focus on learning, only that they have a basic model for learning.

South partners - The Project has helped all the three south entities to improve and/or innovate their operating processes and/or routines. This has happened through "learning by doing", or what Zollo and Winter (2002) call experience accumulation. All the south participants have been conducting a homecoming seminar to transfer specific

knowledge and skills. It has been organized as a practical seminar where they "show and tell" – aiming to make the soft aspect of knowledge visible. All the three entities in south has a lack of resources, relative to Norway, and we believe it would be too costly for them to invest in deliberate learning mechanisms like knowledge articulation and codification. Knowledge articulation and codification are according to Zollo and Winter (2002) more costly, itt requires time and energy for the employees to meet, discuss or make manuals/procedures. Meaning it will take away time and money that the organizations usually need to attend patients or students. For the south-partners, who have a lack of resources, this can be crucial. However, we found that there was a very strong learning culture at CSPO; they were constantly focusing on finding smarter and better ways of performing their operating routines.

7.2.2 Features of the task

According to Zollo and Winter (2002) the effectiveness of the learning mechanism depends on the characteristics of the tasks that the organizations is attempting to learn and of the operating routines that it is interested in adjusting or redesigning. The Projects focus was to build the P&Os capacity. Based on the features of the tasks that the P&Os conduct we can determine what learning mechanism that would be most beneficial – in terms of increasing the organizations effectiveness. Zollo and Winter (2002), have identified three dimensions related to the tasks: Frequency, Heterogeneity and Causal ambiguity.

The tasks performed by the participants, both the participants working as clinicians and those working as teachers, have a *high frequency*; they perform the same work tasks almost every day. We argue that also the *heterogeneity* of the tasks that P&Os perform is high. This is to some extent reflected in that the P&O profession is a combination of different academic subjects, and also the variance related to the patient cases, and the different orthopaedic appliances they produce. At SMO the staffs is organized in specialized departments, which reduces the task heterogeneity some, compared to the other three entities in south. *The causal ambiguity* of the work tasks related to the processes of making a Prosthetic and Orthotic device is performed in a sequential matter, which according to Zollo and Winter (2002) makes it easier to pinpoint the

consequences of each part of the performance of the entire process. Consequently, the causal ambiguity at KCH and SMO seem to be quite low, since their daily work is related to making Prosthetic and orthotic devices. However, due to the lack of a functional health care system at KCH, i.e. the lack of prescription from a doctor the causal ambiguity related to making an appropriate device for the individual patient can be unclear. Consequently, the focus on patient assessment seems to be much higher in the south – compared to Norway. This has a big impact on the end performance or result for the patient. We consider the causal ambiguity at the school related to teaching to be low. Table 7-1 summarize what learning mechanism the four entities uses and the dimensions related to the task features. Based on the analysis of the tasks performed by the four entities, all of the four entities would according to Zollo and Winter (2002) benefit from using learning mechanisms of higher order, in terms of knowledge articulation and/or knowledge codification. This is due to the heterogeneity of the tasks performed by P&Os. Zollo and Winter (2002) argue that at higher degrees of task heterogeneity, explicit learning mechanisms like articulation and codification will be relatively more effective learning mechanism compared to the tacit experience accumulation. However, we argue that using learning mechanisms of higher order might not be the best approach in relation to the P&O profession.

Table 7-1 Learning mechanisms and the features of the task

	Learning mechanism	Frequency	Heterogeneity	Causal ambiguity
CSPO	Experience accumulation	High	High	low
TATCOT	Experience accumulation	High	High	low
KCH	Experience accumulation	High	High	medium
SMO	Experience accumulation	High	Medium	low

7.2.3 The duality of knowledge: Soft & hard knowledge

The rationale behind Zollo and Winters (2002) learning mechanism in relation to developing dynamic capabilities is about making implicit knowledge explicit. Viewing knowledge as a duality (Hildreth & Kimble, 2002), we argue that making implicit knowledge explicit might not be possible, and thus that Zollo and Winter´s (2002) three learning mechanisms is not sufficient to explain how dynamic capabilities are being developed and built.

Our analysis of the task features show that the P&Os perform tasks with a high frequency (using hand skills). According to Zollo and Winter (2002) repetition leads to automaticity in the execution of a given task and to a corresponding reduction in individual awareness and the collective understanding of the action-performance linkages: probably gaining in effectiveness, but decreasing in awareness. Meaning repetition leads to reduced awareness and difficulties in explaining the reason behind the choice of action taken. Following this rational it means that experienced P&Os might have difficulty explaining and telling about what they are doing and why. According to Zollo and Winter (2002) knowledge articulation and codification helps reduce this effect by making implicit knowledge explicit. We find that The Project reduces this effect; it increases the participant's awareness about what they are doing and why, while at the same time they get to practice and apply their skills, which increases their effectiveness. We consider knowledge codification to the least effective learning mechanism related to the tasks that the P&Os perform.

We argue that if the four entities were to codify for example how to make the different devices, and what works and don't work in relation to specific patient cases, or in terms of patient diagnosis it would be too costly and take too much time. Also it probably would reduce the quality of the devices – if the P&Os were to follow the procedure instead of making the device following the patient. According to Zollo and Winter (2002) the codification activities should aim at developing and transferring both "know why" as well as "know how", meaning that it would be a massive work to codify the process of making custom made devices. Although the high heterogeneity suggest that the entities might benefit from using codification as learning mechanism, the high

frequency of the task suggest the opposite. We know that both CSPO and SMO have codified their operating routines, in terms of "know how", due to their ISO quality management system. However, since the tasks have a high frequency the staff seldom uses the written procedures, and so they have little value in their daily work, and thereby they have probably very limited effect on the learning culture and the development of operating routines. Zollo and Winter (2002) also support this to some extent by implying that knowledge codification (and to a lesser extent knowledge articulation) activities become superior mechanisms with respect to the accumulation of expertize as the frequency and homogeneity of the tasks are reduced. They claim that this is counter logic of codification that now dominates both theory and practice; normally organizations would codify their daily operating routines due to the natural habit thinking that the costs of codification activities are justified only by their outputs, and not by the learning benefits of the codification process itself (Zollo & Winter, 2002).

We consider that the nature of the P&O profession suggests that there is a lot of knowledge that resides "in them". This is due to the fact that no patients are exactly the same; all the devices are custom made, and that the profession is a combination of theoretical knowledge that is transferred into practical skills. Consequently, the P&O profession seems to have a significant amount of soft knowledge. Zollo and Winter´s (2002) model seem to be built on the notion that knowledge can be managed. Hildreth and Kimble (2002) argue that some parts of knowledge may not be possible to manage, and that when you articulate and codify knowledge it simply becomes information, meaning that there will always be a part of knowledge that resides in people. Hildreth and Kimble (2002) suggest using "communities of practice" as an environment for creating, sustaining and nurturing the softer aspects of knowledge. The analysis shows that the knowledge sharing at the four entities have some resembling to communities of practice. Since, it is the learning need, and the specific challenges that seemed to determine what knowledge the participants passed on to their colleagues. Communities of practice is defined by Wenger and Snyder (2000) as groups *of people who share a passion for something they do and who interact regularly to learn how to do it better.*

We found that The Project increases the entities focus on learning, and that having a

strong focus on learning in the day-to-day activities will help the organizations to develop dynamic capabilities. Since the P&O business operate in a rather stable environment, they have limited impulses that challenges the firm, in term of finding new and better solutions. The main impulses come from the patients. It can however, be argued that the P&O profession is quite dynamic in its nature due to the fact that all devices are custom made. However, at SMO they experienced that the P&Os could get stuck "in their ways", and that they were using external sources (i.e. receiving participants from south countries, and sending participants to low-income countries through the project), to challenge the P&Os, to increase their awareness related to how, why and what they are doing. Our analysis in chapter 6.1 show that The Project increases the participants overall awareness related to how, why and what they are doing.

7.2.4 Sub conclusion

Zollo and Winter (2002) distinguish between two kind of routines; operating routine and those dedicated to changing the operating routines, defined as dynamic capabilities. According to our findings none of the four entities had invested in routines dedicated to changing the operating routines – as a result from the project.

Our findings suggest that it is not necessary for the four entities to invest in deliberate learning mechanisms as long as they have the exchange project. We argue that The Project contribute to a learned and stable pattern of collective activity where the organizations systematically generates and modifies its operating routines in pursuit of improved effectiveness – without needing to use what Zollo and Winter (2002) term learning mechanisms of higher order such as knowledge articulation and knowledge codification. According to Zollo and Winter (2002) the intention with the learning mechanisms is to make implicit knowledge explicit, we argue that since The Project contribute to make implicit knowledge "explicit", related to "know how and "know why", it reduces the entities need to invest in deliberate learning processes such as knowledge articulation and knowledge codification. Consequently the effect on the entities is probably increasing with the number of staff that has been on the exchange program. Our findings suggest that both receiving and sending participants affects the

organizations ability to learn, because it “forces” the dynamic inside the entities to change – by “forcing” them to alter the resource base through the exchange of personnel, and thus preventing the organizations to “get stuck” in certain patterns of behavior.

In so doing we argue that learning don’t need to be intentional. Our findings suggest that “systematically” don’t necessarily mean that the entities need to perform activities like knowledge articulation and codification. Systematically, can also be to engage in activities like this development-aid-partnership that fosters learning to happen on a daily basis – while they are working. This can be a more effective method of learning, compared to relying on deliberate meetings where they engage in articulation and codification activities. We also argue that the learning output is greater when the P&Os collaborate on a daily basis. Arguing that soft knowledge is easier transferred when they can show, tell/explain and do. If knowledge is “in people” then it fosters the need for close collaboration for it to be shared.

8 Conclusion

This chapter seeks to provide an answer to our research question, including findings from our study:

Research question:
In what way do learning and knowledge sharing in a development aid partnership contribute to build dynamic capabilities?

The Project contributes to build dynamic capabilities by increasing the awareness related to the operating task performed by the P&Os. According to Zollo and Winter (2002) dynamic capabilities is build through three deliberate learning mechanisms, where the main purpose is to make implicit knowledge explicit. We find that The Project increases the participants "know why", "know how" and "know who", which establish a platform for continual improvements. As long as they have The Project, they entities have a source to help make implicit knowledge explicit, making investments in deliberate learning activities such as Zollo and Winter (2002) suggest, unnecessary. The main learning effect seem to lie in the differences between the entities, but at the same time the process of making a device is the same, independent of which country you are working in. We argue that working in another country under other conditions makes the P&Os develop other types of "know why" compared to if they were only working in their own country, thus adding to their total knowledge base and increasing their awareness.

We found that the main learning mechanism in the project were experience accumulation which indirectly affect the organizations learning and operating routines by creating an independent culture which will facilitate a focus where individuals are responsible for acquiring knowledge on their own initiative. We found that what the participants learn has an impact on what kind of dynamic capabilities they develop. All the four entities have an internal focus as they want to increase and renew their internal resources. Thereby capacity building. What the participants learn has helped them renew their internal resources, increased knowledge among the staff, making

their human resources meet the criteria's from the patients and giving the patients the best service they can provide.

The exchange itself can be viewed as a form of learning mechanism. The partners entering the partnership, sending and receiving participants, are a deliberate effort aiming to learn and increase knowledge. The exchange develops a certain form of behavior and attitude. The participants see, work and experience from another culture/organization, thereby getting new ideas. Comparing this with their own organization to see what can be changed and how. We find that the main essence, according to our specific cases, in the development of dynamic capabilities lies in increasing knowledge to know-how and know-why, and what can be changed or modified in their own organizations - adapting best practices.

8.1 Limitations and issues for further research

The Project sets the frame and the limits for our master assignment. The focus is on the link between learning mechanisms and dynamic capabilities in a cross-country partnership. The assumption is that the ”knowledge and skills” acquired through The Project contribute to build dynamic capabilities. The participants in The Project develop other ”knowledge and skills” than they would normally do when working in the organizations in their home country – affecting the dynamic capabilities that are built. In this assumption there lie some limitations. For example the focus is on what the participants have learned during their exchange, and how the participants have affected their own organization in their home country after they have returned. We have not included how or in what way the participants have been used as a resource while they have been on exchange by the hosting partner. This is mainly due to the fact that we have considered one year to be a short time to get to know a new organization in a new country. We believe that the lack of knowledge of the culture and the organization they will be working with limits the participant's possibilities to affect the organization and staff. The differences in culture and language are also a huge barrier in that regard.

The study has mainly focused on learning mechanisms related to the knowledge and skills the participants acquire during their exchange, and how this knowledge is being shared, exploited and explored by the home organizations.

We found that our research question and sub questions were a bit to similar. This made it at some points difficult to organize the data to address the research questions. However, we found that the questions were highly related because of the fact that it all is co-existing.

According to our study we are aware of that there are some limitations considering selection of organizations. For further research it could be a possibility to make up for this by using both qualitative and quantitative research method. By using a quantitative approach together with a qualitative, it could show to better causal relationships as well as go in depth of the phenomenon.

Our study opens up for a new focus on the individuals affect on the development of a organizations dynamic capabilities. Our main theoretical focus was based upon a combination of Madsen (2009) main types of dynamic capabilities and Zollo an Winters (2002) three learnings mechanisms. We found some similarities from our study compared to the model. However, we found that what was learned was somehow as important as the way the organizations learn, in relation to building dynamic capabilities.

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List of tables and figures

Annex

Interview guide – for FK-participants

Faze 1: Introduction and information
1. Introduction, 5 min
Ingunn Finstad from Norway, Master student in Business Administration/Strategy
Anne Lill H. Pettersson from Norway, FK-participant in Cambodia, and Master student in Business Administration. Worked at Sophies Minde from 2008, until December 2012.

2. Information, 5 min
FK-health-exchange-project, outcomes, investigate what the participant has learned and how this has affected the organization.
Map the outcomes for each of the four entities in the partnership, by conducting interviews with the participants and the partner contacts.

The results/the partners and participants "stories", will be used in the final result report to FK.

If the partners and participant approve we would like to use the interviews as a part of our master assignment in Business Administration/strategy. Topic/subject: (Dynamic capabilities) how organizations deal with change, the organizations ability to change and renew itself and adapt to the environment/community.

- Confidentiality and anonymity: We will not use any names, it will not be possible to trace the answers back to you.
- Ask for approval to record the interview.
- Ask if we can contact them afterwards for clarification if needed.
- Give the candidate opportunity to ask questions.

(Start recording)

Faze 2: Experiences
3. Introduction questions, 5 min

- Can you please tell us a little bit about your organization?
  - Can you tell us about a typical work day
- What is your background?
  - Education
  - Experience
- Where did you work as a FK-participant?
  - How long?
  - Can you tell us about a typical day/work tasks during your time as a FK participant

Fase 3: Focus

4. Core questions, 40 min
Use the result from the questionnaire, reported by participants, to ask about what and how they learned. Let them talk as freely as possible about the experience.

The FK-project has improved my following skills (personal development)

Round 1, 2, 3, 4	Strong. Disagree					Strongl Agree
	1	2	3	4	5	6
Teaching	4 %	5 %	12 %	21 %	19 %	39 %
Managerial	0 %	3 %	20 %	34 %	17 %	26 %
collaboration & communication	0 %	0 %	6 %	6 %	33 %	55 %
Global health issues	3 %	0 %	9 %	17 %	37 %	34 %
inter cultural awareness	0 %	0 %	5 %	14 %	17 %	64 %
Problem-solving	0 %	0 %	6 %	23 %	31 %	40 %
Improvisational	0 %	0 %	8 %	17 %	47 %	28 %
clinical	0 %	6 %	6 %	26 %	23 %	40 %
Technical	0 %	3 %	8 %	25 %	22 %	42 %
Modern technology	11 %	11 %	20 %	17 %	14 %	27 %
Quality awareness	0 %	6 %	3 %	31 %	18 %	42 %

Questions to help the conversation:

- In what way has the FK-exchange project affected your collaboration and communication skills?
- How did it happen? Any stories that stands out?
- In what way/how has the FK-exchange project affected your Problem-solving skills?
- In what way/how have the FK-exchange affected your clinical skills? Technical skills?
- In what way/how have the FK-exchange affected your quality awareness?
- Have you changed any of your working routines after the exchange? Do you do anything differently?
- Can you explain objective & subjective patient assessment… did they do this differently in the organization you were on the exchange… have you changed how you do patient assessment?
- What do you do if the device you made don't fit the patient?
- Have you learned/adopted any techniques and working methods from Malawi/Tanzania/Norway? Do you still use this technique/working method? Have you shared it with your colleagues? Has it affected how the organization work?

- Do you discuss and exchange views with colleagues to figure out what works/don't work in your daily work?
  - If so, in what way? Have you always done that?
  - Why/why not?
- If you find good ways to operate a certain task, do you share it with your colleagues? With the management? Write it down?
  - Why/why not?

Fase 4: retrospective

5. Summary, 5 min

- Repeat/summary of the findings/what has been said; have we understood you correctly…
- Is there something you want to add?

Interview guide – for the manager's/contact person for the FK-project

Faze 1: Introduction and information

1. Introduction, 5 min

Ingunn Finstad from Norway, Master student in Business Administration/Strategy
Anne Lill H. Petterson from Norway, FK-participant in Cambodia, and Master student in Business Administration. Worked at Sophies Minde from 2008, until December 2012.

2. Information, 5 min

FK-health-exchange-project, outcomes, investigate what the participant has learned and how this has affected the organization. Map the outcomes for each of the four entities in the partnership, by conducting interviews with the participants and the partner contacts. The results/the partners and participants "stories", will be used in the final result report to FK. If the partners and participant approve we would like to use the interviews as a part of our master assignment in Business Administration/strategy. Topic/subject: (Dynamic capabilities) how organizations deal with change, the organizations ability to change and renew itself and adapt to the environment/community.

- Confidentiality and anonymity: We will not use any names; it will not be possible to trace the answers back to you.
- Ask for approval to record the interview.
- Ask if we can contact them afterwards for clarification if needed.
- Give the candidate opportunity to ask questions.

(Start recording)

Faze 2: Experiences

3. Introduction questions, 5 min

- Can you please tell us a little bit about your organization?
  - History and development of the organization (manager)
  - Number of employees (manager)
  - The organizations focus area(s)? (manager)
  - Can you tell us about a typical work day
- What is your background?
  - Education
  - Experience

Faze 3: Focus

4. Core questions, 1,5 hours

Subject: Environmental conditions; observation and assessment/evaluation

- How would you describe the P&O business in your country?

    - The need for P&O services?
    - Supply/demand
- Are you operating in stable or unstable environment?
- How big are the changes in the P&O business?
- What kind of changes?
    - Technology?
    - Materials? Råvaresituasjon / komponenter
        - (PESTEL)
- If/how do you monitor the environment?
    - (competitors?)
    - Patients/clients?
    - Health institution?
- How do the organizations deal with changes/uncertainty/challenges in the business/environment?

Subject: dynamic capabilities

- Is there a strong focus on new ideas, change and transformation (innovation) in your organization?
- How often does the organization innovate (change/transform routines/processes)?
    - Big/small changes?
    - What kind of innovations?
    - Process innovation (new working methods)
    - Product innovation (new components, new combinations of components)
- In what way do the organizations use the FK-project (P&O business) to come up with new ideas?
    - patients/clients, collaborating partners/network
    - Please give examples
- Can you give any examples of innovations stemming from the FK-project/partnership, that you are using/have used?
    - How was the process from the idea until use?
    - Successful innovation
    - Any innovations stemming from other sources than the FK project?
- In what way are new resources integrated in the organization?
    - Different type of Resources: Competence/skills, technology, finances
    - Resources integrated in the routines?
- How do the organization deal with the lack of resources?
    - How do the organization use the FK-project to address this issue/lack of resources?
    - Collaboration, partnership, Network.
    - Please give examples
- How flexible would you say the organization is in regards to the use of resources across the organization?

Learning mechanisms: experience accumulation, knowledge articulation, knowledge codification

- What type of competence does the organization possess?
- Recruitment of new staff, what kind of competencies is considering most essential/important?
- What culture does the organization have in regards to learning and development of skills?
- In what way does the manager/management contribute to learning in the organizations?
  - Development of staff's competence and skills?
  - Recruitment?
  - Monitoring/supervision?
  - Give/formulate guidelines?
  - Improvement of routines?
- In what way are completed projects evaluated?
- Does the organization encourage and facilitate discussions and exchange of views among individuals and groups in the organizations to figure out what works/don't work in execution of a specific organizational task?
  - If so, in what way?
  - What are the manager's role in such efforts/activities?
- If you find good ways to operate on in projects, how do exploit this, in regards to the organizations operating procedures?
- In what way do the organization develop/enhance new operating procedures /routines in regards to increased effectiveness?
  - Who is involved in the development?
  - What is the managements/managers role in the development / enhancement of new operating routines?
- How are the new desired procedure communicated? / the new operating routine/procedure?

Result from the questionnaire reported by the partner contacts/managers:

The exchange program has led to new projects or activities in the following areas:

Round 1, 2, 3	Strongl. Disagree					Strongl.Agree
	1	2	3	4	5	6
Development of new topic/courses	0 %	0 %	20 %	20 %	40 %	20 %
Aquired skills among staff	0 %	0 %	20 %	0 %	0 %	80 %
Improvements in the organization	0 %	0 %	20 %	0 %	20 %	60 %
Higher competence in the administration	0 %	20 %	0 %	40 %	20 %	20 %
Higher competence among regular teaching staff	0 %	0 %	20 %	20 %	40 %	20 %
Higher competence among professional / development of P&O personnel in region	0 %	0 %	20 %	20 %	0 %	60 %

The exchange program has brought positive changes in regards to competence at our institution, in the following areas:
(areas of skills at your organization affected by the exchange program)

Round 1, 2, 3	Strong. Disagree					Strongl.Agree
	1	2	3	4	5	6
Modern technology and techniques	0 %	20 %	40 %	0 %	0 %	40 %
Clinical skills	0 %	20 %	0 %	0 %	40 %	40 %
Quality in devices produced by students/P&Os	0 %	20 %	0 %	0 %	80 %	0 %
Teaching skills	0 %	0 %	20 %	20 %	0 %	60 %

Faze 4: retrospective

5. Summary, 5 min

- Repeat/summary of the findings/what has been said; have we understood you correctly…
- Is there something you want to add?