SUCCESS-ENHANCING MECHANISMS
IN
TEMPORARY ORGANIZATIONS

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SYNOPSIS:
Using a qualitative research design, the study set out to explore a series of mechanism that enhance project efficiency, stakeholder satisfaction and organizational impact.

The eight mechanisms can be categorized in two types. Type 1 which affect the agent's mental process and Type 2 which affect the agent's observable behavior.

Three mechanisms were compared to motivational and organizational theories in order to examine the theories explanation power in regard to the mechanisms. Both Type 1 mechanism could be explained as a motivational mechanism, and all three mechanisms' affect could be connected to cooperative goal structures

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ABSTRACT

Tidligere undersøgelser (Ruth, 2017) har vist, at under overfladen på agile projektmetoder eksisterer der en række succesfremmende mekanismer, og at disse mekanismer højner projekternes ellers lave succesrate. Formålet med denne undersøgelse er at forstå hvorfor disse mekanismer skaber succes for derved at kunne designe og evaluere effektive projektmetoder og derved øge projekters succesrate. Undersøgelsens andet formål er at udfordre de klassiske rationelle projektmetoder og præsentere et adfærdsteoretisk perspektiv på projektmetodernes effekt. Undersøgelsen tog udgangspunkt i to problemformuleringer:

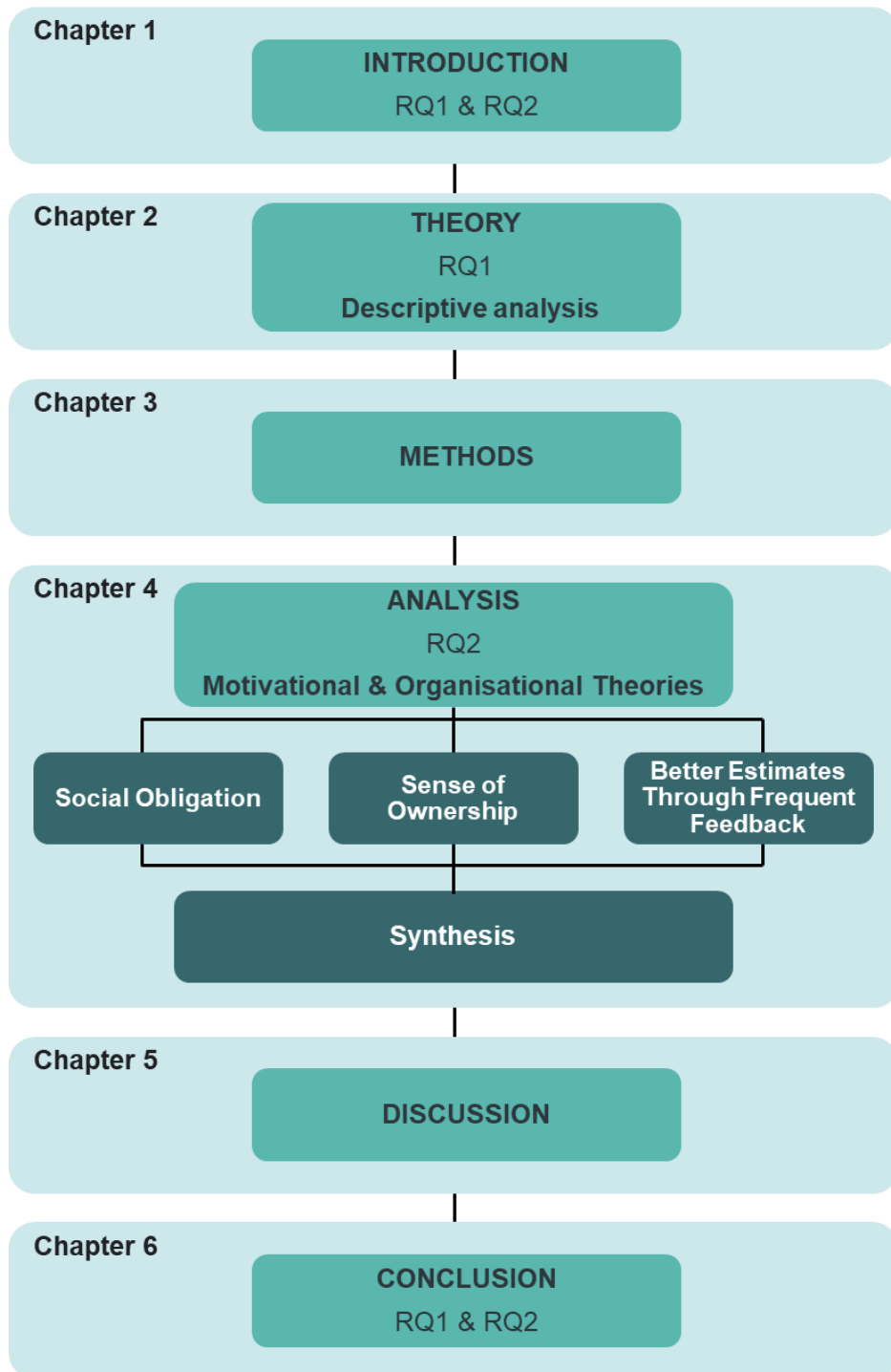> **PF1**: Hvad kendetegner de enkelte succesfremmende mekanismer?
>
> **PF2**: Hvorfor skaber de succesfremmende mekanismer effektive arbejdsprocesser i midlertidige organisationer?

Problemformuleringerne blev besvaret ved at indsamle, transskribere, kode og analysere kvalitativ data fra 12 semistrukturerede og ustrukturerede interviews med erfarne ledelseskonsulenter samt projektledere fra store organisationer. Dataanalysen udmundede i ni temaer der blev anvendt som søgeord i et litteraturstudie. Litteraturstudiet resulterede i 31 videnskabelige artikler der forklarede en eller flere af de succesfremmende mekanismernes effekt. I særdeleshed fandtes der forklaringsevne i en række motivations- og organisationsteorier.

PF1 blev besvaret ved at gennemføre en deskriptiv analyse af de otte succesfremmende mekanismer. Analysen viste at mekanismerne kan opdeles i to kategorier: Type 1 og Type 2 mekanismer. Type 1 mekanismer omhandler mentale processer der får aktører til at vælge at handle effektivt imens Type 2 mekanismer omhandler observerbare processer der påvirke aktørernes konkrete effektive adfærd. Analysen identificerede fem Type 1 mekanismer og tre Type 2 mekanismer og alle otte mekanismer blev defineret.

PF2 blev besvaret ved at anvende motivations- og organisationsteorierne på den kvalitative data og teste teoriernes forklaringsevne. De udvalgte Type 1 mekanismer kunne til dels forklares som iboende og udefrakommende motivationsmekanismer, men disse motivationsteorierne kunne ikke forklare den udvalgte Type 2 mekanisme. De succesfremmende mekanismer skabte effektive arbejdsprocesser fordi aktørerne var motiverede til at handle effektivt. Yderligere viste analysen at både Type 1 og 2 mekanismerne skabte effektive arbejdsprocesser fordi aktørerne prioriterede projektets kollektive samarbejdende målstrukturer fremfor asociale og ineffektive individuelle målstrukturer. Mekanismerne var særligt effektive når aktørerne var i samme rum, anvendte co-creation og visuelle hjælpemidler.

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CHAPTER 1. INTRODUCTION

1.1. Motivation

We are living in a world that has become increasingly influenced by projects. Projects are the vehicles of change, they bridge the gap between innovation and operations and they play a central role in economy (Jensen, Thuesen, & Geraldi, 2016; Lundin, Rolf and Söderholm, 1995; PMI, 2017). In 2010, a survey of 3,500 European firms revealed a sharp increase in the use of project-based work, from 13% to 42%, over a course of 4 years. This trend has intensified the followings years and projects are a widespread form of organizing work. Today virtually all construction, product development and engineering efforts are using some formal project management structure, typically a temporary organization that has been established to complete a specific goal. (Jensen et al., 2016; Lindegaard, M., & Olsson, 2015; Shenhar, 2001; Whittington, Pettigrew, Peck, Fenton, & Conyon, 1999). According to a Project Management Institute (PMI) report, 15.7 million new project management roles will be created globally between 2010 and 2020, and the project management industry is slated to grow by $6.61 trillion. This is an expected growth of 12% (Project Management Institute, 2013). Because of these projections, it is indeed alarming that less than half of all projects are considered successful, which results in loss of profits reaching billions every year.

According to The Standish Group, the average project failure rate, where projects fail to deliver on time, on budget and with required features and functions, is 61% (Vyssoulis, 2001). But something has changed. Several empirical studies has shown that organizations with high agility has higher success rates compared to organizations with low agility (Frigo, Amram, & Howe, 2002; Harraf, Wanasika, Tate, & Talbott, 2015; Serrador & Pinto, 2015; Tripp, 2012). In fact, 75% of highly agile organization met their goals/business intent which was only achieved by 56% of organizations with low agility[1] (Harraf et al., 2015). Apparently, agile project management processes activate some sort of mechanisms that accelerate projects and enhance impact. But what is the nature of these mechanisms, why do they create higher success rates and which processes activate them?

Multiple project management methodologies and handbooks present descriptive or normative processes which project managers ought to use in order to achieve project success – some of these processes are considered agile, and some are not (ex. PMI, PRINCE2, SCRUM, Lindegaard & Olsson, 2015; Mikkelsen & Riis, 2010 etc.). While these processes might increase the project success rate, they tell us little of the underlying reasons, the

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[1] PMI measures organizational *agility* on the organizations ability to: Respond quickly to opportunities, Shorten decision/production/review cycles, Manage change, Integrate the voice of the customer, Manage risk, Assign interdisciplinary project teams, Eliminate organization silo, Implement contingency planning, Use iterative project management practices, Leverage technology

mechanisms, that cause the success. The normative and descriptive project management literature often explains *when* and *how* of the process, but seldom *why.*

Understanding why the processes works will enable us to design more efficient processes. It enables us to evaluate whether a process is meaningful or should be optimized to activitate one or more success-enhancing mechanisms. I argue that the mechanisms and their impact are more important than the formal process. The proceeses only serve as a mean to activate the mechanisms. We need to do the right things, not to do things right.

The research will have theorectical implications. Project management has traditionally belonged to the domain of engineering with a strong focus on rational linear processes recognizable in i.e. PMBOK[2]® Guide (PMI, 2017). Consequently, traditional project management has focused on the harder management aspects opposed to softer and less tangible human aspects. Projects are completed by project teams, and project teams consists of humans. And humans doesn't always behave rationally but are subjects of bounded rationality, irrational feelings, bias and heuristics (ex. Kahneman, 2011; Simon, 1972).

Combined with Ruth (2017), this study will connect the hard and soft processes by explaining the mechanims that agile project management processes set into motion. Drawing on motivational and organizational theories, I will show why i.e. a project plan created by the entire project team on a shared location will accelerate project success compared to a setting where the project manager makes it alone on his computer.

To fully understand this study and its purpose the reader must have basic understanding of what precededed this study and the process which brought the mechanisms to our attention.

1.2. Ruth (2017) – Success-enhancing mechanisms in Agile Project management
In my previous study (Ruth, 2017), I identified how and why certain project management methods resulted in increased project success. I examined three projects conducted with the agile project management methodology Project Half Double and conducted interviews with the management consultants and project managers that had driven the projects' work processes. The Half Double Methodology is closely connected to lean and agile and has three core principles: Impact, Flow and Leadership. Each principle is brought to life by three agile methods and to each method a recommended work process is connected. In total there are nine Half Double methods and nine tools. Half Double's last dimension is Local Translation. Half Double recognizes, that each project is unique and exists in a specific

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[2] Project Management Book of Knowledge (PMI, 2017)

context and as such, the methodology needs to be 'translated' so it matches the local context (Implement Consulting Group *et al.,* 2016; 2017).
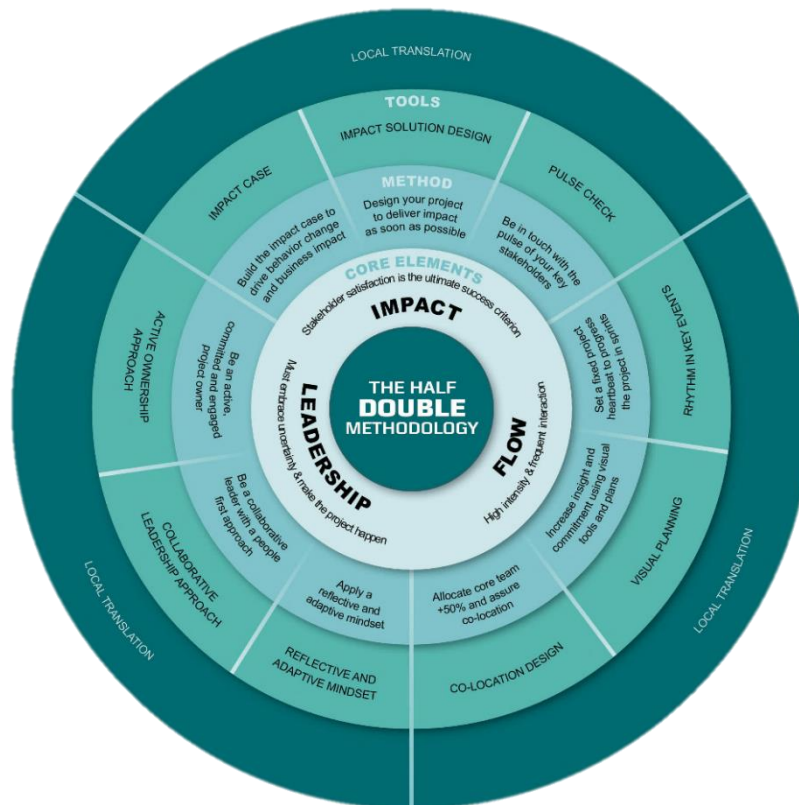
Figure 1 The Half Double Methodology

The Half Double projects had a higher success rate compared to comparable projects in their organizations (Implement Consulting Group et al., 2016; 2017) and provided relevant cases to study methods leading to project success. I identified eight success-enhancing mechanisms that were activated by Half Double's agile project management methods and resulted in increased project efficiency, stakeholder satisfaction and organizational impact. I called the mechanisms:

Mechanisms/Abbreviation	
Social Obligation	SO
Sense of Ownership	SOO
Hawthorne Effect	HE
Satisfaction Through Involvement	STI
Satisfaction Through Progression	STP
Reducing Time Waste through Informal Coordination	RTW
Better Estimates Through Frequent Feedback	BET
Doing The Right Things over Doing Things Right	DRT

Table 1 The eight Success-enhancing mechanisms and their abbreviations

The mechanisms were interconnected and difficult to isolate completely from each other. This following example will illustrate this: One way the Half Double projects reduced lead time was by reducing the time spent setting up formal meetings and using email for coordination. Instead the project team had a fixed meeting frequency where they collocated and worked in close proximity. This provided multiple opportunities for the team members to discuss and coordinate relevant problems that would normally have been discussed several days/weeks later, thus reducing time waste (RTW). But the collocation also made it visible if a person didn't contribute to the project and deliver on his promises. And the informal coordination meant, that this person wasn't just letting strangers down, but colleagues to whom he had a created a relationship. This created a social pressure (SO).

By naming the mechanisms, I unavoidably removed some of their nuances. For example, the current study's data set showed that the mechanism SO also contains some people's internal norms to act altruistically. These persons are not necessarily obligated to help or contribute, but they behave altruistically because it will affect their self-image if they don't. Due to this, Social *Obligation* might be an inaccurate name for the mechanism.

1.3. Research Questions

This study further investigates these eight success-enhancing mechanisms and will try to recapture parts of the mechanisms' nuances. It will increase the understanding of how and why these mechanisms create efficiency and enhance impact. I will do this by answering two research questions: A descriptive research question that provides definitions of the mechanisms and an exploratory one that explore why the mechanism create efficiency.

> *RQ1: What characterizes each of the eight success-enhancing mechanisms?*

> *RQ2: Why does the success-enhancing mechanisms create efficient work processes in temporary organizations?*

Ruth (2017) indicated the mechanisms' presence but didn't describe the individual mechanisms. RQ1 closes this gap. In order to understand why the mechanisms cause an effect, we first need to understand the nature of the mechanism, and I needed additional data to answer the RQs and understand why the mechanisms cause success. This data was provided by interviews with senior management consultants who specialize in project management and efficient project management processes. The themes I derived from the interviews were used as search words for a literature review that explored the mechanisms. To answer the RQ2, I tied the success-enhancing mechanisms to two different theoretical categories, motivational theories and organizational theories, and used these theories to

explain the mechanisms' effects. This ultimately allowed me to understand why the mechanisms create efficient work processes in temporary organizations.

1.4. Scope and limitations

All projects need scoping and this project is no exception. The research questions held the potential to take me in many different directions and without a proper focus, the quality would doubtlessly suffer. As the saying goes: he who prioritizes everything, prioritizes nothing.

This study focuses on temporary organizations. Temporary organizations differ from traditional organizations partly because they per definition seize to exist at a point in time. Task forces, program committees, action groups, theater productions or project teams are formed, appointed or organized to handle a felt need for action, by addressing a particular problem in order to create a specific, and often, unique result (Lundin & Söderholm, 1995; Lindegaard & Olsson, 2015; Mikkelsen & Riis, 2010). This study will focus on a specific type of temporary organizations: project teams.

Examining the success-enhancing mechanisms in these project teams is a natural sequel to Ruth (2017). This study also focused on this specific organizational context and allowed me to revisit its data. As mentioned, projects play a large role in the world's current and future economy. Understanding how the mechanisms work in this context could provide us with opportunities to design project management processes that ensure activation of as many success-enhancing mechanisms as possible, thus increasing project's success rate.

Lastly, project teams provide an interesting and relevant context because the project team has fewer chances to get it right compared to line organizations. A project team must create its impact at specific dates, but the working processes leading to these impacts are characterized by greater uncertainty and complexity than the line organization (Lindegaard & Olsson, 2015; Mikkelsen & Riis, 2010; PMI, 2016). This means that the project manager must ensure efficient work processes in a more uncertain and complex context than his line manager peers. He doesn't have several months to develop an efficient team. He has days or - if she is lucky (or clever) - weeks. And he can't always rely on formal authority to regulate behavior.

This study's unit of analysis is the *organizational processes*[3] related to project management, and the level of analysis is the *micro-level* (Garvin, 1994). I chose this scope because it allowed me to investigate how and why the success-enhancing mechanisms affect the

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[3] Garvin (1994) describes three different categories of organizational processes. Work processes focus on accomplishing tasks that produce outputs with or without direct value to the customer. Behavioral processes focus on ingrained behavioral patterns which reflect an organization's characteristics of acting and integrating. Change processes focus on sequences of events over time and describe how individuals, groups, and organizations adapt, develop and grow.

project teams' work processes, behavioral processes and change processes. Ultimately, the study investigates behavioral processes, but they can't be investigated in isolation:

> *All behavioral processes share several characteristics. They are generalizations, distilled from observations of everyday work and have no independent existence apart from the work processes in which they appear. This makes them difficult to identify but explains their importance. Behavioral processes profoundly affect the form, substance, and character of work processes by shaping how they are carried out* (Garvin, 1994)

The success-enhancing mechanisms don't exist in a vacuum but are activated and become evident by the project team's work processes e.g. when the team collocate and collectively and visually creates a project plan.

A study with a 75-page limit proved to be insufficient to examine all eight success-enhancing mechanisms in-depth. Analyzing all eight mechanisms would have added an additional 30 pages to the study. Due to this, all eight mechanisms will be described and defined in chapter 2, but the analyses in chapter 4 will only provide theoretical explanations for three of them. These analyses will be examples of how the mechanisms can be connected to existing academic literature, and given the time and space, similar analysis could be conducted on the remaining five mechanisms.

1.5. Definitions

In this paragraph I will define specific terms used in the report in order to create a common understanding of the terms.

Work process: Work processes focus on accomplishing tasks that produce outputs with or without direct value to the customer (Garvin, 1994). A work process is a specific ordering of work activities across time and place, with a beginning, an end and clearly defined outputs (Davenport, 1993).

Project success: In this study, project success is divided into three categories: (1) project efficiency, (2) stakeholder satisfaction and (3) organizational impact. Some scholars conceptualize project success as a single-dimension construct concerned with the how efficient the project is in meeting budget, time, scope and quality goals (Müller & Turner, 2007; Pinto & Slevin, 1988; PMI, 2000). I refer to this as *project efficiency.* Recently, others consider project success a complex, multi-dimensional concept involving several attributes (Cooke-Davies, 2002; Mir & Pinnington, 2014; Serrador & Pinto, 2015; Shenhar, 2001; Shenhar, Dvir, Levy, & Maltz, 2001) This concept includes how subjectively satisfied stakeholder's are with the project, stakeholder satisfaction, and organizational impact which measures

how well the project succeeded in moving the organization in the desired direction. A literature review of project success can be found in Ruth (2017).

Efficient: Efficient is defined as achieving maximum productivity with minimum wasted effort or expense (Oxford, 2018a) or being productive of desired effects; especially being productive without waste (Merriam-Webster, 2018a). In this study, efficiency is connected to the work processes leading to project success' three categories, not just project efficiency. This means, that an efficient work process doesn't only ensure swift task execution but also ensures that the output produced by the work process will create the desired organizational impact and leave stakeholders satisfied.

Success-enhancing mechanism: A mechanism is a natural or established process by which something takes place or is brought about (Oxford, 2017b). This process can be mental and/or social, meaning that the person's and/or social group's actions produce an effect. Mechanisms are often hidden, like the working of a clock that cannot be seen but drive the patterned movements of the hand (Pawson & Tilley, 1997). Success-enhancing mechanisms are the underlying mechanisms that are hidden in the work processes and enhance project success through a specific behavior.

The mechanisms were renamed from success-*creating* mechanisms (Ruth, 2017) to success-*enhancing* mechanisms, because the data revealed that it was a more appropriate adjective for the mechanisms. To *enhance* is to increase or improve in value or quality (Merriam-webster, 2018b). The success-enhancing mechanisms improve the quality of processes that leads to project success.

Temporary organizations: Temporary organizations seize to exist at a point in time. As such, they differ from traditional organizations. Task forces, program committees, action groups, theater productions or project teams are formed, appointed or organized to handle a felt need for action, by addressing a particular problem in order to create a specific, and often, unique result (Lundin & Söderholm, 1995; Lindegaard & Olsson, 2015; Mikkelsen & Riis, 2010).

Altruism: Team members' interdependent, voluntary actions benefiting others (e.g., fellow team members, their own team as a whole, those outside the team) that involve self-sacrifice and are not mandated by central authorities (e.g., team leaders, managers) or formal sanctions (Li, Kirkman & Porter, 2014).

CHAPTER 2. THEORY

Obviously, projects can be successful without the presence of the eight success-enhancing mechanisms or the agile methods that tends to activate them. Projects can be completed without project team members ever writing their name on a post-it and sticking them on posters or without the project team members ever meeting each other physically. It is typically just less efficient. Using an analogy, all projects have an internal combustion engine that pushes them forward. But the success-enhancing mechanisms are the turbocharger that increases the internal combustion engine's efficiency and power output by forcing extra air into the combustion chamber. If one or more success-enhancing mechanisms are activated, then more air is forced into the combustion chamber, which result in better efficiency and better power output.

This chapter will essentially answer two questions*: What characterize these success-enhancing mechanisms?* And *which theories might explain the success-enhancing mechanisms?* In this chapter, I will answer RQ1 and provide us with the theoretical insight we need to answer RQ2

First, I will present a descriptive analysis of the success-enhancing mechanism drawing on a consolidated data set, where this study's primary data is supported by qualitative data from Ruth (2017). It will show the variations the mechanisms appear in and which aspects each of them has (Elliot & Timulak, 2005). I will finish the chapter with a literature review which provides theoretical evidence and explanations for the success-enhancing mechanism. This theory will be used in chapter 4 where I will test the strength and extent of the theories explanation power regarding the mechanisms.

2.1. The eight success-enhancing mechanisms

The eight success-enhancing mechanisms (table 2) were activated by the application of a set of agile project management methods. Notably methods which emphasized collocation, visualization of progress and purpose, co-creation and the physical presence of the project owner. In this subchapter, I will conduct a descriptive analysis of the mechanisms.

Mechanisms/Abbreviation		
Social Obligation	SO	
Sense of Ownership	SOO	
Hawthorne Effect	HE	Type 1
Satisfaction Through Involvement	STI	
Satisfaction Through Progression	STP	

Reducing Time Waste through Informal Coordination	RTW	
Better Estimates Through Frequent Feedback	BET	Type 2
Doing The Right Things over Doing Things Right	DRT	

Table 2 The eight success-enhancing mechanisms

I will start by placing the eight mechanisms into two categories: Type 1 and Type 2. Afterwards I will describe and define each of the mechanisms using the consolidated data set. This helps illustrate how I originally identified the mechanisms and will give the reader the opportunity to make his or her own opinion on the matter. Due to space limitations, I will only use one quote pr. mechanism and I encourage the reader to visit Ruth (2017) for additional qualitative data that supports the analysis.

I will use the term *agent* in my definitions. Agency embodies the belief systems, self-regulatory capabilities and distributed structures and functions where personal influence is exercised. To be an agent is to intentionally make things happen by one's actions (Bandura, 2001). The mechanisms ultimately affect how people chose to act.

Figure 1 below shows three dimensions: Discourse, Behavior and Outcome[4]. SO, SOO, STI, HE and STP affect the agent's beliefs and discourses, and how they *choose* to act. I call these Type 1[5] mechanisms. RTW, BET and DRT affects the agent's concrete behavior, meaning the actions they *perform*. I call these Type 2 mechanisms. This distinction helps us understand the mechanisms and their effects. Using the turbocharger analogy, some mechanisms compress the air and some mechanisms convert this air to energy.
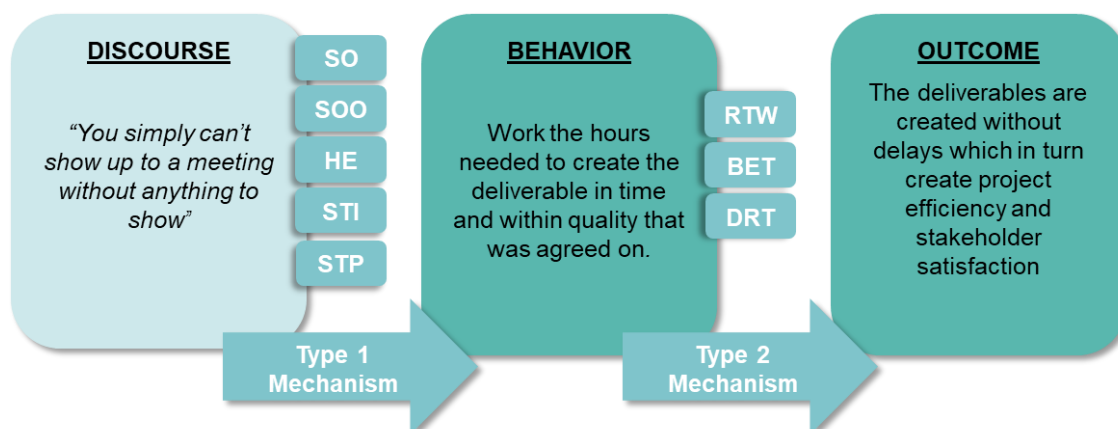
Figure 1 Type 1 and 2 Mechanisms

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[4] The discourse represents the agent's beliefs. I use the term *discourse*, because it is my interviewees discourses that are my immediate entry point to the mechanisms. The deliverable will not be created, just because we talk about it ought to be created. It's created by action; behavior. I will return to this in the next chapter where I discuss research philosophy and data collection

[5] Type 1 and Type 2 mechanisms share no immediate connections with Kahneman's Type 1 and 2 Thinking Kahneman (2011).

The example above takes point of departure in a Type 1 Mechanism: SO. We see the presence of SO in the discourse "You simply can't show up to a meeting without anything to show". The mechanism indirectly affects how the agent chooses to behave: The agent chooses to work the hours needed to create the deliverable within time and quality. This leads to an outcome: No delayed or poor deliverables which create project efficiency and stakeholder satisfaction. Now let's look at a Type 2 Mechanisms: BET. This mechanism directly affects the agent's behavior. The agent frequently sends out requests for information and in turn receive frequent environmental inputs. The agent then uses these inputs to create more accurate estimations and more accurate plans and prioritizations. This behavior reduces the amount of rework and ensures that the stakeholders get the impact they want, instead of the impact they thought they wanted when the project started. This creates project success.

Type 1 mechanisms *encourages* efficient behavior whereas Type 2 mechanisms *are* efficient behavior.

Type 1 Mechanisms

2.1.1. Social Obligation

SO is a mechanism that drives an agent to deliver on its promises and behave according to social group's interests. The agent wants to live up to the internal and external expectations of performance in a social context. It involves fear of failing to live up to internal standards and norms and thereby disturbing the person's self-image. It also involves fear of failing external standards and norms and thereby risking social pressure and sanctions. But SO is not just a driven by fear of sanctions. It is also driven by commitment[6] to the tasks at hand and the project's members and purpose. As such, SO also involves altruistic actions which doesn't involve social regulations.

SO is connected to the trust that exists between people. The agents trust each other to make decisions and behave in a manner that benefits the group, because the agents feel obligated or committed to do so. The benefits of trust are widely recognized and documented e.g. the combination of *trust* and *success* on JSTOR result in 233,907 peer reviewed articles. For example, in transaction cost economics, trust is seen as a mean to cut governance costs because trustful relationship between agents reduce the expenses on frequent checks and explicit contracts (Williamson, 1985). Similarly, trust is regarded as fundamental for team building and effective knowledge management (ex. Besant *et al.,* 2012; Boisot & Child, 1999; Nonaka & Konno, 1998; Tuckman & Jensen, 1977)

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[6] Commitment can be defined as *the state or quality of being dedicated to a cause or activity* (Oxford, 2018)

The data analysis makes me define the success-enhancing mechanism SO as: *A mental process that makes an agent choose to act efficiently due to a feeling of obligation or commitment to a social actor. These actions in turn reinforce agents' feelings of obligation or commitments*

The data showed that the effects of SO increases when the persons are in physical proximity and use visual tools e.g. post-its that hold an agent's name. The mechanism became apparent when the project teams used methods emphasizing collocation and visual planning; two themes that are typical for agile project management methodologies.

The following quote from Ruth (2017) is an example of how SO affected the project team members discourses. The interviewees worked on different projects in different firms, but the mechanisms seemed to be the same:

> *When they have to put their name up [on the Sprint Planning Poster] and tie it to 3-4 tasks they must do within the next two weeks, and every morning you can see if there is progression or not, then they feel obligated to deliver. (GN1, 2017)*

The quote doesn't reveal how the agent acted in the situation, only how the mechanism affected their feelings and discourses: it made them want to act, perform, and deliver. But the evaluation reports showed that the project teams acted on these feelings. All of the Half Double pilot projects were executed faster and created more impact than comparable projects in the pilot organizations (Implement Consulting Group et al., 2016; 2017).

2.1.2. Sense of Ownership

SOO is a mechanism that drives an agent to invest resources in a process or an object beyond what they normally would do. The agent prioritizes it over other things because they understand its purpose, and they feel they have the choice, opportunity and power to influence the process or object. As such, the agent feels it has the responsibility for its failure or success. It is connected to a feeling of autonomy and self-interest. SOO cannot be forced. If the agent experiences an external pressure, the mechanisms will change character and transform into SO.

The data analysis makes me define the success-enhancing mechanism SOO as: *A mental process that makes an agent prioritize resources to the object of ownership due to a feeling of purpose, autonomy and responsibility - and sometimes, affection.*

The data showed, that SOO became evident when the interviewees discussed the role of an active project owner or when they talked about co-enhancing e.g. a project plan visually. In project management, the project owner's SOO often results in resource allocation which

reduces delays and makes the project owner champion the project which in turn increases organizational impact (Sirkin, Keenan & Jackson, 2005). The project team members SOO is also essential. Team members often balance their resource allocation between projects and their regular task in the line organization which force them to prioritize their time. Activating this particular mechanism in the team members is key to keep the team focused on the project's tasks and work efficiently with them

The mechanism SOO is evident when project managers or senior executive have 'pet projects'. Most of us like children, but we love our own. Among other reasons, we love them because we made them, we know them, and we have the power to influence them. SOO sometimes makes us act irrationally and we sub-optimize and prioritize our object of ownership and disregard the holistic perspective.

SOO exists in parallel with SO but in essence they are different. This real-life experience serves as of example of the distinction between SOO and SO:

> *A, to me unknown, colleague from another department invited me to a meeting so I could share my expertise in arranging a specific type of event. When the minutes of meeting was distributed I found my name on five deliverables, though I had offered to help their department with only one, Task A.*
>
> *I made all the deliverables on the list. However, I had a SOO for Task A because I – not others – had decided what to do, and when and how to do it. I made Task A faster and to a better quality than the remaining four. These tasks, I made just in time and just within the expected quality. This work process was driven by a weak SO, as I had no social ties with the colleague and he had little power to sanction or reward me.*
>
> *SO also drove me to solve Task A. I had told them I would solve it. If I didn't, I would break with my own norms, not just the norms that exists in the company. It would affect my self-image if I failed them.*

The example shows the distinction between SOO and SO and shows the mechanisms effects can be accumulated.

The following quote from Ruth (2017) is an example of how SOO affected the agent's discourses and beliefs. The interviewee discusses the use of visuals and an active project owner:

> *We printed key visuals before every project owner meeting […] And what it created in the process was that we were all standing at the wall, all pointing, all engaging. The project owner was actually taking his pen at one point and drew on the flip how the new Impact Solution Design should look. He got extreme ownership because he could feel, and touch and change the project. It wasn't an abstract concept – it was there in front of him – making it much easier to relate to. Making the complex very tangible, making it easy to change by doing some empowering ownership. (VX1, 2017)*

2.1.3. Satisfaction Through Involvement

This mechanism resembles SOO but can be considered its "light" version. While STI make the agent understand purpose and evoke a feeling of influential power, the power to make the final decision does no reside with the agent. This means that STI isn't connected to autonomy. Being involved gives the agent a sense of *process justice* e.g. ensuring that stakeholders are heard, and the decision-making processes are transparent (Olesen, Thoft, Hasle & Kristensen, 2008). STI makes the agent experience it is part of an ingroup which it identifies with, in contrast to an outgroup which it doesn't. Invoking the mechanism reduces outgroup hate and the hostile actions that follows (Corell & Parker, 2005; Goette *et al.,* 2012).

The data analysis makes me define the success-enhancing mechanism STI as: *A mental process that makes an agent decrease hostile actions towards an object due to a feeling of involvement and acknowledgement.*

The mechanism SOO will also prevent hostile actions towards the object, but STI doesn't make the agent prioritize resources to the object. STI could evolve to SOO if the agent experience autonomy. Using a democratic election as example, I will try to visualize the mechanisms differences:

> *In Denmark we have democratic elections. As a citizen, I understand the purpose of democratic election and I have the power to influence who will govern the country. While my party or candidate might not be elected to parliament, I had the opportunity to influence the process. I accept the solution, though I might disagree, and don't act hostile towards the government. This is STI.*
>
> *Now consider the candidates. The candidates create their own political agenda, chose which topics to stress and which methods they will use to convince voters that their political view will bring prosperity to Denmark. They voluntarily spend many hours to get elected and communicate their messages and allocate resources to processes that will support their self-interest. This is SOO.*
>
> *Now consider despotism. In this case, citizens are not involved in the decision on how their country should be governed and who will rule. The citizens can only influence this decision through hostile actions towards this process such as demonstrations or rebellion. This is lack of STI.*

While the last example may seem extreme, it is recognizable in project contexts. If the project's stakeholders, including the project team members, feel uninvolved in the process they tend to react with hostile actions e.g. aggressive complaints, undermining activities or indifference towards the process. This has led to series of project management methods such as stakeholder analysis, stakeholder categorization etc. These methods essentially seek to activate STI and preventing hostile behavior towards the projects and ensuring viable solutions (ex. Lindegaard & Olsson, 2015; PMI, 2017).

Activating the mechanism in the project teams and powerful stakeholders will help the project achieve project efficiency, because the plan isn't sabotaged. Activating this mechanism in the project's end-users is beneficial as it reduces the Not-Invented-Here Syndrome, increase stakeholder satisfaction and the odds for creating the desired organizational impact

The following quote are examples of STI:

> *For me [The PHD method] active ownership also includes the user. Because they will eventually own the process and we need to know that we have the right inputs. And getting the thing they know and want affects the stakeholder satisfaction. (NN1, 2017)*

The following quote is neither from Ruth (2017) or comes from a management consultant. It's stems from a conversation with a senior manager from a large Scandinavian company, where we discussed an organizational change project he was a part of.

> *He didn't ask for my opinion, so I stalled the process for two weeks. That will teach him to ask for my opinion before he executes. (ER, 2018)*

2.1.4. Hawthorne Effect

This Type 1 mechanism is named after the famous study that was conducted in the Western Electric factories in USA in the years 1927-1932. The study's purpose was to establish the connection between changes in the physical working conditions and changes in the workers' productivity. The surprising discovery was that the experimental group's productivity increased regardless of the physical working conditions and when the study was over, and observations seized, productivity dropped. The Hawthorne Effect – or observer effect - states that behavior during the course of an experiment can be altered by a subject's awareness of participating in the experiment (Jones, 1992). The observer affects its subject.

The Hawthorne experiments and effect has been criticized because very little evidence on the effect exists from the original study and the results properly wouldn't have survived a peer-review nowadays (ex. Bloombaum, 1983; Jones, 1993; Kristensen, 2007). Regardless of the critique, the Hawthorne Effect is firmly entrenched in literature and in the past 80 years the Hawthorne Effect has apparently been used to describe a success-enhancing mechanism: Attention to employees has a dominant impact on productivity.

The data analysis makes me define the mechanism HE as: *A mental process that makes an agent behave productively due to a high hierarchy person's attention.*

The following quote is an example of HE. A senior consultant talks about the importance of one of the PHD methods. A method that makes the project owner increase his presence in the project:

> *I think it had a tremendously impactful effect. We showed a prototype to the project owner and he started asking questions on the process. That was a fantastic interaction to have with the project owner […] It gave the project some importance. People felt, that it was important because the owner spent time on the project every week. So we better deliver! It put the team a little bit under pressure. It gave it importance. People felt more obligated to deliver on their promises because the boss was there, and they would have to look him in the eyes and say that they hadn't delivered. (NN2, 2017)*

2.1.5. Satisfaction Through Progression

This mechanism drives the agent to continue to work on a process because it experiences actions and efforts matter and bring it closer to the process's purpose. It convinces the agent that its allocated resources are well-invested and result in success. The mechanism has a social dimension. When the project team gathers to evaluate, the progression becomes apparent for the entire team and it becomes a symbol of team progression. As the saying goes: Success has many fathers, but failure is an orphan.

Many of us have experienced the joy of checking off tasks on a To-Do list. We have broken a big task into manageable, achievable tasks and visualized it. We check off the tasks as we go along and realize that eventually, we will succeed. Eventually we will have "eaten the elephant." In project management, Work Breakdown Structures and Product Backlogs serve the same purpose. They visualize the tasks we need to accomplish to meet the project's purpose and they provide a way where we can check off tasks and experience progression. We can observe that our efforts are worth the investment.

The data analysis makes me define the mechanism STP as: *A mental process that makes an agent allocate resources to a process due to a feeling of success and worthwhileness[7].*

The following quote is an example of STP. In the interviews I asked if and why working in sprints of 3-6 weeks and rhythm in key events were motivational factors. The quote focus less on the behavior and more on the feelings and discourses leading to increased efforts. Nevertheless, all the interviews attributed sprints and the motivational factors as crucial for cutting project lead time.

> *[Rapid feedback creates motivation] because you see results and value being created and people changing their mindsets. When you are allowed to show your product - a sub-part of the solution - and get feedback on it, then you feel that you are creating something valuable which makes you happy and motivated. How do people look when they have run a marathon and when they have run a sprint? Sprinters are energized, almost ready to run again, and after a marathon, they are collapsing. (VX2, 2017)*

Type 2 mechanisms

As presented in the start of the chapter, Type 1 mechanisms encourage efficient behavior whereas Type 2 mechanisms foster efficient behavior. Where Type 1 mechanisms describe a *mental* process that affects the agent's actions supported by collective symbolic actions, Type 2 mechanisms describe an *observable* process which creates project success.

The Type 2 mechanisms may appear somewhat common-sense and bring little new knowledge. Regardless, these three mechanisms, when activated, result in efficient work processes and accelerate project success. While most of us know it's more efficient to communicate complex messages orally, we are still proned to use written media such as emails.

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[7] Being worth the time or effort spent (Merriam-Webster, 2018c)

2.1.6. Reducing Time Waste Through Informal Coordination

By collocating and having standards in terms of meeting-frequency and topics, the agents reduce non-value adding administration time which in turn decrease project lead time and increase project efficiency and stakeholder satisfaction.

Adults type in average 40 words pr. minute but speaks an average of 155 words per minute (Bell, 2001). This factor alone makes an agent who communicates orally more efficient in terms of time use. But RTW incorporates other mechanisms as well: the sender receives immediate feedback on her message and can rephrase it to create a shared understanding of a situation. As such the mechanism also supports the benefits from the mechanism BET, which will be described in the next subchapter. RTW can stimulate the mechanism SO due to the human interactions, but the efficient effects of RTW occur independently from SO. Logically, an agent can communicate more words per minute orally than in writing, regardless of interpersonal relationship and norms.

The data analysis makes me define the mechanism RTW as: *An observable process that makes an agent reduce administration time and quickly create a shared understanding of a situation due to frequent face-to-face coordination.*

The following quote from Ruth (2017) illustrates the mechanism RTW. The interviewees were asked why collocation – and consequently face-to-face communication – had contributed to project success:

> *First of all, it's fun. But it also gives you a lot of knowledge on whether you are on the right track or not. And we did that by having a synchronized takt and we knew exactly when to meet and what to talk about. And we all had a lot of meetings in our calendars. We didn't want that. So a synchronized takt actually reduces the amount of time you spent on meetings, because you can cancel a lot of long meetings by have shorter meetings more frequently. […] And we assume so many things. It's so easy to point fingers at somebody from the other department for not doing what we need them do, because we don't understand the intentions behind what they do. So collocation – or at least working visually - where you are looking at the same things, and you don't have your plan and I have my plan, but we actually have a cooperative plan with goals that have been widely communicated, that what's make it efficient. (GN2, 2017).*

2.1.7. Better Estimates Through Frequent Feedback

Projects are unique and set out to create change. Because of this, their environments are per definition characterized by uncertainty. The more you work on the project, the more you learn, and the more uncertainty is reduced. Ironically, the most important project decisions are taken in the beginning of the project where the level of uncertainty is greatest (ex. Lindegaard & Olsson, 2015; Mikkelsen & Riis, 2010; PMI, 2017).

The mechanism BET reduces the level of uncertainty and enables the agent to make plans on accurate grounds of information due to frequent environmental feedback. The agent frequently tests its assumptions and hypotheses on its internal and external environment. The internal environment refers to the space which the project team's agents operate in and can affect immediately e.g. prioritization of project task and resources, meeting agendas etc. The external environment refers to the space outside the project team's agents immediate span of control e.g. change in end-user preferences and needs, the industry's business environment and high-level, business strategy decisions etc. (Chin, 2004).

The data analysis makes me define the mechanism BET as: *An observable process that makes an agent create accurate estimates and plans due to frequent feedback from its internal and external environment.*

This mechanism can be found in Lean Startup, (Ries, 2011) and agile project management (ex. Augustine, Payne, Sencindiver & Woodcock 2005; Chin, 2004, PMI, 2017) which argues for quick, frequent and iterative customer interaction and deliveries. The interactions create frequent feedback on the project plan which results in project efficiency as fewer resources are spent on rework. It creates stakeholder satisfaction because the customers receive the deliverables they want and need, and it creates organizational impact because the deliverables are put into use by the end-users.

The mechanism BET is deeply rooted in The Manifesto for Agile Software Development (Alliance, A., 2018). It defines four values all agile methodologies must conform to twelve principles which should be used when running agile projects (Appendix A). Below you can see a selection of the principles:

- Customer satisfaction by early and continuous delivery of valuable software
- Working software is delivered frequently (weeks rather than months)
- Close, daily cooperation between business people and developers
- Welcome changing requirements, even in late development
- Face-to-face conversation is the best form of communication

The following quote is an example of BET. The interviewee was asked if and why short sprints and visual planning created project success:

> *It was good for them to be collocated and discuss matters immediately in the morning and say "Ok, this is the problem I have. We will take a meeting in two hours".[…] it influenced the team's satisfaction because they could see the progression and they knew where they were heading; the purpose of their work. It helped coordinate on the spot and get a common understanding of the project. (GN1, 2017)*

2.1.8. Doing The Right Things over Doing Things Right

"Employ all combat power available in the most effective way possible; allocate minimum essential combat power to secondary efforts."- The principle of Economy of Force (Department of the Army, 1993)

The mechanism works by allocating minimum effort to initiatives that doesn't lead directly to the project's overall objective; Objectives which in turn are defined, decisive and attainable. Thereby the agent avoids waste and uses the resources efficiently.

The data analysis makes me define the mechanism DRT as: *An observable process where an agent through analysis prioritizes the activities that create most impact without constraining its cause of actions on doctrines.*

While this appears common-sense, some project managers fail to activate this mechanism and reap its effects. Instead, projects are executed quickly; perhaps to activate STP fast or show results to the Steering Committee who demands action and visible results. The data from Ruth (2017) showed that in order increase project success, the project team ought to focus their frontend analysis on the quickest and best way to create the desired impact, rather than making analyses aimed at making accurate estimates on the future.

I will illustrate this with an example from J.R.R. Tolkien's undying classic Lord of The Rings (Tolkien, 1954):

> *The Fellowship of The Ring could have saved time and resources, if they had spent a month analyzing the quickest way to achieve impact: Sauron's destruction. The analysis would have shown that the Great Eagles could fly the Ring to Mount Doom in two days. Instead of using 6 months walking and fighting, they could use two months on intense stakeholder management to convince the Great Eagles to fly them. The Result? The Fellowship would have delivered impact in half the time and saved countless lives on both sides.*

Of cause the story might not have been filmed, but it could have inspired project managers worldwide and boosted the economy.

This mechanism can be traced back to Sun Tzu before 500 BCE (Tzu, S, 2008), Carl von Clausewitz's famous books On War (von Clausewitz, 1940) and the modern Principles of Warfare (ex. Department of the Army, 1993). The same mechanism is evident in e.g. LEAN and Value Stream Mapping where waste is reduced by critical analyses of the tasks (Distelhorst, Hainmueller, & Locke, 2014)

The following quote from Ruth (2017) illustrates the mechanism DRT. The interviewees were asked why spending time frontloading impact reduced time:

> *We managed to reduce the impact by 47%. Basically, we did this by early testing and prototyping. Instead of doing early design of solutions in six months – drawing the blue prints and setting the commas – instead we made the overall solution on a brown paper – the Impact Solution Design – and then we started building, testing on the fly and documenting on the fly. So much more agile software development. Small sprints with build test and documentation. The normal modus in Novo Nordisk is to design for 6 months, then you build for 6 months and then you test for 2 months, and then you go live, and then you fix bugs and then you go live again. And that takes approximately 2.5 years. We did it in less than one year. (NN1, 2017)*

2.1.9. Synthesis

The table below sums up the mechanisms definitions. The table can also be accessed in in appendix B.

Mechanism	Definition
SO	*A mental process that makes an agent choose to act efficiently due to a feeling of obligation or commitment to a social actor. These actions in turn reinforce agents' feelings of obligation or commitments*
SOO	*A mental process that makes an agent prioritize resources to the object of ownership due to a feeling of understanding, autonomy and responsibility - and sometimes, affection.*
STI	*A mental process that makes an agent decrease hostile actions towards an object due to a feeling of involvement and acknowledgement.*
HE	*A mental process that makes an agent behave productively due to a high hierarchy person's attention.*
STP	*A mental process that makes an agent allocate resources to a process due to a feeling of success and worthwhileness.*
RTW	*An observable process that makes agents reduce administration time and quickly create a shared understanding of a situation due to frequent face-to-face coordination.*
BET	*An observable process that makes agent create accurate estimates and plans due to frequent feedback from its internal and external environment.*
DRT	*An observable process where an agent through analysis prioritizes the activities that create most impact without constraining its cause of actions on doctrines*

Table 3 Definitions, Success-enhancing Mechanisms

The eight success-enhancing mechanisms have been categorized and described. Type 1 mechanisms affect the agent's beliefs, discourses and the manner they choose to act. As such Type 1 mechanisms have an indirectly effect on the agent's behavior. Type 2 mechanisms affect the agent's actual behavior directly. I have connected the mechanisms to project management and have shown examples of them outside a project management context e.g. in military strategy or in Lean. In doing so, I indicate that the mechanisms have a

noteworthy generalizability. However, I have not yet analyzed *why* the mechanism work. I have not yet presented a theoretical explanation of why e.g. a feeling of obligation or commitment make an agent act efficiently. This will be done in chapter 4.

2.2. Literature search

I turned to peer-reviewed literature in my pursuit to better understand the mechanisms and why they contribute to project success. As I will explain more in depth in the next chapter, I used grounded theory and qualitative data as the foundation of my literature search. From the dataset, nine themes on efficient work processes in project teams emerged. These themes were used as search words in my literature search and I learned that some mechanisms were more common than others.

Interview and search themes	
Altruism	Proximity
Charisma	Purpose
Efficiency	Teams
Interpersonal relationships	Trust
Motivation	

Table 4 Interview and search themes

The nine themes were unbiased by the mechanisms, meaning that the interviewees had not yet been introduced to the success-enhancing mechanisms when they spoke of the themes above. Using the interviewees themes in a literature review favored mechanisms that, in their experience, created efficient behavior in project team. Because they experienced e.g. trust, interpersonal relationships and motivation as key to efficient work processes much of my literature concerned themselves with these topics. As such, half of the articles came from psychological journals and the remaining half were concerned with other topics e.g. organizational theory (Appendix C). This wasn't what I originally had imagined, but I felt obligated to stay loyal to my data and grounded theory, which apparently favored these themes. That is the nature of exploratory research. It sets a theoretical delimitation on my study. Due to the theoretical perspective, the study got a focus on the intrapersonal and interpersonal mechanisms that motivates agent's behavior.

In total, 790 articles were screened and 31 selected. I screened the titles and abstracts, and selected articles that fitted a project context and answer why-questions e.g. why trust and norms affected motivation and efficiency. By rigorously focusing on *why*, I ensured a focus on mechanisms. The table below shows a small selection of the literature search. I encourage the reader to visit appendix D to view the complete search history in order to assess the study's dependability and transferability.

| Data Base	Search	Hits	Relevant hits	Authors and publication year
EBSCO Host **Databases** (Business source Prem- ier, Academic Search Primer, ERIC) **Period:** No limitations **Language:** No limitations Peer-reviewed	Teams and Groups AND Proximity AND Motivation (abstract)	163	5	Li, Kirkman & Porter (2014) Kirstruck, Lount, Smith & Moss (2016) Choi (2012) Masuda, Kane, Shoptaugh & Minor (2010) Heine, Proulx & Vohs (2006)
	Motivational mech- anisms (abstract)	126	8	Bandura (2001) Aubé, Rousseau & Tremblay (2015) Björnsson (2014) Olivera, Goodman & Tan (2008) Steadman (2012) Langfred & Moye (2004) Breau & Hemingway (2002) Steidle, Werth & Gockel (2013)

Table 5 Selection of the literature search

As I reviewed the 31 articles, I coded them to examine if they provided a theoretical expla-
nation for one or more mechanisms and how well they did so. Some articles were very
empirical e.g. showing that competitive goal structures will result in higher levels of group
motivation than cooperative goals structures in resource-scarce environments (Kirstruck *et
al.*, 2016). Some articles were more theoretically dealing with concepts of meaning and
shared obligation (Björnsson, 2014; Heine, Proulx & Vohs, 2006). If I could connect the
article to a mechanism it was coded *"1"* and if the connection was present, but weak, it was
coded *"0.5"*. If there no connection, it was coded *"0"*. This subjective coding enabled me to
quantify the literature review's fit with the mechanisms and showed if some mechanisms
were more frequently described than others. The table below shows small proportion of the
coding and categorization. The entire article categorization can be found in appendix C.

Authors	Domain	Article themes	SO	SOO	STI	STP	HE	RTW	BET	DRT	Notes
Aubé, Rousseau & Tremblay (2015)	Psychology	Shared understanding, motivation	0	1	1	0	0	1	0	0	Bandura
Bandura (2001)	Psychology	Efficacy, motivation, human agency	1	1	1	1	0	0	0	1	
Baric & Bucik (2009)	Management science	Motivation, leadership, athletes	0	0	0	0	0	0	0	0	Nothing In Line
Benkhoff (1996)	Human Ressource Management	Test of motivational theories, effort	1	1	0	0	1	0	1	0	
Bernard, Mills, Swenson & Walsh (2005)	Psychology	Motivation, motives	1	0	0	0	0	0	0	0	Li et al, Gilbert, Heine
Bessant, Alexander, Tsekouras, Rush & Lamming (2012)	Innovation management	Networks, innovation	0	0,5	0	0	0	0,5	0	0	
Björnsson (2014)	Philosophy	Shared obligation	1	0	0	0	0	0	0	0	Olivera, Bandura, Steidle

Above the table header row, spanning the mechanism columns: **Mechanisms**

Figure 2 Article coding and categorization

The graph below shows the result of the coding. It shows that SO and SOO were the mechanisms that connected best with the literature review's articles. SO is mentioned in 25 out of 31 articles. In fact, SO outcompeted DRT with factor 10. This result aligns well with the interviewees' statements and what they emphasized as essential. While the interviewees discussed the importance of interpersonal relationships, only one of them mentioned processes that would help the team set the right course from the start. The literature research, reflecting the interviewees statements, naturally mirror this.

Number of Mechanism Relevancy Hits
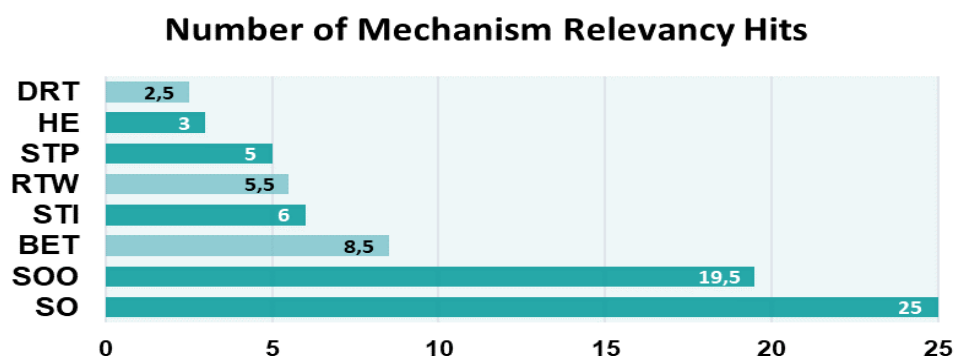
Figure 3 Number of mechanisms relevancy hits

This hit distribution doesn't mean that SO is approximately 10 times more important than DRT or HE. It shows that most of my literature provide theoretical perspectives on SO and SOO, and that the interviewees were more aware on SO and SOO than on DRT or HE.

2.3. Literature review

My literature review also established similarities and differences in the theoretical explanations to the mechanisms. In this subchapter, I will introduce a selection of the theories that explains why the success-enhancing mechanism create efficient work processes in temporary organizations. The theories can be placed in two theoretical categories (1) *Motivational theories,* which are subdivided into an evolutionary and a cognitive perspective and (2) *Organizational theories* focusing on goalsetting, competitive and cooperative structures and altruistic information sharing. I will not explain the mechanisms theoretically in this chapter, but I will introduce the reader to the theories which I then will use in chapter 4.

2.3.1. Motivational theories

As I reviewed the articles it became apparent that across academic domains, there was agreement that social needs are crucial for human behavior. Most agreed that social contexts had a fundamental role in the human motivational mechanisms, but the degree of determinism varied. We have the evolutionary deterministic approach and the cognitive agentic at each end of the continuum. Both perspectives are relevant for this study. The evolutionary theorists suggest why people behave in certain ways and the cognitive agentic approaches examines the processes leading to behavior.

Evolutionary theorists argue humans are driven by motives developed to promote and guide behavior that will solve problems of inclusive fitness[8] encountered within simultaneously evolving social domains. They argue that altruistic behavior is encoded in our genes and is a primordial motive for survival. Social concerns are a primary motivator for human behavior and the human brain is simply primed to attend to it (Bernard, Mills, Swenson, & Wash, 2005; Foss, 2009; Gilbert, 2014; Li, Kirkman & Porter, 2014; Rock & Cox, 2012). Due to this, humans interpret social needs as existential needs, which might explain why SO and SOO ranked relatively high in terms of relevancy. The evolutionary theories provide a fundamental role for motivation because it has great explanatory power in terms of human behavior in social contexts. Because of this, this approach can't be ignored, and I view evolutionary theory as a foundation on which the cognitive theories build. As Caporael & Baron (1997, p. 317) put it: *Groups are the minds natural environment*. When humans are in physical proximity with each other it forces their minds to determine whether the group is an ingroup or outgroup, which will affect the human's behavior (Corell & Park, 2005).

Bandura (2001) opposes the strict deterministic view because it disregards the agent's choice. He claims, that while other species are heavily naturally programmed for stereotypic survival, human lifestyle are in large fashioned by the individual's experience within certain biological limits. One of the major players in human evolution is the ability to exercise agentic capabilities (Bandura, 2001). This specific view is supported by Bernard *et al.* (2001), who argue that a proportion of the genes adapt to the environment. Table 7 displays the core features of human agency and the three modes individuals can exercise their agency.

Core Features of Human Agency	
Intentionality	Individuals can make active decisions to act in order to achieve a certain result. It centers on plans and actions
Forethought	Individuals can anticipate the outcomes of certain actions
Self-reactiveness	Individuals can construct, monitor and regulate appropriate behavior
Self-reflectiveness	Individuals can reflect and self-examine their own cognition and behavior and asses its own efficacy
Modes of Human Agency	
Personal agency	The individual's own influence on the environment to achieve its interests.
Proxy agency	The individual uses another individual's effort to achieve its interests
Collective agency	A group of individuals work together to produce desired results due to shared beliefs

Table 6 Core features and modes of human agency (Bandura, 2001)

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[8] Inclusive fitness is defined as the individual's reproductive genetic output plus the reproductive output that individuals kin, who also care the individual's genes (Bernard, Mills, Swenson, & Wash, 2005)

The agentic approach is relevant for this study because it describes parts of the motives and mechanisms behind the success-enhancing mechanisms. The modes of human agency provide us with an understanding of the context the project team member navigates in. Successful projects rely heavily on proxy agency and collective agency due to project's complexity and cross-organizational set-up. The exercise of effective personal agency requires a level of mastery of knowledge and skills that is only attainable after many hours of hard work. The cost of efficacy is high. Because of this, individuals turn to proxy agency or collective agency. They try, by one mean or another, to get those who have access to resources and expertise or power to act on their behalf to secure the outcomes the individual desire (Bandura, 2001). Bandura is the father of Social Cognitive Theory which states that people acquire knowledge and create plans by observing others in social interactions and estimating the consequences. If the agent perceives the consequence as desirable, it may choose to replicate the actions. Agents do not learn only by trying things out themselves, but rather they depend on replication of other people's actions (Bandura, 1997)

The core features of human agency explain why project team members make plans, set personal norms and adapt their behavior in order to achieve a certain result. Moreover, it deals with efficacy: the individual's belief in their capability to exercise some measure of control over their own functioning and environmental events. Unless people believe they can produce desired results by their actions, they have little incentive to act when confronted with difficulties (Bandura, 1997). This view connects to several motivational theories. Daniel Pink (2011) argues that the key dimensions of motivations are (a) *purpose*, (b) *autonomy* and (c) *mastery*. This aligns with Ryan & Deci's (2000) Self-Determination Theory with its dimensions (a) *relatedness*, (b) *autonomy* and (c) *competence*. Humans seek to interact and experience caring from others, to act in accordance with its own wishes and experience mastery.

Ryan & Deci go further and divide motivation into two dimensions: intrinsic and extrinsic motivation. Intrinsic motivation focuses on the need for autonomy and competence and describes the internal drive to seek challenges. It's defined as *doing an activity for its inherent satisfaction rather for a separable consequence* (Ryan & Deci, 2000). Oppositely, extrinsic motivation comes from external sources. It's defined as *a construct that pertains whenever an activity is done in order to attain some separable outcome* (Ryan & Deci, 2000). Extrinsic motivation is often regarded as pale, impoverished and a contrast to intrinsic motivation, but Ryan & Deci stress that this is simplification. Extrinsic motivation can vary greatly depending on the degree in which it is autonomous i.e. the perceived locus of causality, and consequently depending on the way the agent's behavior is regulated. Figure 4 shows how extrinsic motivation is subdivided into four regulatory styles.
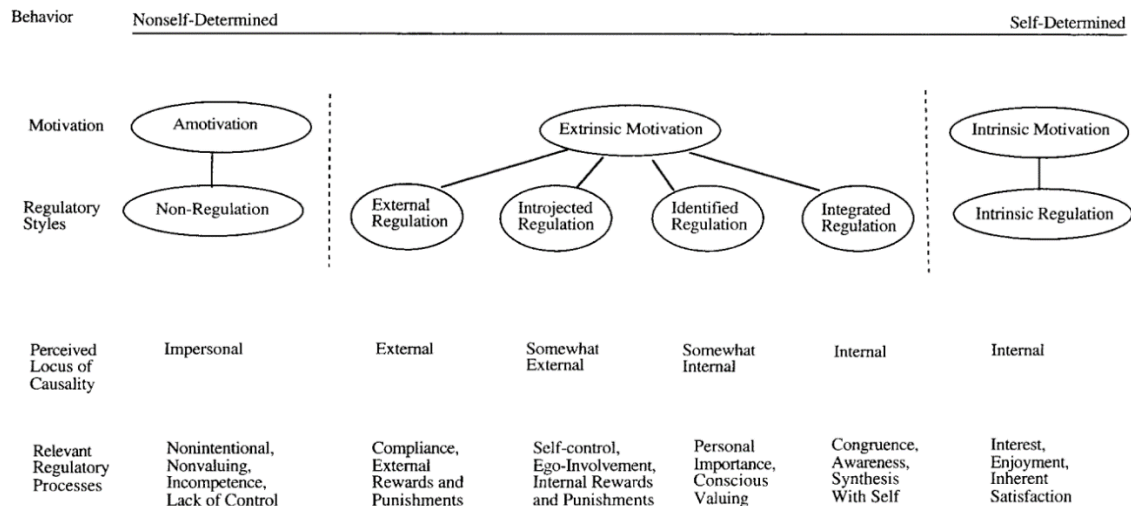
Figure 4 The Self-Determination Continuum showing types of motivation with the regulatory styles, loci of causality and corresponding process. (Deci & Ryan, 1985)

Let's look at an example showing how a project team member, Tim, is motivated to make a specific deliverable. Referring to the figure above, I will start at 'Amotivation' and move right to 'Intrinsic Motivation'. If Tim doesn't care about the deliverable or its value and doesn't know how to make it, then he is *non-regulated,* and he will not be motivated to make the deliverable. If Tim makes the deliverables on time because he will be fired if he doesn't, then he is *externally regulated*. If Tim makes it because he will feel guilty towards the group if he doesn't, then he is *introjected regulated*. If Tim makes it because he knows it will help him get a promotion in the future, then he is *identified regulated*. If Tim makes it because he identifies with its value and believe it essential do make it, then he is *integrated regulated.* Lastly, if Tim makes it out of his own enjoyment and interest, then he is *intrinsically regulated.* Ryan & Deci argue that as soon as behavior seize to be completely self-determined, the motivation becomes extrinsic.

Hopefully, the reader acknowledges extrinsic motivation's nuances, how the degree of autonomy affects Tim's motivation and recognize the core features of human agency: Intentionality, Forethought, Self-reactiveness and Self-reflectiveness. Tim acts *intentionally* because he want to achieve a specific goal. He acts with *forethought* becomes he can anticipate how his actions will lead to certain outcomes e.g. a promotion. Tim is *self-reactive* because he can regulate his behavior in response to his environment's feedback, and is *self-reflective* because he self-examines his behavior and assess whether his behavior is sufficient to reach his goals.

2.3.2. Organizational theories

The common denominator of the literature review's organizational theories was how the teams' goal structures, competition and cooperation and awareness affected the organizational goals. One parameter in which a project context differs from an operations context is

its temporary and cross-organizational set-up. The project team members often come from different parts of the organization that compete for resources in terms of budget, competencies or management attention. The project setup places the agents in a context where they must cooperate with agents from an outgroup to deliver a unique organizational impact. As such, projects have cooperative goal structures (Kirstruck, Lount, Smith & Moss, 2016). Nevertheless, these cooperative goals can be difficult to achieve because the agents are torn between loyalty to their line organizational ingroup and their project organization ingroup, which might have competing agendas and norms.

Goal structures can be either cooperative, competitive or individualistic. A cooperative goal structure exists when one party can achieve their goal only when another party also achieve their goals, while a competitive goal structures reflects situations where one party can achieve their goal only when another party does not achieve their goal (Johnson *et al.*, 1983; Kirstruck *et al.*, 2016). Then there are individualistic goal structures. In this structure there are no correlation among the goal attainments of the participants. Whether an agent accomplish its goal has no influence on whether other agents achieve their goals. Thus, an agent seeks an outcome that that is personally beneficial and ignore other agents goal achievement efforts (Johnson *et al.*, 1983). Efficient project teams have cooperative goal structures characterized by positive goal interdependence. The project's goals can only be achieved through collective intragroup cooperation and coordination. For example, to introduce a new profitable software system, Business and IT must cooperate and coordinate to identify what customers want, what is possible to create and how many resources it will take. Project success depends on this.

Several studies showed that cooperative goals structures increase the feeling of joint-responsibility which positively impacts task performance by increasing coordination. Moreover, cooperative goal structures tend to promote higher levels of motivation through a perception of increased self-efficacy and group potency (E.g. Aubé, Rousseau, & Tremblay, 2015; Johnson *et al.*, 1983; Kirstruck *et al.*, 2016). If the project team members fail to identify that they have cooperative goal structures they are likely turn to individualistic or competitive structures instead. In these goal structures, people are reluctant to share knowledge out of a fear of losing ownership and relative power. The context becomes characterized by self-interest and low trust (Breau & Hemingway 2002). Therefore, it is crucial that the project manager or team deploy processes that visualize the team members' positive goal interdependence.

A perception of group membership affects the agent's behavior. Studies have shown that group membership creates ingroup favoritism and individuals cooperate more with ingroup

members than outgroup members. Egoistic ingroup members are punished by their ingroup in order enforce altruistic norms and avoid inefficient outcomes (Goette *et al.*, 2012; Kirstruck *et al.,* 2016). Management and psychology scholars have consistently shown that teams perform better when they have greater team cooperation and helping behavior. Similarly, group selection theory and evolutionary theorists have found that teams composed of more altruistic individuals outperform those are composed of less altruistic individuals. If the team members share common goals and accomplish task interdependently, then any altruistic action performed by the member will likely benefit the team and eventually anybody in the team (Li, Kirkman & Porter, 2014). Punishing individualistic behavior consolidates the team cooperative goal structure and encourage altruistic behavior, and thereby team efficiency.

But In order to behave altruistically and provide information the agent has to be given the opportunity to do so. Olivera, Goodman & Tan (2008) developed a model of contributing behavior that outlines three mediating mechanisms (1) *Awareness*; (2) *Searching & matching* and (3) *Formulation & Delivery,* and they specified the cognitive and motivational elements involved in the process. If the agent isn't aware of a request for information, it can't provide it. If the coordination costs are perceived as high, then the agent will be more reluctant to identify and articulate solutions. Table 7 sums up the mediating mechanisms and the cognitive and motivational processes that characterize them.

	Awareness Opportunity to contribute	Searching & Matching Identify solutions	Formulation & Delivery Articulate solutions
Cognitive activity	Developing a representation of the request for help	Identify the solution that addresses the information request	Articulating and communicating the contribution
Cognitive/ motivational phenomena	Specificity and concreteness of the request Increase motivation	Motivational forces generated by searching and matching. Specific requests generate higher motivation than general requests. Cost increase as searching and matching moves from internal to external memory system.	Likelihood for completing the contribution is higher for concrete than abstract requests. Escalation induced by high investment in searching and matching. Perception of effort costs associated with follow-up requests

Table 7 Adapted 'Key Elements of Contribution', Olivera, Goodman & Tan (2008)

They present three motivational forces for altruistic behavior: (a) *self-enhancement*, (b) *exchange* and (c) *instrumental*. Self-enhancement concerns the agent's positive self-belief and efficacy, which connects to Bandura's Self-reactiveness and Self-reflectiveness. By demonstrating expertise, the agent experience power and mastery. Exchange concerns the agents' exchange of favors. *People who receive help will want to reciprocate in a similar manner* (Olivera, Goodman & Tan, 2008, p. 28). Instrumental concerns the agent's desire to obtain external rewards.

Physical proximity and visualization will minimize the cost of acting altruistically and working cooperatively. Collocation and frequent meetings will provide ample opportunities to contribute and help fellow team members, who due to the *exchange* of motivational force will seek to reciprocate the favor. The cost of Searching & Matching will be reduced because collocation and visual aids reduce time spent making general requests specific. The cost of Formulation & Delivery drop because follow-up requests can be assessed and articulated quickly and accurately. Besides creating a cost-efficient information sharing process, the contributing agents are likely to increase their motivational level due to a feeling of *self-enhancement*, efficacy and mastery, as explained in subchapter 2.4.1.

2.4. Sub-conclusion motivational and organizational theories

Social concerns are a primary motivator for human behavior and the human brain is primed to attend to it. *Groups are the minds natural environment* and humans interpret social needs as existential. Still, human behavior is not solely determined by biology and humans have agentic capabilities which enables us to act with intentionality, forethought, self-reactiveness and self-reflectiveness. Because humans can self-reflect, they can assess their own efficacy and adapt their behavior accordingly. Generally, humans are motivated by (1) autonomy, (2) competence, (3) relatedness and (4) purpose. Human agents make goal structures and make plans to achieve these goals.

Cooperative goals structures and altruistic ingroup behavior leads to better information sharing and higher efficiency. The ingroup enforces altruistic behavior and punishes members who behave egoistically. The cost of helping and sharing information is mediated by three mechanisms (1) Awareness; (2) Searching & matching and (3) Formulation & Delivery. Keeping the coordination cost relatively low will assist altruistic behavior and information sharing, which is important to project success. It's essential that the agents perceive the project team as an ingroup and recognize that the project team has a cooperative goal structure. If this fails, the efficiency benefits are unlikely to occur.

The positive effects of physical proximity transcend the two theoretical categories and support Ruth (2017) hypothesis that physical proximity enlarge – sometime even ignite - the mechanisms and their effects.

2.5. Sub-conclusion - chapter 2

I answered research question 1 by describing and defining the mechanisms and placing them in two categories: Type 1 and 2. Type 1 mechanisms affect agent's beliefs, discourses and the manner they choose to act. Type 2 mechanisms affect the agent's actual behavior.

Using grounded theory, I derived ten themes from the qualitative data which I used to make a literature research resulting in 790 articles of which 31 articles were selected. The articles could be connected to three mechanisms in particular: SO, SOO and BET. These three mechanisms will be analyzed in chapter 4. A literature review placed the articles in two theoretical categories. (1) Motivational theories, which are subdivided into evolutionary and cognitive perspective and (2) Organizational theories, focusing on goalsetting, competitive and cooperative structures and altruistic information sharing. These two theoretical approaches will be used on the study's qualitative data and answer research question 2: *Why does the eight success-enhancing mechanisms create efficient work processes in temporary organizations?*

Returning to the combustion engine analogy that initiated the chapter, we have increased our understanding of the turbocharger that enhance the motor's efficiency and power output. We now know that a turbocharger consists of a compressor, a turbine and a center housing. We know that the turbocharger works with diesel-powered combustion engines and we have indications that it might work with petrol-based engines as well. In chapter 4, we will examine if this is true and see how well they fit together.

CHAPTER 3. METHODS

Having defined the mechanisms and conducted a literature review, it is time to look closer at the methodological choices that lay behind the search terms. This chapter will essentially answer one question: *Which steps did you take to explore the success-enhancing mechanisms?*

In this chapter, I will explain why critical realism was suitable for this research. Afterwards I will present my research design which allowed me to understand why the eight success-enhancing mechanism create efficient work processes in project teams. I will explain how I ensured a sample that could answer the research question, how I collected and analyzed data from this sample and how all this affected the research's credibility, dependability and transferability. I will do this in a transparent way that provides you with enough information to understand my methodological choices and the reasons behind them.

3.1. Research philosophy

Several choices were made before I started conducting my research. Ontological, epistemological and axiological assumptions must be taken into consideration as well as the choice of the overall research philosophy, under which the research is conducted (Saunders, Lewis, & Thornhill, 2016). Considering the spectrum of research philosophies, this quote by Bashkar, the father of critical realisms, showed me that critical realism was an appropriate choice:

> *We will only be able to understand – and so change – the social world if we identify the structures at work that generate those events and discourses…These structures are not spontaneously apparent in the observable pattern of events; they can only be identified through the practical and theoretical world of social science. (Bashkar,1989)*

The success-enhancing mechanisms are such underlying structures. Ruth (2017) established the presence of the mechanisms but the mechanisms were not spontaneously apparent to the observer; only the empirical truth was e.g. increased project participant interaction. This study sets out to identify the behavior, Bashkar's structures, in their practical settings and explore how they are connected to the theoretical world.

On one side we have the discourses i.e. what the interviewees say and believe. On the other hand, we have the behavior that ought to match the discourse and create the events. One of the interview's themes was trust and promises. Multiple interviewees stated that mutual trust was a key ingredient in creating efficient project teams. However, it is a specific behavior that creates efficiency, not the statement or belief that trust is important, and therefore it is important for this study to identify how and why the mechanisms affect people's

behavior. I needed to actively challenge the interviewees' discourses and ask how the discourses transformed into observable behavior that created a work processes leading to project success.

In terms of ontology, critical realists see reality as independent and external, but not directly accessible through our observations of it. We can only see a small part of everything that is occurring at one point in time (Saunders, Lewis, & Thornhill, 2016). This means that the success-enhancing mechanism exist whether we observe or understand them or not. Therefore it's, according to critical realism, acceptable to set up a hypothesis claiming the existence of eight success-enhancing mechanism though I might not be able to specifically observe all of them in detail. This would not be the case if had chosen empirical realism. Because of the ontology, I strived to get qualitative data from multiple sources to capture different perspectives of the phenomenon in order to identify multiple perspectives of the mechanisms. Indeed, I encountered many different words and phrases for the mechanism I chose to call *social obligation.* Though the interviewees observations differed, what they observed was the same.

As for epistemology, critical realism recognizes that knowledge is a product of its time and specific to it and fleeting. It also claims that social facts are social constructions agreed on by people, remembering that reality is still independent and external (Saunders, Lewis, & Thornhill, 2016). For example, in Denmark we might regard it as a social fact that team members show up on time e.g. 12.00 and we could expect sanctions if we show up at 12.20. In Middle Eastern cultures. they might not share this social fact, because the concept of time is viewed differently. They might not feel socially obligated to show up at precisely 12.00 because 12.20 will still be regarded as 'on time'.

The variations in social facts are relevant, as it suggests that I am likely to find indicators and descriptions of the success-enhancing mechanisms throughout time and across theoretical domains. Due to this, I used *in vivo* codes and themes from my data as search words for my literature search and had no limits on year of publishing.

As mentioned, in critical realism, reality is regarded as a result of social condition and cannot be understood independently from the social actors involved. This meant I had to be aware of how my own understanding of the phenomenon and experience influenced my research. Because I am part of Implement Consulting Group, the department from which I collected qualitative data and because I quite firmly believe that what I identified in Ruth (2017) are in fact mechanisms, I had to be aware that these views did not bias my research. I might look for patterns that confirm the mechanisms' existence and neglect information

that suggested the opposite. In fact, I struggled with laying my preunderstanding aside and view the mechanisms with fresh unbiased eyes. Initially, I was biased by the thought that all the mechanisms could be explained by motivational theories. While this might be the case, my research shouldn't be tainted by this. Under other circumstances, I would have used a fellow team member to conduct the interviews to reduce the risk of interviewer bias, but as I'm the study's sole researcher, I had to strive even harder to make the research as transparent as possible. Concretely, I shared my interviews and ideas with my supervisor throughout the project, so he might intervene if he sensed I was becoming biased.

3.2. Research design and strategy

The study's purpose was in its core exploratory and my aim was to examine concepts that had not been studied clearly yet. I sought to increase the understanding of the success-enhancing mechanisms, which are catalyzed by agile methods in a project management context, but apparently also are exists in other context e.g. military operations. The research questions sought to create a clearer definition of the phenomenon and map out elements of ignorance. The exploratory purpose created methodological ripples.

One of the ripples created by the purpose was data collection. I wanted to use qualitative data to explain the reasons behind the mechanisms I identified in Ruth (2017). Why were project team members motivated by putting their name on a post it and stick it on a wall? Why did they behave altruistically and worked late hours to create their deliverables that benefitted the team? As mentioned in the previous subchapter, my data needed to distinguish between the project team members' discourse and their behavior resulting in success. In this quote, one of the interviewees explains the general differences between an inefficient and efficient collocated project team; a difference that was shared by most of the interviewees[9]:

Discourse: *They trust each other and experience that they deliver something valuable to the project.*
Behavior: *They laugh and have a fun time because they work together and recognize each other when each of them succeed in something. They communicate their needs across [organizational] boundaries. They dare to express their worries, because they aren't afraid of being kicked in the butt by the others.* (DBE, 2018)
I will use chapter 2's Type 1 and 2 mechanisms to illustrate the distinction. The example shows how an unobservable discourse; the experience of trust, purpose and progression

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[9] DBE emphasized the importance of a competent project manager more than the other interviewees and claimed that a competent and charismatic project manager was the most important factor in creating efficient work processes.

leads to observable behavior: communicating needs and concerns, which in turn leads to an outcome: Fewer days of delay caused by i.e. rework. This in turn increases project efficiency and stakeholder satisfaction.
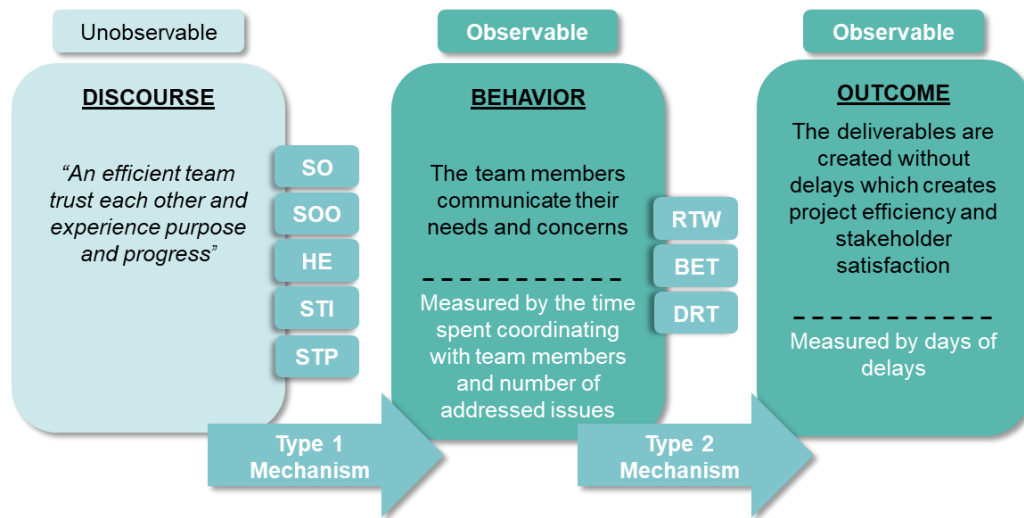

Figure 5 The observability of the success-enhancing mechanisms

Several quantitative studies has shown that applying agile tools and methods instead of traditional project management tools, result in higher success rates (Frigo et al., 2002; Harraf et al., 2015; Serrador & Pinto, 2015; Tripp, 2012). These quantitative studies, however, can't explain the interpersonal and intrapersonal mechanisms that caused this effect and even less *why* they caused it. Whenever we study mechanisms, we study the *why.* Because of this, I chose a multi-method qualitative study design. I used primary data from Ruth's (2017) semi-structured interviews and collected additional primary data from unstructured in-depth interviews (Meredith, 1998; Yin, 2013; Saunders, Lewis, & Thornhill, 2016).

This study is an extension of Ruth (2017) and followed a research strategy that was based on the key elements and procedures of grounded theory. I have not used grounded theory as rigorously as Glaser & Strauss (1967) originally presented it, but grounded theory's 12 steps[10] (Bryman & Bell, 2016; Saunders, Lewis, & Thornhill, 2016) were the guiding lights in Ruth (2017) and in this study. So, what did I do? Throughout the interviews, I looked for and created codes connected to success-enhancing mechanisms i.e. trust, proximity, purpose, motivation*.* I constantly compared my codes with the new data that emerged through subsequent interviews until I reached theoretical saturation, meaning that there seized to

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[10] 1) Research Question, 2) Theoretical sampling, 3) Collect Data, 4) Coding, 5) Constant comparison, 6) Saturate categories, 7) Explore relationship between categories, 8) Theoretical sampling, 9) Collect Data, 10) Saturate categories, 11) Test hypothesis, 12) Collection and analysis of data in another setting (Bryman & Bell, 2016)

be new common denominators in the data (see 3.5.). These codes merged into themes and were used for the literature search presented in chapter 2. I ague, that I followed the essential grounded theory's tools and approaches which provided me with the codes and concepts necessary to answer the research questions. Ideally, I would have preferred 'reflective pauses' in my data collection phase. This could have made my code comparison more structured which might have provided more focus and allowed me to ask questions that could more accurately confirm or adapt my codes. However, the study's time restraints prevented me to take these pauses. Because I used ground theory, I needed to collect and analyze my data before I could search and read literature. I will go explain the codes and concepts in sub-chapter 3.5. in this chapter

This study is essentially the second iteration that further explores the hypothesis presented in Ruth (2017): Project success is achieved by eight success-enhancing mechanism. Ruth (2017) provided answers but also left a series of questions. In Ruth (2017), I took point of departure in a set of agile project management methods that activated a set of the success-enhancing mechanisms. In this study, I explored if there was a theoretical explanation to these common-sense success-enhancing mechanisms and asked the question: *Why does the success-enhancing mechanism create efficient work processes in temporary organizations.* As mentioned in the introduction, I needed a stepping stone to answer this question which made me create RQ1: *What characterizes each of the eight success-enhancing mechanisms?*

Figure 6 shows how I answered my RQ2. By adding the interview data from Ruth (2017) to the unstructured in-depth interview of this study, I created a consolidated data set consisting of 12 interviews success-enhancing mechanisms and the behavior that lead to project success. Then I answered my research question using three steps. In *Step 1*, I used the consolidated data set to identify themes and concepts. These themes and concepts were used as search words for the literature review presented in chapter 2. In the *Step 2*, I applied these three theories to the consolidated data set and tested how well they could explain the success-enhancing mechanisms. This is presented in chapter 4. In *Step 3*, I discussed the data analysis, made a conclusion and answered the research question. This is presented in chapter 5 and 6.
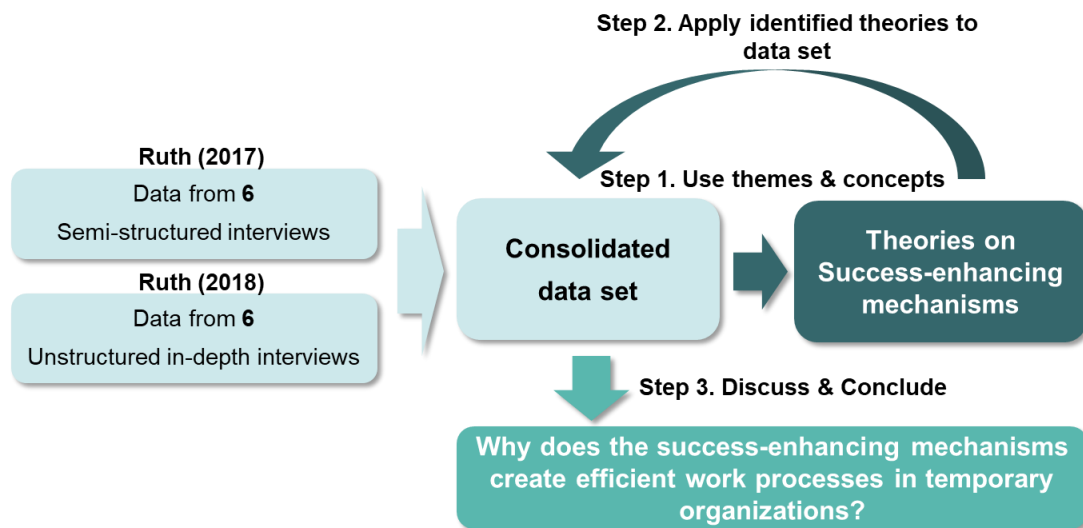
Figure 6 Overall research design

This process had abductive approach to theory development, as I applied existing theory to build new theory and used my data set from Ruth (2017) to test my current conceptual framework (Saunders, Lewis, & Thornhill, 2016)

Summing up, the study had exploratory purpose and an abductive approach to theory development. I used a grounded theory inspired single case study approach to explore the phenomenon of success-enhancing mechanisms in project teams, and I used a multi-method qualitative study design. The thick qualitative data provided insight in the interpersonal and intrapersonal success-enhancing mechanism that caused project teams to achieve project success. However, without a proper sample of interviewees to provide valid and reliable data, the research design presented above becomes a rather useless construct that wouldn't assist in answering the research questions.

3.3. Sampling

This section refers to this study's sampling and not Ruth (2017). In this section, I will explain how I chose the department for my embedded single case and how the sampling of respondents was conducted. Data saturation is necessary to achieve valid results and according to Saunders *et al.,* a minimum sample size of 5-25 persons is normally sufficient to achieve this when conducting interviews (Saunders, Lewis, & Thornhill, 2016), which was also the case in this study.

3.3.1. Sampling of case

Researching the nature of a phenomenon, such as the success-enhancing mechanisms, is not simple process. According to Meredith (1998), it is often complex and you need to make

in-depth inquiries to the phenomenon within its real-life setting (Meredith, 1998). I wanted to understand if there was consistency in the existence and effect of the success-enhancing mechanisms across my sample and ensure that the sample provided reliable and valid answers. Because of this, I needed a research strategy that could embrace the complexity in a relatively simple way. So how could I embrace this complex and examine this unexplored phenomenon? In Ruth (2017), the success-enhancing mechanisms were activated in the Half Double pilot projects. Just like a chemical that crystalize when circumstances are just right. The pilot projects were conducted with assistance from consultants from Implement Consulting Group. Because of this, I found it suitable to use the department that architected the Project Half Double methodology as a case to study the phenomenon, because whether they were conscious about it or not, they had selected or created a series of methods that set the mechanisms into motion.

I used a case study, because this approach allowed the questions of *why*, *what* and *how* to be answered with relatively full understanding of the nature and complexity of the complete phenomenon success-enhancing mechanisms. Moreover, using a case study allowed me to make in-depth inquiries to the phenomenon within its real-life settings e.g. by asking my interviewees how these success-enhancing mechanisms affected efficient project teams (Meredith, 1998; Yin, 2013). I selected a relevant single case that ought to explain the success-enhancing mechanisms' influence on success. I view the case as relevant because it covers a large variety of project contexts and the case's interviewees explain typical and relevant episodes on efficient work processes in project teams. Ideally, they would provide comprehensive explanation for all the mechanisms and their effect on project success, but that would have been unlikely to happen. It's my interpretation, that the interviewees selected the primary mechanisms leading to project success, thus focusing on the most relevant mechanisms rather than all of them. Though the case might not capture all the mechanisms and their nuances, the insight it provides increases our understanding of the mechanisms, which makes it relevant.

Implement Consulting Group (ICG) has 10 different departments known as *Practices*. The different Practices provide a variety of professional services ranging from programming SAP modules to creating Value Stream Mapping to training leaders in facilitation. Because ICG is a project organization and deliver its value proposition in projects, most of its management consultants have project management competencies and knowledge about project management and temporary organizations. But one of the practices has subject matter expertise in working with project and project portfolios and making temporary organizations efficient: *Strategic Innovation & Execution (SIE)*. Due to this, I chose this practice as my case unit, making my research study an embedded single case study (Yin, 2003).

3.3.2. Sampling of interviewees

Having selected a suitable case, a crucial question remained: Who would have the insight to answer the research question? The challenge was to access their tacit knowledge. Most of us recognize the success-enhancing mechanisms, but it can be quite difficult to explain what is actually happening when they are activated. Sometimes persons use words like *energy*[11] or *flow*[12] or even *"And then something happens…!".* My interviewees would need to have a high level of abstraction to explain this tacit knowledge.

To find the right persons, I set up three selection criteria. *Firstly*, the interviewees had to have worked on at least 15 projects across industries. This was necessary to ensure broad reference framework. If each interviewee had been part of 15 projects, interviewing seven of them would give me a reference framework of 105 projects. Though they might not remember the details of each project, they would be able to identify patterns. Having a large number of projects to choose from, they would have seen a broad selection efficient and inefficient work processes. This would help me explore if and when the success-enhancing mechanisms were activated and whether there was something profound that caused the success-enhancing mechanisms. *Secondly*, they had to have experience in transforming inefficient processes to efficient processes. Knowing this, would allow them to point out what characterizes the inefficient processes, how they could be altered to become efficient and whether this had anything to do with the success-enhancing mechanism. *Thirdly*, they had to have experience as being project team members or project managers. It was not enough that they have been working as 'lone wolves' and trained others in project management. They had to a part of a project team. This would allow me to explore the intrapersonal mechanisms they might have experienced when confronted with e.g. social obligation, which in its nature only can be experienced in a social context.

In ICG, a person gets the title of Senior Management Consultant at level 3. In general, these consultants lived up my three selection criteria. To avoid persons that had just recently been promoted to senior consultant, I chose my sample from level 4-9. Persons at this level were very likely to fulfill all three selection criteria. In SIE, this provided a sample of 21 people. 7 persons were randomly selected which resulted in the following sample:

Interviewee name & Level	
JANJ (Level 5)	JKBR (Level 6)
NBO (Level 5)	DBE (Level 4)
JORA (Level 4)	CMCH (Level 4)

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[11] Not the energy measured in joules or calories.

Table 8 Sampling portfolio

People with project experience knows that uncertainty and change are characteristics of all projects. This study was no exception to this rule. One of my interviewees, MALO, had to reschedule his interview appointment multiple times and in the end, we decided to cancel because it proved impossible to find a date in time. At that point, I made this decision to move on, because my interviews in the meantime had resulted in data saturation. Due to this his doesn't appear in table 8 above.

3.4. Data collection

Having found a suitable sample, I asked myself another set of questions: "Which data is needed to answer the research question and why this data?" and "How do I collect it?". This section will guide you through these questions.

I needed credible, dependable and transferable data that could provide me with a deep understanding of the nature of the success-enhancing mechanisms. As previously mentioned, I needed to answer the *why* questions, which made me decide on qualitative collection methods. Because grounded theory provided me with the best opportunities to answer my research questions, I needed data collection methods that would support grounded theory. As explained in subchapter 3.2, I needed to adjust and compare as I went along. This meant that I needed qualitative data collection methods that were flexible. Semi-structured interviews, like the ones used in Ruth (2017), are good for testing fairly specific topics and achieve a high level of validity when conducted carefully, using clarifying questions, probing meanings and by exploring responses from a variety of angles (Saunders, Lewis, & Thornhill, 2016; Kvale, 1997). However, creating an interview guide would potentially restrain me from asking the questions I needed to ask, and would have to be adapted after each interview, because I needed to test and compare my codes in the interview that followed.

Instead, I decided to use in-depth interviews. In-depth interviews provided me with an almost complete flexibility to follow themes as the occurred. They also provided me with new and unexplored examples and explanations for success-enhancing mechanisms. In-depth interviews aligned well with my study's explorative purpose because they were very helpful to find out what was happening and to understand the context (Saunders, Lewis, & Thornhill, 2016). If the study had been explanatory, I would have conducted semi-structured interviews in order to understand the relationship between variables. In this study, though, I tried to improve my understanding variables.

The interview lasted between 50 and 75 minutes. I conducted the interviews in the interviewees native language, Danish. This was done to remove the restraints a foreign language might have on a person' level of abstraction and give the interviewees the best conditions to express tacit knowledge connected to the success-enhancing mechanisms. Conducting the interviews in Danish had a negative consequence on coding process, because the interviews from Ruth (2017) were conducted in English and I also risked that elements became lost in translation between the two languages. Before I began the interviews, I explained the interviewees that by efficient work processes, I referred to the project team's ability to create project efficiency, stakeholder satisfaction and organizational impact. I conducted the interview in two phases (Figure 7). We spent about 75% of the time without me introducing them to the mechanisms. This was done to avoid interviewee bias and ensure the data's credibility. Knowing about the mechanisms might have caused them to revise their answers. Afterwards, I introduced the eight success-enhancing mechanisms, they commented on them and explained their experiences with them.
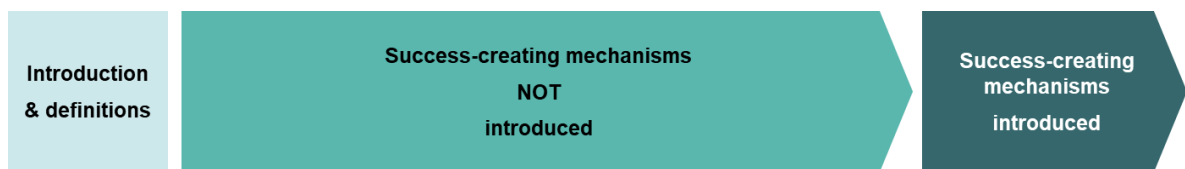
Figure 7 Interview design

I used an *aide-memoir* to write down sets of themes that I would like to uncover. The *aide-memoir* was adapted between the different interviews, so they reflected the themes that needed confirmation. My questions primarily were concerned about behavior, as it is behavior, not discourses, that leads to project success. This is a selection of the interviewer notes:

What characterizes the efficient project team?	*Why does it influence people's behavior when they trust each other?*
How does an efficient team's behavior differ from an inefficient team? Why?	*Why does a sense of purpose affect people's behavior?*
Which conditions are in place, when a project team work efficiently?	*What happens if one of the participants doesn't solve their tasks? Why?*
Why is trust so essential for the participants behavior?	*Do you recognize the presence of the eight success-enhancing mechanisms?*

Table 9 Examples of interviewer notes

As I transcribed and coded the interviews it became apparent to me, that the unstructured interviews in some cases had been too unstructured. Though I had wanted to ask questions concerning behavior, parts of the conversations ended up revolving around discourses. To my frustration, I didn't always succeed in leading the interviewees back on a *behavioral*

track. Generally, the interviews provided the information I needed, but the lacking structure had resulted in some "waste", which retrospectively could have been avoided.

3.4.1 Data from Ruth (2017)

The purpose of this section is to introduce the reader to interview data from Ruth (2017) which was collected by a series of structured and semi-structured interviews. As Ruth's (2017) quantitative data has no relevance for this study, I will leave out description of the structured interviews.

My previous study's interview guide and its design was inspired by the Serrador's research on project success and agile project management (Serrador & Pinto, 2015; Serrador & Turner, 2015). The questions concerning project success were largely based on these surveys. In Serrador's research, three questions measured project efficiency and four measured satisfaction of key project stakeholders. As I had chosen projects that ended over a year before my interviews were conducted, I had the opportunity to examine the short-term and medium-term success factors (Shenhar et al., 2001; Shenhar, Levy, & Dvir, 1997). Table 10 below displays how the questions related to project success.

PROJECT SUCCESS	
Project efficiency	**Stakeholder satisfaction**
How did the project do in meeting **budget** goals?	How did the **project sponsors** rate the success of the project?
How did the project do in meeting **time** goals?	How do you rate the **project team's** satisfaction with the project's result?
How did the project do in meeting **project scope and requirement** goals?	How do you rate the **client's** satisfaction with the project's result?
	How do you rate the **end-user's** satisfaction with the project's result?
Organizational Impact	
How would you rate the projects **organizational impact**?	

Table 10 Questions relating to project success. Inspired by Serrador & Turner (2015) and Tripp (2012)

So why did I originally choose to use Serrador & Turner's and Tripp's questions? I did so for two reasons. First, by reusing their approach I ensured that my dependent variable, project success, could be properly tested. Note that Ruth (2017) was notably concerned with the *perceived success* as reported by the interviewees. According to critical realism, they could only answer to their perception of the phenomenon as reality is not directly accessible to the observer. Second, by reusing Serrador & Turner's and Tripp's approach, I had the opportunity to triangulate my results to theirs and see if my qualitative results

matched their quantitative results, which could assist in support or criticize my results. Ruth's (2017) complete interview guide is can be found in appendix E.

I asked questions on how and why Project Half Double's (PHD) Impact, Flow and Leaderships methods affected project efficiency in terms of budget and why they contributed. However, the interviewees were allowed to talk about the PHD methods that first came into mind. This served a distinct purpose: To capture the methods that had had the most effect. The projects ended a year before the interviews, so some information was doubtlessly harder to recall than other. However, the methods which had made the biggest impression on the interviewee - negatively or positively – would be recalled first.

Company	Role	Code
Novo Nordisk	Senior Management Consultant	NN1, 2017
	Partner	NN2, 2017
GN	Project Manager	GN1, 2017
	Senior Management Consultant	GN2, 2017
Velux	Project Manager	VX1, 2017
	Senior Management Consultant	VX2, 2017
Lantmännen Unibake	Group PMO Director	LU1, 2017

Table 11 Interviewees and their codes from Ruth (2017)

In total, I conducted seven semi-structured interviews with ranging from 45-90 minutes for Ruth (2017). These semi-structured interviews will supplement the six in-depth interviews I conducted for the purpose of this study. The semi-structured interviews were reviewed in order to find data that could shear light on the reasons behind the success-enhancing mechanisms.

We need to make an important distinction between the data from Ruth (2017) and the data from this study. The data from Ruth (2017) didn't specifically concern efficient work processes. The data collection focused on a series of specific agile work processes, that had turned out to be efficient. I knew these work processes in advance and asked questions centered on these processes. This distinct itself from the primary data collected specifically for this study. The data from this study deals with efficient work processes in general, and I didn't focus on any processes in particular. As I expected, there were intersections between the two data sets. For example, both data sets showed that collocation creates better knowledge sharing which create better solutions, faster. In other instances, this intersection between data was lacking. For example, most of this study's interviewees stress the importance of low self-interest among project team members, but in Ruth (2017) the interviewees don't mention low self-interest at all. This doesn't mean that the latter find it unimportant for efficient work processes. It just shows that the low self-interest among project team members wasn't a topic emphasized by the specific agile work processes.

This study focuses on efficient work processes in project teams and the success-enhancing mechanisms that influences them, in *general*, while Ruth (2017) focused on a set of *specific* agile work processes. Essentially, *general* beats *specific.* But specific processes might help us understand the mechanisms driving general efficiency. So why do I spend energy on the difference between the two data sets? I do it because the two data sets are not equal in weight and value. Ruth's (2017) data set supplement and support this study's data set. I do it because it's relevant for understanding the data coding and analysis which I will explain in the next sub-chapter.

3.5. Data coding and analysis

The data analysis was conducted in several phases. As I conducted the interviews, I took research notes and as the data collection progressed, several themes and similarities emerged. I continuously tested and compared the themes and patterns, so I ended up having saturated categories. As such, data collection and analysis proceeded simultaneously. Despite my initial plan, I ended up transcribing all the interviews (Appendix F). This transcription process allowed me to become familiar with my data, identify codes and themes and note the contradictions that existed between the data sets e.g. the importance of the project manager role. After the transcriptions, I revisited the in-depth interviews and the semi-structured interviews from Ruth (2017), and I identified additional codes and themes as they emerged. The cluster of codes can be accessed in appendix G. The table below shows the codes and patterns. I labelled the codes and categories in the way that I thought best described the units of data. As such the codes and categories are not *in vivo*, but some of the codes i.e. MOT-E and MOT-I, resemble *a priori* codes (Saunders, Lewis, & Thornhill, 2016). The Type 1 and 2 mechanisms were "upgraded" from *in vivo*[13] to *a priori* codes.

The categories were used as a foundation for the search themes presented in chapter 2. I added "Teams" and "Projects" to the search themes to find articles that fitted my research's focus. The table only shows the final 18 codes which were shared by the majority of the interviews.

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[13] In Ruth (2017) the eight success-enhancing mechanisms were *in vivo* codes, but now I knew what to look for, and could name them a prior.

Research focus	Data derived Categories		Codes	Pattern 2018	Pattern 2017
Efficient work processes in project teams	**Commitment (COM)**		To persons (COM-P)	4 of 6	1 of 6
			To tasks (COM-T)	3 of 6	4 of 6
	Purpose (PUP)		Collectively (PUP-C)	4 of 6	3 of 6
			Task interdependence (PUP-T)	5 of 6	2 of 6
			Personally (PUP-P)	4 of 6	1 of 6
	Motivation (MOT)		Extrinsic (MOT-E)	3 of 6	2 of 6
			Intrinsic (MOT-I)	5 of 6	2 of 6
	Proximity (PRO)		Knowledge sharing (PRO-K)	5 of 6	4 of 6
			Relationship building (PRO -R)	3 of 6	2 of 6
	Autonomy (AUT)		Empowered (AUT-E)	4 of 6	1 of 6
	Focus (FOC)		On tasks (FOC-T)	4 of 6	4 of 6
			On purpose (FOC-P)	3 of 6	5 of 6
	Leader (LEA)		Charisma (LEA-C)	3 of 6	2 of 6
			Visionary (LEA-V)	4 of 6	1 of 6
			Delegating (LEA-D)	3 of 6	1 of 6
	Trust (TRU)		Ideation (TRU-I)	5 of 6	3 of 6
			Altruism (TRU-A)	4 of 6	0 of 6
			Low self-interest (TRU-L)	5 of 6	0 of 6
Success-enhancing mechanisms	**Type 1 mechanisms (T1)**		Social Obligation (T1-SO)	6 of 6	4 of 6
			Sense of Ownership (T1- SOO)	6 of 6	4 of 6
			Satisfaction Through Involvement (T1-STI)	3 of 6	5 of 6
			Hawthorne Effect (T1-HE)	4 of 6	3 of 6
			Satisfaction Through Progression (T1-STP)	3 of 6	3 of 6
	Type 2 mechanisms (T2)		Reduced Time Waste through Informal Coordination (T2-RTW)	3 of 6	4 of 6
			Better Estimated through Frequent Feedback (T2-BET)	4 of 6	3 of 6
			Doing The Right Things over Doings Things Right (T2-DRT)	2 of 6	1 of 6

Table 12 Coding and qualitative analysis on consolidated data set

Coding the interviews gave me insight in project team efficiency and increased my under-standing of how Type 1 and 2 mechanisms affected the team members' behavior. The coding revealed that *task interdependence*, *knowledge sharing*, *ideation*[14], *low self-interest* and *intrinsic motivation* were most commonly addressed by the interviewed. The coding also revealed that SO and SOO were the mechanisms that were most commonly encoun-tered followed by BET and HE. DRT was only mentioned by two of the interviewees. This aligns quite well with the theoretical focus presented in chapter 2. I had thought that *norms* would have played a substantial role, but to my surprise they were only mentioned in 3 of 12 interviewees. This made me remove them from the table. I have consolidated the themes and findings in the table below.

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[14] The process of creating new ideas.

Themes emerging from the consolidated data set	
• Efficient teams have task interdependence	• Effective team members act altruistically
• Efficient teams feel empowered and involved	• Efficient teams are intrinsically motivated
• Efficient teams understand the process's purpose	• Efficient teams are driven by charismatic and visionary persons
• Efficient team members internalize the project's purpose.	• Collocation catalyze the perception of task interdependence
• Efficient teams work focused	• Leadership is more essential than management.
• Efficient teams are committed to the team members	• Trust between team members catalyze knowledge sharing
• Efficient teams are committed to the tasks and purpose	• Collocation increases efficient knowledge sharing

Table 13 Themes emerging from the consolidated data set

In the next chapter, I will connect these themes of efficiency to the mechanisms. I will show why the mechanisms create efficient work processes e.g. why efficient team members are intrinsically motivated and have task interdependence, and I will connect the explanations to the motivational and organizational theories identified in the previous chapter.

At the end of the interviews, I presented and explained the success-enhancing mechanisms to the interviewees. All the interviewees acknowledged and recognized the mechanisms existence and their connection to project team efficiency. But as table 11 shows, not all the mechanisms were apparent in their statements. Some of them emphasized SO as particular important:

> *I don't know if there exists a deeper mechanism, but I think that SO, the social part, is super important. How do we interact? What is the mood like? It might be the social dimension that determines it all. (NBO, 2018)*

I was surprised that the interviewees didn't agree on the project managers' role and importance. Some of them essentially attributed project success or failure to a strong project manager's behavior and argued:

> *As long as you have a really competent project leader, then everything else doesn't matter. (DBE, 2018).*

Others took the diametral stand-point:

> *I don't think you need a leader to make the team efficient. I don't think it is necessary to have a person who is responsible for leading and motivating the rest. (JORA, 2018).*

They did, however, all agree that human-centered behavior was more important than following rational management processes. In line with Ruth (2017), collocation and co-creation were regarded as fundamental catalyzers for efficient work processes. It was also

essential that the team members experienced a feeling of goal and task interdependence. If they didn't have this, they had little motive to act as a team.

3.6. Research quality

Throughout this chapter, I have displayed how my methodological choices affected credibility and dependability. This subchapter will highlight the choices I made to secure the research's quality. I chose the terms *credibility* and *dependability* over the more traditional *validity* and *reliability,* as the first terms generally are more fitting for a purely qualitative research design (Lincoln & Guba, 1985). The terms validity and reliability are often considered philosophically and technically inappropriate in relation to qualitative research based or interpretative assumption where reality is regarded as multifaceted (Saunders, Lewis, & Thornhill, 2016).

3.6.1. Credibility

Credibility is the parallel criterion to internal validity, that ensures that the research displays the reality as the interviewees experience and describe it. I argue that this study has a high credibility for the following reasons:

My interview design ensured that the interviewees had no preconceived expectations on what the research might reveal, and I provided no knowledge about the success-enhancing mechanisms before the end of the interview. The only thing they knew before the interview was, that I had studied the PHD methods and the reasons why these methods resulted in higher success rates than traditional project management methods. This reduced the risk of them changing or adapting their originally intended answers. Thus the ten search themes in chapter 2 are unbiased. As previously mentioned, I conducted the interviews in the interviewees' native language, so they had the best opportunities to express their experiences and reflections.

I have worked with the interviewees and we had built mutual trust and rapport through a lengthy period. Because of this, we shared a space intimacy where the interviewees could share their experiences and reflections safely. All the interviews were conducted within a three-week period to minimize the threat of maturation i.e. the occurrence of events that might affect their behavior and attitudes. However, one thing we need to consider is whether the interviewees emphasis on "softer" values i.e. leadership, trust and interdependence, is a result of them taken the harder project management tools for granted. When confronted with this question, they denied it, but it should remain an attention point.

I sent my interview notes to the participants for review and validation and five out of six had no comments or alterations. The last interviewee never responded to my mail and I chose to move forward without his inputs. Furthermore, I used the data from Ruth (2017) to triangulate my findings and found no major misalignments between the two data sets. In fact, the data sets showed common attitudes and interpretations between the ICG interviewees and the non-ICG interviewees. Lastly, I discussed my findings and reflections with Professor Niels Møller and others, throughout the research process. However, because the translation processes from Danish to English had a negative influence on the credibility, because meaning and nuances might be have been lost in translation.

3.6.2. Dependability

Dependability is the parallel criterion to reliability and refers to the research's replication and consistency. I argue that the study's dependability is high but would have higher if I had had a fellow researcher.

Being the sole researcher, I was vulnerable to researcher bias and error. This means I could have made mistakes in coding and interpretations or misunderstood part of what the interviewees told me. Likewise, my subjective views might have unconsciously affected my interpretations of the participants' responses or article selection in the literature search and review. As explained in subsection, 3.2. I would have preferred to have 'reflective pauses' in my data collection phase as this would have minimized the risk research error e.g. by moving too quickly to next interviews. A fellow researcher would have minimized the risk me being affected by these bias and errors.

I attempted to minimize the risks and biases by having frequent interactions with i.e. Professor Niels Møller and share my reflections and findings. Professor Møller provided valuable reflection points e.g. by reminding me of the research's original and essential purpose when I was astray. Conversations with Professor Møller made me revisit my articles and supplement the motivational theories with organizational theories, as described in chapter 2. Being the study's sole researcher, it helped me stay in the right course and reduced the risk of me overemphasizing or overinterpreting findings. Furthermore, through this chapter I've taken steps to ensure research transparency and I argue that my methodological choices might be understood and evaluated by others, and if needed, replicated.

The interviewees might have been affected by participant bias and error. There was a risk that they intentionally or unintentionally responded untruthfully to the questions. The interviewees, all of them senior management consultants, might be subjected to a dominant logic that exist within ICG in general and SIE in particular. This dominant logic can result in

a common use of management terms and rhetoric, a management fashion, which is self-enforcing (Abrahamson, 1996). In this study, this can mean that certain themes were over-represented because my interviewees shared a common rhetoric. In fact, several times I heard the phrase "A leader must add the things the situation is currently missing". However, we must remember that the interviewees reported their perception of reality, and as such, there is no reason to believe they acted *mala fides*. I have sought to avoid participant error and bias by conducting the interviews away from any disturbance that might affect the interviewees responses, and let the interviewees chose a time and location that suited the interviewee the best e.g. in conference rooms or at a location of their choosing.

3.6.3. Transferability

Transferability is the parallel criterion to the research's generalizability. By providing a full description of the research questions, design, context, findings and interpretations, I seek to provide the reader with an opportunity to judge the study and make judgements about the possible transferability of findings to another context (Bryman & Bell, 2016; Saunders, Lewis, & Thornhill, 2016).

I will make the reader be the final judge of the study's transferability. However, I have noted that the success-enhancing mechanisms are evident in many multifaceted contexts. In Ruth (2017), the mechanisms were visible in three different types of projects, in three different organizations in three different industries. They have also visible outside a project context. Personally, I recognized the success-enhancing mechanisms from my decade long experience in operation management as both non-commissioned officer and commissioned officer in the Danish Armed Forces. The mechanisms were visible in exercises in the Norwegian woods as well as in combat patrols in Helmand Province, Afghanistan.

This chapter has taken you through my methodological choices, how I created a research design that incorporated these choices and allowed me to answer my research question accurately and how all these factors affected the research's quality. In the next chapter, we will take a closer look at success-enhancing mechanisms and link them to the motivational and organizational theories presented in chapter 2.

CHAPTER 4. ANALYSIS

In this chapter, I will analyze three success-enhancing mechanisms: SO, SOO and BET. As I mentioned earlier, due to space limitations I will focus on these three mechanisms and provide examples on how theories can be used to explore the mechanisms. I will use the motivational and organizational theories which I presented in chapter 2 and the consolidated qualitative data set to answer RQ2: Why does success-enhancing mechanisms create efficient work processes?

We must remember that the theories I'm about to use have limited explanation power. There exist a vast number of motivational and organizational theories. My theories are my literature search's common denominators: deterministic vs. agentic approaches, intrinsic and extrinsic motivation, goal structures and altruistic ingroup behavior. So why does this even matter, you might ask. It matters because it affects the study's conclusion. The theories provide two out of many perspectives. While the study's theories might provide vague, or even no, explanations to the mechanisms, it doesn't mean that the mechanisms themselves are vague or unexplainable. It just means that the theories were unfit, and we need to look elsewhere to find explanations. This contribution, while somewhat unsatisfying, is nevertheless valuable. It allows future researchers to know which tools to bring and not to bring if they seek to disassemble the turbocharger of project management.

I will initiate each of the analyses with the mechanism's definition supported by a short explanation to refresh the readers' memory. Afterwards I will apply the motivational and organizational theories to a series of quotes in order to explain why the specific mechanism create efficient work processes. Concludingly, I will sum up what we know about the mechanisms and what is still unexplained and unexplored.

4.1. Social obligation

> **Definition**: *A mental process that makes an agent choose to act efficiently due to a feeling of obligation or commitment to a social actor. These actions in turn reinforce the agents' feelings of obligation or commitments.*

The following quotes provide examples of SO. In the first quote VX1 is explaining why collocation and fixed rhythms in project meetings create efficient work processes. In the second quote, JKBR is explaining why commitment and positive relationships increase efficiency.

> *You simply can't show up to a meeting without anything to show. It makes you want to perform. It creates energy and a feeling that this is not just a long energy draining, nothing-ever-happening kind of process. And it's social. You just have to deliver, because you are accountable. (VX1, 2017)*
>
> *If Anne suddenly doesn't deliver on her part of the task, then it's Lena that will be burned off. And she has a relationship with Lena and doesn't want to burn her off. Because she knows that Lena's child is sick, and she doesn't want to add more weight on Lena's shoulders. Again, we are basing [the project's] flow on a series of agreements between people that want the best for one another instead of basing the flow on a diagram that an engineer has designed. (JKBR, 2018)*

The quotes show that agents act efficiently and deliver on their tasks due to an inner drive. They will simply feel bad if they fail a social actor. The agents made promises and feel accountable for their actions. If they fail to deliver, they will have failed their promises which will affect the agents negatively, but also the people to whom they are committed. Because of this, they will work harder than they normally would. If necessary, they will behave altruistically to ensure the products are delivered on time.

I argue, that their behavior to deliver on time and to the agreed quality is augmented by the mechanism SO. But how will the theories I identified in chapter 2 explain this mechanism?

4.1.1. Motivational theoretical approach

SO operates in a social context and affects how agents behave around other people including project team members. The motivation that drives the agent to act in certain ways is not purely intrinsic but will always have extrinsic characteristics because the social context will provide the agent with external feedback on its behavior. According to Deci & Ryan (1985), extrinsically motivated actions are not typically interesting. Due to this, the primary reason people initially perform such actions is because the behaviors are prompted, modeled, or valued by significant others to whom they feel, or want to feel, attached or related. This suggests that relatedness, the need to feel belongingness and connectedness with others, is centrally important for internalization (Deci & Ryan, 1985).

As I showed in Chapter 2, Ryan & Deci (1985) argue that human motivation can be placed in taxonomy (figure 8 below) ranging from *amotivation* to pure *intrinsic motivation.* The two extremes are separated by *extrinsic motivation* which moves from being primarily externally regulated (*external regulation)* to primarily internally regulated (*integration*). As such, extrinsic motivation has nuances. As soon as there is some sort of external interference, the motivation seizes to be intrinsic.
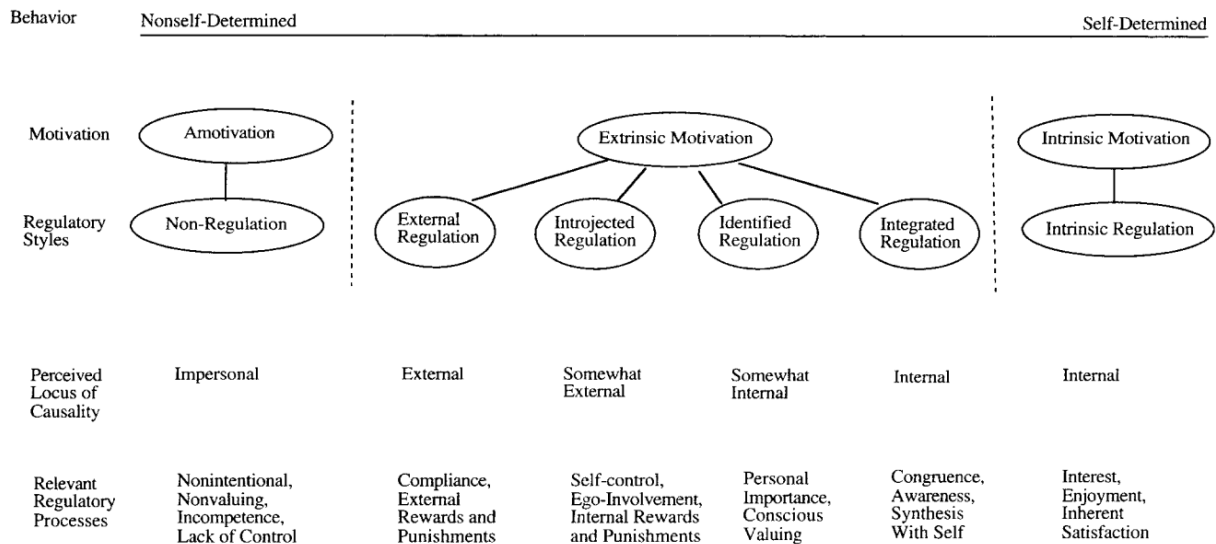
Figure 8 The Self-Determination Continuum showing types of motivation with the regulatory styles, loci of causality and corresponding process. (Deci & Ryan, 1985)

According to Ryan & Deci's continuum, SO can be categorized as extrinsic motivation, because the agent will be rewarded or punished – by social actors or by itself – if it fails to comply with the formal or informal agreements. External and introjected regulations are the most inefficient aspects of extrinsic motivation. However, SO might also lead to more internalized states of motivation depending on how integrated the social norms are in the agent and the degree the agent's behavior is self-determined. One of the interviewees provide a supporting example on how the locus of causality can move from external towards internal.

> *[Social Obligation] can make you do what you must do, even though you don't want to do it. If you can absorb it and make it become a part of you, then it's ok, really. It is a kind of incorporated discipline, which you make your own, because it makes you realize you're a not alone in this world. (JANJ, 2018)*

Another quote shows what happen when the locus of causality is internalized:

> *The internal regulation that exist in a group of employees create a dependency – a reciprocity – a clarity around that if we don't deliver, then we are actually "playing some of our colleagues bad". And if we sit next to someone, someone you actually like, I find that to be a tremendously strong motivational factor. I think it's a motivation factor than is easily interpreted negatively. But if we turn it around and say: "we are playing our colleagues good", then it's a great joy. And a greater joy than playing yourself good. (JORA, 2018)*

This quote shows why SO provide a motivational driver that makes an agent behave efficiently. If the agent doesn't act efficiently and deliver he will prevent others from being efficient and deliver on their tasks due to a mutual dependency. This mutual dependency result

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in reciprocity, meaning that efficient behavior will be imitated and reinforced. The quote shows how regulation can become increasingly integrated and when it reaches *integrated regulation*, it becomes a tremendously strong motivation factor. In this case, "Playing people good" i.e. acting altruistically is in synthesis with the agent's own values. This has a double impact on efficiency because the agent becomes *motivated* and behave *altruistically* and *efficiently*. Because the agent regulates itself, the group doesn't need to spend resources on regulation, which saves time, create fewer conflicts and create higher satisfaction. The quote also shows collocation's catalyzing and enhancing effect. When agents are collocated, the commitment and feeling of obligation is enhanced and the mutual dependency becomes more articulated. The importance of collocation and visualization was evident across all the interviews. One of the interviewees explain how collocation and rituals where your physically move post-its with tasks rewarded accordingly, enforce SO and increase efficiency. The quote also shows how efficient behavior is extrinsically rewarded.

> *If we don't grab the task physically, then the status updates that we give each other as a mutual commitment won't matter that much. It gives focus to the things we are committed to do. "On Monday, we said we would have these deliverables ready for the demo in 14 days, and we simply MUST make them in time!". When you create this flow, then you experience a drastic increase in efficiency. […] We have put toffees on the Scrum board. When you move a task from "Doing" to "Done" you eat a toffee. It reinforces the desire to move tasks. (CMCH, 2018)*

As mentioned, the primary reason people are likely to be willing to do non-intrinsically motivated behavior, is that they are valued by significant others whom they feel - or would like to feel - connected, whether that be a family, a peer group or a society. This fits SO's social aspect well and explains why the motivation to act altruistically seems to be mediated by the person's affiliation to its team members. They stronger the affiliation, the more likely it is that the person will internalize the tasks and act altruistically. Looking at Deci & Ryan's (1985) continuum, affiliation makes the locus of causality move towards *internal*. This will lead to higher motivation which leads to higher team performance as shown in multiple studies (ex. Harter, Schmidt, & Hayes, 2002; Linley, Nielsen, Gillett & Biswas-Diener, 2010). The role of affiliation is visible in the two following quotes where JKBR and NBO talk about the role of personal relationships, trust and reciprocity:

> *It's more important that I promised you something than I promised the system something. Because we trust each other, and we want the best for each other. […] Something happens when you collocate […] The ones who are idle – they are not just sitting picking their noses – they work, because they want to help their friends. If Kim has too much to do, but Peter isn't especially busy, then Peter helps Kim. The waste time is used rationally. (JKBR, 2018)*

> *If you were a moron, [Thomas,] then I properly wouldn't had said yes to this interview. But I have a feeling that you would have done the same for me. The Lord Giveth and the Lord Taketh. If there is this "quit pro quo", then you want to commit yourself to it, but also because you actually have a feeling and a desire to contribute to the something. (NBO, 2018)*

The quotes provide another explanation on why SO creates efficient work processes and increase project success. Team member feels obligated to help other team members when it's possible - and it's visible that they are vacant to help. Failure to do so could be interpreted as social loafing which result in social sanctions (Latane, Williams, & Harkins, 1979) and could also result in self-regulation if social loafing deviated for the person's internalized values. Collocating the project team will increase the visibility in regard to whether people help or not.

Summing up, according to the motivational theories, SO create efficient work processes because it helps the project team members become extrinsically motivated, which makes them work more altruistically and hence more efficiently.

4.1.2. Organizational theoretical approach

In this subchapter I will find explanations for SO's effect by applying theories of goal structures and ingroup altruistic behavior. I will reuse some of the previous quotes to provide a common context, and I will introduce new quotes if they provide valuable insight on how the mechanism create effective work processes.

Essentially project teams have cooperative goal structures. Project success will not be achieved unless all parties achieve their goals, and because of this there is a high interdependency between team members. Across interviews, the interviewees agreed that the efficiency of the team's work processes was dependent on the degree of which the team members were aware of and accepted this interdependence and the project's cooperative goal structures.

> *In the efficient team, the individual team members help each other. In the efficient team, they challenge each other and overall, make mutual commitments, meaning they help each other reach the goals. In the efficient team, you break the tasks down together and help each other in completing them. (CMCH, 2018)*
>
> *When I see teams succeed, it's when something is visible to them: We ARE dependent of each other, and if we involve each other into the processes, then we will actually reach our goal faster. (NBO, 2018)*

The quotes show task interdependence and cooperative goals structures create efficient work processes. The task interdependence increases and with it the agents' interaction and

knowledge sharing. This in turn reduce project lead time because information is provided at the time its needed. Because the agents can't effectively achieve their tasks without inputs from other agents, the agents must commit to one another. Referring to Bandura (2001), the modes of agency shifts from *personal* to *proxy* and *collective*. But when the cooperative goal structures and interdependencies are missing, then efficiency drops:

> *The places where the project teams haven't worked well are the places where the participants in reality hadn't anything at stake. They hadn't internalized [the project]. It was a 9-16 job – or in some instances – 9-15 job – and they just worked on it whenever they felt like it. (JKBR, 2018)*

In the last quote, the agents experience that their goals can be achieved through personal agency and individualistic goal structures. In this structure there are no correlation among the goal attainments of the participants. Whether an agent accomplish its goal has no influence on whether other agents achieve their goals. Furthermore, the egoistic behavior is accepted, and no social actors intervene and regulate the behavior. The mechanism SO is active in the two first quotes and but not in the last. With task interdependence follows obligation or commitment to other social actors. The mechanism SO creates efficient work processes because it creates commitment and gives the agents incentives and opportunities to coordinate and share knowledge.

In this reused quote, the connection between internal regulation and interdependencies is also apparent:

> *The internal regulation that can exist in a group of employees in relation to create a dependency – a reciprocity – a clarity around that if we don't deliver, then we are actually playing some of our colleagues bad[1]. (JORA, 2018)*

Group selection theory and evolutionary theorists have found that teams composed of more altruistic individuals outperform those are composed of less altruistic individuals. If the team members share common goals and accomplish task interdependently, then any altruistic action performed by the member will likely benefit the team and eventually anybody in the team (Li, Kirkman & Porter, 2014). Punishing individualistic behavior consolidates the team cooperative goal structure and encourage altruistic behavior, and thereby team efficiency. Though the interviewees didn't talk much about punishment, they did talk about the social pressure an egoistic agent would experience, if it didn't act in the group's interest; especially when the team is collocated:

> *When you start to sit and work together and solve the common issues, then it gives a feeling of being part of a group. It will help us through Tuckman's stages of team development[1], because the team will "Storm" when team members start asking question like "I cleared all my appointments on Tuesday, why the hell didn't you?!" (JKBR, 2017)*

JKBR continues to explain how people behave when agents act against the group's interest:

> *They experience a moderate pressure from the team members who DID act altruistically […] Two things are important when building a team. The first thing is a common enemy and the other thing is group pressure. If 3 out of 5 want to do a thing, then there is leverage for the minority is weird.*

> *If there is a technician who is really annoyed because he has to attend these collocation meetings and say: "Why can't I just be allowed to sit by myself and make acoustics?!", then the project manager needs to handle it, and handle it firmly. Either that or banish the person: "Then you can't be here. If you want to be a part of the project, YOU need to understand why you are here.". (DBE, 2018)*

The quotes show that agents are placed in undesirable positions if they act egoistically and that collocation provides the opportunity to address the issues.

Summing up, according to the organizational theories, SO create efficient work processes because the agents work towards the project team's cooperative goal structures rather than their individual goal structures. Moreover, collocation has catalyzing and empowering effect on the mechanism

4.1.3. Strength and extent of the theoretical explanations

SO is a Type 1 mechanism which deals with the agent's mental processes. The motivational theories proposed by Deci & Ryan provides plausible explanations for the success-enhancing mechanism SO. SO can be explained as an extrinsic motivational mechanism that make project team members act in accordance with the project team's interests due to expectancy of punishment or reward, both from external agents or by the agent itself. Both perspectives are included in Ryan & Deci's (1985) Self-Determinism continuum, which among other things shows extrinsic motivation's nuances. The importance of relatedness is supported by other psychological domains such as neuroscience. The importance of social needs and relatedness also aligns well with classical motivational theories (ex. Maslow, 1943; Herzberg et al. 1959; Alderfer, 1972). All and all, the Type 1 mechanism SO can be explained as a motivational mechanisms and other motivational theories are likely to contribute even further to the understanding of the mechanism's functioning.

The organizational theories on cooperative goal structures also (Aubé, Rousseau, & Tremblay, 2015; Johnson *et al.*, 1983; Kirstruck *et al.*, 2016) provides an explanation why

the mechanism SO creates efficient work processes. The agent's feeling of obligation and commitment stems from a need to achieve a goal, and the goal can only be achieved through cooperation with other social actors. The task interdependence provides an explanation of the reciprocity which reinforces the agent's feeling of obligation and commitment. If agent 1 helps agent 2, agent 2 is more likely to help agent 1 when it needs assistance. However, the theories assume that the agents care about the goal and other project team members. If this isn't the case, then SO will not be activated and the project's combustion engine will be derived its turbocharger.

Where the motivational theories explain why the agent choose to act, the organizational theories also provide some explanation on why the agent's subsequent actions contribute to project success. Task interdependence and cooperative goal structures forces the project team members to coordinate and increase knowledge sharing. If the agent starts pursuing individual goal structure or show self-interest, efficiency will drop. Depending on the group's strength, the individualistic agent will then either be regulated or copied. This in turn will either reestablish efficient work processes or result in increased inefficiency.

A project can be completed without the team members are extrinsically motivated, act altruistically and without they are aware of the mutual dependencies. But the team's work processes will be less efficient and probably more prone to delays and reduced stakeholder satisfaction and organizational impact. When a project team is collocated, and dependencies are visualized, SO is likely to be activated. This increase the chance that the agents will be motivated and behave altruistically (Ruth, 2017), which cause work process efficiency. This analysis showed that extrinsic motivation and mutual dependencies provide some explanation on why agents choose to act efficiently due to a feeling of obligation or commitment to a social actor.

4.2. Sense of Ownership

Definition: *A mental process that makes an agent prioritize resources to the object of ownership due to a feeling of understanding, autonomy and responsibility - and sometimes, affection.*

SOO is a mechanism that drives an agent to invest resources in a process or an object beyond what they normally would do. The agent prioritizes it over other things because they understand its purpose, and they feel they have the choice, opportunity and power to influence the process or object. As such, the agent feels it has the responsibility for its failure or success. It is connected to feelings of autonomy and self-interest. SOO cannot be forced. If the agent experiences an external pressure, the mechanisms will change character and transform into SO.

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The following quote provide us with parts of the explanation. In the quote, NBO is explaining why a co-created plan provides ownership and efficiency:

> *The important part is they create the plan themselves. In reality, it's their own design and they decide themselves how much they will work on each sprint. They get challenged because there are deadlines. They say "Holy s***! Look how much we already have achieved so far!". In this specific case, we had estimated the assignment would take three sprints, but right now, our third sprint is completely empty, because they had been so efficient in the first sprint. The fact they made the estimations themselves made a huge difference […] I think they added more task to their calendars than would have been the case if a project manager had made the estimations for them. (NBO, 2018)*

The team members achieve more in less time because they have autonomy to choose and affect the road to the goal. Across the interviews, but especially whenever the interviews talked about Agile methods, it became clear that the work processes were more efficiency if the team members' potential were released instead of being restricted by dominant project managers and tight managerial processes. The precondition was that the members understood the purpose and had the competences to find solutions to the tasks. When this was the case, and the agents had the freedom to act, they created better solutions and achieved more in less time. Now we will examine theoretical explanations to this behavior.

4.1.1. Motivational theoretical approach

Because SOO is a Type 1 mechanism, we must look at the mental processes that drive agents' behavior. While SO can be explained as an extrinsic motivational mechanism due to the external effects of social actors, SOO can be explained as an intrinsic motivational mechanism because the agent's autonomy allows greater self-determined behavior and *per se* greater satisfaction. If autonomy is reduced, so is the degree of self-determined behavior and intrinsic motivation will regress to extrinsic motivation i.e. SOO will regress to SO. The agent will seize to act out of interest and begin to act out of duty.

Looking at Ryan & Deci's (1985) Self-Determination continuum, SOO can be placed to the very right of the continuum in intrinsic motivation; perhaps bordering *integrated regulation*, depending on how extreme the self-determination is. Autonomy's connection to the agent's feeling of responsibility is emphasized in the following quote, where CMCH talks about the difficulties of transitioning from traditional project management methods to Scrum[15].

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[15] Scrum is anagile project management method with an emphasis on software development. Scrum is typically used for teams of approximately nine members (Scrum, 2018).

> *If the Scrum master at the daily stand physically stands right next to the white board and moves a team member's daily tasks, then it's the Scrum master who takes responsibility for the deliverable, not the team member. The team member must move his tasks himself. The team members must complete a series of mechanical actions. If they don't do these actions, they can't take responsibility. (CMCH, 2018)*

The quote shows how the locus of causality can move from the agent to the Scrum master, and how this affects SOO. While Scrum has a very militaristic approach to rituals, they don't compromise with the rituals because intrinsic motivation is a fragile construct that easily transform to extrinsic motivation if the feeling of autonomy diminishes.

According the consolidated data set, intrinsically motivated team members are willing to go further to solve problems and find solutions, and they invest more time in their tasks; a result that are confirmed by multiple studies (ex. Harter, Schmidt, & Hayes, 2002; Linley, Nielsen, Gillett & Biswas-Diener, 2010):

> *What the agile methods want to achieve is intrinsic motivation. Do something out of desire, not by cohesion. We all know how we behave when we are doing things out of desire: Small obstacles are easy to overcome and so are the big obstacles. Intrinsic motivation makes the individual a lot more efficient. It's a great business case. (CMCH, 2018)*

The desire to solve problems and find solutions sometimes transcends the termination of the project agents might even follow-up on "their" solutions after the formal ownership has been transferred to operations. This, however, wasn't a common theme in the data set.

> *I go back and look if we are still doing what we can to ensure the impact is still there.[…] making sure that there hasn't been done any changes that have a negative impact. A deep sense of ownership. (GN2, 2017)*

It is clear that a feeling of autonomy determines intrinsic motivation's, and SOO's, existence, but according to Ryan & Deci (1985; 2010) feelings of competence are equally important. If the agent has autonomy to solve a task, but doesn't understand its purpose and feels incompetent, the result will not be intrinsic motivation but amotivation. Efficient team members understand the project's and process's purpose, identifies with them and make it their own, and will put in the work to ensure that the it is successful.

> *It's important for your motivation that you work for a purpose – a long term vision or mission – or something you are a part of and have the opportunity to influence. A project that you personally believe in will make a difference, and if it was your company you would have initiated the same project. Then you will to a much higher degree work to make it frictionless and smooth and typically, you will go that extra mile for the project, and work that night when the project needs it. (JKBR, 2018.)*

As mentioned in chapter 3, the interviewees disagreed on the project manager's role and importance. They did however agree that it is important that the formal leader ensures that the team members understands the purpose and have the required competencies to understand and execute the processes.

> *Often the leader doesn't know what to do when responsibility is delegated. This creates insecurity, but it can be avoided by a high degree of involvement, so the team learns how to carry the responsibility. You can't expect an employee to take responsibility from day one. (CMCH, 2018)*
>
> *The project manager must find a way to formulate why it makes a difference for YOU to act efficiently on the given project. (DBE, 2018)*

Summing up, according to the motivational theories, SOO create efficient work processes because it makes the project team members become intrinsically motivated, which in turn makes them work harder and willing to go further to find solutions to problems.

4.2.2. Organizational theoretical approach

In this subchapter I will find explanations for SOO's effect by applying theories of goal structures and ingroup altruistic behavior.

When SOO is activated, an agent doesn't collaborate because they fear consequences or do it out of reciprocity. Instead it chooses to allocate resources to the processes because the agent understands and accepts that its own goals cannot be achieved without collaboration with other agents. They want to collaborate and involve others because it's the one way they can positively influence the processes. The observable behavior is the same as in SO, but the motives differ:

> *In the efficient team, the individual team members help each other. In the efficient team, they challenge each other and overall make mutual commitments, meaning they help each other reach the goals. In the efficient team, you break the tasks down together and help each other in completing them. (CMCH, 2018)*
>
> *When I see teams succeed, it's when something is visible to them: We ARE dependent of each other, and if we involve each other into the processes, then we will actually reach our goal faster. (NBO, 2018)*

Because the agent is acting on its own free will, less resources are wasted on exercising control, which reduces cost but also further enforces autonomy.

The consolidated data set showed that co-creation, collocation and visualization enhance the team members' influence and feeling of autonomy. If they are simply told that they ought to cooperate, or if the interdependencies aren't addressed at all, then the team members might feel ownership, but only for their own individualistic goal structure. This doesn't create

efficient work processes for the project organization as a whole. The following three quotes shows how interdependencies create understanding and ownership.

> *The primary visual aid – the visual plan – is exclusively made to ensure flow in the project plan. It has the pleasant side effect that it creates ownership when the team members create their own milestones. If I brought a printed visual plan, where all the milestones and names already were added, then the team members could see "Ok, this is my track. I have to finish this task on Tuesday and this task on Friday etc.". It might illustrate flow and perhaps interferences across tracks, but the ownership would be small if not completely gone. (JKBR, 2018)*
>
> *When IT and Business are in the same room, they get a better understanding that they are not just creating single components to the final solution. It creates transparence and distinguishable dependencies, and hopefully also team spirit […] Everybody succeed in something. Across tracks, they communicate what they need. They dare to share their worries because they aren't judged by the others. They all experience that they are delivering something valuable to the project. (DBE, 2018)*
>
> *In the inefficient team, the team members sit alone and work on individual tasks. (CMCH, 2018)*

The quotes showed how co-creation, collocation and visualization helps the team members in creating acceptance and ownership of the cooperative goal structures. It helps illustrate the dependencies and the project's overall purpose. This purpose gives the team members the understanding and responsibility they need to prioritize their resources not just to their own individual tasks, but the processes that helps the team achieve its common goal.

> *If one doesn't deliver, the others can't deliver either because of the cross-track dependencies. The competent project manager must make them realize the connections and make them understand, that if they collaborate, then it will nevertheless go faster and be more fun and a bit nicer to go to work, than if we were sitting in our silos and worked independently. (DBE, 2018)*

As I previously mentioned, when team members share common goals and accomplish task interdependently, then any altruistic action performed by the member will likely benefit the team and eventually anybody in the team (Li, Kirkman & Porter, 2014). Therefore, agents are more likely to share the knowledge they have. As I showed in chapter 2, Olivera, Goodman & Tan (2008) developed a model of contributing behavior that outlines three mediating mechanisms (1) *Awareness*; (2) *Searching & matching* and (3) *Formulation & Delivery.* Collocation, visualization a collective sense of ownership reduce the agent's perception of the cost associated with the three mediating mechanisms. When the agents are collocated, they quickly become aware of the need to share knowledge and requirements can be concretized relatively quickly. Likewise, *Formulation & Delivery* are perceived as relatively cheap because they can be formulated when the agents meet, and deliveries will benefit

not only the receiving agent, but also the providing agent.

Summing up, according to the organizational theories, SOO create efficient work processes because the team members understands and accepts the projects cooperative goal structures thus preventing the team members to pursue individual goals. Again, we see that collocation supported by co-creation and visualization catalyze the mechanism.

4.2.3. Strength and extent of the theoretical explanation

The motivational theories proposed by Deci & Ryan provide plausible explanations for the success-enhancing mechanism SOO. The explanation that the degree of autonomy and self-determination determines whether an agent is extrinsically or intrinsically motivated mirrors how an agent regresses from SOO to SO when its perception of autonomy diminishes. Likewise, there is congruence between the success-enhancing mechanism's locus of causality and that of the Self-Determination continuum.

Still, there are aspects of the mechanisms that remain unexplained by the theory. Intrinsic motivation describes this natural feeling toward assimilation, mastery, spontaneous interest, and exploration that is essential to cognitive and social development and that represents a principal source of enjoyment and vitality throughout life (Csikszentmihalyi & Rathunde,1993; Ryan, 1995). The theory doesn't provide any explanations on why agents feel affection or responsibility for the object of ownership, only that intrinsic motivation provides enjoyment and agents naturally allocate resources to things they enjoy. Apparently, the success-enhancing mechanism SOO seems to be a more complex construct that transcends this motivational theory.

The organization theories also provide plausible explanation on why SOO create efficient work processes. The mechanism makes the agent internalize the project's and processes purpose. This makes the agent accept cooperative goal structures and act altruistically. The agent adopts this behavior because it understands that these actions will eventually help it achieve its own goals, and it accepts the responsibilities of knowledge sharing.

SO's organizational theoretical explanation is resembles SOO's, though the latter doesn't deal with ingroup's regulatory actions on selfish individuals. Here is a plausible explanation to this: If an agent feels ownership for the cooperative goal structures then the ingroup has no incentives to punish, since it's not acting egoistically. If SOO only is activated when the agent work with its own *individual* tasks, then the ingroup suddenly has incentives to regulate. However, since ownership can't be forced, the ingroup will only succeed in activating SO for the cooperative goal structures, never SOO. SOO can only be activated by the agent itself.

4.3. Better Estimates Through Frequent Feedback

> **Definition:** *An observable process that makes an agent create accurate estimates and plans due to frequent feedback from its internal and external environment.*

BET is a Type 2 mechanism that reduces the level of uncertainty and enables the agent to make plans on accurate grounds of information due to frequent environmental feedback. The agent frequently tests its assumptions and hypotheses on its internal and external environment. The internal environment refers to the space which the project team's agents operate in and can affect immediately e.g. prioritization of project tasks and resources. The external environment refers to the space outside the project team's agents immediate span of control e.g. change in end-user preferences and needs (Chin, 2004). This subchapter will examine whether it's possible for the study's theories to explain why these frequent feedback interactions create efficient work processes.

In the following quote, the interviewee was asked if an iterative delivery process reduces project lead time. His answer provides insight in BET's effect:

> *Yes, I would say so. Breaking down the solution into small parts, where we build part of the solution in a sprint, this kind of early testing and user involvement was key to success.*
> *(NN1, 2017)*

In each sprint the project team internally tests their deliverables and involves the deliverable's users. They receive feedback on the product from both their internal and external environment. By doing so, they test their assumption that their deliverable worked in accordance with the user's needs. This approach allows misalignments in assumptions to be realigned early in the processes. Using an analogy, imagine that a project team assumed that a combustion motor should be assembled with Phillips screws. However, the user actually needed slotted screws. If the team had received this feedback after the first sprint, then the project team only had to replace 50 screws rather than dissembling the entire motor and replace 600 screws, which would have been the case if the they received the feedback in the project's test phase.

4.3.1. Motivational theoretical approach

As mentioned, BET is a Type 2 mechanism which means it's not a mental process that affects the agent's choices but a mechanism that affects the agent's observable behavior. Motivational theories essentially seek to explain the mental processes. Therefore, they are unfit to explain why frequent feedback interactions create better estimates and as such more efficient work processes.

The motivational theories could explain why the internal and external environment choose to provide the feedback necessary to create better estimates, but that would not be an explanation to BET, but rather an explanation to SO (the agent is extrinsically motivated to give feedback), SOO (the agent is intrinsically motivated to give feedback) or STI (the agent is motivated to give feedback because it makes it feel competent). Olivera, Goodman & Tan (2008) present similar motivational forces for why an agent would want to give feedback: (a) *self-enhancement*, (b) *exchange* and (c) *instrumental*. Self-enhancement concerns the agent's positive self-belief and efficacy. By demonstrating expertise, the agent experience power and mastery. *Exchange* concerns the agents' exchange of favors: People who receive help will want to reciprocate in a similar manner (Olivera, Goodman & Tan, 2008, p. 28). *Instrumental* concerns the agent's desire to obtain external rewards. As the following quote shows, it's paramount to get the external environment involved.

> *I normally say that a project manager's most valuable possessions are its ears and its shoes; not the project management tools. If your stakeholders don't receive or use your deliverables, then your efforts didn't matter. So if you are not constantly walking around and listening to, mobilizing and inquiring your key stakeholders, then you will get a problem. This is the most important factor for a successful project. […] By being close to them, you can listen and adjust your project's course. (JANJ, 2017)*

The quote and short discussion that preceded it confirms what Ruth (2017) showed and many of the interviewees confirmed: The mechanisms are highly interconnected. If the stakeholders don't want to give feedback, then preconditions for BET are not in place and it will not be activated. Nevertheless, because this subchapter is dealing with a Type 2 mechanism, I will not dwell more on the motivational theories.

4.3.2. Organizational theoretical approach

In this subchapter I will find explanations for BET's effect by applying theories of goal structures and ingroup altruistic behavior.

In essence, BET revolves around knowledge sharing. The internal and external environment possess valuable knowledge which will enhance the efficiency of the project team's decision-making if the team can access it. In Agile methodologies this knowledge is acquired through a series of ceremonies e.g. Sprint Planning, Daily stand-up, Iteration Review and Retrospective. These collocated meetings provide fixed and frequent platforms for knowledge sharing where the internal and external environment have the opportunity to provide immediate feedback for the team.

I will start with by examining the internal environment. BET creates efficient work processes because it enables the project team members to continuously contribute to the cooperative

goal structure. They contribute by sharing information with the group and adjusting resource, so the most prioritized tasks are handled first. The assumptions of the adjustment's consequences can rapidly be tested, because the team members can explain how it will affect their individual tasks. This increase the probability of a realistic plan and reduce the time spent on revisiting plans and subsequent rework. In this quote, GN1 talks about how visualization and collocation provide a platform for information sharing.

> *If you can visualize that you have a lot of deliverables on the board and you just come with a package of more deliverables you have to put into the project. Physically, put that up on the wall and see that "We are going from 12 and now we have 16" for instance. Either we need to have more people or the people need to have higher allocation because what we have scoped right now is to develop the original 12 deliverables. (GN1, 2017)*

By providing visibility in the individual agents work processes e.g. by dividing the tasks into To-Do, Doing and Done and visualizing it for everyone to see, the team can constantly make accurate estimates on the team's collective capacity. Moreover, they can give feedback on whether the team are working with the most value-adding activities. The same mechanism applies when the team members are working jointly on the tasks:

> *Quality is not a phase, but something we consolidate when we make a User-Story. When you create your Scrum boards, it's important that you have the three categories: To-Do, Doing and Done. It's important that the Tester sits next to the Developer and make the adjustments on the spot. (CMCH, 2018)*

When the Tester and Developer solve a task jointly and sit next to one another, the Tester can give instant feedback on the Developer's estimates and assumptions. Said in another way and using Olivera, Goodman & Tan's (2008) framework, the Tester immediately identifies an opportunity to contribute and can immediately assess whether he must use his internal or external memory system to find a solution. If the solutions can be found in his internal memory system, the solution i.e. the feedback, can be provided instantly.

Now let's we turn to the project team's the external environment. Like in the previous case, BET creates efficient work processes because it enables the project team's external environment to continuously contribute to the cooperative goal structure. In this case, however, the cooperative goal is to create deliverables that are valuable for the stakeholders and create the desired organizational impact. Essentially, this can only be achieved through collaboration between the project team and the customers. In a traditional water-fall set-up, the users would initial hand over a product specification and the project team would produce the deliverable and hand it over to the user at the end of the project. In an Agile set-up,

these products are continuously delivered, and the specifications assessed. The users receive frequent and concrete feedback i.e. sprint deliverables and can assess whether their initial product requirements were accurate or whether they need to be adjusted. The following quote explains this concept and illustrate the benefits of collocation. In the quote, the interviewee is asked what happens when you collocate the users and the producers.

> *The main thing is that it gives you dialog now instead of in six months. Normally in NN, the users will do a specification – we have this issue and we need it to be solved – the IT starts working a solution for 6 months, then the user accepts and tests. So there are 6 months where business don't see the solution. In Half Double, we could have the discussion regularly so having the right people in the room to make the decision, (NN1, 2017)*

If the project team or users wrongfully believe that they have individualistic goal structures, then both will fail. The project team will provide a deliverable that won't be used, and the users will still be lacking a deliverable that fulfill their initial desires. The result is an inefficient use, perhaps even complete waste, of resources. The following quote illustrates the benefits of collocation and collaboration between the project team and its external environment.

> *Consider a customer-supplier relationship. When you are collocated, then there is a faster change between deliverables and relations. Much faster you will find out whether you have the right bearings or not, because you sit next to the persons and can observe their reactions to the progression of the deliverables functionality. We have a much better Fail Fast approach when we collaborate closely. There is an instant-feedback, that you don't get when you are not collocated. You get too far away from the experience of whether you create value or not, and whether the user buys-in. (JORA, 2018)*

This is supported across data and the following statement which once again emphasizes the benefits on co-enhancing with the users. Co-creation provides valuable knowledge which creates better estimates and ensures that the users get what they want and know, as this quote illustrates:

> *Because otherwise you are going in the wrong direction. Active ownership is having the people with the money and the owners there. But the users are also a central point. For me, Active Ownership also includes the user, because they will eventually own the process and we need to ensure we have the right inputs. And getting the thing they know and want affects the stakeholder satisfaction. They help improve their own process. (NN1, 2017)*

Summing up, BET increases the work processes efficiency because it provides the project team members and external stakeholders with opportunities to contribute to the cooperative goals structure and provides immediate response to the team's and stakeholder's assumptions. This consequently reduces rework and allows the project team to concentrate on the

work processes that create the value that the stakeholders desire. Collocation, co-creation and visualization also catalyzed this mechanism, just as it was the case with SO and SOO.

4.3.3. Strength and extent of the theoretical explanation

The motivational theories provide little explanation for BET's effect on work process efficiency. As I explained in the beginning of the subchapter, the theories' scope doesn't fit Type 2 mechanisms, but because the Type 1 and 2 mechanisms are interconnected, knowledge about the motivational theories might provide insight that can be used as stepping stones for new knowledge about BET.

The organizational theories, especially the ones that concern goal structures, provide plausible explanations for why BET creates efficient work processes. BET provides benefits in both the internal and external environments and the theories increase our understanding of why co-creation, collocation and visualization enhance the project success rate. Olivera, Goodman & Tan's (2008) framework for contribution behavior also provides an explanation, but the framework seems to be more relevant to the mechanism RTW than for BET. The framework explains how agents reach a common understanding of situation, which is the domain of RTW.

However, neither of the theories explain the actual management processes which agents undertake to create accurate estimates and plans. Answers could be found in literature on agile methods. There is an abundance of project management guides e.g. PMBOK or Scrum[16], that in detail prescribe what the team must do in order make accurate estimates and plans. Reading and "*a priori* coding" such guides, could potentially provide explanations for the efficient behavior created by BET.

4.4. Synthesis

By applying a selection of motivational and organizational theories to the mechanisms SO, SOO and BET, I have procured theoretical explanations of why these three mechanisms create efficient work processes in project teams.

According to the motivational theories, SO and SOO create efficient work processes because the agents becomes extrinsically or intrinsically motivated to act efficiently. Motivation's effect on efficiency is well known. For example, two studies showed that organizations with highly motivated and engaged employees improved operating profit by 19.2 percent over a period of 12 months, whereas organizations with low engagement saw a decline of

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[16] https://www.scrum.org/resources/blog/30-books-scrum-masters

up to 32 percent (Harter, Schmidt, & Hayes, 2002; Linley, Nielsen, Gillett & Biswas-Diener, 2010).

According to organizational theories on goal structures, knowledge sharing and ingroup altruistic behavior, SO and SOO create efficient work processes because they enhance the agent's possibilities to work towards the project team's cooperative goal structures rather than pursuing less efficient individual goal structures. Where SO essentially functions by punishing and rewarding agents who acted inefficiently, SOO functions by providing the agents with an internal understanding, and dedication to the work processes contributing common goals. From a project perspective, these work processes are more efficient and also the best way for the agent to achieve its personal goals. BET increases work processes efficiency by providing the project team members and external stakeholders with opportunities to contribute to the cooperative goal structure and provides immediate response to the team's and stakeholder's assumptions. This reduces rework and allows the project team to concentrate on the processes that create the value which the stakeholders desire.

The analyses also showed that the theories were inadequate for providing comprehensive explanations for the mechanisms. For example, Ryan & Deci's (1985) Self-Determination continuum doesn't provide a thorough explanations of why agents feel affection or responsibility towards an object of ownership, which are two essential dimensions in the SOO mechanism. Regarding BET, the motivational theories provided no explanation for the mechanism and none of the organizational theories explain the actual management processes which agents undertake to create accurate estimates and plans.

The analyses showed that collocation, co-creation and visualization catalyze the mechanisms. One could say that collocation is a mechanism in its own right. Collocation creates a space where the agents interact socially. The physical proximity provides a platform where the agents receive instant feedback on the behavioral choices, and the consequences of their actions – efficient or inefficient – becomes apparent immediately. The physical space also provides a platform for visualization and co-creation. There, ideas and knowledge can be shared quickly, and a common understanding of the cooperative goals can be created and communicated. As such, while collocation creates a physical space, it also enables more abstract spaces e.g. "safe learning environments[17]" which are fundamental for trustworthy and open communication. These abstract spaces seem to exist inside the physical space.

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[17] Danish: Trygt Læringsrum

Now that we have theoretical explanations I can test my hypothesis that the mechanisms create work process efficiency. I will remove the theoretical enablers e.g. motivational mechanism and cooperative goal structures, from the equation and see whether any of the mechanisms are activated. Consider this example which is compilation of the interviewees description of inefficient teams:

In the inefficient team, there are persons that take up a lot of space and persons that feel that their work is much more important than the rest's. In the inefficient team, people are working on their individual tasks. This means that in the inefficient teams, you often see that during the planning sessions, the team member's names are put on the tasks, while in the efficient team, this is done right before execution. Every time you enter the room, there are these persons who sits and behave really demotivated. In the in efficient teams, everybody knows why it's inefficient, but nobody addresses it. (DBE & CMCH, 2018.)

No success-enhancing mechanism are activated in this example. The selfish persons don't identify with the cooperative goal structures but act egoistically and prioritize and pursue individualistic goal structures instead. Because the team members focus on their own tasks, they don't inquire or receive environmental feedback which in turn prevents BET from being activated. No one intervenes and addresses the issues, which mean the SO's extrinsic motivational mechanisms aren't activated. While some of the team members might have activated SOO when working with their individualist goals, none show responsibility or understanding for the projects cooperative goals. As such, SOO is not activated in the work processes that cause project success i.e. the work processes that benefits the cooperative goal structures. While the project has a combustion engine, it is clearly lacks the turbo-charger. The team members may be productive, but they do not work efficiently.

Summing up, this chapter has shown that SO and SOO can be partly explained as motivational mechanisms and that SO, SOO and BET create efficient work processes because they enhance the agent's possibilities to work towards the project team's cooperative goal structures rather than pursuing less efficient individual goal structures. The chapter has also shown that the study's theories don't provide comprehensive explanations for the mechanisms' effect in work process efficiency.

CHAPTER 5. DISCUSSION

I this chapter I will present the study's theoretical and practical implications by revisiting the Introduction chapter and show how my findings could contribute to increase the project success rate. Lastly, I will discuss the study's limitations and present opportunities for future research.

5.1. Theoretical implications

As I made my literature review it became clear that the mechanisms were visible across a diverse body of literature. One of the more surprising cases was in the philosophical literature that deals with ethical behavior (Björnsson ,2014; Steadman, 2012). Specifically, the articles which explained why some agents find it ethical to pursue individual goal structures when they observe that other agents aren't pursuing the cooperative goal structure. If the majority fails to act, then the individual's ethical obligation dissipates. Due to this, the agents are ethical obligated to communicate their willingness to act. If they fail to do so, the other agents are released from their ethical obligations and no one will work on towards the cooperative goal structures. These philosophical perspectives provide supporting explanations for SO and BET and explain why collocation are important: It quickly makes others aware of the intent to contribute.

This philsophical perspectives stand in contrast to the more traditional project managmenet perspectives. Project management traditionally has belonged to the domain of engineering with a strong focus on rational linear processes. Consequently, traditional project management has focused on the harder management aspects opposed to softer and less tangible human aspects. However, projects are completed by project teams, and project teams consists of humans, and humans doesn't always behave rationally but are subjects of bounded rationality, irrational feelings, bias and heuristics (ex. Kahneman, 2011; Simon, 1972).

With its focus on the behavioral mechanism that lies beneath the rational processes, this study has helped bridge the rational project management processes with the softer organizational behavior. By doing so it has helped evolve the way we regard project management. This evolution is not unlike the the transformation that occurred when the traditonal managmeent theories e.g. Scientific Management (ex. Taylor, Weber, Gantt) gave way to the Behavioral Theories (ex. Mayo, Vroom, Alderfer, McGregor). Back then, behavioral theories emerged that stressed the importance of group dynamics, complex human motivations and the manager's leadership style. It also emphasized the employee's social and economic needs and the influence of the organization's social setting on the

quantity and quality of work produced, and it focused on two competencies – communication and teamwork (Kwok, 2014).

5.2. Practical implications

RQ1 provided descriptions and definitions of the eight success-enhancing mechanisms and RQ2 presented plausible explanations for why the mechanisms provide work process efficiency. While this might be interesting from an academic point of view, this knowledge won't increase the project success rate unless the mechanisms are put into practical use by the project teams.

Instead of asking "Which project management processes do I need to do?" the project manager should ask "How do I effectively activate the success-enhancing mechanisms?" The short answer to the question is: use agile processes. There exist many project management processes that activate the success-enhancing mechanisms, but my data shows that especially agile project management processes tend to activate them. This is unsurprising since agile methods emphasize collocation, visualization and co-creation which are the catalysts of the success-enhancing mechanisms. However, I suggest that the project managers initially should focus less on the actual processes and more on which mechanism they activate.

I encourage project managers to make a check list with the eight mechanisms' definitions. As he plans the project's processes, he checks whether it will activate any of the Type 1 and 2 mechanisms. For example, he might ask: *Will this make my team members feel committed to help each other? Will this make my project team members feel responsibility for the cooperative goal structures? Will this provide my team members with the opportunity to receive rapid feedback on their assumptions?* If the answer is "*yes*", then the project teams is likely to work efficiently. If the answer is "*no*", then the next question should be "*Why not and how do we make it happen?*". As the study showed, a wise first step will be to collocate the team, make them co-create the project plan and visualize the cooperative goal structure and interdependencies that exist between members.

The project manager can't rest on his laurels but must ensure that the team members' discourses are supported by actual efficient behavior. The team doesn't become efficient by saying "we help each other". It becomes efficient when they actively engage in altruistically behavior. Furthermore, he must remember that BET also applies for him. He frequently need to receive feedback on whether the mechanisms are still active. The mechanisms can change if the context changes e.g. SOO can transform to SO if the team members experience a loss of autonomy. The outcome is dependent on the mechanism and the context.

5.3. Study limitations

Though the interviewees were randomly collected, they were working together and train project managers using the same curriculum. The interviewees could be subjects to a dominant logic, a normative narrative, on efficient work processes and the reasons behind this efficiency. The use of visual aids, collocation and co-creation are fundamental for Implement Consulting Group's modus operandi and therefore it's not surprising that the interviewees highlight them as particular important for project success. Because the interviews themes were used for the literature review, this had an immediate effect on the selected theory. If I had drawn my sample for a more traditional consulting firms such as Deloitte, PA Consulting or Boston Consulting Group it might have resulted in different themes, hence different theory, and therefore different theoretical explanations of why the mechanisms cause success-enhancing behavior. This study's theories only provide two out of many perspectives.

Overall, the interviewees of this study addressed the importance of leadership opposed to management: A classic comparison that has been addressed by multiple authors and researches (ex. Lindegaard & Olsson, 2015; Mikkelsen & Riis, 2010). Though the importance of the less measurable and more intuitively dimension of leadership is well documented, I will argue that this dimension alone won't do the trick and ensure project success. If a project manager fails to follow a budget or fails to contain the risks associated with project, it is unlikely that the project will deliver its desired organizational impact because of delays and busted budgets. One could ask the question: Does the interviewees overemphasize the softer leadership aspects because they take traditional project management planning processes, e.g. risk planning, for granted? Do they emphasize aspects like trust and relationships because these factors tip the balance and make mediocre work processes great? Or is it in fact because project managers' leadership behavior provides better conditions for the mechanisms?

The study didn't take the agent's individual traits into account (Benkhoff 1996; Joshi *et al.*, 2009; Kirstruck *et al*, 2016). Agents are not isomorphic, and they contribute to the team in different ways. Though the mechanisms are likely to affect all humans, the degree might vary, and some humans are undoubtably more affected by e.g. social pressure than others.

5.4. Future research

My study only compared three of the mechanisms with motivational and organizational theories, leaving the remaining five almost untouched. Though they were not covered in-depth in this study, the mechanisms still contribute to project success and deserve further exploration. The description and definitions which I presented in chapter 2 will make the next

explorations much simpler. The definitions and descriptions have scoped the mechanisms which allows greater focus and more precise search terms for literature reviews. Moreover, future researchers can reject theories that explain mental processes if they explore Type 2 mechanism and vice versa. I was challenged by finding theories that were sufficiently broad to cover all eight mechanisms and as I showed in chapter 2, the theories favorized SO, SOO and to some degree BET. A more focused approach will likely bring more tailor-fit explanations for the mechanisms.

Another research opportunity is to explore the mechanisms in a different context. This study examined one temporary organization, the project team, and it could be interesting to examine the mechanisms in another temporary context i.e. a theater production which also is very dependent on a collocation i.e. the scene. There are indicators that the mechanisms exist outside temporary organizations and personally, I have experienced the mechanism in operational contexts for example on combat patrols in Afghanistan. Studying how the context affects the mechanisms could increase our understanding and clarify the generalizability of this study's findings.

Lastly, because the study has explored and described the mechanisms we are in a better position to create and test hypotheses on how and why the success-enhancing mechanisms work. It could be valuable to use quantitative data and methods to examine e.g. how strongly the mechanisms are connected. This might result in a consolidation or a redefinition of one or more of the mechanisms.

CHAPTER 6. CONCLUSION

Beneath project management work processes lie a set of mechanisms that enables the processes to create their intended results. The study set out to answer two research questions: a description of the eight success-enhancing mechanisms and an exploration of how the mechanisms create efficient work processes in temporary organizations. Understanding why the processes works enable us to design more efficient project management processes and with it reduce the concerningly high failure rate that currently characterizes projects. This chapter will return to the two research questions and answer them.

> ### RQ1: What characterizes each of the eight success-enhancing mechanisms?

Drawing on qualitative data from Ruth (2017), the descriptive analyses showed that the eight success-enhancing mechanisms can be placed into two categories: Type 1 and Type 2 mechanisms. The categorization is important because it concerns the nature of the processes. Type 1 mechanisms are mental, non-observable, processes that catalyze efficient behavior e.g. when a project team member *decides* to prioritize resources to a work process due to a feeling of responsibility, whereas Type 2 mechanisms are observable processes that directly contribute to project success e.g. when a project team member have iterative interactions with end-user to test assumptions on the project deliverables' quality and impact. The descriptive analyses concluded in definitions of the five Type 1 mechanisms and the three Type 2 mechanisms:

	Mechanism	Definition
Type 1 mechanism	**SO**	*A mental process that makes an agent choose to act efficiently due to a feeling of obligation or commitment to a social actor. These actions in turn reinforce agents' feelings of obligation or commitments*
	SOO	*A mental process that makes an agent prioritize resources to the object of ownership due to a feeling of understanding, autonomy and responsibility - and sometimes, affection.*
	STI	*A mental process that makes an agent decrease hostile actions towards an object due to a feeling of involvement and acknowledgement.*
	HE	*A mental process that makes an agent behave productively due to a high hierarchy person's attention.*
	STP	*A mental process that makes an agent allocate resources to a process due to a feeling of success and worthwhileness.*
Type 2 mechanisms	**RTW**	*An observable process that makes an agent reduce administration time and quickly create a shared understanding of a situation due to frequent face-to-face coordination.*
	BET	*An observable process that makes an agent create accurate estimates and plans due to frequent feedback from its internal and external environment.*

	DRT	*An observable process where an agent through analysis prioritizes the activities that create most impact without constraining its cause of actions on doctrines*

Knowing how the mechanisms work enables us to consciously design and evaluate work processes that stimulate both the agent's decision-making and behavior.

> **RQ2: Why does the eight success-enhancing mechanisms create efficient work processes in temporary organizations?**

Coding and analyzing qualitative interviews with ten senior management consultants and two non-consultant project managers, created nine themes regarding efficient work processes in temporary organizations. The themes were used for a literature review that connected the eight success-enhancing mechanisms to motivational and organizational theories, thus providing theoretical support for the mechanisms. This support increased our understanding of the mechanisms' nature and why they create efficient processes. A critical review showed that most of the articles provided theoretical support for the mechanisms SOO and SO while only a few of them supported DRT and HE. By applying the selected motivational and organizational theories to the qualitative data, I analyzed the mechanisms SOO, SO and BET. Due to the study's space limitations, it was impossible to analyze all eight mechanisms. I chose these specific mechanisms because they were most extensively covered by the theory and data.

The analyses showed that collocation, co-creation and visualization catalyzed the mechanisms. Collocation can be described as a mechanism that sets success-enhancing mechanisms in motion, like a battery in a clockwork. Collocation creates a space where the agents interact socially. It provides a platform where the agents receive instant feedback on the behavioral choices, and the consequences of their actions – efficient or inefficient – becomes apparent immediately. The physical space also provides a platform for visualization and co-creation. In this space, ideas and knowledge can be shared quickly, and a common understanding of the cooperative goals can be created and communicated. As such, collocation creates a physical space for efficient interaction and enables more abstract spaces e.g. "safe learning environments[18]" to exist within it.

According to motivational theories (Ryan & Deci, 1985; 2010), SO create efficient work processes because the project team members become extrinsically motivated to work more altruistically due to external or internal sanctions or rewards. Previous research has shown that altruistically behaving teams are more efficient than egoistic teams, which explain why altruistic behavior lead to efficient work processes. According to the organizational theories

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[18] Danish: Trygt Læringsrum

(Aubé, Rousseau, & Tremblay, 2015; Johnson *et al.*, 1983; Kirstruck *et al.*, 2016, SO create efficient work processes because the agents work towards the project team's cooperative goal structures rather than their individual goal structures. The cooperative goals structures increase the feeling of joint responsibility and triggers feelings of obligation and commitment towards the team's social actors. If an agent regresses to individualistic goal structures and focuses on its own tasks the project team efficiency drops, and the egocentric team member will be punished by the ingroup in order to enforce norms and avoid inefficient outcomes.

According to motivational theories, SOO create efficient work processes because it makes the project team members become intrinsically motivated, which in turn makes them work harder and willing to go further to find solutions to problems. According to the organizational theories, SOO create efficient work processes because the team members understand and accept the project's cooperative goal structures thus preventing the team members to pursue individual goals and reduce the resources spent on control measures.

Applying motivational theories to BET didn't provide sufficient explanations for the mechanism's influence on work process efficiency. This was unsurprising, since BET is a Type 2 mechanism and therefore unconcerned with team member's mental processes such as motivation. According to organizational theories BET increases work processes efficiency because it provides the project team members and external stakeholders with opportunities to contribute to the cooperative goals structure and provides immediate response to the team's and stakeholder's assumptions. This reduces rework and allows the project team to concentrate on the work processes that creates the value that the stakeholders desire.

The analyses showed that while the motivational and organizational theories provided some explanations for the mechanisms, they were inadequate for providing comprehensive explanations. For example, Ryan & Deci's (1985) Self-Determination continuum doesn't provide a thorough explanation of why agents feel affection or responsibility towards an object of ownership, which are two essential dimensions in the SOO mechanism. Regarding BET, the motivational theories provided no explanation for the mechanism and none of the organizational theories explain the actual management processes which agents undertake to create accurate estimates and plans.

Lastly, the study has provided practitioners with a useful checklist which can be used when designing or evaluating management processes. Furthermore, the study has increased our knowledge of the mechanisms that lies beneath efficient project management process. This has helped bridge the gap that have existed between rational normative project management processes and the organizational behavior that exists in efficient project teams, thus shifting the focus from the processes to the people who are executing the processes.

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