The Team Mirror

A CONSTRUCTIVIST STUDY OF AN AGILE METHOD FOR TEAM DEVELOPMENT

JULIA VON HEIJNE

EMELIE WÄNGBORG
The Team Mirror: A Constructivist Study of an Agile Method for Team Development

by

Julia von Heijne
Emelie Wängborg
Teamspegeln: En konstruktivistisk studie av en agil metod för teamutveckling
av
Julia von Heijne
Emelie Wängborg

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KTH Industriell teknik och management
Industriell ekonomi och organisation
SE-100 44 STOCKHOLM
Abstract

In rapidly changing environments organization and management theories have to consider more flexible approaches to match the demands (1) (2). Agile methods attempt to enable flexible efficient ways of working in team structures (1). In this thesis we empirically study a model from a constructivist approach in an attempt to contribute to knowledge on the eternal problem of people working efficiently in the structure of teams. Social processes are argued to have a major impact on the general application of agile methods (3). However, the practitioners of agile methods tend to focus more on the physical and technical infrastructure as enablers of successful teamwork rather than the social processes of team development (4). Hence, without knowing how the social processes of a team affects the usage of agile methods for team development, an organization is at risk of becoming less efficient over time without realizing why (5) (6). Therefore it is essential to study how an agile method for team development affects and influences the social processes within a team in order to understand how it can be used for efficient teamwork.

The purpose of this thesis was to study how an agile method for team development can aid a software development team to improve their way of working. We empirically tested a team-level workshop-based agile method for team development, SHC, in a case study at the Swedish Police Authority IT Department. This included 14 focus group sessions with seven development teams. We posed the following main research question to fulfill the purpose of the study: how can the use of an agile method for team development help software development teams improve their way of working? We conclude that there are several ways in which an agile method for team development can help teams improve their way of working, and that these depend on the unique social processes within each team. The purpose of the study was fulfilled by the findings of how the an agile method can serve teams in different stages of team development by fulfilling different purposes, how it can assist a team in taking action, as well as the potential it has to enable Shared Leadership.

Key-words: constructivism, team development, teamwork, agile methods, software development team, squad health check, shared leadership
Sammanfattning


Syftet med denna uppsats var att studera hur en agil metod för teamutveckling kan hjälpa ett mjukvaruutvecklingsteam att förbättra sitt arbetssätt. Empiriskt testade vi en workshop-baserad agil metod på team-nivå, SHC, i en fallstudie på Polismyndighetens IT-avdelning. Denna inkluderade 14 fokusgruppsessioner med 7 olika utvecklingsteam. Vi ställde följande huvudsakliga forskningsfråga: hur kan användandet av en agil metod för teamutveckling hjälpa mjukvaruutvecklingsteam att förbättra sitt arbetssätt? Vi nådde slutsatsen att det finns flera sätt som en agil metod för teamutveckling kan hjälpa team att förbättra sitt arbetssätt, och att dessa sätt beror på de unika sociala processerna inom teamet. Syftet med studien uppfylldes av slutsatserna kring hur en agil metod kan stödja team i olika stadir av teamutveckling genom att fylla olika syften, hur en agil metod kan stödja ett team i att agera, samt potentialen metoden har i att möjliggöra delat ledarskap.

Nyckelord: konstruktivism, teamutveckling, teamwork, agila metoder, mjukvaruutvecklings team, squad health check, delat ledarskap
Acknowledgements

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GLOSSARY

Agile Methods  Management practices that are designed to survive in a changing environment and emerge with success (7).

Constructivism  Knowledge of the world is a construction of reality and is dependent on how we interpret it and how we communicate with each other about it (8).

Intersubjectivity  The subjective construction of reality that is created by the individual and by a group during interaction. (9)

Positioning  How the researcher is situated in the social context of the study and its participants (9).

Reflexivity  The degree to which the researcher documents and reflects on her behavior and how this affects the social context (9).

Shared leadership  The leadership is created by the activities and social processes within an organization instead of the actions and behavior of the formal manager (10).

Social Process  “The observable and repetitive patterns of social interaction that have a consistent direction or quality” (11)

Team  “[A] small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable” (12).

Team development  A set of management theories that concerns how to enable teams to work efficiently (13).

ABBREVIATIONS

WS1 – Workshop session 1. The first focus group session each team participated in.

WS2 – Workshop session 2. The second focus group session each team participated in.

SHC – Squad Health Check. The team-level workshop-based agile method developed at Spotify that is empirically tested in this study.
1. INTRODUCTION

In this chapter we introduce the overall topic of this thesis. We present the background and problem statement of the study, as well as the purpose, research questions, academic contribution and delimitations. Lastly we describe the thesis outline.

1.1 BACKGROUND

In an environment that is facing ever changing conditions, organization and management theory have to consider more flexible approaches to match rapidly changing environments and demands (1) (2). Organization theory includes planning, leading, and controlling resources within an entity, and is often the starting point for an organization to make effective decisions and optimize its delivered value (14). Management theory includes methods and models for ways of working that can aid employees deliver value in an efficient manner, in other words to do the right things in the right way (15). To achieve efficiency and generate value in complex product development such as software development, it has been argued to be better executed in an iterative way where the tasks are adjusted to the individuals along the process (1).

Teamwork is a concept within organizational theory that can be used to build a more efficient and flexible organization while increasing productivity (14). A team is “a small number of people with complementary skills, who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable” (12). Teamwork is when people work together in teams, often including a decentralization of authority and responsibility to the team itself (14). But teamwork in in itself is not a guaranteed success factor for any organization (16). To successfully implement teamwork, or another concept within organizational theory, this needs to be done with consideration to the social context (14).

Hence organizations aiming to implement teamwork must consider the social context, which includes team development. Team development includes a set of management theories that concerns how to enable teams to work efficiently. It includes a plethora of models and methods regarding group dynamics and how this can be used to build a top performing team. (13)

To meet the increased demand of flexibility many apply the management theory of agile methods (1). These methods are built on a set of principles, for example people and interactions over processes and tools (2). In 2011, the Swedish Police Authority began their organizational transformation towards agile practices and is today striving towards successful implementation of agile methods and teamwork (17).
1.2 Problem Statement

In this thesis we empirically study a model that attempts to solve the eternal problem of people working efficiently in the structure of teams. Agile methods attempt to enable efficient ways of working in team structures (1). Social processes are argued to have a major impact on the general application of agile methods (3). However, the practitioners of agile methods tend to focus more on the physical and technical infrastructure as enablers of successful teamwork rather than the social processes of team development (4).

Hence, without knowing how the social processes of a team affects the usage of agile methods for team development, an organization is at risk of becoming less efficient over time without realizing why (5) (6). Therefore it is essential to study how an agile method for team development affects and influences the social processes within a team in order to understand how it can be used for efficient teamwork.

This case study was performed at an in-house software development at a governmental organization. The problem of efficient teamwork is dependent on its context, but we argue that the problem is greater than its context. After all, the theories of team development have their foundation in psychology and how humans behave and interact in a group, which has been proven to be coherent independently of context (18). Hence the findings can be of interest to any organization with an interest in using teamwork and agile methods as a way of working more efficiently together.

1.3 Purpose and Research Question

The purpose of this thesis is to study how an agile method for team development can aid a software development team to improve their way of working. This will be done by empirically testing a team-level workshop-based agile method for team development in a case study the Swedish Police Authority IT Department. We pose one main research question, and two sub-research questions that in combination aim to answer the main research question.

MAIN-RQ: How can the use of an agile method for team development help software development teams improve their way of working?

SUB-RQ1: How did the social process unfold during the focus group session?
SUB-RQ2: What intersubjectivity did the team construct of the model?
1.4 Expected Academic Contribution

This thesis aims to study an agile method from the theoretical perspective of teamwork. Hence we aim to generate an analytical academic contribution, by studying an agile method from a perspective that is not often applied to the study of agile methods (19). The main academic contribution of this thesis is empiric, since it studies an agile method that has not been empirically studied before. But since this model has not been studied before, the contribution also becomes partly methodological, since this paper consequently proposes a methodological framework for how this best practice method can be empirically studied. (8)

1.5 Delimitations

This thesis will focus on the perspective of how a team uses an agile method during specific workshop sessions. Thus, it will not include the effect the model has on the teams after use, or how it has been helping teams improve their way of working after the focus group sessions.

The thesis will focus on insights the team reaches collectively as a group through discussion and interaction. Since a constructivist paradigm is assumed in the scientific approach, no in-depth focus will be on individuals within the team.

This thesis will focus on the social process and the intersubjectivity within a team as a unit. The social context, the immediate physical and social environment in which a social process takes place, will only be considered in terms of positioning and reflexivity, the organizational context and analytical generalizability of the results, but this will not be included in the result analysis or conclusions.
1.6 **OUTLINE**

<table>
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<td>1. Introduction</td>
<td>In this chapter we introduce the overall topic of this thesis. We present the background and problem statement of the study, as well as the purpose, research questions, academic contribution and delimitations. Lastly we describe the thesis outline.</td>
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<td>2. Scientific Approach</td>
<td>In this chapter we describe the scientific paradigm used for this study. We present the ontology and epistemology assumed alongside the constructivist paradigm. We present the constructivist approach to qualitative research, case studies as well as focus groups.</td>
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<td>3. Teamwork Improvement</td>
<td>In this chapter we describe the theoretical framework and the theoretical models applied in this thesis. We describe teams and teamwork, team development and the concepts and models within this area. Lastly we present theory of agile methods for team development.</td>
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<tr>
<td>4. Empirical approach</td>
<td>In this chapter we present the empirical approach applied in this thesis. We describe how we conducted the research. We do this by first introducing the specific case and choice of agile method to study empirically. We present the research process and our data gathering methods for primary and secondary data, as well as our analysis methods. Lastly we discuss method criticism of the constructivist approach as well as ethical aspects.</td>
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<tr>
<td>5. Results</td>
<td>In this chapter we present the results of the study. First, we present the empirical setting, which is the result of Stage 1. Second, we present the main empirical findings in the analysis dimensions Team Dynamics, Model Results and Model Evaluation.</td>
</tr>
<tr>
<td>6. Analysis</td>
<td>In this chapter we present the key result analysis of the empirics. In the dimension Team Dynamics a Tuckman model analysis and Five Dysfunction analysis was performed to answer SUB-RQ1. In the dimension Model Evaluation trends in between analysis dimensions are explored in order to answer SUB-RQ2.</td>
</tr>
<tr>
<td>7. Discussion</td>
<td>In this chapter we discuss key findings in relation to theory and other research. We deliberate on the potential of the model for building motivation through optimism and enabling Shared Leadership, the moderator actions effect on the model outcome, as well as the analytical generalizability of the context of a governmental agency.</td>
</tr>
<tr>
<td>8. Conclusion</td>
<td>In this chapter we summarize the study and the key findings in relation to the purpose and main research question. We present our conclusions by answering our Research Question. Lastly we present the implications of our findings and suggestions for future research.</td>
</tr>
<tr>
<td>9. Appendix</td>
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*Table 1: Outline of the thesis*
2. Scientific Approach

In this chapter we describe the scientific paradigm used for this study. We present the ontology and epistemology assumed alongside the constructivist paradigm. We present the constructivist approach to qualitative research, case studies as well as focus groups.

2.1 Ontology and Epistemology

The ontological and epistolar assumption of research determines how the researcher defines how knowledge is created and is the baseline for how the research is formed and results interpreted. What we believe to be true regarding how knowledge is created determines what we believe about learning. Thus philosophical perspectives on science can have practical implications for how we approach teaching and learning. (20) There are several approaches to how knowledge is created. In this thesis we will discuss the positivistic and the constructivist research paradigm.

The positivistic assumption is that reality is objective and external for the researcher. Reality is stable and well organized and can be described by models and theories. The variable that is used in theory also exists in reality and can be measured often as well as be assumed to be independent. Therefore, the empirics are commonly collected with quantitative methods and the research design is deductive; meaning that theories or hypothesis is tested against observations or results. (21)

The constructivism assumption is that knowledge of the world is a construction of reality and is dependent on how we interpret it and how we communicate with each other about it (8). However, it does not implicate that multiple realities exists but that each individual has a unique constructed version of reality. Therefore, the empirics are commonly collected with qualitative methods and the research design is inductive; meaning that observations and results generate theories. (21)

For this thesis, we have chosen the constructivist approach. Since this thesis aims to study teams that work together on a daily basis, a constructivism assumption can provide knowledge of how the teams learn and construct their reality and investigate how the interactions is causing this specific construction. Furthermore, in contrast to the positivist, the constructivist encourages that the group of people that are studied have an established relationship. Therefore, the ontological assumption for this thesis is that reality is built by human subjective interpretations
that are dependent on social context. Hence the epistemological assumption is that knowledge is created as a subjective social process. (9)

2.1.1 Constructivism
To clarify the terminology and assumptions made, this thesis assumes the research paradigm of constructivism according to the following definition by Kim;

“People create meaning through their interactions with each other and the objects in the environment.” (20)

The focus of the analysis of data for the constructivist is on how the interaction occurred, rather than what is said by individuals. As each individual constructs its own interpretation of reality, any thoughts and opinions are expressions of this subjective construct. This construct itself is affected by the social construct and interactions the individual experience. (9) When individuals interact through social processes they affect each other’s interpretations. If a group agrees on a construct through interactions, they establish intersubjectivity. (22) Thus, empirical results e.g. citations in focus groups receive its meaning not primarily from the actual words said, but from the research process and the social context that surrounded this particular exchange. (23)

There are various components of interactions that can be studied within constructivism, however in this thesis we will focus on social process and intersubjectivity as we believe these components will both bring knowledge about the team’s behavior and how they use the model to create a common understanding of their work situation.

2.1.2 Constructivism, Constructionism and Social Constructivism
Constructivism is a branch of constructionism (20). There are several branches of research paradigms related to constructivism, such as constructionism and social constructivism which have various kinds of definitions among researchers. Their principles are similar, and some researchers choose to not separate them while others do. To clarify this confusion, we will explain the difference when it comes to knowledge creation between these research approaches.

While the constructivist generally allows that people derive meaning both from objects in the environment as well as in social interactions, the constructionist believes that knowledge is created solely by the latter. (20) Also, a constructivism assumes that the individual creates its
interpretation first, and then learn from its surroundings while social constructivist believe that knowledge is first created at a social level, and later on an individual one. (24)

As we assume constructivism, this means that knowledge can be created by individuals from objects in the environment. However, this interpretation is affected by the social interpretations. Thus, an individual creates a separate meaning about an object, but this meaning is affected by the social environment of this individual. Kim exemplifies constructivism as following:

"If you bump into a tree, you can get meaning directly from the tree but that meaning is basically combined with social interpretations of the tree. The meaning you assign to the tree will still be a different meaning from what any other person will have for the tree.” (20)

2.2 Qualitative Research Approach

This thesis aims to investigate a phenomenon in a specific context. Hence, the research is qualitative and designed to generate meanings with consideration to the context (9). To provide knowledge that is relevant for the purpose, insights provided through qualitative methods have been chosen. The results presented are broad generalizations from specific observations and involves several observations, generalization, recognizing a pattern and concluding a theory or an explanation (8).

The research has been conducted as an inductive process, which indicates that in parallel with the analysis work, more literature is added as an increased understanding of the empiric material arise through interaction between the gathered empirics and existing theories (8). As researchers we did not begin this study without any prior knowledge of the area, thus we had initial assumptions. Thus, it is inevitable that some parts of the research process are characterized by deductive actions.

2.3 Case Study

As we are trying to understand how a team-level workshop-based agile can aid a software development team to improve their way of working, the design of this research is a case study with a descriptive purpose (8). In other words, this thesis aims to describe the phenomenon that is investigated. We chose the main primary data gathering method to be the qualitative focus group methodology. Data also included primary data from participant observations and secondary data from literature review. The procedure of the research was divided into four
stages in which had it specific purpose; Stage 1) to identify which agile method to use during the focus groups, Stage 2) to perform the focus groups, Stage 3) to create an analytical framework and analyze the empirics, Stage 4) to connect the analysis of the empirics with additional relevant theory and to finalize and draw conclusions.

Figure 1: Research process of this thesis

2.4 FOCUS GROUPS
The main primary data gathering method was focus groups. To understand how the empirics are to be interpreted, we will further describe the implications of constructivism assumption on this method. Focus group methodology can be defined as a group discussing different aspects of a subject or theme, led by a moderator (9). Focus groups emerged under the realist paradigm as a part of marketing research. In this original context, the focus group participants usually did not know each other before the focus group session. The social process in terms of interactions and group dynamics were not of interest, since the aim was to identify different opinions and build market segments on these statistics. Hence no intersubjectivity in between individuals was assumed when this methodology emerged. What each individual said was the main point of interest. (25)
However, the knowledge a focus group generates under the constructivist paradigm is a collective understanding that is created by the discussion and interactions during the session. Hence the researcher studies how the intersubjective reality of a group is created and changed during the focus group session. It is considered advantageous to study a group that already exists as a group prior to the session. The main areas of interest are the social process, how the group interact, argue and agree on things. What words are said by each individual is of lesser importance. (25)

2.4 SCIENTIFIC APPROACH KEY POINTS
Here we summarize the Key takeaways of the scientific approach applied in this thesis.

1. The scientific paradigm for this thesis is constructivism
2. The research approach is primarily qualitative methods
3. The research design is an inductive case study
4. The research method is primarily focus groups
5. The focus components for the analysis are social process and intersubjectivity.
3. TEAMWORK IMPROVEMENT

In this chapter we describe the theoretical framework and the theoretical models applied in this thesis. We describe teams and teamwork, team development and the concepts and models within this area. Lastly we present theory of agile methods for team development.

3.1 TEAMS AND TEAMWORK

Teamwork or team organization is a common practice to enable flexible collaboration in knowledge intensive work in a rapidly changing environment, such as software development (26). In this paper we define a team as “a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable” (12). The literature of software team development within constructivism is rather limited. Most constructivist studies are concerned with learning and knowledge management, with an emphasis on education.

To succeed with highly flexible ways of working, high-functioning knowledge sharing is required (27). Knowledge sharing can be seen as a constructivist social process resulting in intersubjectivity on what is true. Jackson and Klobas developed and tested a knowledge process assessment model for software development under the constructivist paradigm. The constructivist model attempts to solve communication and learning issues within Information Systems development projects by providing managers with a “health check” on communication and learning practices. Jackson and Klobas argue that development projects are “intensive exercises in constructing social reality through process and data modeling”. Therefore, “for project communication to succeed, greater attention must be paid to ensuring that shared meanings are established to guide project decisions and actions”. (23)

3.2 TEAM DEVELOPMENT

3.2.1 FIVE DYSFUNCTIONS

Teamwork is not always successful, as Lencioni argues the "rewards are both rare and costly" for implementing teamwork to meet the demands of flexibility. Lencioni identifies five dysfunctions in social processes that any team needs to consistently overcome if they are to be successful. The five dysfunctions are derived from psychology theory of how humans behave and interact in a group. Unlike the majority of teamwork frameworks, this model focuses on identifying the problems in the social process that causes teamwork to collapse rather than
identifying the factors that build the perfect team (13). Hence it can assist in identifying the needs of a team by indicating the main dysfunction a team is struggling with. Therefore it is a relevant model when discussing the needs of a team. The five dysfunctions are presented in Figure 2: Five Dysfunctions of a team. (16)

3.2.2 STAGES OF TEAM DEVELOPMENT

A team goes through different stages in how they interact and cooperate. Several models exist that describe this process of team development in a similar manner, for example FIRO and Tuckman model (13). The study of team development originates from psychology and the study of group therapy sessions. The perhaps most cited model is the one proposed by Tuckman to describe the stages of small group development and their characteristics. The four stages are: 1) Forming 2) Storming 3) Norming 4) Performing. Each stage is characterized by different Group Structures and Task Activities. Group Structure is the “total pattern of interpersonal relationships existing among the members” (28). Task Activity is the interactions in between members that are directly related to the task at hand. It can assist in analyzing the interactions of a team. The fifth stage that has been added to the original Tuckman model, Adjourning, was omitted from this thesis since all participating teams worked together on a continuous basis. (18)
When empirically applying the Tuckman-model, an observer notes occurrences of different Group Structure and Task Activity interactions during a session where the group attempts to solve a task. In the table below, we have summarized the four stages with their corresponding Group Structure and Task Activity. Examples are given of interactions and behaviors classified within both Group Structure and Task Activity. (28)

Previous studies have indicated that when a large organization undergoes an agile transformation, an individual team fluctuates in between the four Tuckman stages constantly. For example, a new team member may cause a performing team to go into storming. (29)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Group Structure</th>
<th>Task Activity</th>
</tr>
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<tbody>
<tr>
<td>Forming</td>
<td>Testing and dependence</td>
<td>Orientation to task</td>
</tr>
<tr>
<td></td>
<td>1. Members test what behavior is</td>
<td>1. Identify task demands and how the</td>
</tr>
<tr>
<td></td>
<td>acceptable within the group based on</td>
<td>resources and competence of the team</td>
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<tr>
<td></td>
<td>the reactions of the other members</td>
<td>can meet these demands</td>
</tr>
<tr>
<td></td>
<td>2. Members looks to standards or</td>
<td>2. Defining the task by discovering</td>
</tr>
<tr>
<td></td>
<td>dominant individuals for dependence</td>
<td>ground rules</td>
</tr>
<tr>
<td></td>
<td>and guidance in a new and unstructured situation</td>
<td></td>
</tr>
<tr>
<td>Storming</td>
<td>Intragroup conflict</td>
<td>Emotional response to task demands</td>
</tr>
<tr>
<td></td>
<td>1. Members become hostile towards</td>
<td>1. Resistance to the task demands on</td>
</tr>
<tr>
<td></td>
<td>each other or manager</td>
<td>the individual</td>
</tr>
<tr>
<td></td>
<td>2. Members resist the formation of</td>
<td>2. Disagreements on the actual task</td>
</tr>
<tr>
<td></td>
<td>the group by expressing their</td>
<td>demands on the individual</td>
</tr>
<tr>
<td></td>
<td>individuality</td>
<td>3. Emotional responses</td>
</tr>
<tr>
<td></td>
<td>3. Key issues polarize the group</td>
<td></td>
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<td></td>
<td>4. Uneven interaction</td>
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<tr>
<td></td>
<td>5. Lack of unity</td>
<td></td>
</tr>
<tr>
<td>Norming</td>
<td>Development of group cohesion</td>
<td>Open exchange of relevant interpretations</td>
</tr>
<tr>
<td></td>
<td>1. Members accept the group and the</td>
<td>1. Opinions are expressed and</td>
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<td></td>
<td>peculiarities of other members</td>
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<td>2. New group generated norms are</td>
<td>2. Information is acted on so that</td>
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<tr>
<td></td>
<td>established</td>
<td>alternative interpretations of the</td>
</tr>
<tr>
<td></td>
<td>3. Task conflicts are avoided to</td>
<td>information can arise</td>
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<tr>
<td></td>
<td>ensure harmony</td>
<td>3. Openness to other group members</td>
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<tr>
<td>Performing</td>
<td>Functional role relatedness</td>
<td>Emergence of solutions</td>
</tr>
<tr>
<td></td>
<td>1. Members have fully established</td>
<td>1. Constructive attempts at task</td>
</tr>
<tr>
<td></td>
<td>interpersonal relationships</td>
<td>completion</td>
</tr>
<tr>
<td></td>
<td>2. Members adopt and plan roles to</td>
<td>2. Most of the energy is devoted to</td>
</tr>
<tr>
<td></td>
<td>enhance the task activity</td>
<td>the task</td>
</tr>
<tr>
<td></td>
<td>3. Role structure, both social and</td>
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</tr>
<tr>
<td></td>
<td>task-oriented, is not an issue but</td>
<td></td>
</tr>
<tr>
<td></td>
<td>an instrument</td>
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</tbody>
</table>

Table 2: The Tuckman model (18)
3.2.3 Sense of Urgency

When the team is to take action on a problem they have identified through building intersubjectivity, there may be some barriers in the social process in order for the action to be taken. To take action can be seen as a transformation effort within the team. According to Kotter the first step towards successful transformation is to establish a sense of urgency for actions to be taken. The goal is to establish the willingness for the team to make the effort to push out of their comfort zone, because the sense of urgency becomes so great that the current situation is experienced as unbearable. (30)

3.2.4 Motivation and Optimism

When a team has established the intersubjectivity of both identifying a problem and the willingness to take action on it, there may be other barriers to overcome to perform the action. Assuming that there already is a willingness to take action to reach a desirable goal (31), there may still be challenges in the form of e.g. lack of resources. To follow through on the action, the motivation of the team is essential. Studies within psychology have shown that motivation to strive towards a goal in a tough environment is connected to optimism. The expectancy or belief that something can be changed or affected determines whether you give up or continue striving towards the goal. Optimism also increases individuals’ ability to deal with stress. High levels of optimism increase the likelihood that motivation is maintained and the goal reached despite e.g. lack of resources. (32)

3.2.5 Shared Leadership

Shared Leadership builds on the idea that the leadership is created by the activities and social processes within an organization instead of the actions and behavior of the formal manager (33). Hence Shared Leadership focuses on activities in an organization rather than the personal traits of a manager, since formal leaders do not have to be present for leadership interactions to occur (10). It a suitable theory within the paradigm of constructivism, as it is concerned with the process of how leadership is built and expressed within a team (34).

Shared Leadership has been found to be a determining success factor for teamwork (35), by for example increasing the efficiency of the team (33). The more interdependent the task of the team, the more important is Shared Leadership for successful teamwork (36). The definition of Shared Leadership is debated (33). In this thesis we define Shared Leadership as the activities and social processes that occur within an organization, exemplified by the concept formation of issues (10).
The formation of issues is a concept within Shared Leadership. For example, a problem may arise in an organization that is brought up in discussion and interactions, so that eventually people begin to act on it. When the problem is receiving both attention and commitment it has become an issue, but no formal information or directives may have been given that this problem is to be acted on. Hence Shared Leadership processes do not require formal division responsibility since issues are formed and acted on anyway. (10)

3.3 Agile Methods for Team Development

Agile Methods are management practices that are designed to meet the flexible demands of a changing environment. Teamwork and Agile methods can thus be seen to aim for the same goal and the importance of teamwork and team development is stressed in agile practices (26). The use of agile methods has shown to building a collective team culture, thus creating motivation and constructive teamwork (37). An agile method can be seen as a stable framework for a team to build their own culture in an unpredictable environment (37). To build a team culture is a part of team development (18).

Although there are many reports of agile methods succeeding over traditional methods such as Waterfall in software development, to succeed with teamwork remains a challenge (4). Practitioners of agile methods seem to put an emphasis on the physical and technical infrastructure of the development team as enablers for successful teamwork, and often do not consider the theories and methods of team development (4).

There exist several definitions of the term agile, and to assure coherency we now define the one to be used in this paper. In his book Agile Management for Software Engineering, D. Andersson defines agility as “[the ability] to survive in an atmosphere of constant change and emerge with success” (7).

In 2001 the Agile manifesto was published; whose principles still have high relevance for today’s application of agile methods. The Agile Manifesto presents four pillars or core values for agile methods;

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan. (38)
The agile methods have shown to be highly applicable in cases where the environment is changing and fast paced (1). However, it has been indicated that some organizations could be better off with a management methodology that is built on predefined processes, like the Waterfall method (39). Thus, it is important to consider the characteristics of the organization itself before deciding to use agile methods.

Agile methods encompass many practices that can be used for improving teamwork, for example Scrum, Sprint Planning, XP, and retrospective. The most common method that is focused on team development and improving ways of working is the retrospective. The retrospective or retro is carried out at the end of a sprint and is a workshop-based group learning activity. It is meant to be the forum for identifying things that went well, what can be improved, and make decisions on what to change. Some argue that retrospective can help team members understand the need for improvement and thus motivate a change. However, few studies have investigated the effects of retrospectives making it primarily a best-practice model. (2)

An agile method for assessing team development that has been developed and investigated within academia is the model proposed by Dingsøyr and Røyrvik. They propose five dimensions that assess the quality of teamwork, assuming the same definition of a team as this thesis. The model defines five different dimensions. The dimensions are 1) Shared leadership – that every team member feels and takes responsibility 2) team orientation – that the team goal is prioritized over the individual goal 3) redundancy – that the team has some excess capacity to be able to help each other 4) learning 5) autonomy. However, this model lacks the self-assessment and learning aspects of the retrospective. (35)
3.4 Teamwork Improvement Key Points

Here we summarize the Key takeaways of the theoretical framework applied in this thesis.

1. Agile methods can be used to help a team improve their way of working in an ever-changing environment, the majority of which are best practice models.

2. When teams use an agile method for team development they create intersubjectivity through social processes by the model results they produce as well as by the model evaluation they make.

3. Team dynamics are essential for the social process and creation of intersubjectivity. Team Dynamics can be described by the models Tuckman Stages and Five Dysfunctions of a Team.

4. Sense of Urgency can establish the willingness for a team to take action.

5. Motivation is affected by optimism.

6. Shared Leadership is central for successful teamwork.
4. **Empirical Approach**

In this chapter we present the empirical approach applied in this thesis. We describe how we conducted the research. We do this by first introducing the specific case and choice of agile method to study empirically. We present the research process and our data gathering methods for primary and secondary data, as well as our analysis methods. Lastly we discuss method criticism of the constructivist approach as well as ethical aspects.

4.1 **Case: The Swedish Police Authority**

The case studied in this thesis was the IT department at the Swedish Police Authority. In 2011 the Swedish government decided on a digitalization strategy with the goal that Sweden should be world leader in utilizing digital opportunities (17). This includes increased demands on digitalization of governmental authorities, such as the Swedish Police Authority. In 2012 the government decided that the 21 police authorities should be reorganized into one. Several IT departments within each authority were also reorganized into one nation-wide IT department. The main objective of the reorganization was to remove obstacles to meet the government requirement for improved quality, cost efficiency, flexibility and overall results. This in combination with the Digitalization strategy has increased the demand on the IT Department at the Police Authority to deliver efficient IT solutions for the policemen in the field. (40)

The IT department at the Swedish Police Authority decided to change their way of working from more static management models e.g. waterfall method towards more agile methods, with a focus on teamwork. The need for this change was brought on by projects such as Siebel Pust, which due to more static management models generated major costs and little value for the organization (41). The goal of the IT department today is to deliver more value, more often, in smaller pieces and of higher quality (40). Hence agile methods such as Scrum or lean practices such as Kanban are encouraged to be used in order to meet the current department goals.

4.1 **Squad Health Check**

The model chosen to be empirically tested for the case of the Swedish Police authority was the Squad Health Check, SHC. The SHC model is an agile method with a focus on teamwork and team development that was developed at Spotify in 2014 in cooperation with Crisp for their internal software development teams. It is a model designed for organizational improvement towards agile practices which is specialized on identifying and visualizing problems related to software development. It is a workshop-based model with the main purpose of giving teams
insight through discussions. It is primarily intended to build self-awareness within the team about what is working, what is not working and why, thus this model enables team development. (42) In comparison to the retrospective, SHC is focused on the overall situation of the team, rather than short term performance (2).

In practice, the model is used in a workshop format which is loosely defined. You use discussion cards called Awesome Cards to scope and discuss around topics that is common to the software team. The Awesome Card has a headline that defines the topic and a Traffic Light description that defines two health states "Awesome" and "Crappy" which are symbolized by a green respectively a red Traffic Light. (42)

![Awesome Card definition](image)

**Figure 3: Layout of Awesome Cards**

The team votes individually on what current state they believe their team to be in terms of the Awesome Card and Traffic Light definition. For each Awesome Card, the team is asked to discuss whether they are closer to "Awesome" or "Crappy" and can make use of Traffic Lights Cards to vote and thus help the team reach consensus in the discussion. (42)
The voting is kept in three levels:

- **Green** means that the team is happy with this and no mayor improvement is needed right now.
- **Yellow** means there are some important problems that need addressing, but it’s not a disaster.
- **Red** means this really sucks and needs to be improved. (42)

The result of the voting is visualized on the whiteboard and the team discusses and decides whether the *Trend* for the card is constant, positive or negative as a representation if they consider their situation as stable, improving or getting worse. (42)

Exactly how the Awesome Cards are to be selected or how the voting should be done is not defined. Rather the opposite, the model encourages that teams are actively involved in how the methodology is performed during the workshops such as how teams are encouraged to define their own Awesome Cards. The guideline stresses the importance of making the process interesting and fun for the team, and not a model for the manager to judge team performance. However, the model can be used to provide people supporting the team e.g. managers and agile coaches with a visual summary of what the team concluded in the session but is to be seen as a measure of the team’s health and not as a performance measurement. (42)

### 4.1.1Choice of Model

The SHC was chosen for several reasons. The request of the employer was to test a team-level workshop-based method that can create engagement for teamwork, processes and agile methods (5.1 Empirical Setting). For this requirement only best-practice models exits, of which very few to none have been studied by academia (43). Out of these best-practice models, we chose to investigate the ones that were open source.
One of them was Fluent@Agile which is a team level self-assessment workshop based open source model, also developed by Crisp (44). Unlike SHC, it is built on the academically tested model Agile Fluency (45), thus having more solid theoretical grounds. However, this model was developed for mature teams, which was a prerequisite we could not assume for this study. Also, the workshop format for Fluent@Agile was more complex and strictly defined than SHC. The methodology of Fluent@Agile was clearly defined with the goal of promoting agile ways of working (44). It focuses more on accelerating teams through an agile transformation towards being as agile as possible. This was not a requirement posed by the employer in this study, and an element that made the Fluent@Agile model less flexible. Therefore Fluent@Agile was decided to be an unsuitable model for this study.

Despite its lacking theoretical foundation and reported limited success, SHC was chosen since it fulfilled the employer’s requirement and is simple as well as flexible. A flexible model that focuses on enabling the discussions of how a team is currently doing also aligns with the purpose of investigating social processes and intersubjectivity of a model (9). Thus, the SHC model can be tailored by each team to fit their specific needs, which was the prioritized need expressed by employer (5.1 Empirical Setting). Hence, we aimed to choose the model that each team had the potential to find both interesting and relevant to their unique needs.

4.2 Research Process

In order to increase transparency and reflexivity, we will now describe the research process in detail. We do this by presenting our 4-stage inductive process, where each stage had a different focus (8).
4.2.1 Stage 1

Stage 1 of the research included meetings with the employer with to identify the needs the thesis should aim to fulfill, and also to define delimitations. We were provided with desks, hence being positioned as part of the Development and Support team. To understand the context and the needs of the organization better, participant observation was carried out at meetings with six group managers at the same department as the team we wrote the thesis for belongs to. Hence all interviewees knew our employer. A literature review was carried out in parallel. Stage 1 also included the process of choosing which agile model to test through workshops. Based on the literature review and the needs expressed by both the employer and managers the SHC model was chosen.

4.2.2 Stage 2

Stage 2 consisted of the primary data collection took place through focus groups. The focus group methodology was designed through an iterative process. A dry run of both sessions was performed with team H. Team H is not included in our results. Feedback was given on the method and the model. 14 focus group sessions were performed with 7 different teams. Each team was asked for feedback on the layout of the sessions, in order to enable continuous improvement. All participating teams were from the Development and Application department.
The literature review done during Stage 2 focused on the design and implementation of the focus group methodology.

4.2.3 STAGE 3

Stage 3 consisted of the initial result analysis. All focus group sessions that had been recorded were transcribed. The three analysis dimensions (Table 5: Analysis dimensions) were defined based on the theoretical framework and the empirical data in line with the inductive approach of the study. Using the three analysis dimensions a template was created for result analysis, to ensure that the empiric material was analyzed coherently. The theme analysis of Team Dynamics and Model Evaluation was performed, alongside the quantitative analysis of Model Evaluation. The literature review in Stage 3 focused on how to structure and ensure the quality of the result analysis as well as deepening the theoretical frameworks.

4.2.4 STAGE 4

Stage 4 consisted of the final result analysis as well as producing discussion points and conclusions. The Tuckman and Five Dysfunctions analysis was done in the analysis dimension Team Dynamics. The results within and between the analysis dimensions were connected (4.5 Analysis Methods) to generate insights regarding the research questions. We performed these analyzes in a workshop setting. Results and analyzes that were considered to have less relevance in answering the main research question were omitted in this stage.

The literature review in Stage 4 focused on completing the theoretical framework and connecting the key findings from previous studies to increase the analytical generalizability. The inductive approach meant that theories that arose in the empirics were added to the theoretical framework, for example shared leadership. Similar studies were also reviewed in order to increase the analytical generalizability of the key findings.

4.3 DATA GATHERING METHODS

4.3.1 LITERATURE REVIEW

The purpose of the literature review was to collect secondary data to create a theoretical framework using related studies to connect organization management, team development and agile methods. This framework provided the basis for the layout of the focus group sessions as well as the data analysis framework.
The literature was conducted continuously during the entire research process as described by Figure 3. The preliminary literature review was done with the online search engines KTHB Primo and Google Scholar using different keywords throughout the research process. The final choice of articles we choose to include was dependent on date of publication, number of citations and relevance to the topic. Articles included either have high number of citations or are of high relevance.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>“agile self-assessment”, “agile project management”, “agile maturity team”, “agile team development”, “team development model”</td>
</tr>
<tr>
<td>2</td>
<td>“focus group”, “methodology”, “agile methods”, “squad health check”, “agile AND workshop”, “social constructivism”</td>
</tr>
<tr>
<td>3</td>
<td>“team development”, “social constructivism”, “workshop”, “workshop AND methodology”</td>
</tr>
<tr>
<td>4</td>
<td>“shared leadership”, “motivation AND optimism”, “sense of urgency AND motivation AND team”, “motivation AND responsibility AND agile” “social process”, “constructionism”, “constructivism”, “qualitative studies”</td>
</tr>
</tbody>
</table>

Table 3: Keywords of the literature review

4.3.2 PARTICIPANT OBSERVATION

The purpose of the participant observation was to collect primary data throughout the entire process in order to understand the context and needs of different teams. The participant observations were recorded in a field diary and included notes from formal and informal meeting, phone calls and personal reflections. We used this data to create a tailored focus group method with enough flexibility to satisfy the needs of the various setup of teams.

4.3.3 FOCUS GROUPS

The purpose of the focus groups was to collect primary data of the social process and intersubjectivity created during the usage of the SHC model in a setting where it could be evaluated in relation to improvement of teamwork and work processes. As Kitzinger suggests, the setting of the focus group will affect how ideas form (46). Therefore, we will present the elements of the focus group setting that we consider could have affected the empirics, including our own actions and behavior.
The primary moderator and observer of the focus groups are the authors of this paper whose roles were never exchanged in between individuals in order to enable skill specialization and thus achieve higher methodological quality. Following we will present the general layout of the focus groups, the agenda of WS1 and WS2 as well as setting elements that might have affected the empirics.

### 4.3.3.1 General Setup

Jackson and Klobas argue that group processes can potentially be enhanced through intervention, e.g. the use of a model. Hence by choosing to study a workshop-based model through focus group sessions, the session itself becomes a social process where the team forms intersubjectivity on their current status as well as on what they can improve. (23)

The general layout of the research was decided upon an agreement together with the employee and was also tested and evaluated with one team and certain changes were made before the main data gathering (5.1 Empirical Setting). The final layout was decided as two workshops with different content that was connected to each other. The sessions had separate agendas each, which was applied respectively in order to increase the focus of the study. However, the script was not always fully utilized and was always adjusted to the certain session to increase generated knowledge (9).

The setup is summarized by Table 4: Summary of focus group setup. There were occasions were participants joined in later during the session. This is marked in the column No. of Participants by a number in parenthesis. The numbers outside the parenthesis were the number of participants at the beginning of the session, and the number inside the parenthesis the number of participants at the end of the session.

<table>
<thead>
<tr>
<th>Team</th>
<th>WS</th>
<th>No. of participants</th>
<th>Time between WS1 &amp; WS2</th>
<th>Second moderator</th>
<th>Transcribed</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>5 (4)</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>11 days</td>
<td>-</td>
<td>X</td>
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<tr>
<td>B</td>
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<td>11</td>
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<td>X</td>
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<td></td>
<td>2</td>
<td>13 (14)</td>
<td>14 days</td>
<td>-</td>
<td>X</td>
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<td>C</td>
<td>1</td>
<td>9</td>
<td>-</td>
<td>X</td>
<td>X</td>
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<td>2</td>
<td>6</td>
<td>15 days</td>
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<td>X</td>
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<td>4</td>
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<td>6</td>
<td>15 days</td>
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### Table 4: Summary of focus group setup

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<td>10</td>
<td>-</td>
<td>X</td>
<td>-</td>
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<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>13 days</td>
<td>X</td>
<td>X</td>
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<tr>
<td>F</td>
<td>1</td>
<td>7</td>
<td>-</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>4</td>
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<td>X</td>
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<td></td>
<td>2</td>
<td>4</td>
<td>2 days</td>
<td>X</td>
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</tbody>
</table>

The first session called WS1 had the purpose to induce discussion and begin to form inter-subjectivity on what is important in terms of ways of working to form a common ground for the second session. The discussions were based on the Awesome Cards suggested by SHC model, but the participants were given the choice to write their own cards as well (4.3.3.2 WS1).

The second session called WS2 had two purposes. Firstly, to form inter-subjectivity on how the team’s current situation looks like by testing the model, and secondly to form inter-subjectivity on whether the model can help the team improve their situation and in what way. This was done by using Awesome Cards to create a visual representation of the team’s situation (4.3.3.3 WS2). This resulting dashboard is what we have chosen to call The Team Mirror.

The two sessions combined was made in purpose to answer the research question. We performed 14 sessions with 7 different teams in which each team performed two focus group sessions of 1h each. Two teams performed both sessions in one day, while the rest had varied number of days in between. Assuming constructivism, the core of the focus groups was interaction, shared experiences, and a forgiving environment where the power resides in the participants (25). Thus, we adjusted the agenda and moderation of the focus groups to relieve team interaction and discussion.

#### 4.3.3.2 WS1

The first focus group session was called Workshop 1. The main purpose of WS1 was to induce discussion and begin to form intersubjectivity on the topic of teamwork and work processes to be applied in the discussion of the next session. The goal of this session presented to the participants was to choose 5 out of 11 suggested cards from the SHC models deck of Awesome Cards.
The agenda for this session was made by combining the original setting of the SHC model with the focus group structure discussed by Robinson called "The Card Game". Kniberg emphasizes that the squad needs to interpret the data from the model themselves to be able to make use of its results (42). Because of this, the agenda for WS1 focused on creating a common ground for the team in how to interpret the Awesome Cards. *The Card Game* is a focus group technique where participants are given a task to pick and choose between cards (47). In practice, this was used by combining small group discussions of 2-3 people to discuss the topic, and later have discussion with the entire group where they got a chance to present their thoughts and reasoning for each other. This setting made the participants focusing the interaction of each other, rather than the facilitator. (47) Thus, we created an agenda that was made to focus on creating social interactions for knowledge creation.

The first half of this session let the group discuss freely about the topic of teamwork, forming a common ground while the second half was about picking and agreeing upon 5 Awesome Cards from the deck of 11 Awesome Cards. The criteria for the card choice was to pick the Awesome Cards that represented what the team thought was most important and wanted to work with the next session.

The moderator’s main task was to keep the session on schedule and the discussion focused on the topic at hand and was flexible in terms of how much it chose to interact. The moderator inclined the team to focus on what they believe is important and what cards they wanted to continue working with as a team in next session, and not necessary what they think is the most efficient way of work.

**4.3.3.3 WS2**

The second focus group session was called Workshop 2. The main purpose of WS2 was to let the team form inter-subjectivity on how they are doing as a team. The goal of this session was to apply and evaluate the SHC model with the Awesome Cards chosen from WS1.

The agenda for this session was mainly based on the original use case of SHC model with some room for evaluation of both sessions in the end. The first 45 minutes were used for application of the model. The 5 cards chosen from WS1 were put up on the whiteboard in the scheme accordingly to the SHC model presented above. From the top, one card was chosen at a time. Firstly, the moderator read the Traffic Light definition from the present card. The definition of the green and the red light were read from the card whereas the definition of the yellow light was defined by the moderator as somewhere in between red and green. The team was given time
to discuss and remind themselves how they had defined that specific card. When they had landed in a common definition, we conducted an individual voting round of what Traffic Light each individual thought was representative for their team for the present card. The voting was done individually and openly, where everyone was asked to show their chosen Traffic Lights at the same time after a countdown of 30s. Like this, each individual voiced their own opinion of what was represented for the present card. After the defining and voting of all 5 cards, the team got to discuss what the trend for each card was, focusing on one card at a time from the top. This was done as an open discussion with different grades of moderation to see the different interactions and reactions to opinions raised. Lastly, when all cards had lights and trend marks, the group got to discuss the resulting overview in an open discussion.

<table>
<thead>
<tr>
<th>Awesome Card</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering value</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teamwork</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suitable process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health of codebase</td>
<td></td>
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</tbody>
</table>

Figure 6: Example of a SHC dashboard or “Team Mirror”

The last 15 minutes was used for evaluation of the model and the layout of both sessions. The evaluation of the SHC model focused on questions regarding in what way and why teams valued the sessions, what they thought of the SHC models’ representation of their situation, if they wanted to take asking and if they agreed upon sharing the results with their manager.

We asked these questions to study reactions and reasoning’s on how they could make use of the model and if this had gotten them inspired to continue developing their teamwork and processes. Had they become aware of something new during the discussions e.g. did they have multiple ideas of how to work with it or improve it? Where they eager to express their positive or negative experience of these sessions? What part of the model or discussion did they choose to voice their opinion about?

4.3.3.4 Choice of Participants
We chose to define participants as a team, that is a group of people that works towards the same goal and has a shared purpose (13). Software teams from the Development and Application department at the Swedish Police Authority were invited to participate. The participating teams were assigned to different products and constituted of several types of software development
roles such as software architects, UX designers, product owners, requirement analysts and project managers. In agreement with the employee, we decided that participation was to be an initiative from the team members, and not a mandatory session initiated by a manager. The intention was to decrease the risk of conducting focus groups with teams without interest or willingness to participate.

The recruitment of teams was done through an internal website. We posted a description of the research on a page connected to the Department of Development Support which was distributed through the managers of the different departments out to the teams. From the distributed link, a team could enter the website and by themselves fill in a form to register their participation. In the form, team was defined as “A group of people that works towards the same goal daily”.

As the participants were teams that work together on a daily basis, we made the assumption that they already have an established relationship with each other before they participated in the focus group of this research. By creating a new setting for this group to interact, we could study how social constructions form around a new concept for that specific group of people. (46)

However, as we can see in Table 4: Summary of focus group setup, few sessions constituted of the same team members in WS1 and WS2. There were also cases when team members joined the session once it had already started. This is a factor that may have affected the social process, since the introduction or absence of a team member can change the group dynamics from one Tuckman stage to another (29).

### 4.3.3.5 Moderation

A focus group is a complex data gathering method. Both the observation of interactions as well as keeping the discussion interesting and ongoing is difficult (8). Thus, it is important to have a well-prepared moderator that can steer the discussion to the research topic. For all focus groups, we had a primary moderator leading the discussion, thus also taking an active part in the social process that built the opinions of the group.

The primary moderator is partly steering the social process and can thus affect the intersubjectivity formed during a session by taking certain actions. Since the moderator is the formal leader of the session a team in Tuckman stage forming can become very dependent of the actions of the moderator (29). The primary moderator has been aware of its influence on the social processes and has actively chosen to interact in the discussions to various degrees. At some sessions, a systematic way of discussion was applied while others had very little moderation in which the team was left to systemize the discussion themselves. This made us as researchers able to interact in different amounts with the participants to further understand the
team dynamics. The primary purpose of most moderator-initiated interactions was to make sure that every team finished both workshops in time. In some sessions, especially in the teams that consisted of fewer participants, the moderator interacted more in the discussions and thus affected the social process to a higher degree by participating in the team dynamics.

The SHC model is designed to have an informal and easy-going attitude, which can especially be seen in how the Awesome Cards are formulated (9.3 Awesome Cards used in Focus Groups). The moderators positioned their interactions in line with the assumptions of the model to encourage informal interactions and environment. This positioning by the moderators might have influenced the participants to interpret the model as more fun and casual.

Even though we made manuscripts for WS1 and WS2, formulations of questions and explanations varied slightly between sessions. As an example, the choosing card question in WS1 was formulated in a way to encourage the team to choose what is most important, however it was also encouraged to a different degree to choose the cards they wanted to continue discussing in WS2. This might have caused the individuals in the teams to focus on different things when choosing the cards, affecting what intersubjectivity of the model was created and thus possibly creating a wider spread of chosen cards.

4.3.3.6 The Second Moderator
At the majority of the session, a second moderator (Second moderator in Table 4: Summary of focus group setup) was present from the Development and Support Department. The second moderator actively participated in the social processes, but without having complete insight in the research purpose of each session. Hence, in order to determine the second moderator’s influence on the method, some workshops were also performed with only the primary moderator and observer present. The secondary moderator was not included in the planning of the research process but was included in a short meeting after each session to discuss and reflect on the outcome of the session. The second moderator had various ways of presenting itself for the participants in the beginning of the sessions which could have affected the participants’ attitude towards the session.

The second moderator was keen on pushing a team for action and contributed to the discussion with the purpose of doing this to different degrees at each session. This may have caused teams that had the second moderator present to become more aware of taking action on results as an aspect of the model. Furthermore, in WS1 with team C, the second moderator may have had a high influence on the team’s choice of cards as the second moderator participated to a high extent in discussions. The participants of this session asked the second moderator if they chose
"the right cards". This was also the team that chose their cards very differently in comparison to the other teams (9.1 Result Tables).

4.3.3.7 Observation
A passive observer was present for all focus groups. The observer focused on documenting the interactions and social processes by notes. The observer did not participate actively in the social processes but might have become biased in its interpretation of interactions during the sessions. In general, when one individual had a deviating behavior, this usually caught the attention of the observer and therefore it is possible that the observer missed out on another important interaction that took place at the same time. Also, some individuals were better positioned in the line of sight of the observer. Thus, these individuals are inevitable to be overrepresented in the empirics. Practical limitations such as room disposition made it at times difficult to see and record all interactions that occurred, especially in the sessions with high number of participants. This follows from the method limitation that we chose to not video record the sessions.

4.3.3.8 Audio Recording
We recorded the audio of 13 out of 14 focus group sessions on a single device which was later transcribed. Due to technical fallacy, one recording was lost. The interactions and discussions that happened when participants were divided in to smaller groups were only available in written notes that was taken during and right after the session closed. We choose to not record the session with a video camera since the presence of a video camera might had made the participants self-aware and reluctant to discuss openly. Even though the lack of video recording might have caused us to miss some interactions that could be significant, we decided that it was a more suitable setup for observing a more honest social process. (25)

4.3.3.9 Familiar Environment
The venue that we conducted the focus groups was different in between teams and sometimes also in between workshops. The size of the room in relation to the number of participants and whether the room was in a familiar area to the team was noted in as this could have influenced the social processes by enabling or hindering a more secure and open atmosphere. (9)

4.3.3.10 Time between WS1 and WS2
The team was enabled to choose between suggested dates for attending the sessions, therefore the timespan between Workshop 1 and Workshop 2 session was different between the teams and might have had an influence how the intersubjectivity was created. Since the teams work together on daily basis, there may have been a social process taking part in between the sessions that may have had an influence the social interactions in Workshop 2.
4.5 Analysis Methods

For the empirical setting discourse analysis was used during Stage 1. A minor thematic analysis was done of the field diary before choosing which model to test (8). The purpose of the analysis was to understand the empirical context, background and purpose of this study. (48)

Under the constructivist paradigm, there are many meanings and perspectives for an event (22). Hence three different result dimensions were defined based on the theoretical framework for the results obtained from the focus group sessions in Stage 2.

4.5.1 Analysis Dimensions

The dimensions were defined to each take a different perspective on the empiric material. Together the three dimensions aim to answer the research question of how the model SHC can help a team improve their way of working. The results were then analyzed from the perspective of each dimension.

The two dimensions Model Results and Model Evaluation were defined based on the Teamwork Improvement Key Point 2: When teams use an agile method for team development they create intersubjectivity through social processes by the model results they produce as well as by the model evaluation they make. The dimension Team Dynamics was defined based on the Teamwork Improvement Key Point 3: Team dynamics are essential for the social process and creation of intersubjectivity.

<table>
<thead>
<tr>
<th>Analysis Dimension</th>
<th>Team Dynamics</th>
<th>Model Results</th>
<th>Model Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Team dynamics are essential for the social process and creation of intersubjectivity.</td>
<td>When teams use an agile method for team development they create intersubjectivity through social processes that are expressed by the model results they produce as well as by the model evaluation they make</td>
<td></td>
</tr>
<tr>
<td>Purpose</td>
<td>Answer SUB-RQ1</td>
<td>Foundation for answering SUB-RQ2</td>
<td>Answer SUB-RQ2</td>
</tr>
<tr>
<td>Initial Analysis (Ch. 5)</td>
<td>Theme analysis of behavior based on</td>
<td>Quantitative analysis of</td>
<td>Theme analysis of observations and</td>
</tr>
</tbody>
</table>

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4.5.2 INITIAL ANALYSIS

Within each dimension we performed an initial result analysis that is presented in chapter 5 Results. In the dimension Model Results a simple quantitative analysis was made of the data produced by each team through the use of the model (48). The frequency of how often each Awesome Card was chosen by a team was calculated. The dashboards produced by each team in WS2 were compared, the occurrence of red, yellow and red votes as well as the occurrence of up, constant and down trends. The purpose was to summarize and present the results of the test of the model, thus visualizing the intersubjectivity of each team. The results are presented in 5.2.2 Model Results.

In the dimension Model Evaluation, a theme analysis was performed on the transcription and observation of the model evaluation discussion at the end of WS2. This was done by analyzing the empirics and defining categories, which was later sorted due to relevance related to the research question (8). This included the observations of spontaneous reactions to the model when using it. The purpose was to present the empirics of whether a team found the model helpful or not and in what way. The results are presented in 5.2.3 Model Evaluation.

In the dimension Team Dynamics, a theme analysis was made on the observations and transcriptions from all workshop sessions of how each team had interacted during the different parts of each session (8). The themes were choice of cards, choosing trends, group discussion and traffic light voting. The results are presented in 5.2.1 Team Dynamics.

4.5.3 ANALYSIS

After the initial result analysis, the results were analyzed in relation to theoretical frameworks. This is presented in Chapter 6 Analysis. In the dimension Team Dynamics, a thematic analysis
with inspiration from Potters discourse psychology was performed on the focus group observations and transcriptions with the Tuckman model as theoretical framework (49). This means that we have primarily focused on the interactions and behavior within the team, and that which individual that expressed a behavior was considered less important. The Tuckman model was chosen to analyze Team Dynamics since it is the most cited and commonly used team development model as of today. The purpose was to identify prominent group behaviors and dynamics in order to map the social process and how each team constructed their reality together. Five Dysfunctions of a Team was also used for analysis in order to offer a complimentary perspective to the Tuckman model. Hence the analysis of dimension 6.1 Team Dynamics aims to answering SUB-RQ1: *How did the social process unfold during the focus group session?*

After analyzing the social processes, the result analysis focuses on the intersubjectivity. The thematic analysis of 5.2.3 Model Evaluation does not consider the social context or processes. Hence this needed to be set in relation to the Team Dynamics analysis. In the analysis of 6.2 Model Evaluation the results of 5.2.3 Model Evaluation is compared to 6.1 Team Dynamics to identify any trends in between the social process and the intersubjectivity formed of the model. Thus, the dimension 6.2 aims to answering SUB-RQ2: *What intersubjectivity did the team construct of the model?*

### 4.6 Method Criticism

In this section, we present how the scientific approach affects how to evaluate the quality of study. We present how to consider the quality of study with regards to our scientific paradigm of constructivism. We also discuss other ways to address quality of study. The main aspects we consider for quality of study in this thesis are *reflexivity and positioning*.

#### 4.6.1 Reflexivity and Positioning

One of the fundamental assumptions of constructivism is that the unique social context of each study can never be fully reproduced by other scientists. Since the researcher inevitably affects the results, a high-quality constructivist study clearly presents the *positioning* of the researcher, i.e. how the researcher is situated in the social context of the study and its participants. As the actions and behaviors of the researcher greatly affect the results of the study, the researcher must be aware of her positioning in the social context of the study to achieve a high quality of study. (9) Therefore, our positioning was to present ourselves as students carrying out the
master thesis study on behalf of the Department of Development Support when recruiting participants. The moderator also clearly presented our roles as moderator and observer at the beginning of each workshop, while the observer remained quiet to clearly establish the roles in the social process.

*Reflexivity* is the degree to which the researcher documents and reflects on her behavior and how this affects the social context. If the researcher continuously reflects and documents how her behavior has affected the results and clearly presents this, high reflexivity is achieved. To reach a high degree of reflexivity the data collection must include not only the participants’ words and interactions, but also that of the researcher and its effect on participants’ behavior. Thus, the researchers are presented as a part of the research and reflects on their influence is presented throughout the research. (9) The reflexivity was maintained throughout the entire process by discussions and personal reflections on observations in relation to our actions. During the workshop sessions the observer intentionally noted the effect the actions of both moderators had on participants during workshop sessions. Furthermore, after each session we discussed our respective behaviors and reflected on the influence on the session. More details regarding our influence on specific aspects can be found in 4.3.3.1 General Setup, where we describe our main data gathering method and reflect on how we may have affected the participant’s behavior.

### 4.6.2 Additional Quality Measurements

Under the constructivist paradigm it is important to be sensitive to the empiric world, and to adjust the method throughout so that the results and analysis remains *relevant* for the target group of the study. High quality of study in a constructivist approach is *convincing, relevant and interesting*; that the analysis is perceived as convincing and that the research contributes with relevant and interesting knowledge for the specific target group. These are as everything within constructivism subjective measures that are to be determined by each reader. (9) Hence, the method was adjusted slightly after each workshop session based on the feedback from the participants, the second moderator and our own reflections on the effect of our behavior and positioning.

The quality of study of a qualitative study is also characterized by *coherence, consistency, precision and transparency*; that the individual parts of the study connect logically, that the concepts, methods and theory are used consistently, that concepts are clearly defined, and that all choices made by the researcher are clearly motivated and presented. This is mainly achieved
by keeping the scientific paradigm consistent throughout the entire study, defining concepts when necessary and to clearly present the research done with respect to the influence of the researchers. (9) We have therefore dedicated a chapter to the scientific paradigm of constructivism, as well as kept the constructivist approach throughout all aspects of the study including the choice of reflexivity and positioning as the most important measurements to consider for the quality of this thesis.

4.6.3 THE CONSTRUCTIVIST RELATION TO VALIDITY AND RELIABILITY

We will here present the constructivist relation to reliability and validity as these two quality measurements are commonly used. Validity and reliability are aspects of quality of study that were developed within the realism paradigm. In the realist approach, the measures respectively encompass that a study actually fulfills its purpose and that the method should be repeatable with the same outcome. Triangulation is a way of achieving reliability and reducing bias by taking more than one approach to a subject, thus ensuring that no measure error affects the result. Bias is the effect the researcher has on the study and should according to the realist methodological approach be reduced. (8)

Constructivism on the other hand assumes that the researcher always affects the results. Hence some constructivist studies reject reliability as a quality measure. Bias is not seen as a thing to be reduced but is replaced by positioning. The rejection of reliability is often criticized as undermining research by its lack of objectivity. (9) Therefore, we have chosen not to reject the idea of reliability; however, we believe reflexivity and positioning are more relevant for this thesis.

4.6.4 ANALYTICAL GENERALIZABILITY

Analytical generalizability means that the researcher discusses how the findings of the study can be relevant in other similar cases. As discussed above, a constructivist case study such as this one can never be repeated exactly, since it is dependent on and formed by unique social processes. We attempt to reach analytical generalizability by comparing our key findings to similar studies in Research Process Stage 4 and drawing conclusions based on this. By providing the reader with our systematic choice of methods including motivation of the choices we have made, we aim for the reader to be able to make a just extrapolation and decide whether the findings of this study are indeed applicable to similar cases. (8)
4.7 Ethical Aspects

We have taken actions for assuring the ethical aspects of this study. Kvale defined six ethical guidelines to be considered when performing constructivist studies that are presented in Table 6 below, alongside respective action for assuring each quality guideline. (50)

<table>
<thead>
<tr>
<th>Kvale’s Guidelines</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Consent of participants</td>
<td>Participation was voluntary; however the information was distributed through a team manager. All participants signed a form of consent before the focus group started.</td>
</tr>
<tr>
<td>2. Participants Anonymity</td>
<td>Teams and individuals were anonymized by transforming names and by excluding product related, or individual related topics in the presentation of the results.</td>
</tr>
<tr>
<td>3. Access to Material – Research Process</td>
<td>Access to the material was restricted to the authors and to the second moderator during the research process</td>
</tr>
<tr>
<td>4. Researcher effects</td>
<td>The authors recorded reflections about their effects on the research in a field dairy during the entire research process, which is embedded throughout the report.</td>
</tr>
<tr>
<td>5. Access to Material - Publication</td>
<td>Participants were enabled to apply for voluntary verification of the result connected to their teams, and of the report to be published.</td>
</tr>
<tr>
<td>6. Strategy of Publication</td>
<td>The Department of Security ensured the content of the report was in line with their general publishing principles.</td>
</tr>
</tbody>
</table>

Table 6: Kvale’s six ethical guidelines for a constructivist study.

1. Consent of participants

Participating teams signed themselves up for participation on an internal web-page. An email was distributed to the team managers; however the description intended to let the team itself sign up, and did not probe the manager to do this. Thus, we tried to convey that the manager was only made to communicate the information, and not to push the team to participate. However, as we cannot know for sure that the participation was entirely initiated by the managers, we made sure that each session began with the moderator stressing that participation was voluntary and that participants were free to leave at any point of the session.

Every participant signed a form of consent which was distributed to all participants before the first focus group session, WS1, started. The individuals that only participated in WS2 got their form of consent before that session started. The content of the form was done according to recommendations by Dahlin-Ivanoff and Holmgren. It contained information regarding our
study; its purpose, a notice about the audio recording, details of where the report will be published, how the material will be handled after the research and anonymity (25).

2. Participant anonymity
Teams and individuals has been anonymized in the presentation of the results by transforming names and by excluding product related, or individual related topics.

3. Access to material - Research process
Access to the material was restricted to the authors, however the second moderator was allowed access to focus group transcripts and audio files later on in the process in purpose of further assisting the teams.

4. Researcher effects
The authors recorded reflections of their behavior during the entire research process in a field dairy and was mainly done directly after a focus group session had closed. This is embedded throughout the report but is mostly found in chapter 4. Empirical approach.

5. Access to material - Publication
The form of consent also included a section of voluntary sign up where participants could choose to be included in the process of verifying results connected to their team, and also to read through the report for publication. The individuals that had signed up for verification got the report sent to them by email including instructions of which team they are representing in the results, and how they are to verify the result presentation. Issues with the result presentation were discussed and changes implemented.

6. Strategy of publication
In addition to previous steps, the Department of Security read the report before publication to ensure that the content was in line to their general principles for publishing.
4.8 EMPIRICAL APPROACH KEY POINTS

Here we summarize the Key points of the empirical approach applied in this thesis.

1. The case study was conducted at the IT department of The Swedish Police Authority.
2. The agile method chosen to empirically study for this case was the SHC model. It was chosen since it met the employer requirements of team level workshop based on a potential to fill different needs for different teams, and also since the flexibility and discussion-focus is suitable for studying social processes.
3. The research was conducted in a 4-stage inductive process; 1) to understand the context, 2) primary data collection, 3) initial result analysis and 4) final result analysis.
4. The primary data gathering method was focus groups.
5. The result analysis was divided into three dimensions and two stages in order to answer SUB-RQ1 and SUB-RQ2; 1) Team Dynamics, 2) Model Results and 3) Model Evaluation.
6. The quality of this study is evaluated according to positioning and reflexivity.
7. Kvale’s guidelines were used to ensure the study fulfilled ethical requirements.
5. RESULTS

In this chapter we present the results of the study. First, we present the empirical setting, which is the result of Stage 1. Second, we present the empirical findings in the analysis dimensions Team Dynamics, Model Results and Model Evaluation.

5.1 EMPIRICAL SETTING

Since 2015 new organizational structures have been implemented, employees have been moved in between departments, and new people have been hired. Thus, all levels of the organization have been affected by the authority constellation. The youngest teams have been together for several weeks and the oldest for 3-2 years. Thus as an organization, the IT department is currently in a stage where colleges, routines and way of working are changing on a daily basis.

During Stage 1 the employer stated a need for investigating how the Development Support department can support development teams improve their way of working and create engagement within the team for teamwork and work processes. Since the Swedish Police became an authority, it has started to form a new digitalization strategy in which has brought challenges into the IT department. The IT department handles everything from servers to application. Therefore, there exists a lot of different products with various purposes e.g. accounting, support, policemen field work etc. It is also common that one team have several products that they carry responsibility for to maintain and improve. The work situation, hence processes are not only dependent on the members constituting the team, but also by the associated products to them. The employer stressed the importance of considering the various needs of the teams, but did not know how they should do this.

In Stage 1 we concluded that as each team has such unique work situations, the difference in between the teams must be considered; what needs a certain team has and whether these need can be fulfilled by the model. Part of the problem with implementing agile methods and principles was seemed to be that it is hard to know what each team needs. Thus, we found it important to find a method which would let the teams themselves explore their needs. Stage 1 ended with defining the purpose of this thesis as “how an agile method for team development can aid a software development team to improve their way of working”.

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5.2 Dimensions

The empirical results of the focus group sessions will here be presented in the dimensions 1) Team Dynamics 2) Model results 3) Model Evaluation.

5.2.1 Team Dynamics

<table>
<thead>
<tr>
<th>Team</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Laughed and made jokes. Rescheduled both sessions once. They asked each other questions during the discussion. Interruptions were made by several individuals. They built on each other’s arguments but also dared to disagree. One individual acted as a moderator and asked for opinions of everyone. When choosing trends, voting was initiated after discussion by the moderator. One individual comments that they changed their mind during the discussion, which another makes a joke about that it is peer pressure. One individual commented that the discussion was yellow, but that they voted green. When everyone voted the same, they had positive reactions like smiles and laughing. Only one individual gave feedback on WS2 and commented that this could have been done during a shorter timeframe.</td>
</tr>
<tr>
<td>B</td>
<td>Laughed and made jokes. One individual was included on video, who several people in the team actively took actions to include in the discussion. The group openly disagreed from time to time. They asked each other question. In WS1, there are several individuals who talks about &quot;engagement&quot; in different ways, building upon each other arguments. In WS2, 4 new team members joined the session, in which one of them ruled most of the discussion. Trends were decided from discussion and voting initiated by the moderator. When discussing action, some participants starts talking about what in the dashboard is most important to act upon. Right after WS2 closed, they asked for help to form an action plan.</td>
</tr>
<tr>
<td>C</td>
<td>Laughed and made jokes. Complemented each other several times concerning work. Openly disagreed with one another and also built their reasoning's on each other’s arguments. When they began to interrupt each other, the moderator applied finger queue. Indicated that they thought the discussion was important, but several individuals got frustrated when they did not get a concrete plan of action. Expressed that they had forgotten too much from WS1 until they were doing WS2. One individual dominated</td>
</tr>
</tbody>
</table>
the process of choosing cards, and no voting was initiated by the moderator. In WS2, one person expressed initiative to take action on the problems that was brought up during trend discussion. The moderator kept the discussion focused on deciding trends, and to leave actions for later. Two trends were decided by voting initiated by moderator, and the others were reached by consensus through discussion.

D Reached consensus through discussion with few arguments of disagreements. Everyone voiced their opinion during both sessions. One individual interrupted others occasionally. The group asked each other questions and built on each other's argument. Moderator and second moderator actively participated in the discussions during WS1. Additional two members participating during WS2. Commented that they thought it was interesting to see how people voted and to discuss opinions. When all voted green on one card, one individual said "bingo" and everyone giggled. They looked mostly on the dashboard during voting. The word was more evenly distributed in WS2 compared to WS1.

E Openly disagreed and built on each other's arguments. When choosing cards, they had three cards in common and instantly suggested voting of the rest, where moderator suggested to vote which one to exclude. Finger queue was applied by the moderator in WS2 after some interruptions had occurred. Little interaction during voting, however one joke was made which caused smiles and giggling. Reached consensus concerning the trends through discussion. One individual dominated most of the discussion in WS2 while one individual said almost nothing during this session. Several members stayed after WS2 on request from the second moderator to discuss action. One member could only participate in WS2 for the first 15 minutes but actively participated during that timeframe.

F The majority was involved during the discussions of WS1. Laughed a lot during reading the Awesome Card formulations. When choosing cards, a negotiation occurred for one card where one individual dominates the process. Moderator induced discussion when the same individual tries to negotiate again, however the last card is chosen by voting. Tried to reschedule WS2 to maximize the numbers of members that could participate. Four trends were decided from consensus reached by discussion, but it was dominated by two individuals. One of the more dominant individuals brought up issues quite a lot during WS2, which made the discussion focus on issues. When
discussing issues, it was mostly focused on what others do wrongly.

G
Openly disagreed and discussed to reach consensus. They were focused on the task and asked questions to each other. They did not interrupt each other. Both moderators were actively involved in the discussions, especially in WS2. When presenting which cards to choose, one group explained which cards they had excluded rather than which ones they picked. They were mostly silent during the voting process, with some small reactions like giggles. During trend discussion, one individual was very quiet in comparison to the others. Few participants on a Friday afternoon.

Table 7: Team Dynamics summary

5.2.2 Model Results

Here we present the Model Results produced by the teams when using the SHC model. The most popular Awesome Cards were “Delivering Value” and “Teamwork”, which was chosen by all teams but team C. The Traffic Light Green and Yellow was chosen equal number of times, while Red light was chosen only 11% of the times. In the trend voting, the majority chose that they are up going, while none of the teams chose down going.

The definition of Trend for each Awesome Card was decided by each team. The definition varied both in between teams as well as in between Awesome Cards within teams (Table 4.2.4). The definition covered the parameter’s timespan, what elements it included, and whether it was the speed or derivative of a process. Not all teams considered all these parameters in their different definitions of trend.

<table>
<thead>
<tr>
<th>Team</th>
<th>Up</th>
<th>Constant</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>B</td>
<td>60</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>D</td>
<td>60</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>E</td>
<td>60</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>60</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>G</td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>ALL</td>
<td>67</td>
<td>33</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 8: Trend spread in each team (%)
5.2.3 Model Evaluation

<table>
<thead>
<tr>
<th>Awesome Cards</th>
<th>Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressed confusion about what the definition of the Traffic Lights on the Awesome Cards actually meant and tried to make sense of this through discussion or asking questions to the moderator.</td>
<td>B C D E F G</td>
</tr>
<tr>
<td>Laughed or giggled at the definition of the Traffic Lights on the Awesome Cards.</td>
<td>B C D E F</td>
</tr>
<tr>
<td>Commented that the definitions of the Traffic Lights on the Awesome Cards were difficult to discuss and vote on and that definitions were unspecific.</td>
<td>D F</td>
</tr>
<tr>
<td>Showed appreciation of having a set of cards to base the discussion on, with the motivation that it was a good tool to scope the discussion.</td>
<td>C D</td>
</tr>
<tr>
<td>Commented that the definition of the green and red Traffic Light was too extreme.</td>
<td>G</td>
</tr>
</tbody>
</table>

Table 9: Reactions and opinions concerning the Awesome Cards

<table>
<thead>
<tr>
<th>Dashboard</th>
<th>Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Described the dashboard as useful to visualize their team situation.</td>
<td>A B D E</td>
</tr>
<tr>
<td>Expressed worry about how the dashboard could give a false image.</td>
<td>A B F</td>
</tr>
<tr>
<td>Commented that they found the results surprising, especially the results of the trend column.</td>
<td>B F</td>
</tr>
<tr>
<td>Commented that the team had an optimistic view of the world (said with sarcasm and followed by laughter)</td>
<td>A</td>
</tr>
<tr>
<td>Commented that the Trend discussion was especially interesting</td>
<td>B</td>
</tr>
<tr>
<td>Commented that the results were concrete enough to take action on.</td>
<td>F</td>
</tr>
<tr>
<td>Commented that the Awesome Cards which had positive trends are the ones that are able to be affected by the team’s actions.</td>
<td>E</td>
</tr>
</tbody>
</table>

Table 10: reactions to and opinions concerning the Dashboard
**Layout of WS1 and WS2**

<table>
<thead>
<tr>
<th>Team</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>D E F G</td>
<td>Expressed that this was a good way of discussing teamwork and work processes.</td>
</tr>
<tr>
<td>B D F</td>
<td>Positive concerning the process of choosing and agreeing in WS1 on what Awesome Card to discuss in WS2. Both in how it was interesting to see what other team members voted and also to focus the discussion on what is important, rather on what is a pain point.</td>
</tr>
<tr>
<td>B C</td>
<td>Showed appreciation for the layout of two separate hours as it was easier to fit it into their usual schedule.</td>
</tr>
<tr>
<td>C E</td>
<td>Compared the sessions to the agile method Retrospective.</td>
</tr>
<tr>
<td>F E</td>
<td>Expressed that the presence of the second moderator was beneficial.</td>
</tr>
<tr>
<td>A</td>
<td>Commented that this could have been done in one shorter session.</td>
</tr>
<tr>
<td>A</td>
<td>Commented that the chosen cards felt important.</td>
</tr>
<tr>
<td>C</td>
<td>Commented that the time between WS1 and WS2 was too long.</td>
</tr>
<tr>
<td>F</td>
<td>Expressed concern about that the entire team was not present.</td>
</tr>
<tr>
<td>B</td>
<td>Commented that the cards they chose might have been the ones they feel good at to convey a positive image.</td>
</tr>
</tbody>
</table>

Table 11: Reactions to and opinions concerning the layout of WS1 and WS2

**Responsibility**

<table>
<thead>
<tr>
<th>Team</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A D F G</td>
<td>Indicated signs of reluctance towards taking responsibility for the results and initiate actions, to different extent.</td>
</tr>
<tr>
<td>A F G</td>
<td>Expressed lack of time or workload as a reason for not prioritizing taking action</td>
</tr>
<tr>
<td>A C G</td>
<td>Expressed concerns about whose responsibility it was to take action upon the result.</td>
</tr>
<tr>
<td>B C</td>
<td>Expressed a will for more time to discuss how they are to take action.</td>
</tr>
<tr>
<td>E F</td>
<td>The second moderator suggested actions for the team to take right after WS2 closed.</td>
</tr>
</tbody>
</table>

Table 12: Reactions and opinions concerning Responsibility
5.3 Result Key Points

Here we present a brief summary of the key findings of our results.

1. A lot of laughter and informal atmosphere
2. The two most popular cards chosen by six of seven, Delivering Value and Teamwork, are in line with the formal goals of the IT department.
3. No negative trends, although discussion may have suggested negative trends
4. Very few red traffic light votes, while the discussions suggested there were more problems.
5. Three out of seven teams expressed worry about whether the dashboard may convey a false image.
6. Whether the dashboard result came as a surprise or not varied both in between and within teams.
7. Four out of seven teams expressed reluctance towards taking responsibility for action.
6. ANALYSIS

In this chapter we present the key result analysis of the empirics. In the dimension Team Dynamics, a Tuckman model analysis and Five Dysfunction analysis was performed to answer SUB-RQ1. In the dimension Model Evaluation trends in between analysis dimensions are explored in order to answer SUB-RQ2.

6.1 TEAM DYNAMICS WERE UNIQUE FOR EACH TEAM

Here, we analyze and conclude where the teams are in terms of Tuckman model. We also performed a Five Dysfunctions analysis. The analysis and discussion presented is intended to answer SUB-RQ1: *How did the social process unfold during the focus group session?*

6.1.1 TUCKMAN MODEL ANALYSIS OF INTERACTIONS

The Tuckman analysis of the team interactions during the workshop sessions indicates that all teams demonstrate interactions within at least three of the four Tuckman stages, and in the case of four of seven team’s interaction within all four stages. The table below summarizes which Tuckman stage each team’s interactions were considered to be in concerns to the most prominent stage, as well as a short description of the main interactions. We can see a trend that if performing Task Activities occurs, so do norming Task Activities. However, the fact that interactions from all stages occurred may indicate that this model is an oversimplification of the social processes.

<table>
<thead>
<tr>
<th>Team</th>
<th>Prominent Stage</th>
<th>Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Norming</td>
<td>The forming group structure of looking for guidance from a dominant individual is prominent as one participant moderates all group discussion. The majority of the interactions are norming Task Activities since the participants listened to each other’s arguments, dared to disagree and openly admitted changing their opinions after hearing each other’s arguments. The norming group structure of avoiding task conflicts to ensure harmony was also prominent, since any potential conflict was joked away.</td>
</tr>
<tr>
<td>B</td>
<td>Performing</td>
<td>The moderator-initiated votes on Trends, indicating the storming group structure on lack of unity on key issues. The majority of the interactions were all the norming Task Activities, participants asked each other questions with the outspoken intent of understanding one another, listened to each other and built on each</td>
</tr>
</tbody>
</table>
other’s arguments.
The entire team stayed focused on the task and its purpose and did not fidget with cellphones demonstrating the performing task activity of devoting most of the energy to the task. They also chose 4 of 5 cards by discussion, demonstrating performing task activity constructive attempts at task completion. The most prominent and determining performing Group Structure was that members plan to enhance the task activity by asking for WS3, formulating the purpose of that session.

C Storming

The forming Group Structure of looking to dominant individuals for guidance is demonstrated when the last two cards are chosen by two dominant individuals in WS1. The forming Group Structure of testing acceptable behavior based on the reactions of other members when three participants indicated their traffic light vote before voting and one participant changed its vote after voting and seeing the other participants’ vote.
The most prominent interactions that were decisive for the outcome of the task were storming Group Structures that some participants expressed their individuality by holding the traffic light card up as high as they possibly could and that a participant resisted the formation of the group by refusing to accept help in taking action on a problem. This interaction also included the storming Task Activity of emotional response in terms of slight frustration.
The norming task activities were demonstrated in discussions. The performing task activity of constructive attempts to task solution was also demonstrated by the choosing of 3 trends by discussion.

D Forming

The prominent interactions were the forming Group Structure of testing acceptable behavior based on reactions of other participants, since all discussion was focused on reaching consensus, no disagreements were expressed openly, no disagreements at all were expressed in WS2, and only similarities were commented during traffic light voting. The forming group structure of looking to standards for guidance was also prominent since they looked mostly on the moderator during voting, and chose cards based on moderator's suggestion.
The storming Group Structure of uneven interaction occurred during WS1 where one participant dominated the discussion but was evened out in WS2.
The norming task activity of expressing and listening to each other’s opinions did occur during discussions.

E Storming

The forming Group Activity of depending on formal structures occurred when team participants instantly wanted to vote instead of attempting to reach consensus through discussion on which cards to choose.
The prominent interactions were storming Group Structures, that key issues polarize the group in terms of what is a good way of working, that a participant express their individuality by disagreeing without listening to other participants, uneven interaction as one participant dominated while another hardly spoke at all in WS2. The storming task activity of emotional response also occurred when a participant expressed its individuality and resisted the forming of the group.
The norming Task Activities of expressing and listening to each other's opinions occurred during discussion too. The performing task activity of constructive attempt at task completion was demonstrated by deciding 4 of 5 trends through reaching consensus by discussion.

| F | Storming | The forming Group Structure of looking to structures for guidance is demonstrated by the request for instant voting instead of discussion. The forming group structure testing acceptable behavior based on other members’ reactions was demonstrated during voting when they looked at what others voted and joked a little.

The prominent interactions were storming Group Structures, where uneven interaction occurred as one participant dominated and steered the discussion, the trend discussion was dominated by two participants while some participants hardly spoke at all. Lack of unity was demonstrated as negotiation occurred when choosing cards as well as jokes about being two different sides that worked with different parts of the architecture. Individuality was expressed when one participant talked more about previous experiences from other teams than the current team, and one participant interrupted others by raising its voice.

The performing task Activity of constructive attempts at task completion was demonstrated as 4 of 5 trends were decided through discussion that resulted in consensus. |

| G | Forming | The prominent interactions were forming Group Structure of testing acceptable behavior by observing the reactions of other members, when they almost never interrupted each other but waited in silence, did find disagreements but were focused on reaching consensus and listening to one another, when they began by explaining why they didn't choose that same card as the other in-session group instead of presenting they cards they had chosen.

Looking to standards and dominant individuals for guidance was demonstrated by the dependence on the moderator to initiate and keep the discussion going, as well as by at several occasions mentioning the manager as an important figure.

The storming Group Structure of uneven interaction occurred as two individuals dominated WS1, and one individual hardly participated at all in WS2.

The norming task activity of acting on information so that new interpretations can arise occurred during discussions where participants built on each other’s arguments and analysis and asked each other questions with the outspoken intent of understanding.

The performing Task Activity of constructive attempts at task completion was demonstrated as all cards and trends were decided through consensus that was reached through discussion. |

Table 13: Tuckman analysis
Previous studies have shown that a team that is in a performing stage can go into storming when a new individual is introduced to the social context of task solution. Thus, a team that seems to be in the storming stage may in fact be in the performing stage in their daily work but came into storming due to the new social context of participating in the workshop sessions. Thus, our presence and actions as moderator and observer could also have had certain impact that affected the social process of the teams that took place during the sessions.

6.1.2 Five Dysfunctions of a Team Analysis

Here we present a summary of our analysis of the team interactions during the sessions using the model Five Dysfunctions of a Team. The occurrence of a dysfunction is indicated with a Y (yes) and the absence of a dysfunction is indicated with a N (no) in the table below.

<table>
<thead>
<tr>
<th>Team</th>
<th>Absence of Trust</th>
<th>Fear of Conflict</th>
<th>Lack of Commitment</th>
<th>Avoidance of Accountability</th>
<th>Inattention to Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>B</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>C</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>D</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>E</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>F</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>G</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

Table 14: Five Dysfunctions analysis

Lencioni argues that the five dysfunctions all build on each other, so that if there is Absence of Trust all of the following dysfunctions will be present as a consequence. We can see in the table above that this is not the case in our empirics. This can be due to that our empirics only represent a snapshot of the overall social process of the team. It can also be that this model is not suitable for analysis of social processes that are observed on only two occasions.
6.1.3 **The Social Process was Unique for Each Team**

To answer SUB-RQ1 of how the social process unfolded during the sessions we present the following key points,

- The social process of each team was unique in WS1 and WS2 as we can see in both 5.2.1 Team Dynamics and in 6.1.1 Tuckman Model.
- One aspect of the social process that all teams had in common was the informal atmosphere (5.3 Result Key Points).
- Each team exhibited interaction from at least three different Tuckman stages (Table 13: Tuckman analysis).
- Five of seven teams exhibited the Dysfunction Avoidance of Accountability (Table 14: Five Dysfunctions analysis).
- Five out of seven teams exhibited the Dysfunction Absence of Trust (Table 14: Five Dysfunctions analysis).

6.2 **Model Evaluation was Partly Related to Team Dynamics**

In this section we analyze the results of 5.2.3 Model Evaluation from the perspective of 6.1 Team Dynamics. The analysis and discussion presented is intended to answer SUB-RQ2: *What intersubjectivity did the team construct of the model?*

6.2.1 **Most Useful Part of Model Given Prominent Tuckman Stage**

Based on the Tuckman analysis above (Table 13: Tuckman analysis), we analyzed the model evaluation results to identify any potential trends in between teams that have the same prominent Tuckman stage. We found that the most noticeable thing teams in the same prominent Tuckman stage had in common was what they found to be the most useful part of the model. This is summarized in the table below.

<table>
<thead>
<tr>
<th>Prominent Stage</th>
<th>Teams</th>
<th>Most useful part of model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forming</td>
<td>D, G</td>
<td>Discussion</td>
</tr>
<tr>
<td>Storming</td>
<td>C, E, F</td>
<td>Discussion, Taking action</td>
</tr>
<tr>
<td>Norming</td>
<td>A</td>
<td>Taking action, Visualization</td>
</tr>
<tr>
<td>Performing</td>
<td>B</td>
<td>Discussion, Taking action, Visualization</td>
</tr>
</tbody>
</table>

*Table 15: Most useful part of model given prominent Tuckman stage*
Teams in the forming stage found that the most useful part of the model was that it created a structured platform for discussion on ways of working and finding common ground.

Two of three teams in the storming stage compared the model to a high-level retro while all three requested to redo both workshops within six months. They found the most useful part of the model to be discussion and taking action, as the two storming teams that were pushed into action by the second moderator responded positively and the team that was not pushed into action requested action. This indicates that they found the model a beneficial tool in improving their way of work by discussing and taking action.

The team in the norming stage expressed that the most useful part of the model was taking action and visualization. They did not appreciate the discussion in itself but were focused on the results and expected a recommendation on taking action. When no recommendation was given there were signs of disappointment, indicating the importance of taking action.

The team in the performing stage found the most useful part of the model to be in discussion, taking action and visualization. Hence the team in performing expressed that the importance of the different useful parts to be of equal relevance.

It is important to note that teams in different stages did find the same things useful, but each team expressed one or several elements as the main value-generating part that came out of using the model. For example, team E and D also considered visualization to be a value-generating part of the model, but did not emphasize its importance to the same extent as team A and B (Table 10: reactions to and opinions concerning the Dashboard)

6.3.2 Fewer Dysfunctions Implied that Model was Perceived as More Useful and Fun

Based on the analysis of Five Dysfunctions of a Team above (Table 14: Five Dysfunctions analysis) we analyzed the model evaluation results to identify any trends within dysfunction occurrence and Model Evaluation.

The two teams that stand out the most is team B that expressed no dysfunctions in their interactions, and team A that expressed all dysfunctions but Lack of Trust. Team A was the team that expressed the least positive reactions after using the model and gave the least amount of feedback. The feedback included doing the model in other groups and in shorter amount of time. Team B was at the other extreme end, and the team that expressed the most positive
reactions after using the model, even after the session had ended. They also gave the most amount of feedback of all teams and saw more ways in how the model could be useful by redoing it, extending it or shifting its focus. Team C that only exhibited one dysfunction and was the team that after team B expressed the most amounts of positive reactions. No trend could be identified among the other four teams. Hence there is a slight indication that teams with fewer dysfunctions finds the model more useful and fun, while teams with many dysfunctions may find it less useful.

6.2.3 The varying Intersubjectivity of the Model was partly related to Team Dynamics

To answer SUB-RQ2 of what intersubjectivity the team constructed of the model we present the following key points,

- Depending on which Tuckman stage that was the most prominent in the social process, they found different parts of the model to be the most useful. Hence, we see an indication that the intersubjectivity of what makes the model useful depends on the stage of team development. (Table 15: Most useful part of model given prominent Tuckman stage)

- We see a slight indication that teams with fewer dysfunctions finds the model more useful and fun, while teams with many dysfunctions may find it less useful. Hence, we see a slight indication that the intersubjectivity of the usefulness of the model depends on the amount of Dysfunctions existing within a team.

- The three teams that shared the intersubjectivity of worry about whether the dashboard may convey a false image (5.3 Result Key Points) did not share Tuckman stage or Dysfunctions. Hence no trend could be identified in between this intersubjectivity of Model Result and Team Dynamics.
6.5 Analysis Key Points

Here we present a brief summary of the key points of our result analysis. In answering SUB-RQ1 we found the key points,

- The social process of each team was unique during both sessions as we can see in both 5.2.1 Team Dynamics and in 6.1.1 Tuckman Model.
- Five of seven teams exhibited the Dysfunction Avoidance of Accountability (Table 14: Five Dysfunctions analysis).

In answering SUB-RQ2 we found the key points,

- Depending on which Tuckman stage that was the most prominent in the social process, they found different parts of the model to be the most useful. Hence, we see an indication that the intersubjectivity of what makes the model useful depends on the stage of team development. (Table 15: Most useful part of model given prominent Tuckman stage)
- The three teams that shared the intersubjectivity of worry about whether the dashboard may convey a false image (5.3 Result Key Points) did not share Tuckman stage or Dysfunctions. Hence no trend could be identified in between this intersubjectivity of Model Result and Team Dynamics.
7. **Discussion**

*In this chapter we discuss key findings in relation to theory and other research. We deliberate on the potential of the model for building motivation through optimism and enabling Shared Leadership, the moderator actions effect on the model outcome, as well as the analytical generalizability of the context of a governmental agency.*

7.1 **The Model Has Potential for Building Motivation Through Optimism**

Key results showed that even though several teams discussed trends as negative, they still set them to be either neutral or positive. This may indicate that teams produced an overly positive image of their current situation, which key results also showed that three of seven teams expressed concern about (6.5 Analysis Key Points). Hence an intersubjectivity constructed of the model was insecurity whether it always produced a fair representation of reality. The teams that questioned the fairness of the model representation were mostly concerned with whether it expressed an overly positive image of their situation, and also how it did not highlight pain points but rather their strengths. This concern of the representation was shared by the second moderator.

If the intersubjectivity built by the use of a model conveys an overly positive image of the situation, there is a risk that no sense of urgency is created for actions to be taken. To take action on a problem that has been highlighted by a model can be seen as a transformation effort within the team. If an overly positive image is created then consequently no sense of urgency is created, thus not motivating people to take action and push out of their comfort zones. (30)

On the other hand, constructing an overly positive image of the current situation can be seen as optimism. Studies within psychology have shown that optimism increases individuals’ ability to deal with stress. One thing all teams agreed on was that they had very stressful work situations, so the fact that they built an optimistic view of themselves and their situation may in fact make them more persistent to stress. (32)

Furthermore, studies have also shown that the expectancy or belief that something can be changed or affected is what determine whether you give up or continue striving towards the goal (32). From this perspective it is very promising that all teams set either constant or positive trends although they describe struggles in the discussion, because it signifies that they are more likely continue to strive, instead of giving up.
Thus, it is not necessarily a bad thing that teams are allowed to define the trend as their optimistic expectancy rather than highlighting what to take an action on to create urgency, because it could increase their likeliness of success in improving their situation. As a participant in team E described it: “Sometimes you do not recognize yourself in the mirror, the feeling you have is different. Then look, the trend is up! Then we are feeling well.” This participant exemplifies an increase in motivation after the team had created the intersubjective construct of positive trends.

Another example of a higher level of motivation in relation to a higher level of optimism could be seen in how teams reasoned about how the different Awesome Cards depended on each other. Teams that expressed a motivation to act had reasoning regarding that if “Fun” and “Teamwork” were in place, they could handle other challenges to their work situation posed on them, such as for example lacking “Support” while still achieving “Delivering Value” (Team B). Teams that expressed less motivation to act reasoned that because of lacking “Support”, they could not have “Fun” nor achieve “Delivering Value” (Team F). Thus, we saw a tendency that a team that expressed a belief of that they could handle challenges together was more optimistic about achieving “Delivering Value”, thus increasing their chances of succeeding according to the previous discussion. However, Team F showed indication to be in Storming, hence their reasoning can also be a consequence of being in the Storming stage, where hostility towards outer people often occurs.

It is however important to note that there is a difference between the will to take action and the motivation to take action. The motivation to take action partly assumes that there already is a will to take action in place, that there is a desirable goal (31). To create a sense of urgency is the first step towards taking action and is thus more concerned with building a will to take action (30). Hence a team that is unwilling to take action may perhaps need to focus more on pain points to create the willingness to take action. Whereas a team that already is willing to take action but find their circumstances too challenging may need to build an overly positive image to increase their motivation and stress tolerance through optimism.

7.2 The Model Has Potential for Enabling Shared Leadership

Another key result was that several teams expressed reluctance towards taking action. The analysis of the social processes during the workshop sessions (6.1.3 The Social Process) generated the key finding that five of seven teams expressed one of Lencioni’s five dysfunctions Avoidance of Accountability in their social process (16). The reluctance to act discussed above
is closely related to this reluctance of taking responsibility to act. There is however a difference in between wanting to act and wanting to take responsibility to act.

One of the main takeaways from chapter 3 Teamwork Improvement was that Shared Leadership is essential for functioning teamwork (35), for example in the shape of formation of issues (10). The formation of issues assumes that individuals within the team assume accountability for taking action on problems that they collectively identify (10). Thus, Shared Leadership assumes that there is no Avoidance of Accountability. As we can see in 6.1 Team Dynamics the two teams that expressed Shared Leadership by forming issues during the workshops, team B and C, were also the two teams that did not express Avoidance of Accountability.

The more interdependent the task of the team, the more important is Shared Leadership for successful teamwork (36). Previous studies have shown that the main value of using agile methods is that motivation and constructive teamwork is created by building a collective team culture (37). The agile methods provide a stable framework for the team culture to be formed in an unpredictable environment (37). Hence, the purpose of using an agile method for teamwork improvement could be to build a team culture of Shared Leadership.

If we look at the layout of the agile method tested in this study, it can be seen as a framework for formation of issues. The selection of cards is when the team prioritize which areas they find the most important to identify issues within. The traffic light voting is where they each give their view on the areas current status, and the following discussion is where they form issues within the chosen areas and decide whether to act on them or not.

This can be seen in the case of team E, which described how they had applied Shared Leadership a few weeks earlier by forming an issue and acting on it. However, their action had not been approved and they had thus fallen back to formal leadership. But during the workshops they began exercising Shared Leadership again by the framework of an agile method as support and the active guidance of the second moderator as a strong influence.

The agile method tested in this study, SHC, bears as mentioned before many similarities to the Retrospective. The use of the Retrospective has shown to develop supportive relationships in between team members and thus favor successful teamwork culture (19). These supportive relationships can be seen as an expression of Shared Leadership, where team members share the responsibility of both task completion and formation of issues. This is promising for the potential of the model tested in this study to be used for establishing Shared Leadership.
However, to establish Shared Leadership within agile teams has proven to be a challenge. As one case study showed, from the perspective of team members a lack of resources in the form of massive workload or bad experiences of taking responsibility to act in the past may disable shared leadership (51). Most of the participants that expressed a willingness to act but reluctance towards taking responsibility to act referred to massive workload as a reason for not prioritizing to take responsibility to act. Thus, the lack of resources may be an obstacle for using an agile method for establishing Shared Leadership.

Furthermore, if establishment of Shared Leadership is to be successful, mechanisms for efficient double-loop learning for team members must be in place (51). These learning mechanisms could potentially be satisfied by an agile method if it is used regularly by the same team. In the case of the SHC, this puts high demands on the moderator. It is up to the moderator to steer the discussion after the voting and ask the right questions that guide the team in the double-loop learning and shared leadership activities.

This is however slightly contradictory with the indication that teams that displayed more dysfunctions found the model less useful. However, the agile method used in this study was not performed with the purpose of establishing shared leadership. This meant that the moderator chose to be more passive and ask less questions regarding why the team reasoned in specific ways regarding responsibility to act. If the model is to be used with the purpose of establishing shared leadership, a more active and directed moderation is required. This will also most likely generate a different social process and intersubjectivity of the model than the results of this study. Moderation was performed with the purpose of testing and evaluating the model itself, not guiding teams in a framework for learning and establishing shared leadership.

7.3 THE ACTIONS OF THE MODERATOR AFFECTS THE MODEL OUTCOME

As the moderator is a part of the social process, it is essential to consider how the actions of the moderator influence the social process and intersubjectivity created. The effect of using an agile method such as the SHC can be potentially devastating if moderated mistakenly. If an agile method for team development is to be used to either build motivation or willingness to act, high demands are put on the social skill of the moderator. To determine if a team is expressing unwillingness to act or need for motivation is a major challenge, since these can be expressed by the same type of interactions in the social processes (31) (30).

We summarize the intersubjectivity formed in relation to the moderator action and the need of a team in terms of establishing motivation or willingness to act in Figure 7: Intersubjectivity
formed of team situation after method use in relation to Moderator action and Team Need. For example, if the moderator assumes that a team is expressing unwillingness to act when they in fact are in need of motivation, the moderator may focus on pain points and leading the discussion towards establishing a sense of urgency. This would in turn decrease the motivation of the team even more, making it very likely that they give up on taking action altogether, landing in an intersubjectivity of Hopelessness (32). Furthermore, the moderator assumes that the team is expressing a lack of motivation when they are in fact in need of establishing willingness to act, the intersubjectivity formed may be that of Indifference (30). Hence the effect of the intersubjectivity formed using an agile method for team development can be very dependent on the actions of the moderator.

<table>
<thead>
<tr>
<th>Moderator Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create sense of urgency</td>
</tr>
<tr>
<td>Create motivation by optimism</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Team need</th>
<th>Establish willingness to act</th>
<th>Establish motivation to act</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Call to action</td>
<td>Hopelessness</td>
</tr>
<tr>
<td></td>
<td>Indifference</td>
<td>Motivation for action</td>
</tr>
</tbody>
</table>

Furthermore, if an agile method such as the SHC is to be used with the purpose of establishing Shared Leadership, it is up to the moderator to actively guide the social process into Shared leadership activities (51). If the moderator does not steer the discussion appropriately and ask the right questions, the formation of issues may not occur. To steer a social process to the extent that would be required demands a high degree of skillfulness in both understanding the behavior of the team and adjusting one’s actions to these (25).

Depending on the assumed scientific approach, the implication of the results can be interpreted differently. As a positivist, you may interpret these findings as though the moderator is the main
factor that determines how an agile method for team development can be used and whether it is successful or not. However, within the scientific approach of constructivism that is assumed in this thesis this not the case. Our findings indicate that the moderator has an impact on how you can use an agile method, but the essence of this impact lies in the social process that occurs during the usage of the agile method.

The moderator is a part of the social process together with the team, and not a separate entity. Once again, we highlight that the results of this study are partly influenced by the actions of the primary and second moderator, as they contributed to forming the social process and intersubjectivity. It is however important to consider both how the team is interacting with one another, as well as the actions of the moderator. Therefore, we once again underline the importance to considering the entire social process and the intersubjectivity of the team to understand how an agile method for team development can be used to help teams in a successful way.

7.4 The Analytical Generalizability of a Governmental Agency

This case study was performed at the Swedish Police Authority IT department, which is one of Sweden’s national governmental agencies. In order to determine the analytical generalizability of our findings, there are some unique factors to be considered in this organizational context that affects the social context of the development teams that participated.

To begin with, the entire IT department is a support function to the core operations of the police organization (5.1 Empirical Setting). The core operations are the activities performed by the police in preventing, intervening and investigating crime (40). The software developed by the IT department supports the police in these three areas. Hence the developers and end users are part of the same organization. It is not uncommon for software organizations to have in-house development of support software they use within the organization (52), but in this case to deliver software in-house is the main goal of the entire IT department (40). Hence, we cannot consider the IT department as a software development organization such as for example a private company that delivers software as its product. This means that the social context of the teams is to be a support function for their end users, which are the police that deliver the true end value the organization produces for society (5.1 Empirical Setting). This was also something all teams showed awareness of in their discussions.

Furthermore, market competition and the focus on maximizing revenue that characterizes several private organizations does not affect the social context of the developers at the Swedish
Police Authority IT department. Due to laws about public procurement and above all security issues, there is no other organization that can deliver the software products that are developed in-house at the IT department (40). Similar to a private organization, the organizational goal is to produce as much value as possible with a limited amount of resources. The difference in this case is that a governmental agency limited resources is the budget that is decided by the government. In the case of a private organization the limited resources are defined by the revenue, thus emphasizing to maximize the revenue rather than keeping a set budget. Hence the social context of the teams that participated is to produce as much as they possibly can with the set limited resources they have, because no one else can deliver their product.

Although the pressure of market competition may not exist in this social context, the pressure of delivering value with the limited resources can be extraordinarily high for teams within the Swedish Police Authority IT department. Some of the software that is delivered and maintained is critical for the police work. In comparison to a private organization where the worst-case scenario if product should fail is that revenue is lost, the teams at the Swedish Police Authority IT department face a far more pressuring social context. If their products fail the police may be disabled to perform their work in an efficient manner thus impeding the prevention, intervention and investigation of crime. This pressure was also expressed by some of the teams that participated in the study.

Therefore, we argue that the findings of this study are primarily applicable for similar cases in large organizations that have in-house software development as a support function to the end-value generating activities of the organization. In these cases, the developers are part of the same organization as the end users. This includes for example other governmental agencies and public organizations in Sweden. For these public organizations the context of no market competition or revenue focus is also included.

As mentioned in 1.5 Delimitations this study is primarily concerned with the social processes and intersubjectivity within the team as a unit, not the organizational context. As we can see, SUB-RQ1 and SUB-RQ2 are concerned with social process respectively intersubjectivity. The organizational factors that partly define the social context of the participating teams were not the focus of this study, but the team as a unit. Several studies have shown that how humans behave and interact in a team is coherent independently of context (18). Therefore, the findings may be applicable to teams in a software development organization that are facing an unpredictable environment and want to meet the flexibility challenge using agile methods and teamwork.
7.5 **Discussion Key Points**

Here we present a brief summary of the Key Points of our discussion.

- There are several ways in which an agile method can help teams improve their way of working, and that these depend on the unique social processes within each team.
- We see indications that an agile method for team development can be used to increase motivation, either by creating a sense of urgency or by building optimism.
- We see potential for the model to be used for establishing Shared Leadership and responsibility to act.
- We see that the behavior and actions of the moderator are essential for the outcome of the model.
- The findings are primarily applicable for in-house software development in large, public organizations, where the software development is a support function to the end-value generating activities of the organization.
- The findings may be applicable for to teams in a software development organization that are facing an unpredictable environment and want to meet the flexibility challenge using agile methods and teamwork.
8. CONCLUSION

In this chapter we summarize the study and the key findings in relation to the purpose and main research question. We present our conclusions by answering our Research Question. Lastly we present the implications of our findings and suggestions for future research.

8.1 ANSWERING RESEARCH QUESTION

The purpose of this thesis was to study how an agile method for team development can aid a software development team to improve their way of working. This was an attempt to contribute to the knowledge on the eternal problem of people working efficiently in the structure of teams by the use of an agile method. Hence, we empirically tested a team-level workshop-based agile method for team development in a case study at the Swedish Police Authority IT Department. This included 14 focus group sessions with seven development teams. We posed the following main research question to fulfill the purpose of the study;

MAIN-RQ: How can the use of an agile method for team development help software development teams improve their way of working?

The results from our focus group sessions showed that six out of seven teams wanted to redo the model in the same team. Our result analysis showed indications that an agile method for team development can fill different purposes for teams that are in different stages of team development (Table 15: Most useful part of model given prominent Tuckman stage). We also found a slight indication that teams with fewer dysfunctions were more positive towards the agile method and found it more useful.

In the discussion we found that an agile method for team development can be used to increase motivation, either by creating a sense of urgency or by building optimism. This however depends on the actions and behavior of the moderator. If the moderator interprets the social process of a team incorrectly, the use on an agile method could be potentially damaging for team motivation. Thus, we find that the ability of the moderator to interpret the social process as well as which actions the moderator choose to take are essential to whether an agile method for team development can help a team or not.

Furthermore, we see potential for the model to be used for establishing shared leadership and responsibility to act. The agile method tested in this thesis has the potential to be used as a framework for formation of issues. Whether this can be useful depends on a skilled moderator but also on the resources available within each team.
To answer the research question of this thesis, how the use of an agile method for team development can help software development teams improve their way of working, we present the following conclusions,

- A team-level workshop-based agile method for team development can help different software teams improve their way of working by fulfilling different needs for each team. (Table 15: Most useful part of model given prominent Tuckman stage)
- An agile method for team development can aid a team in taking action, either by building motivation through optimism or sense of urgency by highlighting issues.
- An agile method for team development has the potential to enable Shared Leadership in a team.
- The effect of a team-level workshop-based agile method for team development depends on the skill and behavior of the workshop moderator.

Hence, we conclude that there are several ways in which an agile method for team development can help teams improve their way of working, and that these depend on the unique social processes within each team. The purpose of the study has been fulfilled by the findings of how an agile method can serve teams in different stages of team development by fulfilling different purposes, how it can assist a team in taking action, as well as how it can be used to enable Shared Leadership.

8.2 IMPLICATIONS

This study aimed to contribute to the knowledge on the eternal problem of people working efficiently in the structure of teams by the use of an agile method. The industrial implications refer to the practical use of knowledge produced. The academic implications refer to the theoretical use of knowledge. The implications of this study are primarily applicable to cases of in-house software development in large, public organizations where the software development is a support function to the end-value generating activities of the organization. The findings may however also be applicable for teams in a software development organization that are facing an unpredictable environment and want to meet the flexibility challenge using agile methods and teamwork, given that primarily the social processes and intersubjectivities within the team is considered.
8.2.1 INDUSTRY

From the perspective of practical applications of agile methods in industry, an organization is at risk of becoming less efficient over time without realizing why if how the social processes of a team affects the usage of an agile method for team development is not considered (5) (6). Prior to this study, the industry only had best-practice knowledge on the team development implications of using an agile method such as the SHC.

Our findings have shown that the agile method for team development SHC have the potential to help teams with different needs to improve their way of working in multiple ways. This implies that the SHC can help other teams improve their way of working in the applicable cases mentioned above.

Based on the implications of the findings of this study, organizations need to consider the social process and the intersubjectivity created when using agile methods for team development. When understanding how the social process and intersubjectivity affect the agile method usage, a team can use the agile method as a tool that can be fit to their unique needs to become more efficient. While improper understanding of the social context and intersubjectivity may lead to resource loss when using an agile method, a better understanding may increase both productivity and overall higher employer satisfaction.

There is also an implication for social sustainability. Social sustainability is “identifying and managing business impacts, both positive and negative, on people” (53). Therefore, we now consider the potential impact the use of an agile method such as the SHC can have on people. Our findings show that an agile method for team development can increase the stress tolerance of a team by building optimism and motivation (32), but also by highlighting issues that can then be solved and thus reducing the team stress level. Thus, the social sustainability within a team could be strengthened by the positive impact of increased stress tolerance and decreased outer stress.

Furthermore, the findings indicate that an agile method such as the SHC has the potential to increase the degree of Shared Leadership in an organization. The implication of this is that a long-term and organization-wide use of the model SHC may lead to an increase in Shared Leadership, where more individuals identify and solve problems that arise in an organization instead of waiting for directives from the manager. Thus, there is a prospective for a positive effect on several individuals when the responsibility is shared, building a more socially sustainable organization.
8.2.2 ACADEMIC

In order to bridge the knowledge gap on how people can work efficiently together in the structure of teams, it is essential to understand how an agile method for team development affects and influences the social processes within a team in order to understand how it can be used for efficient teamwork. This study contributes to this understanding by empirically testing a model that had not been academically tested prior to this study from a constructivist approach. Yet there remains a gap in the knowledge of how the social process within a team and thus the efficiency of teamwork is affected by agile methods. The scope of this study is limited to only seven social groups as well as one very specific type of organization, as discussed in 7.4 The Analytical Generalizability of a Governmental Agency. Therefore, we find academic implications to continue to bridge the knowledge gap through studies with a wider or slightly different scope.

Our findings showed that from the constructivist approach to team development, all teams had unique social process and expressed different intersubjectivities of the agile method tested. Hence there is an implication that other agile methods may also have different outcomes in different teams due to the unique social processes. This is however knowledge that needs to be explored further. Therefore, we find academic implications for other agile methods to be empirically tested from a constructivist perspective in order to explore this knowledge gap.

In our discussion we proposed the relationship between willingness to act, motivation to act and sense of urgency respectively motivation through optimism (Figure 7: Intersubjectivity formed of team situation after method use in relation to Moderator action and Team Need). This particular relationship could have implications for the knowledge within the theoretical areas of organizational transformation as well as motivation and is something we suggest being explored further in future research below.

8.3 FUTURE RESEARCH

Based on the findings and the implications of our study, we propose the following suggestions for future research,

- Considering the remaining knowledge gap regarding agile methods and social processes discussed above, we suggest studying agile methods for team development from a constructivist approach, for example the Retrospective. This in order to further explore whether unique social processes lead to different outcomes of the same agile method.
In order to verify the findings of this study and further contribute to the knowledge gap on agile methods and social processes, it could be relevant to study the SHC model with a constructivist approach at another organization that has been deemed to be an analytically generalizable case. The case could be either in-house software development in large, public organizations where the software development is a support function to the end-value generating activities of the organization, or for teams in a software development organization that are facing an unpredictable environment and want to meet the flexibility challenge using agile methods and teamwork.

In the light of our discussion regarding the SHC model’s potential for enabling Shared Leadership, it would be of interest to explore whether an agile method such as SHC can be used to enable Shared Leadership and derive more knowledge of factors for enabling Shared Leadership.

Bearing in mind our conclusion that the effect of a team-level workshop-based agile method for team development depends on the skill and behavior of the workshop moderator, we find it relevant to explore the difference between a team lacking willingness to act and lacking motivation to act when using the model. This primarily includes a difference in how the moderator acts during discussions and a stronger focus on “Avoidance of Accountability” in the result analysis.

In relation to the aspect of responsibility to act we find it relevant to in the future analyze other aspects of the social process within the group, for example dominating individuals within the group and how these affects the team intersubjectivity of their situation.

Since the methodology in this study to a great extent defines the social process that is studied, it could be relevant to repeat the study with a different setup. For example, the choice of cards could be excluded, which was our own addition to the SHC model to enable more in-depth discussions. Evaluate how this affects the team intersubjectivity of the model.
• With regards to the industry implications, we find it interesting to explore whether the use of an agile method such as SHC can increase the social sustainability through Shared Leadership within an organization.
9. APPENDIX

9.1 RESULT TABLES

9.1.1 AWESOME CARDS OCCURRENCE

<table>
<thead>
<tr>
<th>Awesome Card</th>
<th>Chosen by Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering Value</td>
<td>A, B, D, E, F, G</td>
</tr>
<tr>
<td>Teamwork</td>
<td>A, B, D, E, F, G</td>
</tr>
<tr>
<td>Support</td>
<td>C, D, F</td>
</tr>
<tr>
<td>Speed</td>
<td>A, C, F</td>
</tr>
<tr>
<td>Easy to release</td>
<td>C, F, G</td>
</tr>
<tr>
<td>Suitable process</td>
<td>C, D, E</td>
</tr>
<tr>
<td>Health of codebase</td>
<td>C, E, G</td>
</tr>
<tr>
<td>Fun</td>
<td>B, D</td>
</tr>
<tr>
<td>Mission</td>
<td>B, E</td>
</tr>
<tr>
<td>Pawns or players</td>
<td>A, G</td>
</tr>
<tr>
<td>Learning</td>
<td>A, B</td>
</tr>
</tbody>
</table>

Table 16: Awesome Cards occurrence

9.1.2 TRAFFIC LIGHT SPREAD

<table>
<thead>
<tr>
<th>Team</th>
<th>Green (%)</th>
<th>Yellow (%)</th>
<th>Red (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>67</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>71</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>53</td>
<td>43</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>53</td>
<td>47</td>
<td>0</td>
</tr>
<tr>
<td>E</td>
<td>28</td>
<td>53</td>
<td>20</td>
</tr>
<tr>
<td>F</td>
<td>7</td>
<td>53</td>
<td>40</td>
</tr>
<tr>
<td>G</td>
<td>15</td>
<td>70</td>
<td>15</td>
</tr>
<tr>
<td>ALL</td>
<td>42</td>
<td>47</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 17: Traffic Light voting spread in each team (%)
### 9.1.3 TEAM DASHBOARDS FROM WS2

#### TEAM A

<table>
<thead>
<tr>
<th>Awesome Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>Constant</td>
</tr>
<tr>
<td>Delivering value</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>Up</td>
</tr>
<tr>
<td>Pawns/players</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>Up</td>
</tr>
<tr>
<td>Learning</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Speed</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>Up</td>
</tr>
</tbody>
</table>

*Figure 8: Dashboard of Team A*

#### TEAM B

<table>
<thead>
<tr>
<th>Awesome Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering value</td>
<td>11</td>
<td>2</td>
<td>0</td>
<td>Up</td>
</tr>
<tr>
<td>Teamwork</td>
<td>10</td>
<td>3</td>
<td>0</td>
<td>Up</td>
</tr>
<tr>
<td>Mission</td>
<td>9</td>
<td>4</td>
<td>0</td>
<td>Constant</td>
</tr>
<tr>
<td>Learning</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>constant</td>
</tr>
<tr>
<td>Fun</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>up</td>
</tr>
</tbody>
</table>

*Figure 9: Dashboard of Team B*

#### TEAM C

<table>
<thead>
<tr>
<th>Awesome Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Easy to Release</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Support (+ tillgång till användare)</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>constant</td>
</tr>
<tr>
<td>Health of Codebase</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Sitable process</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>up</td>
</tr>
</tbody>
</table>

*Figure 10: Dashboard of Team C*
### TEAM D

<table>
<thead>
<tr>
<th>Awesome Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Delivering value</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Suitable process</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Fun</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>Constant</td>
</tr>
<tr>
<td>Support (inom teamet)</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>constant</td>
</tr>
</tbody>
</table>

*Figure 11: Dashboard of Team D*

### TEAM E

<table>
<thead>
<tr>
<th>Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering value</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Teamwork</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Mission</td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>constant</td>
</tr>
<tr>
<td>Suitable process</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Health of codebase</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>constant</td>
</tr>
</tbody>
</table>

*Figure 12: Dashboard of Team E*

### TEAM F

<table>
<thead>
<tr>
<th>Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering value</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>constant</td>
</tr>
<tr>
<td>Speed</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>up</td>
</tr>
<tr>
<td>Easy to release</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>up</td>
</tr>
<tr>
<td>Teamwork</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>support</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>constant</td>
</tr>
</tbody>
</table>

*Figure 13: Dashboard of Team F*

### TEAM G

<table>
<thead>
<tr>
<th>Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering value</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Pawns or players</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>up</td>
</tr>
<tr>
<td>Easy to release</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>constant</td>
</tr>
<tr>
<td>Teamwork</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Health of codebase</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>up</td>
</tr>
</tbody>
</table>

*Figure 14: Dashboard of Team G*
TEAM H - Test round

<table>
<thead>
<tr>
<th>Cards</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Delivering value</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Teamwork</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>up</td>
</tr>
<tr>
<td>Learning</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>constant</td>
</tr>
<tr>
<td>Fun</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>up</td>
</tr>
</tbody>
</table>

Figure 15: Dashboard of Team H - Test round

9.1.4 MODEL EVALUATION: FUTURE USE

<table>
<thead>
<tr>
<th>Future use</th>
<th>Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redo WS1 and WS2 in six months.</td>
<td>C D E F</td>
</tr>
<tr>
<td>Redo WS1 and WS2 in a year. Redo WS1 since what is important for a team changes across time.</td>
<td>C G</td>
</tr>
<tr>
<td>Redo WS1 and WS2 every other time.</td>
<td>D</td>
</tr>
<tr>
<td>Redo WS1 since not all team members were present.</td>
<td>F</td>
</tr>
<tr>
<td>Do a “WS3” with focus on taking action. Then redo WS1 and WS2 after implementing the action to measure change.</td>
<td>B</td>
</tr>
<tr>
<td>Redo WS1 and WS2 after a new member has joined the team.</td>
<td>B</td>
</tr>
<tr>
<td>Change the process of choosing Awesome Cards to focus on pain points, instead of what is important.</td>
<td>B</td>
</tr>
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Table 18: Reactions and opinions concerning Future use of model
9.2 DOCUMENTS

9.2.1 FORM OF CONSENT

Information till deltagande
Härmed tillfrågas du om att delta i workshopen Teamspegel, som är en delstudie i ett
examensarbete vid Kungliga Tekniska Högskolan, Stockholm.
Forskningsarbetet bedrivs av Emelie Wängborg och Julia von Heijne i samarbete med
Utvecklingsstöd på Polisen. Syftet med studien är att undersöka vad utvecklingsteam tycker är
viktigt i teamarbete samt se hur användning av modellen Teamspegel kan leda till insikter och
förbättra förståelsen kring detta. Under diskussionens gång kommer
alla få möjlighet att uttrycka sina åsikter och berätta om erfarenheter kring ämnet teamarbete.

För att underlätta och förbättra kvalitén på forskningsarbetet ber vi om ditt
tillstånd för ljudupptagning av diskussionen. All information kommer att behandlas så att
obehöriga inte kan ta del av den. Resultatet kommer anonymiseras. Inga uppgifter eller
synpunkter kommer alltså
att kunna spåras till en enskild individ i presentationen av resultatet.
Examensarbetet kommer att publiceras online. Resultatet kommer användas av Polisen i fortsatt
arbete med förbättring av arbetssätt.

Om du har frågor så är du välkommen att när som kontakta oss om det.
emelie.wangborg@polisen.se
julia.von-heijne@polisen.se

Jag har tagit del av informationen ovan och deltar i exjobb Teamspegel

_____________________________ ______________________________
Ort och datum                             Underskrift

Vill du vara med och verifiera datan för denna session? Skriv din mejl så hör vi av oss.

9.2.2 MANUSCRIPT FOR WS1

Intro (5 min)

1. Presentation och trevlighet: Välkommen hit! Kul att få ha er här. Vi heter Emelie och
   Julia och gör alltså exjobb här hos Polisen för utvecklingsstöd.
2. Definiera Roller: Under nästkommande timme kommer ni få sköta det mesta snacket,
där det alltså är ni som är experter och jag är moderator, julia är observatör. Det finns
inga rätt eller fel, bara ämnen som ligger utanför exjobbets ramar. Därav kan vi komma
att avbryta er om vi känner att diskussionen blir för bred, men inte för att vi tycker att
det inte är intressant.
a. Sekundär moderator. Börja med att förklara hans roll i sammanhanget.

1. Sätta Förväntningar: Målet idag är att ni ska välja ut 5 kort som vi kommer jobba vidare med i nästa workshop. Dessa kort ska representera vad ni tycker är viktigast för att jobba bra inom ert team.

2. Gå igenom upplägg: Vi kommer börja med lite uppvärmning, för att sedan gå in på att prata om de huvudsakliga ämnena. Ni kommer först delas upp i mindre grupper om 3 och 3 för att diskutera frågorna, för att sedan diskutera i helgrupp. I slutet sammanställer vi vad vi har kommit fram till under timmen tillsammans där alla kan lyfta funderingar som kanske kommit upp.

3. Tidschema: Vi kommer vara hårda med tiderna för att alla ska få ut så mycket som möjligt utav denna timme. Om ni inte slutfört uppdraget vi givit er, så presentera det ni har.


5. Övrigt: Vi säger till när det är dags att avbryta. I gruppdiskussionerna kommer ni använda oss utav fingerkö.
   a. Testa med Fråga: Hur länge har ni jobbat tillsammans som ett team?

Uppvärmning (5 min)

1. Alla skriva namn på lappar.
2. Skriva under samtycke.
3. Kort uppvärmning:
   a. Vad var det roligaste du gjorde igår (behöver ej vara om jobb)?
   b. Dela upp i 3 och 3.

Fri diskussion om värderingar (15 min)

1. Diskutera 3o3:
   a. **F**: Vad är det som är viktigast och som ni känner att ni vill diskutera kring under nästa workshop?
   b. Försök att komma fram till 3 saker ni anser vara viktigt
2. Diskutera i stor grupp: Vad är viktigt för dig? Resonemang, argumentation och exempel från era erfarenheter! (10 min)

Överenskommelse om 5 kort (30 min)

   Smågrupper, 10 min
2. Stor Gruppdiskussion 20 min: Why why why?
   a. Presentera och argumentera för vilka kort ni tycker är viktiga, gärna med exempel
   b. Eventuell slutem röstning om de inte kommer överens i tid.
Avslut (5 min)

1. SUMMERING: Gå igenom och sammanställt vad vi kommit fram till. (har med etik att göra)
2. Feedbackrunda på upplägget:
3. Ions tankar/frågor:
4. Uppslutning och avslutning: Om någon har frågor eller funderingar som de vill utveckla är det bara att hugga tag i oss eller mejla. Vi lyssnar gärna på vad ni har att komma med!

9.2.3 Manuscript WS2

Intro (5 min)

2. Roller: Liksom förra gången är det NI som är EXPERTERNA och vi är moderatorer/observatörer. Svävar ni utanför ämnesramen så kommer vi att avbryta. Det finns inga rätt eller fel i diskussionen!
3. Sätta Förväntningar: Syftet med denna workshop är att vi ska gå vidare med det vi gjorde i WS1 och applicera detta mer praktiskt, och på så sätt bygga er teamspegel. Detta är alltså ett verktyg som ni nu får testa, och sen känna efter om ni vill jobba vidare med det.
4. Etik: Vi upprepar det här är datainsamling för vårt exjobb, all info kommer att behandlas anonymt och inget kommer kunna kopplas till dig som individ.
5. Frågor som uppstått sedan WS? (? min)
6. Vill ni byta ut något kort från förra gången?

Förklara modellen (5 min)

1. Idag ska vi testa att applicera det vi diskuterade förra gången och bygga en visuell representation, en spegel på hur ni tycker det går för ert team med de värdeord som ni tycker är viktiga.
2. Ni har alla fått 3 stycken kort som representerar trafikljus;
   a. Grön betyder att kortet är uppfyllt, det funkcar.
   b. Gult betyder att det är mittimellan.
   c. Rött betyder att kortet är inte uppfyllt, det funkcar inte.
3. Ta ett kort i taget.
   a. Gemensamma definitionen av detta kort?
   b. Ge folk 20s att tänka
   c. Rösta genom att lyfta trafikljuset
d. Vi markerar allas röst på tavlan
e. Går vidare till nästa kort
f. Exempelrunda

**Diskutera trend (10 min)**


**Dashboard diskussion (20 min)**

2. Det här är alltså en visualisering på hur ni tycker att ni ligger till just nu i förhållande till de värdeorden som sitter uppe.
      konstigt?
   b. Nu när ni ser alla kort såhär. Är det något kort som ni känner att ni hellre hade
      velat se? Varför?
   c. Är detta ett bra sätt att visualisera er situation?
   d. Någon som har en idé på hur man skulle kunna förbättra ert arbete och
      situation?

**Utvärdera modellen och upplägget (10 min)**

1. Har ni lärt er något? Var det något som intressant? Varför?
2. Har dessa tillfällen gett er nya insikter om ert team? Hur ni vill jobba? Vad som är
   viktigt för er etc.?
3. Skulle ni vilja göra detta igen? I så fall när?
4. Hur skulle det kännas om diagrammet på tavlan delades med er chef?

**Summering (5 min)**

1. Summera allt vi har gjort hittills:
2. Feedback/ frågor
3. Ions frågor
4. Stort tack för ert deltagande! Vi är kvar en stund till om ni har frågor eller fler saker att
   diskutera! Ion finns här som stöd för er om ni väljer att jobba vidare med något område
   eller fråga.
5. Annars mejla oss.
9.3 **Awesome Cards Used in Focus Groups**

**Fun**
Vi älskar att gå till jobbet och har kul när vi jobbar tillsammans!

Trääääääääääääktigt......

**Health of Codebase**
Vi är stolta över kvalitén på vår kod! Den är clean, lättläst och har bra teststäckning

Vår kod är en skihög och teknisk skuld är bortom kontroll

**Mission**
Vi vet exakt varför vi är här och vi är peppade över det!

Vi har ingen aning om varför vi är här, det finns ingen helhetbild eller fokus. Vårt så kallade mission är oklart och oinspirerande.

**Learning**
Vi lär oss massa intressanta saker hela tiden!

Vi har aldrig tid att lära oss något.
**Pawns or Players**
Vi har kontroll över vårt eget öde. Vi bestämmer vad vi ska bygga och hur.

Vi är bara bönder i ett schackspel utan inflytande över vad vi bygger och hur vi bygger det.

**Speed**
Vi får saker göra riktigt fort! Inget väntande eller förseningar.

Vi verkar aldrig få något gjort. Vi kör fast eller blir avbrutna. Stories fastnar kontinuerligt pga beroenden.

**Delivering Value**
Vi levererar bra guder!

Vi är stolta över det och våra stakeholders är verkligen nöjda

Vi levererar skit. Vi skäms över att leverera det. Våra stakeholders hatar oss

**Easy to release**
Release är enkelt, säkert, smartfritt och till stor del automatiserat

Release är riskfyllt, smärtsamt, tar mycket manuellt arbete och lång tid
**Suitable Process**

Vårt sätt att arbeta passar oss perfekt!

Vårt sätt att arbeta suger!

**Support**

Vi får alltid bra stöd och hjälp när vi ber om det!

Vi fortsätter att köra fast eftersom vi inte kan få det stöd eller den hjälp vi ber om.

**Teamwork**

Vi är ett sammansvetsat team med awesome samarbete!

Vi är ett gång individer som varken vet eller bryr oss om vad andra personer i teamet håller på med.
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