



**MALMÖ UNIVERSITY**  
FACULTY OF CULTURE  
AND SOCIETY

# **Inter-organizational collaboration between university-linked innovation organizations**

- A case study of Drivhuset and STORM

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## Abstract

The role of continuous innovation is imperative to creating and maintaining sustainable communities. The role of collaboration is also imperative to creating and maintaining sustainable communities. Researchers mean that the educational system should be an active player in supporting government policies to promote local entrepreneurship and find it crucial to create collaborations among and within universities to achieve this. But what if the practice of the solution is the complex phenomenon? The word “collaboration” is a multifaceted term that has created a lot of ambiguities amongst organizations. This study therefore aimed to unravel the characteristics of inter-organizational collaboration between university-linked innovation organizations by studying the collaboration between two innovation organizations linked to Malmö University. The outcome was depicted in a model as a suggestion to a framework of the collaborative efforts between university-linked innovation organizations. Whereas there are a number of pre-identified elements for successful collaboration, it was found that five distinct elements played a bigger role than others. These are committed members, access to resources, relationships & mutuality, diverse skillset and time& patience. These, alongside with a conflict-resolution strategy and a defined process map out the cornerstones of the suggested model.

**Keywords:** collaboration, inter-organizational collaboration, successful collaborations, inter-organizational relations, innovation, innovation organizations, innovation hubs, pre-incubators, sustainability, entrepreneurship, resource dependency.

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# 1. Introduction

## 1.1. Background and Problem Statement

The role of continuous innovation is imperative to creating and maintaining sustainable communities (Wilson, 2008). Sustainable communities thrive on promoting opportunities that will foster growth to generate economic value and social benefit. Two of United Nation's (UN) sustainable development goals (SDGs) for 2030 focus on just this – goal 8 focuses decent work and economic growth including promoting *sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*; whilst goal 9 focuses on industry, innovation and infrastructure, including building *resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation* (United Nations, 2015). While achieving these goals will be beneficial for all, it demands an approach that will discover, create and exploit strengths between stakeholders and thus create communities with innovative capabilities that are adaptable and sustainable (STEM Foundation, 2018).

Municipal governments have over some time battled with finding the optimal organizational arrangements to enhance local economic development. Local economic development activities are mainly defined by market-based activities and involve stakeholders such as students, entrepreneurs, innovators etc. National, regional and local governments have innovated organizationally and over the past 30 years, it has become widely popular, in many of the Organization for Economic Co-operation and Development (OECD) countries to manage economic development activities through organizational structures such as companies, agencies and corporations, rather than through public platforms such as council departments. These organizational forms have proven to contribute to local economic development strategies in a number of ways, some being by unlocking under-used assets, increasing the pace of a city's response to developers and aggregating diverse economic development efforts (Mountford, 2009).

A structured approach of national and regional economic development strategies and social benefit is by promoting growth of new businesses through supporting entrepreneurs develop new business ideas. New businesses are regarded as drivers for economic growth and thus crucial for local sustainability (Mountford, 2009; Voisey et al., 2013).

Two specific organizational forms that work with supporting nascent entrepreneurs are Innovation Hubs and Pre-incubators. Innovation hubs and pre-incubators both operate in the initial planning stage of the business development process; however, they come in at different stages of "idea maturity". Innovation Hubs supports entrepreneurs at the very initial stage with idea generation and serve as think tanks or structured platforms that promote sustainable growth by encouraging, creating and developing innovative ideas. Their structure is determined by their strategic goals and they can be implemented at many different levels such as municipal, in a company or in an educational institution (Deutschmann, 2007; STEM Foundation, 2018). Pre-incubators on the other hand, can be regarded as the next stage after innovation hubs. They support potential entrepreneurs with an already existing idea at an early stage of their business development by providing access to their specialized and market specific expertise, skills and networks (Jensen, 2018). They are commonly defined as "*risk-reduced environment where entrepreneurial ideas can be tested for market viability before progressing into the business incubator*" (Dickson, 2004).

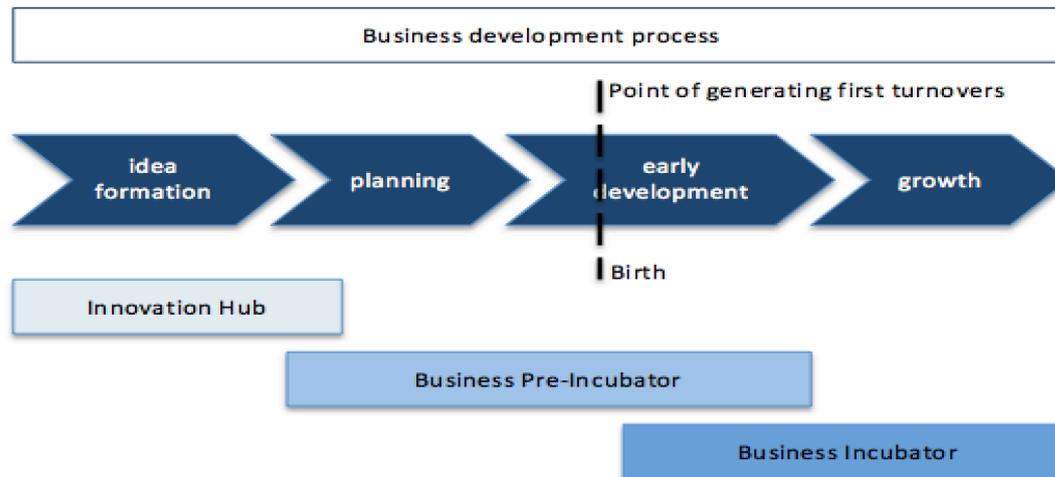


Figure 1.1. Modified version of Deutschmann’s (2007) classification of Pre-Incubators and Incubators in a business development process<sup>1</sup>.

Source: (Deutschmann, 2007)

Although there are many different types of pre-incubators, Dickson (2004) identified four common traits:

- 1) Targeted processes – providing the nascent entrepreneur with vital support for business development
  - 2) Selection processes – candidate selection based on risk-mitigation strategy
  - 3) Period of incubation – time in incubation is limited
  - 4) Linked – usually linked to a university
- (Dickson, 2004)

According to Wilson (2008), small and medium- sized enterprises (SMEs) are considered to be the driving forces to economic growth from a social, economic and political perspective (Wilson, 2008). Encouraging and enabling business development, innovation hubs and pre-incubators are thus vital for the entrepreneurial ecosystem. Common to both is their emphasis on collaboration. One of their key qualities behind their effectiveness in encouraging and promoting an innovative culture is collaboration (Lantz & Yu, 2017).

Collaborations are increasingly receiving the attention of scholars but little is understood about the phenomenon of the process (Thomson et al., 2008). They are also increasingly being used between organizations as an effective strategy to address a social concern a single organization would not be able to do independently. They are a complex phenomenon that can play out in various forms and are used as a strategy to achieve both short- and/or long-term goals. However, despite of their wide usage, going through the process is not necessarily straightforward. Their unique nature makes the process difficult to grasp and they can be hampered with challenges stemming from differences in contexts, authority and processes among participants ( (Huxham & Vangen, 2005)).

Other scholars also identify the challenge of how organizations collaborate in practice, its implications and how to arrange it (Langner & Seidel, 2009; Yström, 2013)

One general problem with the term "collaboration" is its tangibility. It is a difficult term to understand and hard to discern practice from theory. Many organizations are not sure of how to collaborate, nor are they sure of the foundation on which the collaboration is based or how to decide if the structural, procedural, and interpersonal relationships between the

<sup>1</sup> Modification: Author of this study added “idea formation” and “Innovation Hubs” to the model as a result of literature search.

collaborators are as optimized, as they could be. Binder and Clegg (2010) argue that established frameworks and guidelines in strategic decisions of inter-organizational collaboration are still missing (Binder & Clegg, 2010 in Gustafsson & Magnusson, 2016).

On another end, researchers argue that universities should take a bigger role, as both creators and distributors of entrepreneurial activities. Many universities today have “internal” innovation initiatives that aim towards helping students develop innovative and entrepreneurial ideas, consequently creating an interaction between university and industry (Kepenek & Eser, 2016). These organizations can thus be referred to as university-linked innovation organizations. Researchers have found that university-linked innovation organizations will become one of the main drivers for stimulating entrepreneurial character in communities; thus, they will also become one of the main drivers for stimulating sustainable communities. However, they can hardly tackle the challenge of enhancing innovative and entrepreneurial activities on their own. In order to make full use of universities resources, they would need to work together. Thereof, effective models of collaboration are necessary to ensure successful operations between the organizations fostering innovation (Kepenek & Eser, 2016).

Having identified that established frameworks and guidelines of inter-organizational collaboration are still missing, researchers cue for increasing universities role in fostering entrepreneurial character in societies and public authorities wish to enhance entrepreneurial activities and involve stakeholders such as students, entrepreneurs, innovators, this study aims to focus on collaborations between university-linked innovation hubs and pre-incubators. It explores using collaboration as a tool for assisting students with their entrepreneurial business ideas in order to unravel how a collaborative relationship between the two university-linked innovation organizations can look. This is important for a number of reasons:

- a) In order to best utilize universities resources and get best value out of their “internal expertise” as producers and distributors of knowledge in entrepreneurial activities,
- b) To boost entrepreneurial value created for (local) communities,
- c) To provide optimal value exchange for funders as university-linked innovation organizations are usually funded. Thus, this is also important for the future operation and existence of these organizations, and lastly,
- d) To create social value in general – organizations can hardly tackle a social concern independently.

## 1.2. Purpose and Research Question

As seen above, entrepreneurial business ideas promote the development of decent work and economic growth as well as industry innovation and infrastructure, which are identified as SDGs 8 and 9 (United Nations, 2015). However, with a blurred understanding of the term collaboration, it can be difficult to fully understand the process. The purpose of this study is therefore to highlight characteristics of a collaborative relationship between university-linked innovation organizations and aim to develop a model that supports this relationship.

The question guiding this study is:

- *What characterizes inter-organizational collaborative efforts between university-linked innovation organizations?*

## 1.3. Delimitations

Since collaborations are widely used to accomplish a variety of goals, tackle different issues, have different purposes etc. it is important to acknowledge that the framework is not intended

to be a universal prescriptive strategy. The model is merely applicable to the case studied, as it is based on the results from their collaboration.

The case was studied through commonly identified elements for collaboration. As collaboration is a multifaceted term, which can provide different outcomes depending on what perspective it is studied from, this study is only dealing with findings deriving from the chosen perspective.

## 1.4. Outline of Paper

This paper is comprised of seven chapters. A short description of each chapter is given below.

*Chapter 1* – The first chapter gives an introduction to the topic and the research field. It also highlights why the chosen topic of study is relevant, the purposes that the researcher hopes to fulfill, the research questions designed to address this purpose and lastly, the delimitations of the study.

*Chapter 2* – The second chapter discusses relevant theoretical concepts in relation to the topic under study. The chapter discusses four theories related to collaboration including collaboration theory, resource dependency theory (RDT), social identity theory, collective identity theory, synchronous- and asynchronous activities in collaboration and strategies for addressing challenges. A definition of collaboration by analyzing scientific material is also given. The analysis is conducted by reviewing various definitions of collaboration and provides a suggestion as to what is referred to as ‘collaboration’ in this paper.

*Chapter 3* – The third chapter explains the research methodology, hereunder the ontological and epistemological approach, research strategy and research design.

*Chapter 4* – Chapter four highlights the methods for this study. It gives an overview of how data was collected, the methods that were used for data analysis and data presentation. The chapter also discusses reliability in relation to quality and ethics in research as well as highlights the study’s contribution to theory and practice.

*Chapter 5* – Chapter five provides the research findings. It analyzes empirical material in relation to the case study. The analysis is conducted by reviewing primary data collected through interviews then analyzing it through identified dimensions of collaboration.

*Chapter 6* – Chapter six presents the discussion and implications of the findings.

*Chapter 7* – Chapter seven provides the conclusion and addresses the research question and purpose by proposing a model depicting a collaborative relationship between university-linked innovation organizations. Included in this final chapter are also recommendations for future research and recommendations for the case study at hand.

## 2. Theoretical background

The theoretical framework of this study focuses on collaboration theory, hereunder resource dependence theory (RDT), social- and collective identity theory. The collaboration theories present a framework with criteria for successful collaborations whilst the RDT provides an insight to the motivation behind collaboration. The identity theories are not focal theories – they merely provide an understanding of the relational ties in the collaborative teams.

### 2.1. Collaboration Theory

Collaboration theories aim to create an understanding of the collaborative process and the outcomes, however, due to the unique and complex nature of collaborations, there is no consensus on a single universal collaboration theory. There is currently a multitude of collaboration theories, developed by different researchers, each addressing different aspects of the collaborative process. Although each theory provided separate results in their own problem field, they have collectively contributed to identifying common elements for successful- and unsuccessful collaborations. Amongst the elements for successful collaboration are: shared vision, identified goals, open and regular communication, commitment, trust, interested stakeholders, shared risk, access to resources, collective identity, time, and defined processes (Huxham & Vangen, 2005; Mattessich et al., 2001; Koschmann, 2012). Amongst the elements for unsuccessful collaborations are: failure to develop a shared goal, design a collaborative process, create a collective group identity and practice shared leadership (De Cremer & van Knippenberg, 2005; Koschmann, 2012; Huxham & Vangen, 2005). While these elements are commonly identified, they are not universally applicable in order to all collaborations due to their uniqueness. This illuminates the challenge to truly create an understanding of the drivers for collaboration. As a result of their exclusiveness, adaptive strategies have proven to be the most efficient (Thomson et al., 2009).

#### 2.1.1. Inter-organizational Relations

Organizations are built on a network of relations and thus function in greater inter-organizational systems (Rossignoli & Ricciardi, 2014). Cropper et al. (2008) explains these networks of inter-organizational relations as being “...concerned with relationships between and among organizations.” (Cropper et al., 2008). They identified two types of IORs, depending on which research perspective one undertakes: Furthermore, they contend that, in order to gain an understanding of the phenomenon behind these relationships, it requires an analysis of the underlying characteristics, patterns, origins etc. of them (Cropper et al., 2008). These relationships can be between two or more organizations and also any types of organizations e.g. cross-sectorial, between governmental- and nongovernmental organizations, between larger- and smaller entities etc. (Cropper et al., 2008; Sydow et al., 2015).

In their book, Cropper et al. (2008) highlights the nature of communication to be an underlying factor to the confusion of inter-organizational relations due to different terms inconsistently being used within the field. This claim was further supported by Clegg et al. (2012), who also denote the lack of consistency when referring to inter-organizational relations and state that “*literature on inter-organisational architectures shows a vast array of un-unified ideas*” (Clegg et al., 2012). Cropper et al. (2008) identified that there is a vast array of terms being used to identify different types of inter-organizational- entities and acts as well as descriptors for different inter-organizational entities. They also identified that the term “collaboration” is used as a name for both inter-organizational- entities and acts as well as a descriptor for inter-organizational entities (Cropper et al., 2008). Sydow et al. (2015) however, explains that studies within inter-organizational relations are undertaken from

multiple perspectives and with different focus; thus, the outcome is multiple terms being used as synonyms (Sydow et al., 2015).

Below is a table including commonly used language within inter-organizational relations as identified by Cropper et al. (2008) in their handbook.

<b>Names for inter-organizational entities</b>			
an alliance	an association	a cluster	a coalition
a collaboration	a consortium	a constellation	a cooperation
a federation	a joint venture	a network	a one stop shop
a partnership	a relationship	a strategic alliance	a zone
<b>Descriptors for inter-organizational entities</b>			
collaborative ...	cooperative ...	coordinated ...	interlocking ...
inter-organizational ...	inter-professional ...	joined-up ...	joint ...
multi-agency ...	multi-party ...	multi-organizational ...	multiplex ...
trans-organizational ...	virtual ...		
<b>Names for inter-organizational acts</b>			
bridging	collaboration	contracting	cooperation
franchising	networking	outsourcing	partnering
working	together		

Table 2.1. Commonly used IOR language (Cropper et al., 2008)

Some scholars distinguish between collaborative- and cooperative problem solving (Roschelle & Teasley, 1995). Chrislip and Larson (1994) also distinguish collaboration from communication, cooperation and coordination (Chrislip & Larson, 1994 in Schuman, 2006). As seen in the table above, the term “cooperation” has likewise been used in all three categories. In the following sections the terms “collaboration” and “cooperation” will be defined in attempt to highlight the differences according to available literature. However, cooperation is not the focus of this paper and will not be discussed in depth.

### 2.1.1.1. Defining collaboration

As seen above, collaborations are a form of inter-organizational relations. The term also co-exists with a number of other terms describing the same thing. This is argued to be an underlying factor to the real understanding and confusion of the term (Cropper et al., 2008).

Not only is collaboration used as a multi-perspective term; there have also been many different attempts to define the term. Roschelle and Teasley (1995) define collaboration as: “Coordinated, synchronous activity that is the result of a continued attempt to construct and maintain a shared conception of a problem.” (Roschelle & Teasley, 1995). Gray (1989), defines collaboration as: “a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible” (Gray, 1989). Chrislip and Larson (1994) define it as: “a mutually beneficial relationship between two or more parties who work toward common goals by sharing responsibility, authority, and accountability for achieving results.” (Chrislip & Larson, 1994 in Schuman, 2006).

While there are many different notions of collaboration, the definitions above all point to the fact that collaboration involves working together and is driven by aiming towards a common goal. A problem as a result of the vast amount of definitions is the conciseness and tangibility of the term. In the attempt to provide clarity and grasp it’s meaning, it is found necessary to

outline specific parameters of what is referred to as collaboration in this paper. According to the researcher of this study, collaboration is best referred to as:

*“...a process in which autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions”* (Thomson & Perry, 2006).

The definition is built up of five main elements; governance, administration, mutuality, norms and organizational autonomy (Thomson et al., 2009). A description of the elements and how they relate to the research findings are discussed in a coming chapter.

While the definition above best depicts the author's<sup>2</sup> interpretation of collaboration, the author feels that there is an aspect missing when dealing with collaboration between entrepreneurial intermediaries. According to Gray (1989), collaboration operates in the problem domain (Gray, 1989). As evident by many definitions, many scholars also focus on the existence of a problem. However, aiming to promote entrepreneurial potential does not necessarily imply that there is a problem with the existing level of identified entrepreneurial potential. It rather implies a goal to be achieved. Therefore, the author would like to suggest a modified definition, which more accurately positions the author's interpretation and depicts the nature of the collaboration studied<sup>3</sup>:

*“...a process in which autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the common goals that brought them together; it is a process involving shared norms and mutually beneficial interactions.”* (Thomson & Perry, 2006)<sup>4</sup>

### **2.1.1.2. Defining cooperation**

Similarly to collaboration, cooperation is also a form of inter-organizational relationship and a multi-faceted term. Cooperation also involves working together though, the main difference seem to lie in the nature of the relationship. Roschelle and Teasley (1995) argue that cooperation is more centered on division of work rather than mutual engagement. They state that: *“Cooperative work is accomplished by the division of labor among participants, as an activity where each person is responsible for a portion of the problem solving”* (Roschelle & Teasley, 1995). Chrislip and Larson (1994) correspondingly argue that, while the purpose of collaboration is to create a shared vision, cooperation is more concerned with each party achieving their own goals as an outcome of the relationship (Chrislip & Larson, 1994, in Schuman, 2006).

Other scholars also acknowledge the notion of cooperation being characterized by individualistic work. Järrehult (2011) states: *“A cooperation between two entities is a temporary situation that is dissolved when their respective goals are achieved. To make it work you do not need all too much trust. You just need fairness, knowing that the other will stick to his/her part of the deal and invest as much resources/time/money as you agreed upon in the first end”* (Järrehult, 2011).

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<sup>2</sup> Author refers to the author of this study

<sup>3</sup> The author acknowledges that she is not in position to provide a scientific definition of collaboration. It should be noted that the proposed element of modification is taken from the definition of collaboration by Chrislip and Larson (1994). It does not provide a significant change to the definition.

<sup>4</sup> Slightly modified by author.

Thomson (2001) however adds that collaboration is an outcome of cooperation. She defines cooperation as involving “...reciprocities, exchange of resources (not necessarily symmetrical)” and argues that collaboration is thought of as a residual of cooperation and “cooperation for a mutual goal moves this to collaboration” (Thomson, 2001 in Thomson & Perry, 2006).

### 2.1.2 Resource Dependence Theory (RDT)

Scholars have long proclaimed the fact that resource dependency is a fundamental aspect of organizations as well as a main characteristic of collaboration (Hudock 2001; Pfeffer 1997; Pfeffer & Salancik 1978; Graddy & Chen 2006; Thomson & Perry 2006 in Thomson et al., 2008)

The theoretical rationale behind the resource-dependence theory (Pfeffer & Salancik, 1978) is *to ensure access to stable flow of resources whilst maintaining autonomy in decision-making* (Pfeffer & Salancik, 1978 in Tolbert & Hall, 2016).

This is fundamentally the foundation of collaborations. Collaborations are useful when intangible resources such as knowledge and experience of multiple entities, is gathered to create insight to a complex situation, a single entity is unable to handle. In collaboration, these entities provide information and/or knowledge in order to provide solutions (Feast, 2012).

One of the strategies within resource dependency is inter-organizational strategies (IORs) and one basic form of IORs is dyadic/pairwise relationship. This indicates organizations forming a bidirectional relationship with each other. There are *four* factors affecting the nature of the ties created: awareness, domain consensus, spatial distance and size of actual/potential inter-organizational- set or network.

*Awareness* relates to interpersonal ties among organizational members. It facilitates a foundation for interaction and longer-term ties. Knowledge about goals, services & resources in the other organizations also relates to awareness. They provide insights to reasons to form ties (Tolbert & Hall, 2016). The subsequent sections will provide a further explanation to the nature and implications of these ties.

*Domain consensus* refers to the agreement about the roles played in the relationship with one another. (Tolbert & Hall, 2016). This is embedded in one of the above stated elements for successful collaborations - defined processes.

*Spatial distance* is concerned with the degree distance impacts access to resources (Tolbert & Hall, 2016). This can affect chosen communication channels, various events, relationships etc.

Size of actual/potential inter-organizational- set or network indicates the number of organizations that are interlinked. This affects the number of organizations available in the set/network, provision of resources (the bigger, the greater) and the quality of the ties (the bigger the set/network, the weaker ties) (Tolbert & Hall, 2016).

#### 2.1.2.1. Social Identity Theory

As mentioned above, one of the factors affecting the nature of the ties formed in IORs is awareness. Awareness is directly linked to social identity theory as the theory describes the nature of interpersonal connections amongst people and the potential motives behind people's behaviors. It serves as a foundation to understand one's identity and the importance of one's identity, to understand the individual identities in the group and the bonds amongst the group,

categorization etc. (Kramer, 2006). It is fundamental to understand social identities in collaborations as they impact people's individual perceptions, motivations, and behaviors throughout the collaborative relationship (Stoner et al., 2011).

### **2.1.2.2. Collective Identity Theory**

Each member in a group has a personal social identity, but they also have a shared social identity. The shared social identity is referred to as collective identity. Collective identity theory describes the nature of the collective group's identity – hereunder shared values, norms and interests etc. and how members of the group identify with the group identity, using language such as “we” and “us” (Koschmann, 2012; Stürmer et al., 2008). Based on the sense of belonging to the group and interconnectivity with the group members, the collective identity impacts the behaviors of the group members, how they contribute with information, time and resources and the will to employ in a “shared” manner. As recently mentioned above, it is fundamental to understand the social identities in collaborations as they explain individual aspects, likewise, it is also fundamental to understand the collective identity as it shifts the focus from an individual aspect to a collective aspect, setting the foundation to create shared goals, share ideas and share resources, which are fundamental for successful collaboration (De Cremer & van Knippenberg, 2005; Kramer, 2006; Veal & Mouzas, 2010).

## **2.2 Synchronous- and Asynchronous activities in Collaboration**

Collaboration is a broad term that can be addressed from many perspectives, thus, there is no consensus on one right definition. Depending on perspective, various scholars make numerous distinctions between terms they find relevant. One of the distinctions is made by Roschelle and Teasley (1995), who distinguish between synchronous- and asynchronous activities in collaboration. Synchronous activities refer to activities that occur at the same time, whilst asynchronous activities refer to activities that occur in different points of time. They propose that synchronous activities form part of the base for collaborations. However, they acknowledge that collaborations can also happen in asynchronous activities (Roschelle & Teasley, 1995).

## **2.3 Strategies for Challenges in Collaboration**

Challenges are inevitable in collaborations. They can be both internal and external to the collaboration and pose as threats to communication, building relationships or, worst-case scenario, the continuation of collaboration. Dibble and Gibson (2013) examined challenges and adjustment processes in multicultural collaborations and found that adjustment processes were vital when dealing with challenges in collaborations and collaborations use both internal and external strategies to cope with them. Furthermore, it is critical to carefully assess the complexity of the challenge, as over- (or under-) adjustment had a negative adverse effect on the collaboration. As a result, they developed four strategies to tackle internal and external challenges, depending on the complexity of the challenge: retreat, resolve, reconfigure and restructure. Retreating refers to minimalistic challenges where it is temporarily ignored, resolving refers to working together towards change, reconfiguring refers to rearranging the distribution of tasks and restructuring refers to the major challenges where a new structure or strategy is needed (Dibble & Gibson, 2013).

### 3. Methodology in Research

In the following chapter, the ontology and epistemology of the study are presented as well as the research design in order to provide the reader with the philosophical underpinnings of the research.

#### 3.1. Ontology and Epistemology

Hitchcock and Hughes (1995) argue that ontology give rise to epistemology. Ontology is defined as “*assumptions about the nature of reality and nature of things*” (Hitchcock & Hughes, 1995 in Cohen et al., 2018). Crotty (1998) further elaborates, “*It is concerned with ‘what is’, with the nature of existence, with the structure of reality as such*” (Crotty, 1998). From a researcher’s perspective, it reflects the researcher’s understanding and interpretation of reality (Crotty, 1998). Epistemology on the other hand is referred to *how* knowledge about the nature of reality (ontology) is generated. Hitchcock and Hughes (1995) define epistemology as “*ways of researching and enquiring into the nature of reality and nature of things*” (Hitchcock & Hughes, 1995 in Cohen et al., 2018)

Different paradigms have been identified to describe a researcher’s perspective on ontology and epistemology. Lather and St. Pierre (2005) identify four paradigms: interpretive (understanding), positivist (prediction), critical (emancipate) and poststructural (deconstruction) (Lather, 2004, in Cohen et al., 2018). The ontology and epistemology of this study will be guided through the interpretive paradigm. This is because the aim of this study is to highlight characteristics of a collaborative relationship between two organizational entities based on my interpretation, as the researcher, of the collected data, rather than to predict or emancipate causes and effects. Thus, I will be neutral and hold no pre-defined theory about the specific chosen criteria (collaboration) to be explored. This is denoted by Hudson and Ozanne (1988) and Neuman (2013) to be the goal of the interpretivist researcher. They further imply that it is fundamental for the interpretivist researcher to understand motives, meanings and other experiences, which are related to subjective factors (Hudson & Ozanne, 1988; Neuman, 2013). Through the interpretivist approach, the researcher will be able to adopt flexibility to context, capture the meaning in interaction and interpret reality (Carson et al., 2001).

One can also argue for a post-structural ontological and epistemological position of this study. There is no paradigm that can be empirically proven or disproven (Scotland, 2012). Collaborations are unique processes due to their subjective factors – they all have different goals, purposes, time, commitment etc. Thus, scholars have found adaptive approaches to be more effective than prescribed strategies. Also, based on the fact that scholars have been able to identify common elements of successful collaborations indicates that there are many truths as oppose to no truth. The researcher’s stance is therefore more of an interpretivist approach.

#### 3.2. Research strategy

The study is qualitative nature and the strategy that best defines its procedure is abductive approach. In abductive strategies, the framework of the original study is described as being “*...successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process*” (Dubois & Gadde, 2002), Following an abductive approach, the researcher will refrain from developing initial hypothesis or draw any initial conclusions regarding the study. Instead, the researcher will search through secondary data to find relevant literature and collect empirical data through interviews. As the research process progresses, the researcher will successively modify any ideas accordingly, in order to

propose a final conclusion at the end of the study.

### **3.3. Research design**

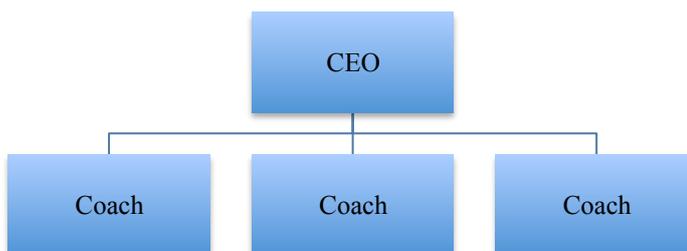
The researcher intends to describe the phenomena of inter-organizational collaboration between entrepreneurial intermediaries using one case study. The case study is the collaboration between two university-linked organizations, Drivhuset and STORM. The study is divided into two stages – the initial stage involves a review of published articles and empirical studies related to inter-organizational collaboration. This will help the researcher extend the knowledge base and present a base from which the researchers will use as referral. However, this stage ought to be a pre-requisite in all studies and will thus not be further elaborated on. The second stage involves collection and analysis of empirical data through semi-structured interviews.

## 4. Methods

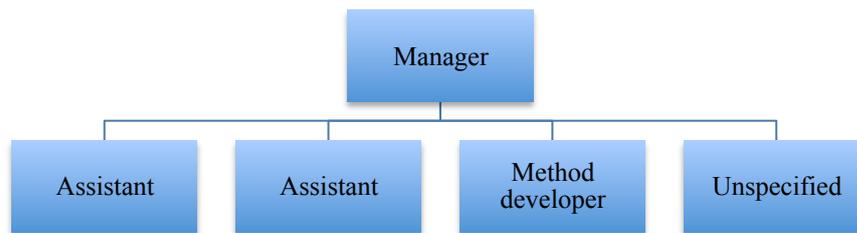
In order to answer the research question stipulated above, this study used the collaboration between Drivhuset and STORM as a case study and investigated the nature of their collaborative working relationship. The reason for choosing this collaboration was because, despite existing contradictive elements for successful collaboration, they still manage to make it work. Their collaboration has naturally shaped itself to be grounded on strong ties and become a strong collaborative relationship. It has since start been informal and is not governed by any fixed explicit rules. There is consensus between them, that they have a successful collaboration that enables them to achieve their overlapping goals and their desired outcomes through the collaboration whilst still maintaining individual autonomy. This might indicate that, although there are specific identified elements for successful and unsuccessful collaborations, not all elements are equally relevant to success and a different collaborative model is maybe more applicable to university-linked innovation organization. Using a real collaboration as a case in my study, the researcher could identify elements that had a positive and/or negative impact on the collaboration, elements that felt missing and elements that needed improvement.

### 4.1 Case Organizations

Drivhuset is a creative space that helps students develop entrepreneurial business ideas. They define themselves as a pre-incubator who aim to prepare students' business ideas for "the next step" The organization has a flat structure consisting of a CEO followed by three coaches. Two of the coaches are also project leaders and the third coach is an inspirational creator, who also serves as a point of contact (POC). Whilst the CEO manages strategic long-term concerns, the POC deals with daily situational matters. All employees are working on a part-time basis (70%) and are at the same hierarchical level. In the collaboration with STORM, they all serve equal functions, where all employees can initiate projects/events, whereby that person becomes responsible for the execution hereunder contact and booking of premises at STORM etc. (Drivhuset team, 2018).



STORM, on the other hand, can be defined as an innovation hub. It is also a creative space, with an open and flexible atmosphere, where different actors can be brought together to interact. They mainly focus on the academic field but through their innovation effort, they also partly aim to enable students to develop innovative ideas. The organizational structure is also flat, consisting of a manager followed by four employees at the same hierarchical level – two "assistants" working 80%, one method developer and one unspecified worker, working 50% and 20% respectively). One of the assistants is responsible for booking and development of premises whilst the other is responsible for technological aspects, web and all communication. Together, the assistants are also responsible for contact with students and developing new ideas and projects for students. The method developer and unspecified worker were not considered applicable for this study due to their limited involvement in the collaboration (STORM team, 2018).



All coaches at Drivhuset started in their organization August 2017 whereas the assistants at STORM started in September 2017, so they have all had a similar tenure in their respective organizations. Both organizations seem to be practicing team leadership and adopting a heterarchical approach on an operative level, where decisions are discussed collectively in the team. All employees have also been given the autonomy to take quick operative decisions when needed. Both organizations are linked to Malmö University and as the goal for both organizations includes helping students to develop their ideas, they can both be considered university-linked innovation organizations.

Participants for the interviews included staff members from both Drivhuset and Storm. The specific respondents were chosen based on their involvement in the collaboration and their hierarchical positions (management- and employee level), in order to generate a multi-perspective picture of the collaboration and potential challenges. Both the CEO of Drivhuset and the manager for STORM were interviewed as well as their employees, less the two part-time employees at STORM. In total, seven respondents were interviewed. Each interview lasted a minimum of 30 minutes.

Interviewees	Reference
CEO - Drivhuset	Interviewee 1, management DH
Coach/Inspirational Creator – Drivhuset (POC)	Interviewee 2, coach/inspirational creator DH
Coach/Project Leader – Drivhuset 1	Interviewee 3, coach/project leader DH
Coach/Project Leader – Drivhuset 2	Interviewee 4, coach/project leader DH
Manager - STORM	Interviewee 5, management ST
Assistant 1 - STORM	Interviewee 6, assistant ST
Assistant 2 - STORM	Interviewee 7, assistant ST

This research comprised of three phases in order to gather and shape the body of this study. Phase 1 included gathering primary data through interviews, phase 2 included data analysis, and lastly, phase 3 included presentation of the data. Each section is further elaborated below.

## 4.2. Phase 1 - Primary data collection

Interviews were used to collect primary data for this study in order to generate an understanding of the collaboration between the two organizations. In addition to that, the aim with the interviews was also to create an understanding of what the individual members perspective of the collaborations was.

An initial email with introduction to the study as well as enquiry to partake in an interview was sent out to each respondent for their consent to participate. Once consent was given, interviews were scheduled and conducted accordingly. All interviews were semi-structured, recorded and conducted in English. All apart from one were conducted through video calls (Skype and appear.in) as this allowed for flexibility without comprising the quality of the interview. One was a standard phone interview. All interviews were conducted between April and May 2018, with one follow-up interview in August 2018.

Telephone interviews are increasingly being used as an appropriate mode for qualitative interviews and have been found to produce comparable results to face-to-face interviews (Holt, 2010; Miller, 1995; Opdenakker, 2006; Sturges & Hanrahan, 2004; Vogl, 2013 in Oltmann, 2016). As Skype includes both a voice component like a phone call, as well as a visual component due to the video function, the benefits of a telephone interview as well as some advantages of face-to-face interviews could be captured (capturing non-verbal cues such as body language and facial expressions as well as behavior etc.). It also allowed for greater flexibility with regards to location and time.

The questions were centered on five dimensions of collaboration, as identified by Thomson and Perry (2006) as well as on some elements for successful collaboration, as identified by a number of scholars. (Thomson & Perry, 2006; Huxham & Vangen, 2005; Mattessich et al., 2001; Koschmann, 2012). As the interview was semi-structured, the questions were designed as open-ended questions in order to allow the respondents to give fuller explanations/elaborations as answers rather than short answers. This also encouraged further discussions and follow-up questions.

The elements and their working explanations are described below in table 2. Table 3 contains a few examples of the questions asked. As the interviews were semi-structured, the questions included in the interview guide are only part of the questions asked during the interviews. Due to the semi-structured design, it also encouraged a lot of free talk. A lot of information thereby also derived from participants' own elaborations not included in the guide.

In the following section, the process of analyzing the gathered data is explained.

### 4.3. Phase 2 - Data analysis

Data analysis was done manually and thematic analysis was used. It is a widely used method to analyze qualitative data and is based on identifying and organizing the gathered data in themes (Braun & Clarke, 2006). In order to do this, I first listened to the records and transcribed all information I found interesting and relevant to the study. Then I categorized the information in different themes and identified themes that were connected to each other. Lastly, I compared and contrasted the different themes.

According to Achievability (2018), themes for coding can derive from theories or relevant research findings (Achievability, 2018). The data was thus organized and coded according to themes deriving from two theories. The first theory was the five dimensions of collaboration, as identified by Thomson and Perry (2006): governance, administration, mutuality, norms, and organizational autonomy (Thomson & Perry, 2006). The second was a group of elements for successful collaboration, as identified by a number of scholars. These were: shared vision, identified goals, open and regular communication, commitment, trust, interested stakeholders, access to resources, collective identity, time, and defined processes (Huxham & Vangen, 2005; Mattessich et al., 2001; Koschmann, 2012). Due to the themes deriving from two separate theories, themes that overlapped in content were grouped as one in order to avoid redundancy. Once the coding of data was done, the meanings of the answers were analyzed to evaluate their implications. The answers were compared to each other in order to create a deeper understanding of where similarities and differences existed, which also gave an insight to possible challenges the collaboration might face.

Through these commonly identified elements for collaboration, the researcher was able to a) identify elements for successful and unsuccessful collaboration in the case study; b) discern which elements seemed to be of higher relevance to collaborations between two university-linked innovation organizations, as oppose to collaborations in general; and c) identify novel elements not currently included in existing theories or acknowledged by researchers. The

results are however only directly applicable to the case studied, although, they might provide some general indications. Below is a table<sup>5</sup> explaining the used definition of each element.

Elements	Definition
<b>Governance</b>	Making joint decisions about rules that govern the collaborative effort
<b>Administration</b>	Getting things done through an effective operating system that supports clarity of roles and effective communication channels
<b>Shared Goals</b>	A sense of connection and willingness to achieve a commonly held outcome by members
<b>Mutuality</b>	Working through differences to arrive at mutually beneficial relationships
<b>Collective Identity</b>	The state where members perceive themselves as a group member, which results in higher commitment, participation, and ability to work within a socially constructed boundary
<b>Shared Norms</b>	Developing trust and modes of reciprocity. Informal understandings that govern the behavior of members in the collaboration
<b>Positive Benefits*</b>	Positive benefits from participating in collaboration
<b>Group Cohesion*</b>	The unity and understanding amongst group members for each other
<b>Committed Members</b>	Members with commitment to solving the problem, ability to provide resources, adequate communication skills, and the ability to be comfortable with uncertainty and the lack of an organizational structure
<b>Trust</b>	An iterative process of consistency of words and action leading to consistent respect and understanding by others
<b>Organizational Autonomy</b>	Addressing the implicit tension exhibited in collaborations between organizational self-interests and the collective interests of the group
<b>Time</b>	Adequate time to overcome inefficiencies at the beginning of the collaboration, develop relationships, have interactions to develop emergent elements, and create relevant outcomes
<b>Access to Resources</b>	Required both before, during and after the collaboration to include adequate time, legislation, funding, commitment, staffing, and supplies and properties needed in the collaboration process and implementation of outcomes
<b>Communication</b>	Information conversations, formal dialogue, discourse, discussions, virtual and in person, that result in the transmission and exchange of information and ideas, leading to shared understanding
<b>Defined Process</b>	The member-developed course of actions to move the collaboration forward, including decision-making, information sharing, and conflict resolution

Table 4.1. Working Explanations of Elements of Collaboration adopted from Greer (2017); Thomson et al. (2009)

<b>Interview Guide</b>	
<b>Governance</b>	How are decisions that govern the collaborative effort made?
<b>Administration</b>	What is your strategy to getting things done in an efficient way? Is there clarity regarding the roles and functions that you all play?
<b>Shared goals</b>	Which shared goals have you developed for this collaboration?

<sup>5</sup> \* Author used own working explanation due to inability to find working explanation of terms

<b>Mutuality</b>	What are your individual organizational goals and how have you found common ground? What do you each contribute with to the collaboration and what do you get out of it?
<b>Collective Identity</b>	How would you identify yourself as a collective group, both within your own team and with your partnering team?
<b>Shared norms</b>	What are your shared working norms/ informal understandings of behavior at work and towards each other?
<b>Positive benefits</b>	Can you elaborate on any positive benefits from collaborating?
<b>Group cohesion</b>	What do you think was the process for the members to come together as a group? How do you experience the internal group to have developed from start to now? How have/do you worked past your differences in the group?
<b>Committed members</b>	Do you feel that you are all equally committed to the collaboration? Both in your team and the other team? Do you feel that you are all working towards the same goals? Is everyone always willing to work together?
<b>Trust</b>	What is the level of trust between you and to STORM? How has the trust developed amongst you? Do you trust all members' ability to contribute to the collaboration?
<b>Organizational autonomy</b>	Do you feel that this collaboration supports your organizational autonomy or do you feel that it prevents you from executing your own organizational goals or in any other way inhibits your organizational autonomy?
<b>Time</b>	Do you have an estimate of how much time is spent on the collaboration?
<b>Access to resources</b>	Which resources have this collaboration provided access to? What are some of the achievements you couldn't have achieved without your collaborations?
<b>Communication</b>	What's the nature of your communication in the collaboration? Are you able to talk about different perspectives in a constructive way? How do you encourage open and honest communication and practice active listening?
<b>Defined process</b>	How would you describe the foundation of the collaboration and the process? How do you evaluate the performance of the collaboration? How do new projects/events to collaborate on come about? Do you have a conflict-resolution strategy?

Table 4.2. Interview guide of semi-structured interviews conducted during the course of this study.

#### 4.4. Phase 3 - Presentation of data

The presentation of data will be done using the themes identified above. The presentation will comprise key findings under each main theme or category and will also include relevant quotes from the interviews to support the findings. The key findings under each theme will be

aggregated together and interpreted in relation to the proposed theories in the theoretical framework and the research questions.

#### 4.5. Quality in research

In order to assure reliability and validity in the study, the researcher will support information gathered through secondary data with references and aim to also support findings gathered through primary data with as many references as possible and/or relevant. The researcher will aim to disclose information gathered as accurate as possible only disclose but variations due to author's interpretation may exist. In order to mitigate this, the researcher will support all findings with relevant statements from interviewees. Occasions where researchers own thoughts and/or claims are disclosed will be presented as assumptions. The researcher will also aim to support these with references where possible.

#### 4.6. Ethics in research

The researcher have lived up to the following ethics in this research:

- The researcher sought consent from the participants before carrying out the study through sending out an initial email to the respondents, enquiring if they were willing to partake in the study. The email also included an introduction about the researcher, the research and the purpose of the research.
- The researcher aimed to ensure that the study causes no harm or impacts the dignity of participants in any way. The researcher was honest with the participants and confirmed whether or not information gathered may be fully disclosed, including personal identity. However, although full consent was given, the researcher saw no added value in disclosing personal information. All names of respondents were therefore omitted from the study.
- The information provided in the study was presented as accurately as possible and according to the true interpretation by the researcher. No information was altered or fiddled with, in order to convey alternate meaning other than re-written with the intent to convey the same meaning as original source.
- The researcher made sure to avoid plagiarism and acknowledged accurate sources of information used in the study. This was done by the including initial sources for information where possible. Where not possible, the secondary source for information was referenced and denoted as “xxx (xx) in xxx (xx)”. Direct quotes were presented in italics followed by the reference.

#### 4.7. Theoretical contribution

During the search for data, limited literature was found on specific collaboration between entrepreneurial intermediaries. While the findings in this study are only directly applicable to the case studied, it contributes with insights to the nature of a collaborative relationship between an innovation hub and a pre-incubator.

#### 4.8. Contribution to organizations

The collaboration between the entities under study is currently informal and characterized with undefined processes and limited traceability. Although impact is difficult to measure, this study may provide insights to various areas that can help structure the process and trace some aspects of impact.

## 5. Research findings

Guiding this paper, the inter-organizational collaborative relationship between Drivhuset and STORM was studied.

As mentioned above, five dimensions govern the selected factors of collaboration: governance, administration, mutuality, norms and organizational autonomy. In the following chapter, research findings and results of the study will be analyzed and discussed in relation to these, as well as in relation to the identified elements of successful collaboration: shared vision, identified goals, open and regular communication, committed members, trust, interested stakeholders, shared risk, access to resources, collective identity, time, and defined processes. Some of the elements are overlapping and will be grouped together to avoid redundancy.

### 5.1. Governance

During the study of the collaborative relationship between Drivhuset and STORM, it was found that the nature of the collaborative relation was informal negotiation. Whilst this allowed for a great amount of flexibility and ability to nurture relationships on a friendlier basis, members also experienced it to limit the optimal function of the collaboration. The informal nature seemed to leave a lot of potential hanging as loose talk, rather than proactive actions. Several respondents expressed a wish see more actions and less talk. A major influence that has also limited the governance of the collaborative efforts was the lack of clear infrastructure of the ‘innovation and entrepreneurial efforts’ at the university. The lack of infrastructure seems to have caused a lot of confusion as to clarity of organizational roles at the university, which has also led to confusion about how to internally and externally recognize the different organizations. As a result of the absence of infrastructure, the organizations have held back on strategic discussions until a clear mapping has been set. This was evident through statements like the following:

Statements from respondents:

*“This collaboration could be so much better and so much more formal and set. It could be better in the way we position ourselves ...I think that we can have a better conversation around how we communicate with our target groups, because we have the same target groups. And also how we can do better events together. Just working more together on a different scale ...the collaboration itself is like, they have the space, we have the knowledge of events, they have the knowledge how to approach researchers, we have the knowledge of how to approach students. I think students-researchers are a match, whereas events and space is a match. These are the positive things that we could take more advantage of. I think researcher-student is the thing that we haven’t elaborated at all much. Not together...”* – [Interviewee 2, coach/inspirational creator DH]

*“...the work with innovation and entrepreneurship has been a little bit scattered at the university. We have several different organizations that in one way or another work with innovation and entrepreneurship but they’re not really synchronized. And it hasn’t been super clear with who is responsible for what things. This means that there is no coordination between different efforts at the university. And that is something that we are actually working on right now. We are building [the innovation office]. The organization there will get the responsibility to synchronize the different efforts that we do have e.g. STORM and Drivhuset...we’ve had some discussions but then of course, these innovation office discussions puts those discussions a little bit on pause as we don’t exactly know how the full*

*innovation system or innovation structure at the university will look like after summer...so we've paused it a little bit to see what will happen" - [Interviewee 5, management ST]*

## 5.2. Defined process

The working process is defined by some degree of structure combined with informality. The absence of a clear infrastructure has also had its implications on creating a defined working process. The ambiguity regarding organizational responsibilities makes it less easy to get a clear picture of who should do what. With regards to decision-making, the results show that general decisions are discussed and taken collectively whilst strategic decisions, relating to longer-term aims and objectives, are discussed at management level at STORM and Drivhuset. As mentioned above, all employees can initiate projects and in that case, the initiator of the projects has responsibility for it.

As part of the collaboration, Drivhuset and STORM also direct students to each other. Another major caveat in the process when directing was the absence of tracking. There is currently no system in place to track the flow of students being sent to either organization. This was expressed as a factor that would heighten the potential of the collaboration. The study also showed that there is currently an absence of properly monitoring the progress of the collaborative efforts or goal attainment. Informal feedback and headcount at events are being used, as an indication of success but there is no formal process to tracking the results.

Statements from respondents:

*(Regarding flow of students) - "...to be honest, I have no clue!...we are five people working at STORM....Most of the pointing is made of individuals working at STORM...We haven't had that discussion. It's an interesting question because we haven't discussed it at all! ...It would be interesting to see how many exchanges there are between the two." - [Interviewee 5, management ST]*

*"It's successful in a way because we usually fill the seats..." - [Interviewees 6 & 7, assistants ST]*

*"We haven't proposed anything. We have InstaDrivhuset for our internal goals that we're achieving but we don't have anything that we are tracking in the collaboration with STORM". - [Interviewee 1, management DH]*

With regards to conflict resolution, all members confirmed that there are no distinct strategies in place to solve conflicts. No major conflicts have arisen and it has become inherent in the collective identity to be open, discuss it and solve it amongst them. See more below under 'Group Cohesion'.

## 5.3. Administration

"Externally", the absence of a clear infrastructure of the innovation and entrepreneurial efforts at the university also negatively impacts administration of the collaboration as it has resulted in unclear division of organizational roles, as seen above. However, for now, the operating system is perceived good, with hopes for improvement once the planning of the innovation infrastructure is in place:

Statement from respondent:

*“I think and I hope that it will be better when we structure the whole innovation structure at the university better.” - [Interviewee 4, coach/project leader DH]*

With regards to organizational structures, both STORM and Drivhuset are very flat. At STORM, four employees follow the manager. At Drivhuset, three employees follow the CEO. So, “internally”, due to the small groups and flat structure, there is high clarity of roles. As also seen above, strategic efforts are discussed at management level whilst specific events are directed to a point of contact at STORM or a project manager at Drivhuset. The flat structure and small teams ensured quick and easy flow of information between management and operation and thus enabled the organizations to be very responsive to potential challenges.

Regular communication channels consist of multiple channels, i.e. face-to-face, telephone, email and social media. Being a small group and having various channels of communication ensures high accessibility, which benefits the collaboration and planning of events, however, whilst this was experienced efficient, there was no structured approach of when to use a specific channel. This led to indications of situations where a more structured approach would increase the efficiency of communication and thereby of the operation system.

Statement from respondent:

[Discussing communication channels] *“...it’s very spontaneous and unstructured...it can be anything between Instagram and face-to-face...which is also confusing...I supervise Instagram, and sometimes if they want to reach out with information I do not know, but xxx knows, then it’s a little bit more confusing to switch channels” - [Interviewee 3, coach/project leader DH]*

## 5.4. Organizational Autonomy

There showed to be no issues maintaining organizational autonomy. The fact that they have overlapping goals and are facing the same problem and target group has generated a shared understanding. Also, the organizational self-interests do not collide as their interests are characterized by a more “step-based process”. STORM’s interest serves as a “first step” to help students develop ideas and Drivhuset assists and/or take over when ideas have been established. Results from the interviews showed that, whilst members were committed to the collaboration, each organization’s interdependence was not affected nor did the collaboration hinder them from addressing their own organizational aims. Due to the mutual beneficial collaborative efforts, the collaboration was rather supportive of each organization’s attempt to meet their own goals.

Statements from respondents:

*“The overlaps are so clear. Innovation is part of entrepreneurship and entrepreneurship is part of innovation...and having the same target group...and we face the same problem, so, we understand each other there as well...” - [Interviewee 1, management DH]*

*“One of our goals is to facilitate innovation in different ways. Innovation is a quite broad definition of a broad thing. But I mean, one result of innovation is of course that it’s going to result in some kind of entrepreneurship activity. And at the moment...it’s not [STORM’s] duty to facilitate entrepreneurship, but Drivhuset’s....[STORM’s] working in the early stages of the innovation process, Drivhuset is more when you have an idea, then you have Drivhuset to help you. But before that, then STORM is facilitating preparations and so on to actually find ideas and so on” - [Interviewee 5, management ST]*

## 5.5. Shared goals

Both STORM and Drivhuset focus wholly or partly on students – to create a place or environment for them to be more innovative. There is a common wish to provide facilities for students to feel like they have the competences of Drivhuset and STORM together in one space and that they feel there is an innovation and entrepreneurial net that can catch them. However, the study found that the goals of STORM and Drivhuset can be better recognized as aligned or overlapping rather than shared due to the fact that the two organizations have not developed any shared goals together. They both promote innovation and entrepreneurship, but at different stages.

Statements from respondents:

*“..we haven’t developed shared goals together with Drivhuset. At the same time, STORM was formed, Drivhuset was already available so we basically knew their assignment and what they wanted to accomplish. STORM was formed as some kind of support to that...”-* [Interviewee 5, management ST]

*“They [STORM] are a hub that is meant to promote innovation and new ideas...Drivhuset is a pre-incubator that is meant to [develop it] from an idea into reality...And the collaboration there is very nicely fit between the innovation that happens at STORM and then the projects that can quickly become something real through Drivhuset”. -* [Interviewee 4, coach/project leader DH]

## 5.6. Mutuality and Access to Resources

Very similar to shared goals, mutuality is more related to the collaborative relationship rather than outcome (Thomson et al., 2009).

It has been long known by scholars that this is one of the elements upon which, collaborations are built (Thomson & Perry, 2006). This also showed to be the foundation of the collaboration between STORM and Drivhuset. During the interviews, it was found that resource dependency was the main motive behind the collaboration. Due to founding the collaboration on mutual resource dependency and having overlapping goals, a mutually beneficial relationship is inevitable; part of STORM’s aims is to promote innovation, however, they do not possess an entrepreneurial “division” or expertise to facilitate this and Drivhuset do not have the physical space to facilitate their bigger events. Drivhuset provides the expertise wanted by STORM and STORM provides the physical space needed by Drivhuset.

Statements from respondents:

*“We compliment each other quite well because Drivhuset doesn’t have physically enough space to host events, but STORM does and they’re also interested in innovation and entrepreneurship. So a lot of things we do in classes or final pitches and presentations, we also host at their venue.... When we work with programs, such as SALSU, we coordinate that we need students at STORM...so it’s a lot about using the venue they have, but at Nerdytime we also use their knowledge and their skills...we’re complementing each other in resources” -* [Interviewee 3, coach/project leader DH]

*“...on another level, which is the manager level, that is a synchronization of the efforts. So it’s also that we make sure what each respectful organization has for aim and that we have orally said that we would collaborate and help each other out.” -* [Interviewee 1, management DH]

## 5.7. Collective identity

Understanding of social identities is also embedded in collective identity, as it is the initial step to understanding each member in the group (Kramer, 2006). Flexibility and spontaneity showed to be some distinct indications to highlight the social- and collective identities. They identify themselves as all being equal entities in the collaboration with a shared understanding.

Statement from respondent:

*“We’re doing this not with our supervisor and not with their supervisor. It is us below and they are below as well – I mean T, W and X. It feels like we’re on the same page. Also our roles - currently how we work and how we were hired it’s kind of the same as well so there are no issues there. We can reach each other fine.”* – [Interviewees 6 & 7, assistants ST]

Collective identity was further analysed through four other main themes:

1. Positive benefits from collaborating
2. Established shared norms
3. Group cohesion
4. Committed members

### 5.7.1. Positive benefits from collaborating

Highlighted above have been some of the positive benefits from collaborating but apart from resource dependency and building good ties with the members involved, one of the expressed benefits was an increase in the actual size of inter-organizational network. As mentioned above, this is one of the factors affecting ties created within IORs. Another was the fact that it was easy to collaborate and the collaboration was helpful. As there currently is no official tracking system, concrete facts such as an increase in flow of students, was unidentifiable. However, some respondents felt they would experience more positive benefits if discussions were followed up by actions.

Statements from respondents:

*“...the two organizations have slightly different networks. When working together, that also means that you are exposed to the other networks. I guess that we have developed a larger network as a result of the work together...”* – [Interviewee 5, management ST]

*“We had a very good and very creative discussion together which was kind of aiming for some sort of common goal and ways to reach that. What we would improve is to continue that dialogue because we think that we could both benefit so much from that. To just have the time to sit down and reflect and evaluate. To actually make the notes from our talk to action points. So that something happens. So that we don’t just walk around talking about how much we want to collaborate but to actually do that. More action and less talking about how much we love each other”* - [Interviewees 6 & 7, assistants ST]

### 5.7.2. Established shared norms

Norms can be considered part of the collective identity as they refer to an identification of who the group is.

The informal nature of the collaboration and pre-formations of relationships had developed an implicit “code of conduct” which was built on mutual respect and a free flow of communication.

Statement from respondent:

*“...it’s a norm that we’re flexible and spontaneous ...we’re very lean and agile because it’s so informal and that’s how our organizations are as well”* - [Interviewee 3, coach/project leader DH]

### **5.7.3. Group cohesion**

Having an understanding for each other and each other’s personalities and identities helped shape the group and the ties they have formed with each other. While these ties do not necessarily stretch beyond the collaboration, they have developed strong ties in the collaboration and a general group understanding, allowing different perspectives and differences to be discussed constructively.

Having an understanding of the group dynamics and of the individual members also seemed to have paved the way to develop a natural and decent “conflict-mitigation oriented” relationship. The nature of the communication in the collaboration alongside the strong interpersonal ties have helped being open and straightforward as well as ease the flow of providing and accepting constructive critical feedback. Nonetheless, while they all have a good relationship with each other and communicate well, it was sometimes experienced messy to have “too many” people involved in resolving a misunderstanding. In order to solve issues themselves and avoid escalating matters up in the hierarchy, X functions as a point of contact.

Statements from respondents:

*“...if it’s situational, then X does it ..It was too many people involved before... Now we have X as point of contact and that’s enough...if miscommunication happens then it is sometimes related to the people, and other times it’s related to the topic or information missing... usually we do not escalate anything up in the hierarchy. We just solve it ourselves...critique is also informal, just between us and everybody understands and respects it even though it’s informal.”* - [Interviewee 3, coach/project leader DH]

*“I’ve been working more with STORM due to projects that we have had so I have a better relationship with [Y and Z]... And within that contact, there has been much confusion, so I took the responsibility in that sense to talk to them how we should communicate towards each other. With of course discussion with the team but then I set up the meeting...but not in a huge difference. We all know the people at STORM...”* - [Interviewee 2, coach/inspirational creator DH]

### **5.7.4. Committed members**

After some time, commitment levels amongst all members have found a good level. It’s neither too high nor too low. Initially, commitment levels were experienced as too high, which led to an adverse knock-on effect, as everyone was “too” excited. This also resulted in unrealistic expectations of a new collaboration. Finding a balanced level and remaining very motivated, all members demonstrated an idea of realistic expectations. All members furthermore demonstrated a will to work together. Due to the interpersonal ties and easy nature of communication, they found it effortless and pleasant to work with each other.

*“We’re very motivated, on our level, but that is also a fact because we’re all the same age, we’re recently graduated so it’s very easy to get involved in communication ...but at one point [commitment] stagnated a little because we didn’t know how and what and everybody started being busy with their own agendas. But now it has found a good level. Not too much communication, because things run smoothly, but also not too little because you still want to be exploring things together.”* - [Interviewee 4, coach/project leader DH]

## 5.8. Trust

The collected data showed that there was mutual trust in the relationships as well as the abilities and skills of each member to contribute to the collaborations satisfactorily. It was evident by all interviewees that the trust stemmed from the initial relationships formed, thereby trust was implicitly embedded without any further attention having to be put on it. High vertical trust was also evident, as seen above, as employees were given operative decision-making power without further consent from management.

Statements from respondents:

*“...we know that we have enough trust on our [employee] level and enough freedom to decide things.”* – [Interviewee 3, coach/project leader DH]

*“I wouldn’t say that we have done anything in particular to [develop trust]. One reason is that we have had personal connections from before. People at STORM and people at Drivhuset know each other, which also meant, to start up the collaboration was quite easy. We haven’t had the need to discuss or develop trust...”* – [Interviewees 6 & 7, assistants ST]

## 5.9. Communication

The nature of communication has been recurring throughout other elements explained above, but to touch up upon lightly, it showed to be very easy. It was informal, straightforward and open. All respondents expressed positive feelings when explaining the nature of communication. Communication was also acknowledged as the backbone in this collaboration when working through challenges. However, there were also indications where communication became too informal as a result of strong interpersonal ties.

Statement from management:

*“Our challenges is something that we continually work with...we try to have a dialogue and keep ourselves updated with each other....it’s really to communicate that has been key to working with challenges and to communicate frequently and on different levels”* – [Interviewee 1, management DH]

## 5.10. Time

Time is still being put down on maintaining the strategic aspect of the collaboration. Although it has been going on for a while, the collaboration is still perceived to be at an initial stage. One major influence that has had a negative impact and thus prolonged the development of the process in the infrastructure not being in place, as seen above. The inadequate efforts of following up discussions with actions also has a role in the collaboration not living up to its fullest potential and thereby resulting in lost time. The study also showed that time is being put down on maintaining relationships by being supportive at events. Emphasis on good interpersonal connections was highlighted as a fundamental aspect.

Statements from management:

*“It’s getting better. Last fall it was quite unstructured for many reasons. Then [Drivhuset] had a re-organization ...the organization was basically brand new from fall...I guess that, in that point of time, I think it was quite natural to have a re-take to the collaboration and we had the opportunity to speak with each other...[nevertheless]... “I think it’s very important that the personal interconnections are good. That is most of the time maybe even more important than the organizational relationships. That actually the people within each organization connects to each other” – [Interviewee 5, management ST]*

*“We try to make sure that when they run events we visit and we support them and vice versa” – [Interviewee 1, management DH]*

## 6. Discussion

Inter-organizational collaboration looks at inter-organizational relationships and how these are used to tackle the challenges that a single entity cannot singlehandedly do.

The results of this study found that the nature of the collaborative efforts between Drivhuset and STORM is very informal. A recent study has found that informal collaboration reported to be a more efficient strategy to professional development than organizational planned activities (Stevenson, 2004). The informal nature here also showed to be highly supportive of the flexible and agile characteristics of both Drivhuset and STORM and their events but also of the inter-organizational relationships they have created. Furthermore, it seemed to positively impact other elements of the collaborative process resulting in a smoother collaboration. However, whilst this has positively impacted the collaboration it has also presented some limitations to its optimization as evident by the findings. This indicates a need to include a degree of both formality levels and to find the right balance between the two.

The flat organizational structure and team leadership further enhanced the collaboration in the sense that it made the organizations highly responsive, due to the efficient flow of information between management and operation. The flat structure made it easy for information to reach management and vice versa without further delay. Team leadership also implied delegating operational decision-making power to operation, which enabled the teams to act quickly in various situations. This allows better resource-allocation as management can then allocate their time to strategic concerns whilst at the same time fully utilizing the competencies of operation to handle operational concerns. This also positively impacted the level of trust between management and operation in the organizations.

The findings confirmed that the majority of the elements for successful collaboration were present in the collaboration. They have and are continuously developing a collective understanding of who they are, how they work and the implicit rules that govern the collaboration; they have a good amount of trust in the process and to each other, which makes it more enjoyable and inclusive; and they look out for each other, ensuring that they provide the support that the collaborative organization needs in order to achieve their goals.

As evident by the process, the collaborative efforts between Drivhuset and STORM slightly deviate from the definition by Roschelle and Teasley (1995), as the activities occur in both synchronous- and asynchronous activities. The *synchronous* activities comprises mainly of the shared events hosted by Drivhuset at STORM. Due to space, STORM enables Drivhuset to hold bigger events. The close proximity also enables them to quickly and easily move between the two locations to promptly meet up, go out for lunch or move resources. This showed to have great impact their relationships. Spatial distance, as seen above, is one of *four* factors affecting the nature of the ties created in IORs.

The *asynchronous* activities comprises of the different phases in which, the individual organizations helps the students. As seen above, new business ideas develops in phases and are supported differently dependent on the idea's maturity. Each organization accounts for knowledge/skills to cover a certain phase of idea maturity, before they cannot help anymore. From a resource dependency perspective, the organizations exploits each other's skills, expertise and networks, to individually address organizational self-interest and strive for individual organizational goals through shared events. This indicates that collaborating with a diverse resource base to assist in various stages of idea development is an efficient way to address innovation and entrepreneurship at the university.

Alongside with resource dependency, a lot of emphasis was on relationships. They too, showed to be one of the paramount drivers of the collaboration, which served as a facilitator that positively impacted a many other identified elements for successful collaboration. Much of the mutual respect, trust, free nature of communication and willingness to work together seemed to stem from the relationships the members had developed with each other. Whilst this positively supported the collaboration, there were also indications of times where this was impacting the efficiency of work, i.e. times where conversations became too informal, driving away focus from work. This resulted in less efficient use of time. However, whilst good interpersonal ties amongst the members has been the foundation of this collaboration, it has also been taken into account that this is a collaboration between two small organizations, which has probably been a main factor for the possibility to establish these ties throughout the organizations.

Based on the collaboration between Drivhuset and STORM, there seems to be an indication that a balanced level of commitment is a good level for optimization. Perrault et al., 2011, argued that considerable time commitment was one of the requirements for successful collaboration, as is patience (Perrault et al., 2011). As experienced by Drivhuset, too high a commitment can lead to unrealistic expectations too soon into the collaboration. This might have a counterproductive effect and jeopardize the success of the collaboration instead. Also, while giving constructive feedback, especially critical, can be daunting, it showed to be important to make it a norm and part of the group identity to welcome it and be comfortable giving it. Due to the informal and tight nature of relationships, alongside with effective communication, this proved to be of high importance for conflict resolution and avoiding future clashes. Although this has been efficient when dealing with minor differences, it is worth acknowledging that in the process of developing an efficient strategy, a crucial aspect is also to include a conflict resolution strategy, which will aid members to move forward in time of conflict (Clarke & Fuller, 2010; Crosby & Bryson, 2010; van Woerkom & van Engen, 2009; Olivera & Straus, 2004). The study confirmed that there is currently no conflict resolution strategy in place.

Although the findings in this study confirmed elements for successful collaboration, the findings also confirmed elements for unsuccessful collaboration. Although the organizations have been set up to facilitate innovation and entrepreneurship, the lack of infrastructure to synchronize all efforts promoting the same cause has led to inefficiencies and lost time, as seen above. This can eventually result in poorer organizational performance, which, in its turn, could impact future funding for operation. There is consensus amongst scholars that a defined process is a critical element for collaborations (De Cremer & van Knippenberg, 2005; Huxham & Vangen, 2005; Koschmann, 2012). Furthermore, members also expressed the wish to see an increase in flow of students. Without tracking student flow and monitoring results from the collaborative efforts there are no measurements to relate to. The organizations will be unable to find out whether or not there has been an increase in the flow, secondly, it will be impossible to know whether or not a potential increase stems from the collaboration or elsewhere. Additionally, there will be no tangible input as to where each organization stands with regards to goal progress or attainment. This will also provide difficulties when setting specific goals. Harkin (2015) argues that tracking the progression of goals is a fundamental aspect in reaching and setting goals (Harkin, 2015). Voisey et al. (2013) also denotes that incubator facilities of all types are typically measured with regards to objective outputs (Voisey et al., 2013).

Shared goals were also not necessarily a critical element to the collaboration, with valid reasons. At the time STORM was being formed, Drivhuset already existed with established goals. As a result, STORM was developed to support these goals thus leading to the organizations having overlapping interests and goals rather than shared. Regardless, shared goals did not come across as fundamental. Mutuality seemed to be far more relevant and creating events that would mutually benefit each organization to achieve their own goals.

Lastly, a fundamental element that has been embedded in every single element analyzed and discussed but seems blurred “behind the scenes” is time. As indicated by many, collaborations are a working process, not an endpoint (Gajda, 2004). As such, they require time. As it is a working process it requires time to build and maintain relationships as well as time for the collaboration to start, grow and live and patience during the development. Seeing as the term ‘collaboration’ itself is referring to the process, it will require time as long as it is alive. As members consists of both part- and full time employees, it was found difficult to analyze time as an element. Relationships were also already initially established, this further made it difficult to get an understanding of a given time frame being put down on the collaborative efforts. However, due to the informal nature of the collaboration, there were indications of the collaboration still being at an “initial” stage. This underpins the fact that, although relationships have been established and collaboration has been on going for some time, it still requires more time to move past an “initial” phase. Other factors such as lack of entity structure and defined links between the different entities also showed to play a role in prolonging the process of constructively moving forward with the collaboration.

In overall, all participants perceived the collaborative efforts successful. Important to bare in mind though, is that the term “successful” is subjective and does not imply perfect. There are areas for improvements, but all in all they have developed great collaborative efforts that helps them work towards their goals and that is mutually beneficial.

## 7. Conclusion

As seen above, the existences of university-linked innovation organizations are a fundamental aspect for sustainability as they play a big part in facilitating economic growth. They support the sustainable development goals set up by the United Nations in various ways by stimulating entrepreneurial character within local communities.

The purpose of this study was to highlight characteristics of a collaborative relationship between university-linked innovation organizations and develop a model that depicts this relationship. In order to achieve this purpose, the following research question was constructed:

- *What characterizes inter-organizational collaborative efforts between university-linked innovation organizations?*

As was evident by the collaboration under study, many of the pre-identified elements of successful collaboration are present in inter-organizational collaborative efforts between university-linked innovation organizations. However, some elements seemed to be more relevant than others. The main elements that made the collaboration successful and mutually beneficial were great inter-organizational relationships and resource dependency. Flat organizational structure and team leadership also showed to have positive impacts on the collaboration, as they enabled better resource allocation and more efficient use of time. Team leadership also boosted organizational trust by giving operational decision-making power to operation. Thus, the findings indicate that a flat organizational structure and team leadership is beneficial to collaboration between university-linked innovation organizations. Furthermore, they can be a small-scale, mutually beneficial relationship between parties from different networks and “territories”. They should comprise of at least two organizations that represent different perspectives and complementary knowledge sets with a flexible structure and administration. Alongside with having defined procedures in place with a clear mapping of responsibilities (hereunder strategies to cope with challenges and a system for monitoring results), emphasis should be on relationships and resource dependency. They would then pose as an entity with strong and diverse skills and expertise to help students in any direction. As collaboration in itself, refers to the actual process, embedded in the model is therefore also time and patience for development and maintenance.

Such diverse intellectual resources encourage the creation of novel combinations of ideas and practices, resulting in unique and viable innovations and innovative ideas. This links back to public authorities strive to enhance entrepreneurial activities and involve stakeholders such as students, entrepreneurs and innovators etc. that, in turn, links back to sustainable entrepreneurial societies fostering economic growth, employment creation, and competitiveness in societies as well as SDGs 8 and 9.

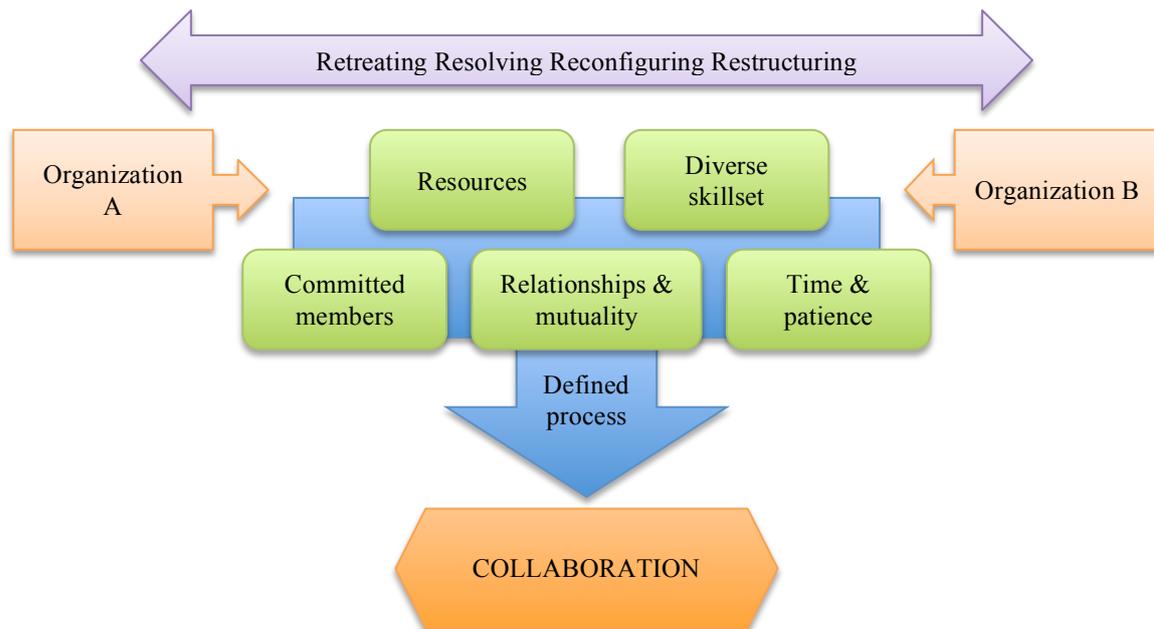


Figure 7.1. Researcher’s suggestion to collaborative model between university-linked innovation organizations.

This proposal is not universal; it is merely a proposal of a collaborative framework for university-linked innovation organizations, as a result of the study of the collaborative relationship between Drivhuset and STORM.

## 7.1 Future Research

To validate the findings in this research and the model created, further study of collaborative efforts between university-linked innovation organizations is needed. It would also be interesting to see how the model would work in a different context – e.g. between innovation organizations linked to two different universities; how the model would differ if the university linkage was removed; would the model work: a) within or between companies b) in the private sector c) in different organization in the public sector etc.

Due to the absence of sufficient infrastructure connecting the innovation efforts at the university, there is lack of structure governing this collaboration at this point in time. It would therefore be interesting to follow-up see hoe the collaboration would change (if it will) once the innovation office is in place.

Another characteristic of this collaboration was high level of informality. It would therefore be interesting to see how a formal collaboration between university-linked innovation organizations would differ, if there would be any differences.

## 7.2 Recommendations

In attempt to contribute to the existing collaboration between Drivhuset and STORM, the following recommendations have been provided:

Due to the high level of informality, it is advisable to utilize some form of tracking software. Tracking software can help the members’ track and monitor their work and vital communication. Some of the benefits of tracking software are that they include shared

documents so everyone will have access to vital information regarding projects and/or events. They also help the members work more efficiently as they can mitigate redundancy and unnecessary work. Furthermore, they can assist in maintaining focus on what needs to be done and when as well as allow work to be crosschecked and “ticked off” (in a constructive way). They will also add transparency and can provide information of who has done what, so that it will be easier to locate and reach out to the right person if a question or concern should arise.

Additionally, they allow efficient management of projects as the tracking and monitoring function will allow for easy detection if certain required tasks are covered or needs coverage. As a defined process is currently lacking, this can be a useful tool to add some structure and definition to the process.

Asana is a specific example of a tracking software tool. It is a simple and free, web and mobile application, so it can be accessed from anywhere and anytime. It allows the user to create task files, communicate within each tasks file, allocate- and check off tasks, structure planning so that fellow members can see planned tasks and when the tasks are due (e.g. today, later, upcoming etc.) and much more.

In addition to tracking software, they should also start monitoring different measures of the collaborative efforts, e.g. the number of students they direct and getting formal feedback from students. Students can serve as a great input source as to what works well and/or less well and also provide insight to areas the organizations can strengthen in order to optimize the process and achieve their goals. It is also advisable to create a shared communication platform, where Drivhuset and STORM can communicate and post concerns such as: “there is a student here that needs help with xxx. Is this something you can assist them with?” As Drivhuset and STORM aim to help students, a platform like this would improve the efficiency of their work and increase the quality of their help – they would be able to direct students with certainty rather than directing them on a “*maybe* they can help you” basis.

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