



# How to Support a Change Agent's Role Execution by Utilizing Behavioral Insights?

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# How to Support a Change agent's Role Execution by Utilizing Behavioral Insights?

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The aim of this thesis was to examine how behavioral insights phenomena may appear in the role of a change agent when a company is deploying a new enterprise resource planning program following the guidelines of The Prosci ADKAR -change model. The purpose of the thesis was to give suggestions on how a change management organization can support the change agents' decision-making process when the change agents are executing their role in an organizational change process. The beneficiary of this thesis was Metso Corporation's Global Change Management -organization that commissioned the thesis.

The theoretical framework of this thesis is based on literature and previous research related to behavioral insights, organizational change process and the role of a change agent. In addition, theoretical framework focuses on theories of selected organizational change models and choice architecture and nudge theory as development methods.

Qualitative research was conducted to have a better understanding of change agents' thoughts and experiences about organizational change and their role as change agents in the change process. Based on the analysis of the collected data, it was possible to identify bottlenecks that change agents may experience in their role and what kind of cognitive biases and heuristics might appear in those situations. The results suggest that challenges in the role execution of a change agent related to the ambiguity of the change agent role and responsibilities. In addition, the effects of situational factors within the change agent's own organization, such as facing the organization members' various kind of attitudes towards the change process were found to be challenging. The possible cognitive biases related to the identified challenges may include, for example, feelings of scarcity about time availability to act in the role and information about the upcoming change on a practical level.

After the thesis writer identified what kind of factors can prevent change agents to operate in their role successfully, the EAST-framework and Thaler, Sunstein & Balz's Choice architecture -guidelines were applied in nudge design. Designed nudges aimed to encourage change agents to deepen their communication not only within the existing change agent network but also between other expert groups involved in the organizational change process. The suggested nudges were evaluated both cost and resource point of view as the resources of implementing nudges were limited in the commissioner organization. The designed nudges served as development plan for the Global Change Management -organization and advised how the commissioner organization can support change agents in their role from the behavioral insights perspective. The results of the development work were presented to the commissioner in two meetings in June 2023.

Keywords: change agent, choice architecture, behavioral insights, organizational change

Päätöksenteon ilmiöt johtamisessa, kehittämisessä ja asiakastyössä  
Tradenomi (Ylempi AMK)

Matias Rauhavirta

**Kuinka tukea muutosagentin roolin toteuttamista päätöksenteon ilmiöitä hyödyntämällä?**

Vuosi 2023 Sivumäärä 105

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Tämän opinnäytetyön tavoite oli tutkia, miten päätöksenteon ilmiöt voivat ilmetä muutosagentin roolissa, kun yritys ottaa käyttöönsä uutta toiminnanohjausjärjestelmää Prosci ADKAR-muutosmallin mukaisesti. Opinnäytetyön tarkoitus oli tuottaa ehdotuksia, kuinka muutoksenhallintaorganisaatio voi tukea muutosagenttien päätöksentekoprosessia organisaatiomuutoksen aikana päätöksenteon ilmiöitä hyödyntäen. Tämän opinnäytetyön toimeksiantajana toimi Metso Oyj:n Global Change Management -organisaatio.

Tämän opinnäytetyön teoreettinen viitekehys perustuu käyttäytymistaloustieteeseen, organisaatiomuutosprosessiin ja muutosagentin rooliin liittyvään kirjallisuuteen sekä aikaisempaan tutkimustietoon. Lisäksi teoreettisessa viitekehyksessä keskitytään esittelemään valittujen organisaatiomuutosmallien teorioita sekä valintamuotoiluun ja tuoppausteoriaan kehittämismenetelminä.

Kvalitatiivisella tutkimuksella pyrittiin ymmärtämään paremmin muutosagenttien ajatuksia ja kokemuksia organisaatiomuutoksesta ja heidän käsityksiään roolistaan muutosagentteina muutosprosessissa. Kerätyn aineiston analyysin perusteella voitiin tunnistaa pullonkauloja, joita muutosagentti voi roolissaan mahdollisesti kohdata sekä millaisia kognitiivisia vinoumia ja heuristiikkaa näissä tilanteissa saattaa ilmetä. Tulokset viittaavat siihen, että muutosagentin roolin toteuttamisen haasteet liittyvät muutosagentin roolin ja vastuiden epäselvyyteen. Lisäksi haasteellisiksi havaittiin muutosagentin oman organisaation tilannetekijöiden vaikutukset, kuten organisaation jäsenten erilaisten asenteiden kohtaaminen muutosprosessia kohtaan. Tunnistettuihin haasteisiin liittyvät mahdolliset kognitiiviset vinoumat voivat liittyä esimerkiksi niukkuuden tunteisiin roolissa toimimiseen käytössä olevaan aikaan ja muutosta käsittelevän konkreettisen tason tiedon määrään.

Opinnäytetyön tekijä sovelsi tuoppausten suunnittelussaan EAST-viitekehystä ja Thalerin, Sunsteinin & Balzin laatimaa valintamuotoilun teoriaa. Suunniteltujen tuoppausten tarkoituksena oli rohkaista muutosagentteja syventämään kommunikaatiotaan paitsi olemassa olevan muutosagenttiverkoston sisällä, mutta myös muiden organisaatiomuutosprosessiin osallistuvien asiantuntijaryhmien välillä. Ehdotettuja tuoppauksia arvioitiin sekä kustannus- että resurssinäkökulmasta, sillä toimeksiantajaorganisaation resurssit niiden toteuttamiseen olivat rajalliset. Suunnitellut tuoppaukset toimivat Global Change Management -organisaation kehityssuunnitelmana ja neuvoivat, kuinka toimeksiantajaorganisaatio voi tukea muutosagentteja heidän roolissaan käyttäytymistaloustieteen näkökulmasta. Opinnäytetyö tulokset esiteltiin toimeksiantajaorganisaatiolle kahden palaverin aikana kesäkuussa 2023.

Asiasanat: muutosagentti, valintamuotoilu, päätöksenteon ilmiöt, organisaatiomuutos

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## 1 Introduction

” A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost?” That is a question Richard Thaler & Cass Sunstein ask in their book “Nudge: Improving Decisions About Health, Wealth, and Happiness (2009, 44). At first sight the question is a simple mathematical calculation. Edward Cartwright (2011, 7) argues that if you answered ten cents, then you are like most people. Still, the correct answer is five cents. This simple example reveals how easily and fast a human brain can make a decision that seems right, and we feel good about our answer. Yet, when being made aware of our mistake we take a more detailed look at the questions and see the logic with the correct answer. The cost of the products in this example is low but what if we jumped as easily to conclusions about questions that concern our own lives or when making decisions in our work life?

During recent decades growing number of companies worldwide have started to consider what phenomena may influence on their employees’ decision-making process (Broughton, Costa, Pickering, Shakhina, Tilleard & Wu 2019, 7). For example, American search engine company Google has raised a companywide discussion among their employees about how human decision-making related phenomena may appear when the employees are designing new innovations to the end users but also in the recruitment processes when managerial decisions are being made (Life at Google 2014). It has been even argued that behavioral approach should be an essential part of a company’s risk management plan and more attention should be paid to mitigate the biases in human decision-making and the control the consequences of those (Goto 2007, 267, 281). According to Goto, ignoring human tendency to have cognitive errors in decision-making process can lead to an inefficient allocation of capital which may decrease the value of the company and cause losses or even bankruptcy.

To understand how humans make their decision in modern society, we need to know where we are coming from. Even though over the course of time human brain has develop to process complex and challenging questions and our modern life is not a constant fight for food and shelter in Savannah, we still share certain interesting similarities with ancestors how we make our decisions in life. For example, our brain still prioritizes of observing our surroundings and focuses on those factors that can be a possible threat to our survival. (Kahneman 2011, 90, 301.) There certainly are benefits of ability to make fast and effortless decisions as that make our everyday life easier. It is not practical or even possible that a human would consider his every action and decision in detailed but especially in new and unfamiliar situation lack of consideration can lead us making errors in our thinking process. There errors are called as heuristics and cognitive biases. (Honkanen 2016, 47-48.) It is important that we recognize the

situation where our thinking process is likely to lead us astray and try harder to avoid significant errors in thinking when making important decisions (Kahneman 2011, 28).

In our work life one example of new and unfamiliar situation could be an organizational change process. The organizational changes can relate to, for example a merger or business and system development. During those times, employees may need to let go of their old and familiar ways of working and learn to use new systems and understand new processes. There are many ways a company can try to make the transition process easier for their employees. One way is to choose and use an organizational change model as a compass guiding the company through the change from its current state to the desired state. One of these kind of change models is The Prosci ADKAR -change model which is an individual change model that has been created by a change management consultancy firm Prosci's founder Jeff Hyatt (Creasey 2022). The model consists of five milestones that provide guidelines for a successful organization change according to the model's founders.

Another way is to identify employees that have abilities to guide and support their colleagues during the organizational change process. A change agent is a nominated person in an organization who carries out changes and maintains development work usually without using formal power (Honkanen 2006, 34). The change agents' role in the organizational change process is interesting from the decision-making process point of view. They are a special group of people in the intersection of transferring information from the change leader towards the employees and vice versa during uncertain times.

There are different kind of theories and recommendations how a company should handle an organizational change process and the ideal characteristics of a change agent have been identified in the literature. In addition, there is vast amount research of how humans make their decision in various situation and how our decision-making process might not always serve our best interests in those cases. In this thesis these topics are combined and studied together in the context of a real life organizational change process in which a company changes their old enterprise resource planning program to a new one.

### 1.1 The objective and purpose of the thesis

The objective of this thesis was to examine what kind of cognitive biases and heuristics may appear in the role of a change agent when a company is deploying a new enterprise resource planning program. The purpose of this thesis was to have better understanding how those phenomena may appear in a role of a change agent when he is executing his role in the Prosci ADKAR -change model based organizational change process. Based on the qualitative research's findings, the thesis writer created a development plan with which change agents could be nudged to improve their decision-making process.

The outline of nudge development -process by Kim Ly, Nina Mažar, Min Zhao and Dilip Soman (2013, 15) was applied as a structure of the thesis's development work. To understand how behavioral insights phenomena may appear in a role of change agent, it was important to have understanding of a human's decision-making process and the context the decision are being make. In this thesis, the decision-maker was a change agent and the context in which decisions are being made was an organization change process.

The development work was approach by identifying what are the possible bottlenecks in a change agent role exucution during an organizational change process. Based on the qualitative research result's the thesis writer created a development plan how the Global Change Management -organization could nudge change agents and minimize heuristics and cognitive biases negative effects on a change agent's decision making process. The suggestions in the development plan followed the guidelines of The Behavioral Insights Team's EAST-framework (Service, Hallsworth, Halpern, Algate, Gallagher, Nguyen, Ruda, Saunders, Pelenur, Gyani, Harper, Reinhard & Kirkman 2014, 3) and Richard H. Thaler, Cass R. Sunstein & John P. Balz's nudge recommendations (2010, 15).

The thesis does not comment on how the change agents should be selected for their role. Also, the thesis will not focus on considering how change agent's role execution may vary in different countries. Hence, for example consideration about how cultural differences in power distance and hierarchy are not included in this thesis.

## 1.2 The structure of the thesis

The thesis consists of six chapters. After introduction, a reader is introduced to the previous studies and literature related to thesis' topic. The literature review discusses about the behavioral economics as a field of science proceeding to the take a deeper look at its integral theories and terminology such as dual process model and heuristics and cognitive biases that influence our decision-making and behavior. In that chapter, it is also discussed how human decision-making can be improved based on the behavioral economics theories.

When introduced to the literature related to human decision-making process, the thesis continues by discussing what organizational change means and what theories that are considered as "classic organizational change models" know about it. The thesis takes a closer look at The Prosci ADKAR -change model which is used as the change model to guide the commissioner company through its ongoing organizational change process. The thesis also discusses what kind of decision-making environment organizational change process is for a human. The focus is on one certain group of people making the decisions during the organizational change process. That group is called change agents and in the theoretical framework the reader is introduced to how the role and its responsibilities are described in the related literature.

The theoretical framework creates the foundation for research and development work. In chapter three, the thesis writer will further explain qualitative research setup. The chapter discusses how change agent role and responsibilities is defined to be in the context of the commissioner's organizational change program and how the thesis writer conducted the research. The research results are presented in chapter four. In that chapter, the thesis writer will also consider what kind of heuristics and cognitive biases may appear in a change agent's decision-making process based on the research results.

The chapter five focuses on presenting the development plan about how the commissioner nudge change agents and that way minimize the negative effects of heuristics and cognitive biases in their decision-making during the Prosci ADKAR -change model based organizational change process. The thesis writer also gives a recommendation on how the development work should continue after the thesis writing process.

The sixth and closing chapter will focus on discussing thesis's finding on wider perspective by comparing the research results to previous studies. In addition, the thesis writer evaluates the research process' credibility and ethicality. There is also discussion about how transferable the results of the thesis are and what kind of further research there could be. The commissioner's feedback about the thesis is discussed in chapter six, and the thesis writer also reflects and sums up his thoughts about the whole thesis writing process.

## 2 Theoretical framework

In the following subchapters the thesis writer will present the thesis' theoretical framework. First, the reader will be introduced to behavioral economics as a field of science and to the dual process -theory. The thesis writer will explain what System 1 and System 2 thinking - processes mean and how those differ from each other. The theoretical framework will then proceed to explain what heuristics and cognitive biases are and how those phenomena may appear in human's decision-making process. In addition, the thesis writer will introduce to the reader what are choice architecture and nudging and how heuristics and cognitive biases can be utilized when human's behavior when trying to direct human behavior in the preferred direction.

In this chapter thesis writer will also present some of the most well-known organizational change models and point out some of their similarities and differences. The organizational change process is also reviewed from an employee's perspective by explaining what the term "change agent" means and what is the general idea of that role in the organizational change process.

## 2.1 Behavioral Economics

Standard economic model has studied rational human behavior and its effects. In that, it is assumed that homo economicus are rational and selfish beings who always think their own interests, think logically and never make systematic mistakes. Rational decision-making requires that a person must have enough information about all the facts that affect the decision and the person's must be able to process the information without any intellectual or cognitive limitations. In addition, the person's emotion must not influence the decision-making process. In behavioral economics it has been acknowledge that even though being educated and enlightened, people do not always act rationally as there seem to be many psychological factors and forces that may make people to act and choose against their own best interest. Behavioral economics is a field of science which focuses on understanding people's choices and actions in the economy and society. (Cartwright 2021, 3-4; Honkanen 2016, 29-30.)

To improve a person's ability to make rational decisions, it must be ensured that the person has not only all information to make a better decision when choice needs to be made but also, the person needs to have sufficient opportunities and skills to process the available information. Even though humans' limited abilities to make rational decisions have been studied and acknowledged, social institutions such as social legislation, scientific institutions or official operating system of any organization is based on an assumption that people act rationally and logically in them. (Honkanen 2016, 29-30.)

American economist and psychologist Herbert Simon argued in his work about organizational decision-making already in 1950's that in practical problem-solving situations people rely on various thinking shortcuts to facilitate their decision-making. In 1978, Simon received a Nobel prize in economics for his research about how humans', homo sapiens, bounded rationality effects on the economy and society. That can be considered as a starting point of modern behavioral economics. (Cartwright 2011, 7; Honkanen 2016, 30.)

Psychologist and economics Daniel Kahneman and cognitive and psychologist Amos Tversky's work in behavioral economics continued to demonstrate how people make decision very differently than the common understanding of homo economicus leads us to believe. In 2002, when Tversky was already passed away, Kahneman won a Nobel prize in economics for "having integrated insights from psychological research into economic science, especially concerning human judgement and decision-making under uncertainty". (Cartwright 2011, 7.) Their work created a prospect theory which argues that humans "response to losses is stronger than the response to the corresponding gains." (Kahneman 2011, 282-283.) In other words, according to their theory for the humans the psychological value of losing certain amount of money is greater than if gained the equivalent amount of money.

Nowadays the theories of behavioral economics have a great potential especially when designing more clever governments. Based on research work, behavioral economists have been able to give governments new insight what policies will work in practice and what will most likely fail. Behavioral economics aim to make a real difference not only in economics but especially in people's lives on an individual level. To help people make better choices, it is vital to understand the decision-making process leading up to the decision. That way we can have a better understanding why a person may gamble money in betting but also have a saving plan for retirement. (Cartwright 2011, 3, 10-11) The criticism towards behavioral economics has related to the question of who defines what is good for a person and how transparent are the methods being used when the person's thinking and decision-making process is "nudged" to the certain direction. (Bruns, Kantorowicz-Reznichenko, Klement, Jonsson & Rahali 2018, 49-50.)

## 2.2 Dual process theory

Behavioral economists have widely adopted a model of dual processes theory in which human cognitive functioning is divided in System 1 and System 2 -thinking (Kahneman 2011, 13, 20-21; Thaler & Sunstein 2021, 41; Stanovich & West 2000, cited in Bazerman & Moore 2009, 3.) The terms System 1 -thinking and System 2 -thinking were first defined by psychologists Keith Stanovich and Richard West even though nowadays they prefer to speak of type 1 and type 2 processes (Kahneman 2011, 48.) Nobel Prize winner Daniel Kahneman refers to these processes as fast and slow thinking whereas economist Richard H. Thaler and legal scholar Cass R. Sunstein call these processes automatic and reflective thinking. (Kahneman 2011, 20-21; Thaler & Sunstein 2021, 41.)

System 1 refers to our intuitive system which can be described as fast, effortless, implicit, and emotional (Stanovich & West 2000, cited in Bazerman & Moore 2009, 3). It works automatically and instinctively. System 1 reacts quickly, and it requires little or no effort from a human being as the information processing happens automatically and unconsciously. System 1's actions are often influenced by emotions meaning that human's current emotional and mental state play a role in System 1 based thinking. System 1 is commonly in charge when we decide about how we interpret verbal language and visual information. System 1 makes every day thinking smooth, effortless and efficient as it would be impossible for human beings to think and consider every choice and action in everyday life. People are often not very aware of how System 1 works. (Stanovich & West 2000, cited in Bazerman & Moore 2009, 3; Honkanen 2016, 48.)

In contrast, System 2 involves the experience of concentration. System 2 makes a human experience that he is consciously directing his own actions in his decision-making process. (Stanovich & West 2000, cited in Bazerman & Moore 2009, 3; Honkanen 2016, 47.) System 2

thinking can be described as slow, conscious, effortful, explicit, and logical (Stanovich & West 2000, cited in Bazerman & Moore 2009, 3). System 2 requires conscious consideration, reasoning and reflection on things which can take more time and that is why the decision-making process is slower than System 1's (Honkanen 2016, 48). One of the main functions of System 2 is to oversee our self-control by overcoming impulses created by System 1 (Kahneman 2011, 26).

System 2 is activated when System 1 runs into trouble and doesn't have an answer for a current problem. System 2 supports System 1 by more detailed and specific processing to solve the current problem. (Kahneman 2011, 24.) The routing of thinking is affected by an individual's ability to process information. In situations where a slightly more complex understanding and analysis of things are required, intellectual, cognitive abilities and individual ways of thinking can become an obstacle. The abilities can also be affected by whether the individual has the opportunity to concentrate on thinking. Situational factors such as individual's feeling of busyness, distractions in surroundings or the individual's current mood can also have an effect on the individual's abilities to process information. (Honkanen 2016, 46.)

Based on the evolutionary psychology, System 1 has developed earlier than System 2. Turning and responding quickly to the most serious threats and most promising opportunities improved the chances of survival. These abilities are not limited to humans as this type of system can also be found in animals. (Honkanen 2016, 48; Kahneman 2011, 35, 301.) Based on current understanding System 2 is only found in humans and System 1 and System 2 can also be located in different areas and functions in the human brain. (Honkanen 2016, 48.)

Even though our modern life in urban environments is widely different than our ancestor's life was in savannah, we have inherited the neural mechanisms that evolved to produce a continuous assessment of threat. Still this day modern human's brains evaluates situations quickly by observing possible threats from our surroundings and deciding whether those are good and allow approaching or bad which would lead to escape from the situation. Threats don't need to be concrete and immediate dangers around us as the brain also reacts quickly to symbolic threats and words with emotional background such as 'war', 'peace' and 'love'. Even if there is no real threat, System 1 treats even the reminder of a bad event as a threat. On the contrary, the signs of good mood and cognitive ease in information processing gives humans' feelings of safety and familiarity. (Kahneman 2011, 90, 301.)

Normally humans do not use the whole capacity of System 2 thinking as it is commonly in a pleasant, low-effort mode whereas System 1 is constantly producing suggestions such as impression, intuitions, intentions, and feelings for it. When things are going smoothly, System 2 confirms and adopts these impressions and intuitions without changing them much and turns

them into beliefs. Still, System 2 can slow down actions and force logical analysis, but due to its laziness it commonly searches for information and claims that fit with its existing beliefs rather than carefully examine all information available. (Kahneman 2011, 24, 103-104)

People try to explain things, events, and phenomena that happen around them. Humans are interested in finding reason why something has become the way it is or why something happened and a need of finding an explanation can be almost compelling. (Honkanen 2016, 59). System 1 serves this need of explanation extremely well by suggesting causal connections of events automatically and effortlessly. The problem is that the connection created by System 1 may be incorrect. (Kahneman 2011, 110.) As we easily create associative cause and effect relationships between matters, people tend to misapply causal thinking to situations that require statistical thinking. System 1 doesn't have the capacity for such reasoning nor has System 2 developed for this kind of thinking even though it can be trained to think statistically. (Kahneman 2011, 77.)

The dual process theory has also faced some criticism during the recent years. According to the theory, the speed of System 1 is based on intuitive thinking. It has been questioned whether System 1 thinking really is "intelligent thinking" and whether it is more about memorization of frequently happened situations. In other word, the critics have suggested that in intuition, associations related to cues from the environment and one's own reactions are "overlearned" and that's why they have become automatic. (Newell & Shanks 2014 cited in Honkanen 2016, 48.)

The division of labor between System 1 and System 2 usually works well and it minimizes the effort of information processing and optimizes performance. System 1 is usually very good at providing accurate models of familiar situation and short-term predictions. On the other hand, when humans are making the most important decisions in their lives System 2 logic should be active due to its more thoughtful reasoning. It is important to understand that judgmental error, biases, are much more likely to occur in System 1 -thinking than in System 2 -thinking which gives us plenty of reasons to question our intuition. Nevertheless, many people have a great deal of trust in their intuition. System 1 cannot be turned off which makes it difficult for humans to prevent these systematic errors in intuitive thinking. System 2 may not have a clue about these errors which opens a door for cognitive biases in decision making. (Bazerman & Moore 2009, 3-4; Kahneman 2011, 25, 28, 44-45.)

Questioning one's own thinking constantly would be impractical yet fairly impossible in our everyday life which leaves us the option: we need to learn to recognize the situation where cognitive biases are likely and try harder to avoid significant errors in thinking when making important decisions. It's easier to recognize other people's mistakes than your own, though. (Kahneman 2011, 28.)

### 2.3 Cognitive biases and heuristics

Based on psychological research, human thinking has many clever and sophisticated shortcuts that help us get through our daily life but also often cause common errors. The rational thinking model refers to a decision-making process expected to lead logically to the optimal result and consider the decision maker's own personal values and risk preferences. The rational model is based on a set of assumptions that prescribe how a decision should be made rather than describing how a decision is actually made. People can deviate from a fully rational decision-making process in individual and competitive situations due to a variety of heuristics and cognitive biases. Paying attention to every potentially relevant fact or piece of information that would be available would simply require more brain power than people have. (Bazerman & Moore 2009, 1, 4-7, 42).

The technical definition of heuristics is a simple thinking process which is often incomplete but finds adequate answer to a difficult question (Kahneman 2011, 98). Bazerman & Moore (2009, 6-7) describe heuristics as rule of thumbs that simplify our decision-making process. System 1 process is so quick that it might substitute a difficult question by an easier one for which it has an answer. In other words, the question that System 1 answered may not been the question to which the answer that was sought. System 1 tries to create coherence even in situation where there is none. The cognitive easy of the process makes the answer seem plausible which may even fool System 2 and the quick answer suggested by System 1 may pass its loose evaluation. (Kahneman 2011, 243).

Usually though, heuristics produces correct or partially correct judgements. The problem is that people may not be aware what are the likely situations when it would be good to question our own thinking process to avoid severe errors. (Bazerman & Moore 2009, 6-7.) Framing, meaning the context in which the decision is made, influences people's evaluations and conclusions. For example, the clues and cues we get from different environments and situations may active certain thinking shortcuts. Shortcuts may also be activated just by in which order the selection options are presented or what kind of choices are even possible. (Honkanen 2016, 52; Thaler & Sunstein 2009, 39.)

Many different cognitive biases can be identified from thinking processes that are related to a human's attempt to forecast what is about to happen. People tend to ignore the logical calculation of probabilities, and their conclusions can be based on coincidental similarities and representatives observed between different cases. For example, an individual may be classified to belong to a certain group if he or she resembles the stereotypes of a member of that group. (Honkanen 2016, 50-51.) Our associative memory functions also contribute to a confirmation bias which stems from System 1. Confirmation bias favors uncritical acceptance

of propositions and exaggerates the likelihood of extreme and improbable events. (Kahneman 2011, 81.)

To improve judgement, one must be able to identify the errors in their intuitive thinking, making them aware of biases that are likely to affect their decision. Yet, according to psychology Kurt Lewin, an individual must do more than simply be aware of cognitive biases and heuristics to make changes in his or her decision-making process. Lewin suggests that it is necessary to get the individual “unfreeze” existing decision-making process, provide content necessary for the change and create the conditions that “refreeze” the new process. That way the change will become a permanent part of an individual’s information processing. (Lewin 1947, cited in Bazerman & Moore 2009, 10.) The Lewin’s three step change model does not only apply to the process of changing one’s decision-making process as it can also be utilized as a basis of an organizational change.

#### 2.4 Choice architecture and nudging

Choice architecture means the context where humans are making their decisions and the person who organizes the decision-making context is called a choice architect. For example, every salesperson is a choice architect as the salesperson defines in which order he presents the products and to which level he sets the asking price. Based on behavioral science research, people often make poor decisions which do not serve their long-term interest. People may not have to pay attention to the information available, have the full cognitive abilities to understand the information or possess enough self-control when a decision needs to be made. (Thaler & Sunstein 2021, 3, 6-7, 10.)

In behavioral economics the term nudge is used to describe “any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives”. When describing people’s behavior as predictable Thaler and Sunstein refer to the common cognitive biases and heuristics of human decision process. It is important to understand that nudges do not limit a person’s freedom of choice whereas for example taxes, fines, subsidies, bans, laws, and mandates do. The goal of a nudge is to gently guide humans to make a decision that will make their lives better. Thaler and Sunstein emphasize that intervention can be counted as nudge in case it is easy and cheap to avoid. (Thaler & Sunstein 2021, 7-8, 10.)

Thaler and Sunstein (2021, 6-7, 91) describe nudging as “libertarian paternalism”. They explain that the libertarian aspect of the definition emphasizes that people should be “free to choose” how they live their life and have the freedom of choice as long as they do not harm other people. The paternalism aspect of definition implies that for example government led nudging may try to influence people’s behaviors towards healthier life options that can be considered to improve their quality of life.

Thaler and Sunstein's (2021, 91, 106) have said that "offer nudges that are most likely to help and least likely to inflict harm". According to them, nudges can improve people's decision-making, for example in situations that are new and unfamiliar to a person. People might need help of a nudge if the decision is difficult to make and people are not able to get prompt feedback regarding the decision they have made. In addition, a nudge may be needed in the situation when people might have difficulties comprehending all the situational factors that should be considered when making a decision. Thaler and Sunstein have a basic rule of thumb for all the choice architects that are planning nudges: "if you want to encourage some action or activity, make it easy." In addition, when designing suitable nudges Thaler, Sunstein & Balz (2010) recommend that choice architects keep the word "NUDGES" in their minds. The word can serve the choice architect is both as an abbreviation and as a memory rule. According to Thaler, Sunstein & Balz, the word "NUDGES" consists of these six principles of creating an effective nudge: iNcentives, Understanding mappings, Defaults, Give feedback, Expect error and Structure complex choices.

The United Kingdom has been in forefront of utilizing nudge theory in government led interventions. In 2010 former Prime Minister David Cameron created The Behavioral Insights Team of which one of the main objectives would be "spreading the understanding of behavioral approaches across policy community". (Thaler & Sunstein 2021, 19; Service et al. 2014, 3.) In 2012, the team developed a framework called "EAST" which is an acronym of words easy, attractive, timely and social. According to the team, these four principles must be considered when creating an effective nudge. The aim of the EAST-framework (figure 1) is to help to design government services that are not only easier and more pleasant to use for the citizens but also more effective and economical to maintain by the government. (Service et al. 2014, 3.) It was not long after the creation of The Behavioral Insights Team that former President of United States embraced the idea of having an "nudge unit" and created the Social and Behavioral Sciences Team which is now known as the Office of Evaluation Sciences. Number of different nations have followed then after, including Finland, and created their own nudge units or behavioral insights teams. (Thaler & Sunstein 2021, 19.)

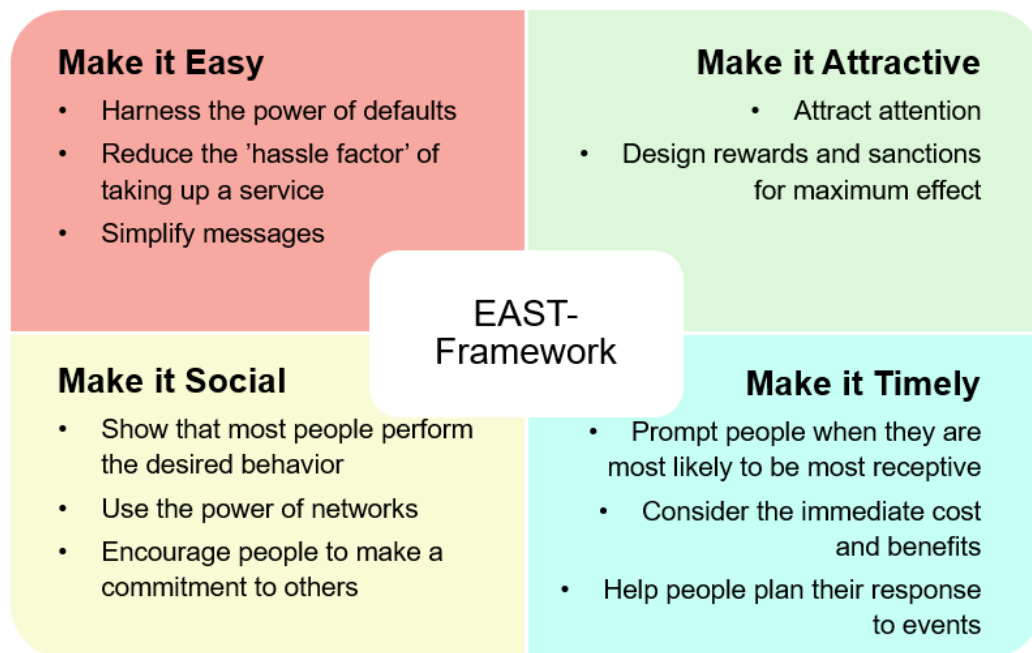


Figure 1: The four principles of EAST-Framework (Source Service et al. 2014, 4-6)

One of the most powerful ways of nudge people towards their preferred way of behaving is to set a default option into the choice architecture. Growing research indicates humans tend to stick with the default option. Accepting predefined option requires less cognitive processing in human decision-making than evaluating all the available choice options without any hint about the recommended choice option set by the choice architect. The significance of the default option has been validated by comparing research results in which people decide whether they choose to participate in certain action (opt-in option) or whether the participating in action is set as a default and people decide whether they choose not to participate in the action (opt out option). (Thaler & Sunstein 2021, 11, 108.)

In 2012 some of the biggest United Kingdom employers started to utilize opt out-default when encouraging workers to enroll into pension. In practice, a worker enrolled into pension automatically and the worker needed make a conscious decision whether he did not want the retirement plan for himself. The changing of the default from “opt in” to “opt out” resulted that the overall participation rate of pension rose from 61 % to 81 %. Due to the success of the intervention, nowadays all UK employers enroll their employees into pension automatically. (Service et al. 2014, 11.)

Before choice architect can “make it easy”, as the mantra of Thaler and Sunstein says, it is important to analyze why people are not behaving the preferred way already and identify the bottlenecks in the current situation. That way a nudge can be placed to eliminate the obstacle standing in way of preferred behavior. (Thaler & Sustain 2021, 151.) The Behavioral Insights Team want to emphasize that even though EAST-framework would be utilized when

designing a nudge, it is important to test the suggested intervention preferably through randomized controlled trials before the decision to implement the nudge is being made. A nudge that has been successful in one area of policy might have an opposite effect on human behavior in another area of policy indicating how vital it is that a choice architect always considers the context in which behavioral insights are applied. (Service et al. 2014, 8.)

Kim Ly, Nina Mažar, Min Zhao and Dilip Soman from University of Toronto continued the work of Thaler and Sunstein's in their report "A Practitioner's Guide to Nudging" (2013). They recommend that the nudge development process (figure 2) is started with carefully mapping out the context in which the end users are making their decisions and identifying the factors that may cause people not to follow through their intentions. When the bottlenecks are identified, it can be analyzed to see which are the main cognitive biases and heuristics that may appear in those situations. After that team advises that the choice architect proceeds to consider suitable solutions for the bottlenecks, in other words, identifying possible nudges for the case. A choice architect can then move on to consider possible constraints such as the cost that identified nudges would cause for the organization and the other resources needed to implement the nudges. Based on the circumstance's choice architect can then prioritize the nudges, for example, based on the biggest bottlenecks in the process and what would be the cost of implementing nudge solutions. The team also has the same message as the Behavioral Insight Team for the choice architects: it is important to test the effectiveness of the nudge and evaluate the results of the test before the wider implementation of the nudge.

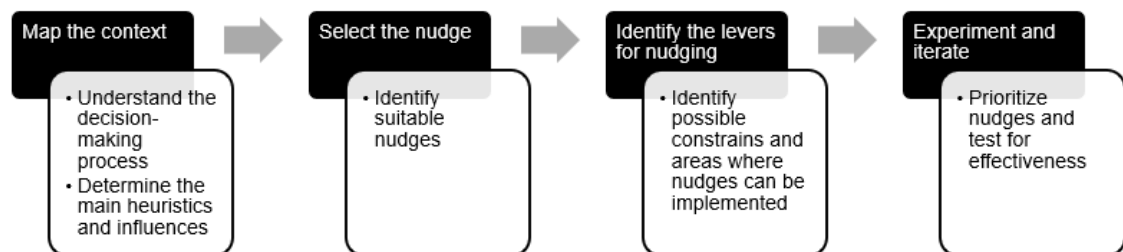


Figure 2: Outline of nudge development process according to Ly et al. (2013, 15)

Thaler and Sustain (2021, 152-153, 156-157) also point out that nudging, and behavioral science in general, can be used for good and for evil. Even though "evil" is a strong word it is being selected to emphasize that choice architecture can also be designed to make a person's decision making intentionally harder. The opposite of a nudge is called recent years "a sludge". Thaler and Sunstein describe that a sludge is "any aspect of choice architecture consisting of friction that makes it harder for people to obtain an outcome that will make them better off". People are no strangers to sludging in their everyday life. It is common that procedures for subscribing, for example online service, is designed to be very simple, but the procedures of unsubscribing can be significantly more complicated.

There has also been criticism towards nudge theory. One of the main concerns for the researchers and consumers has been that based on some studies, nudges are most effective when people are not aware that they are being nudged. This has raised complaints in democratic societies about the potential lack of transparency of nudging and the nudge theory can be presumed as a manipulative behavioral intervention. (Bruns, Kantorowicz-Reznichenko, Klement, Jonsson & Rahali 2018, 49-50.) Bruns et al. have provided counterpoint towards the criticism in their academic work. They argue that the effectiveness of a default as a nudge was not significantly lower whether test subjects knew they were nudged compared to the control group that did not know. Based on their study, a default option is a way to overcome human tendency to inertia, but they also suggest that policy makers should be transparent about their motives behind the default option and the potential behavioral influence of the default setting.

It has also been argued that the research about nudging is affected by confirmation bias of researchers. By this psychology Gerd Gigerenzer (2015, 379-380) claims that justification of nudging is based on “selective reporting of relevant research.” He thinks that studies about nudging overemphasize human tendency to deviate from rational decision-making and suggest that people should be educated to be “risk savvy” rather than nudging them to a certain direction. He claims that libertarian paternalists underestimate people’s capability to learn to make better decisions and raises concerns about the motives of the choice architects creating the nudges. The same methods that the governments can use to nudge people for “better life choices” can also be used when a commercial firm with big marketing budget can nudge people towards the firm’s own best interests. That is why he believes that educating people to see through possible manipulation and to make informed decisions themselves should be considered as a better solution than authority lead nudging.

Thaler and Sunstein (2021, 337) have acknowledged the criticisms, yet they claim that nudged or not, people are always influenced by the context they make their decisions. They emphasize that policy designers cannot be all-knowing about human behavior, but it is important for policy designers as choice architects to “think one step ahead what humans can and will do”. By this they mean human behavioral aspects should be considered in the initial phase of policy creation and use nudging to overcome human tendency for inertia.

## 2.5 Organization in change

Organizational change and development theory can be approached from two different perspectives. The focus can be in a technostructural approach to a change of which Honkanen calls “a structural thinking -concept”, or the focus can be in the human processual approach to a change of which Honkanen calls “a process thinking -concept”. The structural thinking -concept answers the questions “What needs to be changed in order to reach our goal” and

“how things need to be developed”. The issues to be developed belong to the core of the official organization, such as systems and programs, work methods, production machinery, employee’s professional competence or the company’s organization structure. The term “management” is often associated with this approach. (Friedlander & Brown 1974 cited in Honkanen 2006, 347-348.)

The process thinking -concept answers the questions: “How to get people to make a change”, “how to commit to changes” and “how to learn to make a change in an organization”. In this thinking model the focus is to create conditions for planning and implementing change. The organization is viewed more as a social cultural system rather than a complex system of different operations. The subject of development work is, for example, improving interaction between people, internal thinking models, values, attitudes, problem-solving methods, and skills. So that an employee can change their routines, they must change their own thinking, which can be difficult and requires time and energy. The term “leadership” is often associated with this approach. (Honkanen 2006, 348.)

The structural and process thinking concepts are not alternatives for each other as both sides must be present in some way to succeed in the change process. The problems arise if the focus between these two approaches is in big imbalance. A company may focus too heavily on acquiring modern technology, developing new ways of working, training employees to use the new systems and tools, and defining a new organizational chart. (Honkanen 2006, 348.) It should not be forgotten that a change process may also trigger a mental process in an employee (Honkanen 2016, 380). Salminen (2022, 144) agrees that the change process is often approached from the technical point of view even the most challenging thing to manage in change process is people.

Employees may experience different emotions related to the change during the change process. In the beginning there can be feelings of fear, sadness or even anger towards the change and individuals can process their emotions at different rates. (Honkanen 2016, 380) The individual may try to avoid dangers of losing things that are important to him such as his current work position and familiar ways of working (Honkanen 2016, 376). An individual is seeking answers to the questions about how the change is affecting his own work and what benefits and disadvantage the change can bring him. To commit to a change process, the benefit of the change needs to exceed the troubles, risks, and losses that the individual may face during the change process. Employees might focus on the negative effects of change such as the initial confusion, the difficulty of learning new ways of working or on the weakened sense of control over their own work while the benefits of the change often only arise later. It is important that the management and other change leaders include positive effects of the change in the discussion to ease the tensions in employees’ thinking (Salminen 2022, 144-145).

The organizational change is often lead by a project group or a change team which usually consists of experts from organization's different functions. The change team is established to plan and coordinate the changes and hence, it is usually a temporary actor in the organization and doesn't have official work positions and decision-making power. That may cause confusion about the role and authority of the change team if not communicated and described comprehensively to the entire organization. The change team's responsibilities usually include preparing implementation plan for the change project, facilitating the implementation of the project, organizing communication about the change, and arranging training possibilities for the personnel to familiarize themselves with the new system and new ways of working. (Salminen 2022, 83.)

Research suggests that in the early phase of a change process, supervisor-led influencing is likely more effective than peer-to-peer change advocating. In the beginning of the change process, there can even be resistance to the peer-to-peer influencing among the member in the organization as during uncertain times employees are more likely to look up to their managers when trying to understand their changing work environment. Research indicates that peers can be effective change advocates during the later phase of the change process. (Parke, Tangirala & Hussain 2021, 1716, 1727.) On the other hand, another study indicates that in uncertain circumstances, a group member seeks for clarity and any leader who can reduce the group member's feelings of uncertainty is more appealing to him or her than no leader at all. (Rast, Gaffney, Hogg & Crisp 2012, 651.)

The change project is strongly influenced by the current organizational structure, management philosophy and how hierarchical is the organization culture. The longer the structures have remained relatively still and unchanged, the deeper are the roots of human behavior and thoughts that may resist the change. (Salminen 2022, 35) When people are resisting the change, they are focused to maintain the status quo, the current state of things, rather than looking into the future to the desired state after the change has been implemented. The change process may feel difficult for people due to human tendency to procrastinate and desire for comfort. (Honkanen 2016, 375-376.) Change resistance can appear on all organizational levels and the change can be seen as a threat to established positions of power and the structures that support that (Salminen 2022, 35, 132-133). Change resistance can be considered as an essential part of the change process. It can stem from employees' feelings of uncertainty in a changing environment. Change resistance may have very negative connotation, but the change leaders could also consider it as a sign that something is happening, and change is underway. Nevertheless, it is good to acknowledge that resistance is not always voiced, and it can also appear as passive resistance to change. Employees that are actively against the change can be beneficial for the process as their criticism forces the change leaders to take into account different kind of perspectives

towards the change. More problematic for the change process can be the employees that are passive as they may lack of commitment towards the process. (Honkanen 2016, 377-378.)

To change project to be successful, the employees in all organization levels need to commit to the change, recognize the need for change, understand the benefits that can be achieved with the project and but also understand the consequences that will follow if the change isn't initiated in the organization. The change project may run into problems if the personnel's role in the change process is to be a passive object of change rather than active part of change planning and implementation. Passivity of personnel may generate change resistance and without including the employees in the change process a large part of the personnel's mental capacity is unused. (Salminen 2022, 84-85.)

Salminen (2012, 51, 101) argues that it is useful for the change leaders to know what kind of thoughts and interpretations employees have in their mind about the organizational change. According to him, change leaders might have overly optimistic perceptions that people would be able to make uniform interpretations of change based on their communications. Individuals can never understand anything exactly the same way as our interpretations are guided by our psychological characteristics, our motives, and our experiences and conclusions we have drawn from those experiences. Different interpretations and views can be a benefit in the planning phase of project as different perspectives can be considered and the decision-making regarding the change can be based on the widest possible knowledge base. However, to project to move forward different views are not useful unless they aren't being used to build a sufficient consensus to which all the parties involved are able to commit.

## 2.6 Organizational change management models

There are numerous change theories and models that an organization may consider utilizing when planning a change from the current state to the desired state. Nevertheless, some of the change models are more frequently mentioned in the organizational change literature and are that sense considered as "classics". Among the classic change models there is Kurt Lewin's three step change model which originates to his work in late 1940's. (Adelman-Mullally, Nielsen & Chung 2023, 1-2.) Lewin was one of the pioneers of organizational psychology. In his three-step change model that the change process phases are called "unfreezing", "moving" and "refreeze". In a nutshell, the change process can be described with a help of an ice block. To modify the form of the ice block, first the block needs to be unfreezed. Only after that the substance can be molded into a new form which represent "moving" -step in the Lewin's model. In the third step, the new substance is refrozen so that it retains its new appearance. (Lewin 1947 cited in Adelman-Mullally, Nielsen & Chung 2023, 2; Honkanen 2016, 380.)

When presented on the paper with just three words, Lewin's three-step model is very straight forward. It has been criticized as simplistic and linear model that does not consider the change process' cognitive dimension. (Burnes 2020, 28-49, 52.) Burnes argues though that Lewin's model represents "a well-developed approach to changing human behavior". He emphasizes that the model has its roots in Lewin's academic research work which started already in 1920's and criticizing it as "vague and under-developed notion" ignores the theory behind the change model's conventional and simplified representation.

Probably one of the most influential and well-known change management models is John P. Kotter's model. The model was initially published as an article in Harvard Business Journal in 1995 and then converted into a 1996 book which became an instant best seller. The eight-step change management model is based on Kotter's own business experiences and research work. Kotter did not refer to any outside sources in his work, which has been said to be untypical for an academic undertaking. (Appelbaum, Habashy, Malo & Shafiq 2012, 765.)

Kotter (1995, 59) claims that the key to learning from the most successful change processes is that the process includes series of separate phases, and it usually takes a lot of time to implement changes within an organization. According to him, each phase of a change process is important to go through and "skipping steps creates only the illusion of speed and never produces a satisfying result". According to his model, the change process starts with establishing a sense of urgency for the change within the organization. He states that over 50% of the companies he has observed have failed in this very essential first step of the change process as change leaders underestimate how challenging it can be to convince people about the need for change.

During the following steps in Kotter's change model (1995, 60-62), a team of change driven people will be gathered to create a sharp vision of the change process. The vision will then be communicated through every channel possible to a larger audience bringing the change process to a more concrete level step-by-step and identifying and removing obstacles that may stand in the way of implementing the vision. An obstacle can be that an organization's current structure does not support the change in the best way possible, or it can be purely people's challenges to adopt the idea of a new way of operating. He acknowledges that as the change process can take months or even years, it is important to keep the change process' momentum on high level and pay attention that achieved short term wins are effectively communicated for the employees and are being celebrated within the organization. According to him, on the seventh step companies might make a mistake that they conclude the ongoing change process too soon after they observe the first clear signs of performance improvements. The model concludes with the eighth step which is about anchoring the changes to the organization's culture and the employees' behaviors. He acknowledges that on

a paper the model can seem very straight forward and clear yet even the most successful change processes are messy and include many surprises.

There is limited amount research to validate that organizational change should follow Kotter's eight-step model in chronological order. Nevertheless, the model remains a popular guideline for how organizational change should be lead. Appelbaum et al. (2012, 776.) argue that even though there is limited number of empirical studies about the model's effectiveness, the popularity of the model is a result of its examples which are easy to understand and apply in practice. While also acknowledging that there are limitations in the Kotter change model, the group of researchers' state that Kotter's model is "an excellent starting point for managers implementing change in their organization" and add that no evidence against Kotter's change model were found based on their empirical and practitioner literature review about the model. Kotter himself argues that the problems people have faced while utilizing his eight-step model in organizational change are not caused by, for example, difficulties with the strategy and structure itself. He thinks that the difficulties stem from challenges to change people's behavior. (Kotter & Cohen 2002 cited in Appelbaum et al. 2012, 765.)

Lewin's 3-step change model	Kotter's 8-step -change model	The Prosci ADKAR –change model
Unfreezing	Establish a Sense of Urgency	Awareness
	Forming a Powerful Guiding Coalition	
	Creating a vision	Desire
Moving	Communicating the vision	Knowledge
	Empowering others to act on the vision	Ability
	Planning for and creating short term wins	
	Consolidating improvements and producing still more change	
Refreezing	Institutionalizing new approaches	Reinforcement

Table 1: Lewin, Kotter & Prosci's -change models' steps side by side. Author's own work, based on Lewin 1947; Kotter 1995; Prosci 2022.

As seen in table 1, the forementioned “classic” organizational change models and the newer ADKAR-model share some similarities in how they advise change leaders to navigate through the change process. For example, all the referred change models emphasize the importance of establishing the change to part of the new way of operating. In the next subchapter the thesis writer will introduce the Prosci ADKAR -model steps in more detailed level.

## 2.7 The Prosci ADKAR -change model

The Prosci ADKAR model is an individual change model that has been created by a change management consultancy firm Prosci’s founder Jeff Hyatt. The model is based on his early research to align traditional change management activities with project goals and results. ADKAR is an acronym for awareness, desire, knowledge, ability, and reinforcement, the five milestones of the change model. Based on the model’s guidelines, an organization should follow the model in chronological order starting with building awareness of the change in organization and finishing with reinforced to establish the change as organization’s new way of operating. (Creasey 2022; Prosci, 2023a, 4).

According to its developers, The Prosci ADKAR model considers the change process on an individual level, and it is meant to be a framework for understanding and managing individual change. The model was first used to determine the effectiveness of communication and training to achieve the desired organizational change results. (Prosci 2023a, 4.)

### 2.7.1 Awareness-phase in the Prosci ADKAR -change model

First milestone in The Prosci ADKAR -model is building awareness for change within organization. The focus of this milestone is communicating the nature of the change and the reason why the change is necessary by explaining business drivers or opportunities that led to need for change. The awareness-building should be based effective and timely multi-channel communication which takes into account context of each audience group and provides opportunities for two-way communications and provides transparent information. There should also be a primary sponsor of the change, who actively and visible speaks in favor of change throughout the process at all organizational levels. Within the organization, the focus should be enabled to people managers to build their own awareness for a change first and then translating the change message from top to their subordinates. (Prosci 2023b, 3-7)

The model identifies five common obstacles that a change leader may face when building awareness. Firstly, individuals may resist change in favor of maintaining status quo. Model also takes into account the cognitive differences of people. Whereas some employees within the organization may have already noticed the need for change, some may be completely off guard. When communicating the need for change, the credibility of the change message sender has a direct effect on how well the receiver internalizes the message. Also, if the

business managers have withheld information about the change from the employees, that may lead up rumors and misinformation to be spread among employees. Fifth identified resistance factor is contestability of the reason for change as employees are more likely to resist the change if they question the credibility of the reason for a change. To move forward with the change process, change leaders need to overcome these barriers when building awareness. (Prosci 2023b, 8-10)

### 2.7.2 Desire-phase in the Prosci ADKAR -change model

Second element in The Prosci ADKAR model is building desire to engage in a change. The model identifies the four factors that influences a person's desire to change. The model expects an employee to approach the change with the question "what's in it for me?" and "how will the change impact me?" and the answers to these questions help the employee to determine whether the future state represents a threat or opportunity. Each person has its own perception of the organization's history and culture, and a person may be less willing to engage in the change if the person views the company's track record in organizational changes in negative way. By understanding an individual's personal situation, a change manager is able understand whether an individual chooses to support or resist a change in the organization. Individual's personal values and motivations have also direct impact on their desire to change. (Prosci 2023c, 3-6)

In order create desire, the model advises that primary sponsors actively and visible engage with organization throughout the change process by interacting on a personal level and answering difficult question which may arise during the beginning stages of a change. As employees look to their immediate supervisors for cues about how to respond to a change, it is important to equip people managers to be change leaders. People managers needs to be onboarded to the change themselves before they can have effective conversations with the employees. As the change resistance can be anticipated, change leaders strategically develop special tactics to address areas of potential resistance. A tactic to proactively build desire could be for example offering tailored support to those who are the most impacted by the organizational change. The model also encourages change leaders to engage employees in the change process in different roles. Employees can be involved in creating and testing a new solution to provide feedback and input for improvements. (Prosci 2023c, 7-10)

### 2.7.3 Knowledge-phase in the Prosci ADKAR -change model

The Prosci ADKAR model identifies two aspects of knowledge to consider when change management is assessing training needs and designs training programs to build knowledge of the change. Of course, the essential goal of the training programs should be that the employees learn how to perform their tasks and duties in the future state possibly in their new roles and responsibilities and with new systems and tools. But this is not enough as the

members of organization need to know how to work during the transition period. Both categories of knowledge are equally important to be addressed in the change management plan. It is important to understand that if there is not enough desire for the employees to change, they may attend the trainings only because their manager required attendance and they may not be fully engaged with learning new information. (Prosci 2023d, 4.)

In some cases, employees may already have required knowledge needed for the change based on their past education or work experience. In bigger organizational changes there can be big gaps between the current state of knowledge and the knowledge level which is needed to successfully operate in the future state. When trying to fill the gap between the current level and desired level of knowledge about the new ways of operating, it is important to evaluate the learning capabilities of the members of organization in the change process. The risk is also that when a training possibility is arranged to the employees, they may have so much going on that they can't either commit to the training schedule or they are unable to fully focus on the training during the learning event. The organization need to have enough resources available for educating and training the employees. Resources don't only mean enough funding to arrange the needed training programs, it also means that there is enough time for learning. (Prosci 2023d, 5-6.)

The Prosci ADKAR model identifies training and education programs and job aids as tactics to build knowledge. As the old process and system may need to be used concurrently with the new process and system, it is important that training program address the way of working not only in the future state but also during the transition. Trainings should be scheduled carefully as training too far from the deployment may cause people to forget the key learnings of the training. In this phase, the model emphasizes change agents' role as a support group to other employees. The change agents are expected to master the new skills needed and have the required knowledge about new systems, tools, and processes. That way they can share their knowhow and assists others through the transition period. (Prosci 2023d, 7-9.)

#### 2.7.4 Ability-phase in the Prosci ADKAR -change model

The fact that an employee has enough knowledge how to do something doesn't mean the employee is able to do it. The fourth phase of the Prosci ADKAR model focuses on of creating "ability" within the organization to work with new processes, systems, and tools. In the "knowledge"-phase it was addressed that the organization needs to have enough resources to arrange trainings from funding perspective. In the "ability"-phase, the model advises that the organization needs have enough resources for learning from time availability perspective. The organization should provide for its employees an environment where they feel safe to make mistakes and practice new ways of working. (Prosci 2023e, 4, 9-10.)

In the Prosci ADKAR model, the tactics for fostering ability include people managers day-to-day involvement in their subordinates learning process. The managers are expected to solve problems and provide support when an employee has hands-on training, for example in a training environment of a new system. The employees also need feedback about what they are doing well, and which areas require improvement. To fulfill this need, people managers should monitor and measure closely employee's performance and evaluate when one-on-one coaching is needed. (Prosci 2023e, 5-7)

The potential challenges and change resistance in ability-phase may stem from the employees' different psychological blocks and the power of old habits. Psychological blocks can relate to an individual fears of underperforming in the new operating model, self-doubt relating to a particular part of the change or even fear of public speaking. An individual may be reluctant to voice his or her concern if a part of the process or a new way of working is unclear to him or her. New ways of working require also developing new neural pathways in the brain which may be challenging process for an employee as the old habits may seem easier and faster ways of working. Creating ability requires patience from all the parties involved in the change as people are wired to revert to their old habits. The time it takes to let go of the old habits varies and depends on an individual ability in physical or intellectual capabilities. (Prosci 2023e, 8-10)

#### 2.7.5 Reinforcement-phase in the Prosci ADKAR -change model

The Prosci ADKAR model identifies "reinforcement" as the fifth and final element of a change process. Yet it is the step that, according to the change model developers, organizations too often forget to take. "Reinforcement"-phase is expected to establish the change and prevent individuals from slipping back to their old ways of working. Reinforcement related actions don't always need to be monetary rewards as reinforcement can also be built, for example, by arranging celebrations of success, providing individual corrective feedback or a personal acknowledgement of an individual's progress and achievements. It is important to carry on providing two-way communication opportunities by asking feedback from the employees about the change process and assuring them that the shared thoughts and comments have been heard. (Prosci 2023f, 3-10.)

According to the model, the most effective reinforcement techniques need to be considered based on the person and the situation. If the reinforcing actions feel irrelevant to the receiver, the reinforcement may not have any effect on him or her. In those cases, the effect may be even the opposite than intended. Reinforcement is meant to strengthen an individual's desire to progress towards the change. Reinforcement should include actions that serve as signals for an employee that his or her efforts are appreciated when he or she has demonstrated progress of learning new ways of working. On the other hand, the absence of

negative consequences may become a barrier to the change. In other words, if employees are still able to operate based the old way of working without any consequences, the support for the change can be viewed in negative way within the group. The change leader needs to acknowledge that peer pressure and group dynamics play a significant role in the change process. According to the Prosci ADKAR model, that is why there should be accountability mechanism to reinforce the change. (Prosci 2023f, 5-10)

The accountability mechanism needs to be aligned and associated with the day-to-day operations and performance evaluations to transfers the ownership of the change from the change process team to the operational leaders and managers. For example, publicly visible performance scoreboards are an effective way to show compliance with the new process. They can positively reinforce the change as that way the employees can monitor the achievement of goals. Well executed reinforcement-phase also creates a groundwork for the organizational changes that will happen in the future. (Prosci 2023f, 7-10)

## 2.8 The change agent's role in an organizational change process

A change agent is a nominated person in an organization who carries out changes and supports development work usually without using formal power. A Change agent can also be a person working in a managerial position but the ways the change agent advocates the change process within the organization relate more his or her abilities to provide guidance and support for the other members of organization rather than using his or her managerial power to push through changes. (Honkanen 2006, 34.)

Based on research, people in change leader roles, such as managers and change agents, help shaping employees' understanding and beliefs about the organizational change. The change leaders' actions influence an employee's emotional response for the organizational change process. The employee's emotional reactions to the change should not be underestimated as those play a significant role when the employee evaluates whether he or she decides to support or resist the change. The study argues that the change message recipients are guided by reason, which means they will adopt logically reasoned change. (Szabla 2007 cited in Onyeneke & Abe 2021; Onyeneke & Abe 2021, 409-411). In other words, how well the need for change is communicated to the personnel plays a significant role when an employee decides whether he or she commits to the change process.

Every one of us is being constantly influenced in our daily life and every one of us is also trying to influence other people on a daily basis. Influencing is about changing the human mind and getting people to think, choose or behave in the way the influencer wishes without direct use of power or coercion. Means of influencing include, for example, conversations, coaching or communication that appeal to reason, emotions, or relationships. The ability to influence other people is essential in the role of a change agent as they are trying to get

people to adopt new ideas, goals, and operating models. Phenomena related to change process make influencing very challenging as change agents' influencing actions should not be one-dimensional or too straightforward. Change agents must be able to carefully analyze the special features of each situation and use different means of influencing based on their observations. This may require that a change agent adopts even a bit experimental and iterative way of doing the change work. (Honkanen 2016, 11, 15, 24)

Honkanen (2006, 41-42) emphasizes that good communications skills are a very important area of competence in the role of a change agent. The change agent needs those abilities when he or she acquires information, processes, and structures it and passes it in understandable form to other employees in the organization. To do so, a change agent should also have good analytical skills and the ability to understand the bigger picture. In other words, the change agent should have sufficient understanding about the whole change process, and the distinctive features of each phase of the process. Change agents should be able to evaluate independently, for example, what kind of impact the development actions have within their own organization. Based on the impact assessment, they can consider what kind of support their organization may need from them. According to Honkanen (2016, 63) it is more important for an influencer, such as a change agent, to be able to initiate the systematic thinking process in the employees' minds than to provide a large amount of information and details about the change process. In practice that would mean that a change agent should ensure that people have the motivation, time, and ability to process comprehensible information and receive feedback.

The networks created by the change agents serve a great importance during the organizational change process. By utilizing their networks, the change agents can advocate the change and have a positive influence on their colleagues' opinions towards the change process. The more networked a person is, the more connections the person has through which he or she can promote things relevant and important considering the change process. The members of the change agent network can join their forces and communicate to different parties and stakeholders at the same time and way make their change advocating communication more impactful. (Salminen 2022, 192-193.)

During the times of uncertainty, it is beneficial that a change agent is aware of their strengths and weaknesses and can perform self-reflection to improve their self-knowledge. Change process can feel chaotic at times. The change agents should not only be able to endure disorder and contradictions around them but also bring order to chaos by his or her actions. One way to bring order to chaos is to act consistently. A change agent's thoughts, feelings and actions should be aligned with each other as people are quick to notice when a person is not acting consistently. This does not mean that a change agent should not be able to modify his or her operating model quickly and flexibly. A change agent needs to have

situation awareness of what kind of role he or she needs to take in the organization. It is good that a change agent is aware whether his or her comfort zone is more the role of an expert or a facilitator but based on the organization's needs, change agents should be able to develop their own ability to act in separate roles. The flexible use of separate roles is a skill itself. (Honkanen 2006, 43-44.)

The change does not follow a linear route and people need to be given time and space to go through the change process step by step. Change awakes various kinds of emotions among people, and it can cause even sorrow and depression among individuals. The duration of the process depends on the person. It can vary from a few days to months depending on the nature of the change and quality of the support that the person receives. A change agent needs to understand that people need to work and process their emotions before they can truly accept and internalize information about the new ways of working. Going through emotions during change may not be a very conscious or rationally controlled process for a human, but it is a natural part of it. (Honkanen 2006, 328-329.)

Research has found out that emotions can truly be contagious. Emotional contagion refers to a situation when a person's emotions or behavior are mimicked by the other people around him or her. Research argues that humans tend to subconsciously "catch" other's emotions. John T. Cacioppo from University of Chicago explains that the more expressive a person in your vicinity is, the more easily the muscle fibers in your face and body can activate and mimic the expression even without you being aware of that happening. Those muscle movements in your face and body can then trigger the actual feeling in your brain. This can apply to both upbeat feelings such as joy and enthusiasm but also negative ones such as sadness, anger, and fear. (Schulz 2017.)

Honkanen (2016, 96-97) writes that being able to "catch" other's emotions may be an action mechanism typical for herd animals. That way the herd may be able to maximize its ability to react threats. For example, a certain fear reaction can quickly spread to another member of the herd and make them alerted. Other possible explanation is that one may feel need to synchronize his or her own mind to match the minds of the other in the same situation. That way a person can adjust his or her interactions to match the other's interactions and helps to create common understanding between people. Honkanen continues that strong emotions may arise especially in situations where persons need to change their own behavior and in socially challenging situations. Based on the writings of Schulz and Honkanen's, it seems that it is beneficial for a change agent to be able to understand where the feelings stem from and accept that these kinds of emotions can be anticipated during the change process.

Employees' cooperation and actions during the implementation of change play a vital role in a successful organization change process. To enforce the successful change within the

organization, it is important to consider the concerns employees have about the change. Managers may pay attention only to the employee's behaviors towards the change and not focus enough on understanding the conditions driving such behaviors. The research argues that it is important for the change agent to focus on monitoring the employee's attitudinal reactions to the change, because those attitudes guide the employee's behaviors during the process. (Onyeneke & Abe 2021, 411.) Based on the theories of cognitive psychology, a person's behavior is based on the way he interprets and conceptualizes his environment and own experiences in his thoughts. These perceptions of ourselves and the world, in other words our internal models, guide our behavior. If you want to change your behavior, you must first be able to change your internal thinking patterns. It is common that individuals are not that aware of their own internal thinking patterns, though. One way of changing the patterns is to help people to understand and become aware of those. (Honkanen 2006, 52.)

Organizational change can be a long and challenging process in which there is no actual ending date to look forward. Even though the named change project would end, the process of changing the way of working daily continues. Hence, acting as a change agent requires patience and persistence. During the process, it is beneficial if change agent can enjoy even small progress and share the success within the organization. Sometimes a change agent needs to confront other people and defend his or her position as a nominated change leader. This requires certain kind of assertiveness from a change agent as he or she needs to be able to resist various attempts at influence and pressure or even manipulation from the other member of the organization. (Honkanen 2006, 44.)

## 2.9 Summary of the theoretical framework

Behavioral economics is interested in finding out what kinds of phenomena affect the human decision-making process. Based on the dual process theory, humans have two separate ways of processing information which are commonly referred to as System 1 and System 2 thinking processes. Information processing in System 1 is effortless, intuitive, and automatic and makes our everyday life more practical as we do not need to make a conscious decision about every action we make in our lives. System 1 does not bother to evaluate the processed information too deeply and tries to simplify complex matters and create coherence even though there would be none. Certain circumstances such as the feeling of hurry and stress can also increase humans' tendency to rely on his or her System 1 -thinking.

System 2, on the other hand, is slower and a more analytic thinking process and it activates when System 1 runs into a problem and cannot produce an answer to the current question. The speed of the System 1 thinking process may mean our decision-making is biased and, for example, does not consider all the information available before the decision is made. The laziness of System 2 thinking may cause that it validates System 1 suggestion too easily and

that way is not aware that the decision made is biased. This can be a problem especially when the decision-making context is new and unfamiliar for the person.

Nudging theory acknowledges that humans do not always make decisions that serve their best interests. Nudges consider that heuristics and cognitive biases are likely to happen in human thinking. These behavioral phenomena are considered in the choice architecture which is the environment in which a person makes his or her decisions. By mapping out the decision-making context and the identifying the related heuristics and cognitive biases which may appear during the decision-making process, choice architect is able to nudge the person to choose options that can improve his or her quality of life.

In modern work life many employees may not be strangers to the various kinds of organizational changes which may have a significant impact on their role and responsibilities in the company or the ways the work is executed. Change process itself can be stressful, including situations where large amounts of information need to be processed relatively quickly. Humans can be overly confident with their decision even though the context decision is made includes a lot of uncertainties. Companies may utilize various kinds of change management models to move from their current state to the desired stage in their way of working. One way to smoothen the transition process is to select a change agent among the company's employees whose main responsibilities are to convey information from the change leaders to the employees and vice versa. Their position in the change process is interesting from the behavioral insight's perspective. Compared to the other change process related roles, the role of a change agent is more human centered and plays a key role in providing everyday support to their peers. In the next chapters, the thesis writer examines how change agents could be supported in their role execution by utilizing behavioral insights.

### 3 Research setup

The thesis research setup is presented in this chapter. The chapter begins with the introduction of the thesis commissioner company Metso and the ERP (Enterprise Resource Planning) system related organizational change that will happen in the company during the next few years. The chapter continues by discussing how the company selected the change agents from the company's employees and how they were trained for their roles in the beginning of the change process.

In addition, in this chapter the thesis writer will present the key research and development methodology that were used in this thesis. The chapter continues with subchapters in which the plan for the research, data collection and analysis is gone through. The chapter is

concluded with discussion on how research reliability and ethicality are considered in research planning.

### 3.1 Introduction of the thesis commissioner company

Metso is a Finnish publicly traded company focusing on providing technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. The company has had major structural changes during recent years as the company as it is known today is actually a merger of two big Finnish publicly traded companies. In July 2020 Metso Minerals and Outotec merged, and Metso Outotec was established. The company changed its name to Metso Corporation in September 2023. (Metso 2023)

Both legacy companies have long histories not only in Finland but internationally as well. Metso originates to Oy Lokomo Ab which was founded in Tampere, Finland in 1915. Initially Oy Lokomo Ab was focused on manufacturing locomotives but due to the strict foreign competition and the uncertain times of Finnish economy, the company was forced to focus its manufacturing to other groups of production of which stone crushing equipment was the most important considering the company's future. (Törmä 2021, 9-10.)

The origins of legacy Outotec side of the company relate to the open company Outokumpu Kopperverk which was founded by The Finnish state and the owner of the ore area, Hackman & Co. in 1914. Since 1917 the company was known as Ab Outokumpu Oy and initially the company was focused on copper production. In late 1940 Outokumpu established a new technology division which were to develop technological solutions to smelt the ore by using its own calorific value. The new processing method saved on the use of both electricity and coal. The forementioned technology division was the starting point of Outotec which separated itself from its parent company in 2006. (Outokumpu 2022)

On the Talouselämä -magazine's Top500 largest Finnish companies in based on revenue 2021 - listing Metso Outotec was on the 20<sup>th</sup> position with its revenue of 4236 million euros. Legacy Outotec's parent company Outokumpu was in the 13<sup>th</sup> position on the same list with its revenue of 7709 million euros. (Talouselämä 2022.) On the Academic Work's Young Professional Attraction Index (YPAI) research, Metso Outotec was on 24<sup>th</sup> position in the Top50 most attractive employers in Finland -list. 2640 participants from Finland that had graduated no more than five years ago before participated in the study. (Academic Work 2022.) As of 2023 Metso has over 16,000 employees worldwide and it has business activities in over 50 countries. The company's vision is "to be customer's number one choice for sustainable use of Earth's natural resources" and "Together we deliver service, reliability, innovation and results - safely." (Metso 2023.)

### 3.1.1 The ERP system program “SAPphire”

Both legacy companies Metso and Outotec had used SAP as their enterprise resource planning program for several years before the companies merged. Many of the legacy companies’ daily operations remained in each legacy company’s SAP module after the merger. The SAPphire ERP Business program was launched to build a completely new, common SAP working environment where the company would fully operate, and the legacy companies SAP modules would be shut down.

The unified ERP system working environment and harmonization of the legacy companies’ operational processes were not the only reasons for the SAP-program. It was informed by the program provider SAP itself that the support for the old SAP modules would end during the coming years. In that sense, merged or not, both legacy companies would have faced the same need of updating their ERP systems from old working environment to a new one in coming years and that way the organizational change caused by the ERP system change was inevitable.

SAPphire-program is a multi-year organizational change undertaking for Metso. The company’s Global Change Management -team was the key function in leading the company through the program. The change management team consists of a Global Change Management & process director, a system and change manager, a process owner, and an ERP program training coordinator. Even though the team itself is rather small, the SAPphire-program has many different stakeholders as well, such as the internal change process steering committee, subject matter experts and consultants from an external company. The Global Change Management director acted as the thesis writer’s main contact person from the company’s side during the thesis’ writing process.

### 3.1.2 Change agents’ role description in SAPphire-program

The Global Change Management -team described change agent’s role as a change management resource within the local business. The selected change agents were meant to be a certain kind of intersection in the communication between SAPphire-program leaders and change agent’s local business by responding to local peers’ questions and concerns about the new system and raise those concerns to the change management’s attention. Part of the change agent’s role was to seek answers on behalf of the change agent’s local community and address possible rumors. One of the main duties of a change agent was to capture information and feedback from his or her peers and escalate potential issues to the Global Change Management -team’s attention. Change agents were also expected to gather data in the local business to measure the overall change readiness and work with the Global Change Management -team to develop and execute actions to improve the readiness.

Change management had defined three “change agent building block” for an ideal change agent. They were expected to support and coach their peers calmly and with positivity, even when things got difficult. They are expected to identify potential issues and sources of resistance and help to resolve these and to show commitment and act as a role model in adopting the new way of working during the SAPphire program. Change agents were described to be the “faces” of the SAPphire program.

Depending on the location where an employee is working, the role of change agent was expected to last approximately one year including deployment preparation phase, the actual deployment phase and follow-up phase after the deployment. During this one-year period, it is expected that being a change agent is an active and important addition to an employee’s own job position which obviously has its own tasks and responsibilities.

Even though both Metso and Outotec both have had big organizational changes prior companies’ merger, and especially during the merger, there is little to no information available whether companies have utilized change agents during these huge and complex change processes in the past. For example, there is no documented information whether change agents were recruited for a certain project nor is there a list of persons who would have worked as a change agent in the past. Based on this, this will be the first time when the whole change agent process will be reviewed and documented closely, and the key takeaways can be utilized with the company’s future projects.

### 3.1.3 Change agents’ selection process for SAPphire-program

Early 2022 the Global Change Management -team posted on the company’s intra site that they were looking for suitable candidates for open SAPphire-program roles. The project included several separate roles that required more in-depth understanding about ERP-system use in daily tasks and data processing. In addition, the description of change agents was published in the internal post. The employees selected for these program positions continued to work in their current roles, but they were expected to be able contribute 10% - 20% of their working time for the program related tasks only at specific phases. Nevertheless, it was strongly recommended that an employee would express and discuss his or her interest to apply to the program roles with his or her manager before applying to the program to ensure that the employee’s and the employee’s team workload allows him or her to participate in the role if selected.

An employee could express interest in several separate roles in the program, meaning they could submit his application for both data-related roles and become a change agent. Not all the roles needed immediate action from the selected employees. For example, the selected change agents did not start acting in their role till the end of 2022.

Applying for the role was not the only way to apply to become a change agent in SAPphire-program. Managers from some Metso locations contacted the Global Change Management -team and informed them about people that they considered to be suitable for the role of a change agent or other offered positions in the program. It did not matter whether the applicant was applying for the role himself or suggested by his managers, all the candidates were briefly interviewed by a Global Change Management -team member via Microsoft Teams -meeting to make sure that an applicant had an understanding of the position he was applying for. Three people from the change management team conducted the interviews for the candidates. If a candidate applied to more than one position in the program, the candidate's suitability for each role was evaluated during the same Teams-meeting.

The interviews did not have a common structure agreed by the change management team members. The interviews were considered conversational while the main priority was to evaluate a candidate's motivation and abilities for the candidate applied for. Almost all candidates that were interviewed for a change agent role were also nominated to become change agents. Some candidates withdrew their application after better understanding the roles offered and the contributions expected from them.

#### 3.1.4 Change agents' training in SAPphire-program

Microsoft Team channel was launched to make the communication towards change agent easier. The channel also served as a platform where the change agents could network together and share their thoughts and possible questions. The change agents training sessions were monthly Microsoft Teams -calls in which the focus was on interactive communication between the Global Change Management -team and the group of change agents. The idea of the training sessions was that in those Global Change Management would share the latest updates about the SAPphire-program's progress and assign small tasks for the change agents to complete prior to their next training sessions. In total of four training sessions were held for the group of change agents between October 2022 - February 2023 before the thesis research interviews were conducted.

The initial training sessions followed the Prosci ADKAR -change model's recommendation of building Awareness about the change process within the change agent group. During the training sessions, a presentation which explained the purpose of the SAPphire-program, presented on-going actions of the program and the expected preliminary schedule for program's separate phases was shown to the participants. The group was introduced to the key elements of The Prosci ADKAR -change model. Also, Global Change Management presented the ideal characteristics of a change agent and their expectation of realization of the role.

A task was also assigned to the participants. They were asked to contact a minimum of five people each from their market area and complete an online survey with a few questions based on those conversations. The purpose of the survey was to map out local businesses' readiness for the change with questions such as whether the person had already heard something about SAPphire program, was the person aware how to find information about the program and what kind of information the person was expecting to receive regarding the program.

The change agent training sessions continued in November 2022. Change agents were reminded about reasons behind the program and about the preliminary schedule how the program was about to move forward. Also, Global Change Management shared the key takeaways about the program that the change agent was expected to share with local businesses. During the training session, results of the survey conducted by the change agents were shared with the participants highlighting that there were geographical differences between locations what came to the change readiness and awareness of the SAPphire-program. The next assigned task for the change agent was related to the questions or concerns from the local business that the change agents could not answer based on their current knowledge about the SAPphire-program and that way needed to be raised for the Global Change Management -team's attention. In addition, based on the feedback from a change agent, the name and location list of SAPphire-program change agents were added to the change agent's Microsoft teams -channel to make it easier for the change agent to network with the other change agent in the same market area.

The following training session in late 2022 focused on reviewing the current awareness status regarding the SAPphire-program among local businesses. Based on the survey conducted by change agents, it was decided by change management that building awareness should continue to be the focus area when communicating with the local businesses. In addition to providing information about the latest updates with the program, the topic of managing expectations under uncertainty was presented to the participants. As during the previous training sessions, the change agents were again encouraged to contact the Global Change Management -team when a question from local business arose, and they could not provide an answer.

Early 2023 the change agents were informed about the pilot location which would move to the new system before any other location. Change agents that were involved with the pilot location would be proceeding their change agent tasks at a different pace than the other group that will not be in deployment phase until further on the program. Change agents for the pilot locations were invited to a separate Teams-meeting in the beginning of 2023 which focused on purely on their tasks and responsibilities during the pilot phase.

### 3.2 Research and development methodology

The objective of this thesis was to examine what kind of cognitive biases and heuristics may appear in the role of a change agent when a company is deploying a new enterprise resource planning program. The purpose of this thesis was to have a better understanding of how those phenomena may appear in the role of a change agent when he is executing his role in The Prosci ADKAR -change model based organizational change process. Based on the qualitative research's findings the thesis writer created a development plan with which the Global Change Management -team could nudge change agents to improve their decision-making process.

As advised in “The Practitioners’ Guide to Nudging” -report (Ly et al. 2013, 15), the choice architect needs to understand the decision-making process and the heuristics and influences around the function that the choice architect aims to develop. The Ly et al. outline for nudge development process (figure 3) was utilized as a guideline for the research plan. In this research the aim was to identify the challenges change agents may face when executing their role during the Prosci ADKAR - change model based organizational change process rather than focusing on a singular decision-making process of a change agent.

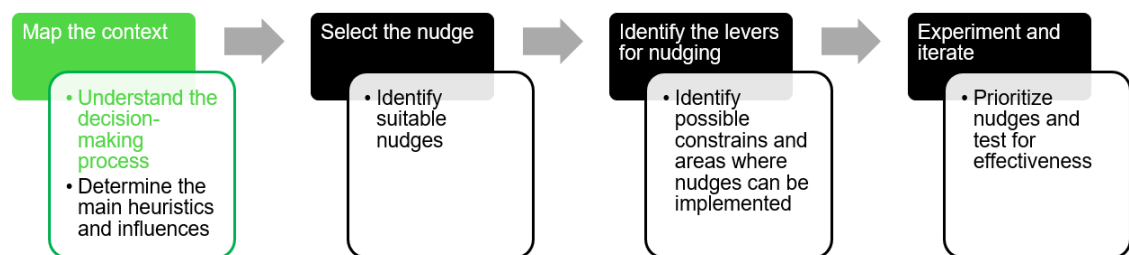


Figure 3: The state of in the nudge development process when qualitative research was planned (Source Ly et al. 2013, 15)

The research approach and the related methods must be chosen based on the phenomenon that is the subject of research (Kananen 2012, 29). By this he means that the choice of research methods is guided by the research problem. According to Kananen (29-30, 2012), qualitative research is the most practical method in cases when the phenomenon under study isn't well-known. In qualitative research, the focus is on using words and sentences, while in quantitative research, the data to be studied is in numerical form. The purpose of qualitative research is not to provide generalization that would apply in all circumstances. It is about describing the phenomenon, understanding it, and giving meaningful interpretations.

There is vast amount previous research related to behavioral insights phenomena. Also, there is no shortage of organizational change related literature or theories. The role of a change agent has been studied from various perspectives, but the thesis writer considered that

examining how heuristics and cognitive biases may appear the role is worth of closer look. In this thesis, qualitative research method was chosen to serve the purpose of mapping context in which a change agent operates and makes decision within the local business. The part of the process the qualitative research focuses on can be seen in the figure 3 highlighted with green color.

The researcher has a responsibility to deepen his understanding of the phenomenon and familiarize himself with previous research and literature on the subject. This way researcher gathers information about the central elements of the studied phenomenon and the factors that may influence it. The theme interview is useful method when a researcher aims to have as comprehensive understanding as possible about a certain phenomenon or phenomena. (Hirsjärvi & Hurme 2001 cited in Puusa 2020, 112-113.) Theme interview is one of the data collection methods of qualitative research. It can be used in the stages of development research where an understanding of phenomena is needed, for example in defining a problem. (Kananen 2012, 99.)

In addition, theme interview can be efficient data collection method suitable especially in research when researcher is studying how people interpret things, what meanings they give to things and how meanings are created in interaction. (Tuomi & Sarajärvi 2002 cited in Puusa 2020, 112.) It is assumed that the interviewee has gone through or experienced a certain thing and all his or her experiences, beliefs, and thoughts about the subject can be studied. The method emphasizes interviewee's the subjective perception of the subject matter, and the purpose of selected themes is to produce as much material as possible which will be later analyzed by the researcher with the help of theory. (Hirsjärvi & Hurme 2001 cited in Puusa 2020, 112-113.) Theme interview is a separate term in Finnish language and doesn't have an equivalent, established term in English. Instead, a term "semi constructed interview" is used in English literature. (Kallinen & Kinnunen 2023.) The themes of the interview are decided in advance. In addition, the researcher may have some predefined questions but overall, the interviewees are encouraged to talk about the themes as freely as possible.

All the themes are covered in the interviews, but the order and the wording of the questions may vary from interview to interview as interviewees answers, desire to answer and the way of telling things are different. So that the interviews would be successful, it is important that concepts discussed during the interview mean more or less same for the researcher and the interviewee. Otherwise, it cannot be assumed that the interviewee's answer would be genuinely related to the theme intended by the interviewee. (Puusa 2020, 113.)

In this thesis, theme interview was chosen as a qualitative research method to have as comprehensive understanding of the thoughts and experiences that the change agents had towards organizational change processes and the role of a change agent in the context of

SAPphire-program. To identify possible challenges and bottlenecks in the change agent's role execution during the organizational change process, the themes chosen for the interviews were based on the Prosci ADKAR -change model's phases awareness, desire, knowledge, ability, and reinforcement. That way the thesis writer was able to map out a change agent's decision-making context considering the whole organizational change process. Also, the selected themes were chosen as they created a timeline that could help to prioritize the designed nudges for the identified challenges and bottlenecks.

### 3.3 The data collection process

Ly et al. (2013) A practitioner's Guide to Nudging -reports' Decision map checklist was applied as guideline when theme interviews' questions (appendix 1) were defined. When the questions were pre-prepared, it was taking into consideration that it is very likely that the interviews would be contacted between two non-native English speakers. Hence, the thesis writer acknowledged that there might be a need of adding more supportive questions to the question template during the interviewing process in case it was noticed that the interviewees' answers were confined due to possible language barrier.

Change agent were informed about the research interviews by a post on the SAPphire-program Change agents' Microsoft Teams-channel (appendix 2). The channel post included information about the thesis writer's study program and the thesis is commissioned by Global Change Management. The change agents were informed that the objective of the thesis is to have a better understanding about a change agent's experiences of organizational change and thought related to the role of a change agent. In addition, it was informed that based on the analysis, development suggestions will be given to Global Change Management regarding how change agents could be supported in their role during the SAPphire-program from the behavioral insights' perspective. Thesis writer was presented as an impartial person who was not a change agent himself nor part of the Global Change Management -team. The change agents were informed that the data was collected for the analyzing purpose and handled anonymously in the thesis. Thesis writer himself was the only person with access to the data. The change agents were informed during which weeks the interviews would happen and that each interview would take maximum of one hour working time.

According to Office of the Data Protection Ombudsman, the necessity of collecting personal data should be evaluated by the researcher at the earliest possible stage. Only personal data necessary for the subject and purpose of the study should be collected and processed in research. (Office of the Data Protection Onbudsman 2023.) The personal data needed for the thesis research was the list of the names and email addresses of the SAPphire-program change agents. The list was used to randomly select and invite the change agents to the research interview. The invitations to the interview were sent to persons that got the number 1 and

the following number up till number 6. Each invited change agent had a chance to reject the invitation to the research interview. In case there was a rejection, the invitation was sent to a change agent with the next highest number defined by Microsoft Excel random number function. The thesis writer contacted randomly selected change agents by email which included suggested date and time for the research interview. The selected change agents were able to accept the suggested meeting time, suggest more suitable date and time for them or reject the invitation to the research.

The research interviews were conducted between March 3<sup>rd</sup> and March 14<sup>th</sup>. In total eight research interviews were conducted during the data collection phase. The interviews were held during interviewees' working hours. In the beginning of each interview, the aim and the purpose of the thesis was explained to the interviewees, and they were also told about the right to discontinue their participation at any point of the process. Confirmation was asked from the interviewee that they were voluntarily participating in research. As the interviews were held as online meetings, the interviewees could choose freely the location they wanted to be in during the meeting. During one interview, the thesis writer needed to ask the interviewee to repeat the interviewee's answers to two questions due to problems with the thesis writer's Wi-Fi connection. All the other interviews were conducted without any disturbances.

The interviewees themselves were able to decide whether they wanted to have their video camera on or off during the interview. Based on research, being "watched" increases the need to manage impressions which may cause that the person's focus is directed inward. This may induce fatigue in a person. Fatigue may harm engagement in a virtual meeting as a person might be focusing on self-presentation. Allowing more flexible camera use may be a supportive signal to a meeting participant. On the other hands, having camera on humanizes the meeting, can make participants more accountable and provides visual cues to the participants. (Shockley et al. 2021, 1143-1145.) Only spoken words were included to the analysis not, for example, the interviewees' facial expressions.

There is no certain quantity defined how many interviews researchers should conduct during the data collection phase. The basic guideline is that when the interviewees' responses start to repeat themselves the saturation point of the data collection has been reached. That means that the new interviewees' responses no longer bring new information for the researcher regarding the research problem. (Eskola & Suoranta 1998, cited in Saaranen-Kauppinen & Puusniekka 2006.) Defining that the saturation point has been reached requires continuous interaction of the data collection and analysis phase because otherwise it is impossible for the researcher to decide when the data collection is sufficient. (Kananen 2012, 101.) After eight interviews were conducted, the thesis writer evaluated that the answers of

the interviewees started to repeat each other, and the saturation point of data collection was reached.

The transcripts were created by the artificial intelligent function of Microsoft Teams. The wording of the transcript was compared to the recordings of the meeting and the differences were corrected. The collected data was saved on thesis's writers work laptop's cloud computing service which was secured by a password. The collected data included 392 minutes of interview recordings and 89 pages of transcript in the font of Calibri (Body) and font size 11. The transcript included 48 066 words. A recorded interview lasted an average of 49 minutes. The collected data was destroyed after the thesis was published.

### 3.4 Analysis plan for the collected data

Kananen (2012, 30, 116) describes the analysis of qualitative research as a cyclical process that lacks strict rules that would precisely guide the researcher of quantitative research. This means that the analysis of qualitative research material is not necessarily linear, and researcher can flexibly return to earlier stages of the research process. For example, a researcher can take turns doing fieldwork and return to theoretical considerations several times during the research process. The thesis writer analyzed the collected data with content analysis method. The purpose of content analysis is to reveal the core content of the collected material. Content analysis can also mean breaking down the content, which allows, among other things, to calculate the frequency of occurrence of concepts related to the phenomenon and the mutual connections. The content analysis can have elements of both quantitative and qualitative examination of the material. (Kananen 2012, 116)

The structure of content analysis presented in "Perspectives and Methods of Qualitative Research" edited by Anu Puusa and Pauli Juuti (2020, 148-149) was followed in this thesis. Based on that, as a preparation for the content analysis, the thesis writer read the interview transcripts several times to get a good enough understanding of the content of the collected data. After internalizing the main outlines of the material, the thesis writer underlined all expressions from the material that answered the research question. Thesis writer enriched the information value of the material by simplifying the original expressions of the interviewees.

Different color codes were used as a help of separating different expressions from each other. The analysis was carried on comparing the lower classes to each other and combining similar classes. Quantification means combining expressions that mean the same thing and calculating their frequency, i.e., the expression's share of all expressions (Kananen 2012, 118). In this thesis, the thesis writer calculated the occurrences of expressions within lower classes were calculated so that the collected data could be analyzed also in quantitative form. When the lower classes were defined, the thesis writer proceeded to form to the upper

classes to form general concepts. The categorization system developed as the analysis of the collected data progressed. The analysis of the data ended with the interpretation of the research results.

### 3.5 Evaluation of research creditability, reliability, and ethicality

According to Kananen (2021, 172) the reliability and the validity the development research should be taken into consideration already in the planning phase of the work. After the collection and analysis of the data, the reliability cannot be improved anymore. The concepts of reliability and validity of quantitative research cannot be used as such when reviewing of the reliability of qualitative research, but both those concepts can be applied to certain extend. (Aaltio & Puusa 2020, 179; Kananen 2012, 173.) Aaltio & Puusa recommends focusing on credibility, reliability, and ethicality. The definitions of each term can vary based on the qualitative methodology related literature.

In the context of qualitative research, Aaltio & Puusa (2020, 175, 181) define that the research' credibility means that the research material has been properly collected and carefully analyzed. They add that when evaluating research's credibility, it needs to be considered to which extent the research's target persons themselves, and on the other scientific community and the general public accept the results of the research. In other words, researcher needs to be able convince the research target group, scientific community, and the general public in the research report that the research process as a whole was carried out appropriately and in accordance with scientific practices.

By reliability of the qualitative research, Aaltio & Puusa (2012, 175, 181) mean that the methods used in the research should be suitable for that purpose to which they have been used for and the research results should not be random. Instead of generalizability, in qualitative research it is more important to assess the transferability of the results. By this they mean whether that when evaluating the research result's transferability, the researcher considers whether the results could be possible in another research environment and whether the topic could be studied there again. The reliability of research can be assessed based on how clearly and illustratively the researcher has presented the different stages of his research.

The thesis writer considered both creditability and reliability related factors when planning the research. The thesis writer created a detailed research plan and followed that during the whole research process. It was made sure that the participants of the interviewees were the correct target group when examining the phenomena in question as all of them were part of the change agent group and took their first steps of acting in the role within their local businesses. On the plan, the progression from data collection to content analysis can see straight forward, but in practice those phases of research were happening concurrent.

Researcher's responsibility is to evaluate whether an ethical review by Finnish National Board on Research Integrity (TENK) is needed for the research. According to TENK guidelines, the ethical review from human sciences ethics committee is needed for non-medical research that involves human participants when, for example, participants are participating in the research without their knowledge and consent, research intervenes participant's physical integrity, research focuses on minors under 15-years of age or taking part to research would cause safety threats for participants, their close ones or researcher. In addition, if participant is exposed to exceptionally strong stimuli or involves "a risk of causing mental harm that exceed exceeds the limits of normal daily life to participants or their close ones", the ethical review from TENK needs to be requested. (TENK 2021.)

Based on the thesis writer's evaluation ethical review is not needed as research does not contain any of the forementioned elements. Nevertheless, the thesis writer took ethicality into a consideration in every step of the research process. The wording of each interview questions was evaluated carefully. According to Kananen (2012, 108) the use of leading questions is unethical and reduces the credibility of the collected data as a leading question may direct interviewees' response to the certain direction. In addition, the thesis writer informed the interview participants about the purpose of the interview before and in the beginning of the interview meeting. Also, it was informed to the participants that they had right to discontinue their participation in research at any point of the process and they were able to contact the thesis writer for further information during the whole research process.

According to the Office of the Data Protection Ombudsman, to minimize the personal data, the researcher needs to consider that collected material can include information that can be indirectly identifiable. Data protection regulations concern all the collected identified and identifiable data. It is recommended that anonymization will be done as soon as possible after the data collection, for example right after the research interview. (Office of the Data Protection Ombudsman 2023.) Interviewees' personal data was minimized by eliminating directly identifying information such as names, job position and location from the recording and from the transcript. The collected data was saved with code names and indirect identifiable information was generalized from the transcript. Only the thesis writer had the access and visibility to the collected data.

#### 4 Results

In this chapter the thesis writer presents the results of research's content analysis. In the figure 4, the thesis writer has presented an example case how the content analysis progressed from an interviewee's original expressions to the equivalent simplification, then proceeded to combine simplifications to common lower classes and how lower classes were grouped to an

upper class. Based on the upper classes, the thesis writer created two main classes of which one can be seen as bolded in figure 4. All the content analysis' lower, upper, and main classes are presented in table 2. In addition, the frequencies of each upper class and the main class are presented in table 2. For example, the upper class called "Uncertainty of expected role behavior" has nine mentionings. That means a certain number of interviewees said they faced challenges with understanding the role description or experienced confusion between separate roles in the change process. Some interviewees could have experienced both challenges.

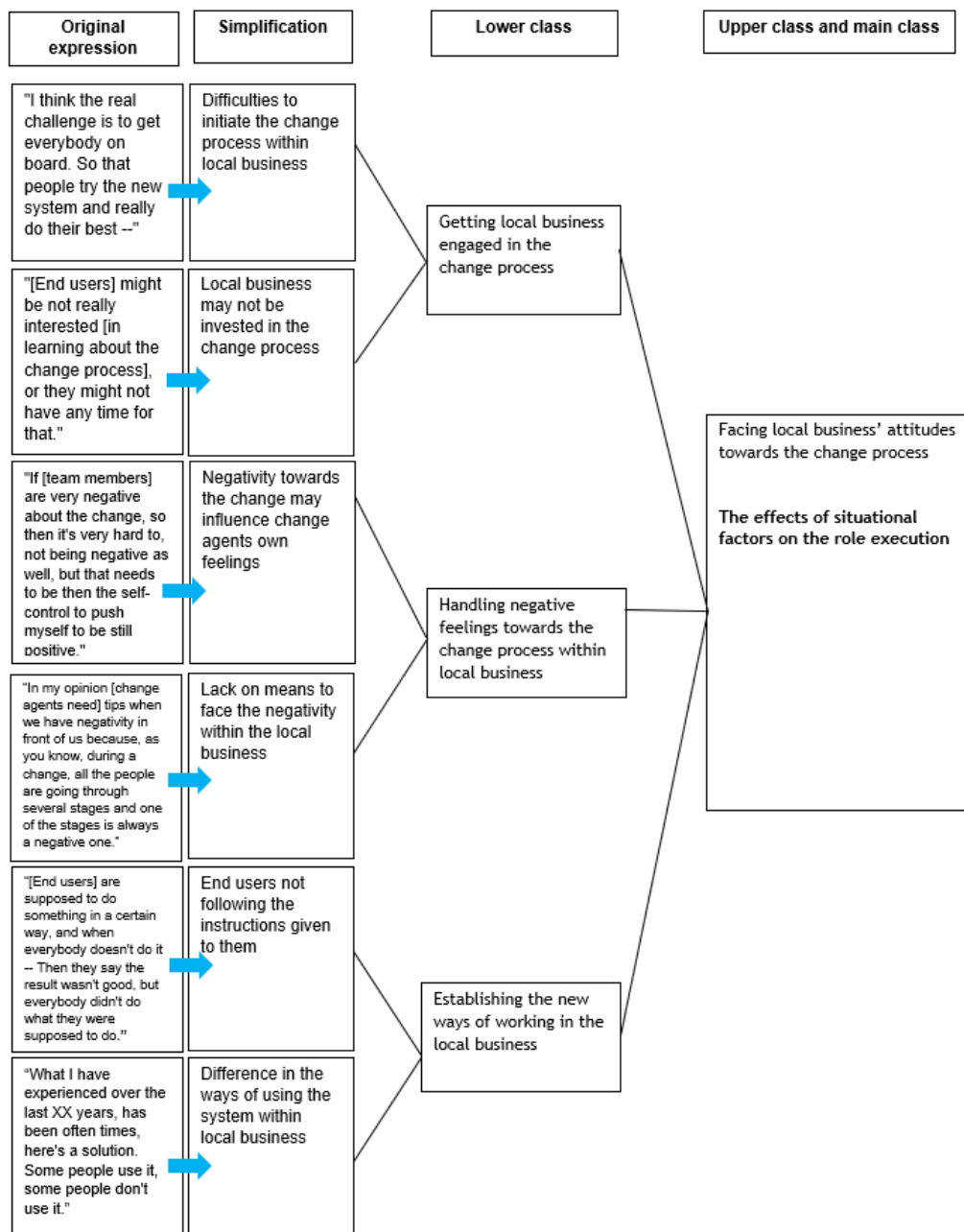


Figure 4: An example of the progression of the content analysis from the original expressions to a main class

The challenges in the role of a change agent can be divided into two main classes as seen in table 2. 56 % of the mentioned challenges in a role of a change agent were related to the ambiguity of the role responsibilities and 44 % of the mentioned challenges were related to the effects of situational factors in the role execution.

Identified challenges in a role of a change agent	Mentionings (n%)
<b>Ambiguity of the role and responsibilities (n= 42, 56 %)</b>	
Dependency on the change management's support in the role execution	21 (28 %)
<ul style="list-style-type: none"> <li>- Understanding how the change process will progress in practice</li> <li>- Comprehending complex ERP system change related information</li> <li>- Limited sources of information related to the change process</li> <li>- Evaluating the importance of feedback from local business</li> </ul>	
Acting in the role beyond change agent's own work team	12 (16 %)
<ul style="list-style-type: none"> <li>- Evaluating local business organizations' different information needs</li> <li>- Conveying the change message across siloed organization successfully</li> <li>- Knowing how widely to operate in the role within the market area</li> </ul>	
Uncertainty with the expected role behavior	9 (12%)
<ul style="list-style-type: none"> <li>- Understanding the role description</li> <li>- Confusion between separate roles in the change process</li> </ul>	
<hr/>	
<b>The effects of situational factors on the role execution (n= 33, 44 %)</b>	
Facing local business' attitudes towards the change process	20 (27 %)
<ul style="list-style-type: none"> <li>- Getting local business engaged in the change process</li> <li>- Handling negative feelings towards the change process within local business</li> <li>- Establishing the new ways of working in the local business</li> </ul>	
Resources to act in the role	13 (17 %)
<ul style="list-style-type: none"> <li>- Having enough system related training to support local business</li> <li>- Having time to act in the role</li> <li>- Having most up-to-date information about the change process</li> </ul>	
<hr/>	

Table 2: Identified challenges in a role of a change agent (n=75)

The common factor for all the interviewees was that the role of a change agent was new or fairly new to them. Even though the selection process of change agents started in early 2022, the interviewees felt they had limited experience of role execution when the interviews were conducted in the beginning of March 2023. That is very understandable as the Global change organization led training sessions for the change agent started in October 2022 and the piloting phase of new ERP system implementation was underway at the time of the interviews only in a couple of Metso's locations. Nevertheless, the interviewees were willing to share their own experiences and thoughts about the organizational change processes and their understanding and expectations about the role of a change agent extensively as the amount

of collected data suggest. In the analysis of the research results, the thesis writer has included direct quotes from the research material. The material unit of each quotation is mentioned with the quote.

#### 4.1 Ambiguity of the role and responsibilities

Some interviewees reported that even though they were interviewed for the change agent role during the application phase, and they had participated in the change agent training sessions, they were not so sure if they had a correct understanding of the role and its responsibilities. Many interviewees mentioned that the role and the responsibility of a key user is much more familiar to them. Some of the interviewees had a dual role in the change process participating both as a change agent and a key user. Some interviewees might have had even more responsibilities in the SAPphire-program.

Well, I will be very true that, yet I don't know how I'm going to make my efforts towards this program because I do understand what change agent means. It's like definitely we are in a changing process of SAP. So, definitely we are there for people around us to help them to understand if they have any questions to take the questions to the appropriate person. (Subject #2)

Even though some of the interviewees admitted being confused with the change agent's role description, all the participants were able to describe the key tasks that they assumed Global Change Management is expecting from them including the responsibilities to distribute and communicate change process related information within their local business and listen carefully local business feedback and concerns and raise those to Global Change Management's attention. None of the interviewees implied that they would have been participating in a change process in the role of a change agent before in their working careers.

The interviewees were aware that a change agent will support the local business during the change process from start to finish. Where supporting a change agent's own work team felt natural for the interviewees, many of them pointed out the challenges that working in a role beyond their immediate working environment would cause. One of the most common concerns among the participants was that it can be very difficult for a change agent to evaluate the informational needs of the different organizations of the local business. Change agents expressed feelings of uncertainty about their ability to provide enough, but not too much, detailed information for the people who are working in organizations and job positions that are not that familiar to the change agent him- or herself. Many of the interviewees mentioned the difficulties of evaluating the amount of information that they need to distribute and the challenge of defining how detailed the provided information should be.

Interviewees also pointed out that even within one company's location, let alone in the whole market area, the organizations can be quite siloed which brings a challenge of conveying the

change message successfully within the local business. Also, the modern way of working was mentioned as more and more people are working from home and the natural communication moments at the water cooler may not occur so often in post-pandemic working life. Many change agents saw that face-to-face communication was the most effective way of transferring the change message as sharing links and information only through Microsoft Teams or by email might get lost in busy business life.

It's [organization] also siloed, and you know, so let's say, for example, you and I are on the same team. We would share information amongst each other. It won't necessarily go to a next team, or you know that kind of thing. And unless we have a representative from the next team and having an understanding of what we do and what they do and how it ties in together, I think a lot of the communication gets lost as well. (Subject #4)

Some interviewees also mentioned that it is quite difficult to know how widely they should operate as a change agent within their local business or market area. Some participants expressed feelings of worry whether all the separate locations within their market areas were covered by change agents. Some market areas' change agents were already organized themselves and discussed about the ways they would execute their role within the market area, but some interviewees expressed concerns whether they were supposed to cover many separate locations informational needs alone.

Despite of the feelings of uncertainty with the role and responsibilities of change agent's role and the difficulties to act in the role beyond change agent's own organization, the most mentioned role related challenge concerned the change agents' high dependency on Global Change Management's support in role execution. The relationship between a change agent and Global Change Management was discussed from multiple perspectives. Many interviewees described that they had limited amount of information sources related to the change process and, understandably, Global Change Management who are in the front and center of the change process, might be the only or at least the main source of information for all the change agents. Some change agents working in dual roles in the process may have had some other sources such as subject matter experts or key users in their contact network but what comes to the key information about the overall change process and the guidance with the role execution, many interviewees felt that they fully rely on the information they receive from Global Change Management.

How much can I contribute to the role without the direct instruction? Not a lot because they have the information. And if I like six weeks into this program, still keep saying this is a good thing and I can't say why this is a good thing, then people are not gonna believe me. So, I do need the instructions. You know, the next steps, the way we are in the process kind of thing. (Subject #4)

The interviewees praised Global Change Management's clear and professional approach to the communication related to the change process. Interviewees expressed feelings of trust and

appreciation towards the Global Change Management -team and saw that the team's way of steering the change process is an improvement compared to their experiences with previous organizational changes. On the other hand, it was noted that as change agent agents had been trained in common sessions which included participants from many separate locations and countries, the information given to the change agent was considered very high level lacking the needed information about concrete timelines and action points. Many interviewees felt that it was challenging to understand the wide concepts of the change process and digest that into forms that would be informative enough for the local business.

I think the challenge is to really understand what is happening and how all things are going to work so I can be able to do what is expected of me to be able to give the correct information to other. So, I think it's [what] I need. I need to understand it first myself before I can tell others and help others in the change process. (Subject #7)

Some interviewees were not only expecting the Global Change Management -team's support in task assignment in their change agent role execution but also support of having Global Change Management telling them what and how to communicate about the change to their local business. Many interviewees wanted to promote the organizational change from its benefits point of view but implied difficulties in correctly comprehending the ERP system-related information which some viewed as complex.

If I don't understand it well, I cannot communicate further well. So, it may be the person is asking me a question A and I am forwarding question B and getting the answer C which is not expected by the person who have communicated with me. So, I want that clear understanding if I understood the program well. (Subject #2)

This challenge was mentioned especially among participants that are non-native English speakers. They felt that in their locations people may be more relying on change agents not only to translate the change related information into a form that is more relatable to the end users but also to do the actual translation from English to their native language. Change agents from non-native English-speaking location also felt responsibility of making sure that the correctly understand the feedback from their local business before reporting it Global Change Management. Some interviewees pointed out that some end users in their local business may lack of language skills to communicate their feedback directly to the global teams of experts that oversee the change process leaving more responsibility to a change agent to understand and convey the message in intended form to the Global Change Management -team's attention.

Locals speaks English slowly and can't write e-mail in English so it can be that there is there is some critical issue, and they are afraid to, you know, send an e-mail in English somewhere to, let's say the ERP business program e-mail address or whatever. So, then it's very helpful for them to have a change agent to whom they can, let's say explain in the local language the issue and then the

change agent could support the solution, or at least the reporting of that issue. (Subject #1)

Even though working in the same market area, organization or physically in the same office, the other organizations may have some very detailed information needs that some interviewees felt that were challenging for him or her to understand profoundly. Many change agents felt more comfortable conveying all the received feedback to Global Change Management and leave the evaluation of the feedback's priority fully to be decided by the Global Change Management -team.

If I actually hear something from the business, whether I think is something that's critical or not, it might not be important to me because I may understand it a lot better than that person in the, you know, for instance on the phone with the customer, they may have different needs than I would ever imagine. So, I try and listen and just bring back everything I can so that they [Global Change Management] can decide what to do with it. (Subject #8)

Although many challenges were identified with the high dependency on Global Change Management support in the role execution at this point of the change process, interviewees also acknowledged that the information related to market area specific change process will become clearer and more detailed closer to the implementation phase. Also, the frequency of communication with the organization was expected to increase closer to the program's deployment period.

#### 4.2 The effects of situational factors in the role execution

The other defined main class was the effect of situational factors on role execution. When talking about organizational change it is natural that the topic of change resistance is mentioned in the conversation. All the interviewees were expecting to face a certain level of negativity and resistance towards the organizational change. Change agents were discussing how it might be challenging for them to maintain their positive feelings towards the change process in case people are feeling negative emotions around them. All the interviewees who had been part of previous organizational changes within the company mentioned, that the general opinion in the local business is that the previous changes were not communicated and implemented well enough from the top level down to the operational level which might be the reason behind some skeptical opinions towards the SAPphire-program among local businesses. Whereas many of the interviewees expressed that they would not let their previous experiences about organizational changes effect on their attitude towards SAPphire-program, they expected that local business would consider the program yet another organizational change within brief period and the new ways of working might be more theory based than practical.

Challenges to face the local business attitudes towards the change process were brought up in the interviews from multiple different perspectives. Where negative feelings were seen as

human's natural reaction towards a change process, it was also mentioned as a challenge that some change agents hoped that Global Change Management would train them to face. Some interviewees said they needed practical tips that change agent could be used during the process.

We should train change agents to be ready for this negativity that they will have to [face], yeah, to be emotionally prepared of a change because sometimes it's very, very tough. You know to have all because people they think because as you are change agent you are the one who are making the decision about the change. (Subject #3)

Local business' inertia towards the change was also mentioned as a challenging attitude that a change agent would need to face during the role execution. As the organizational change process is in such an early phase, the interviewees had little experience of acting as a change agent within the local business. Nevertheless, what some of them had noticed so far was that it might be difficult to get people engaged with the change process. Few reasons for the lack of engagement were mentioned: first and foremost, the change process is not immediate for some location until 2024 and mainly based on that reason, the current information available can be considered too vague and too far away to everyday operational details.

“I think we have this information available in the boulevard. Which is a good thing, but not anyone is naturally going and visit Boulevard to know what's going on. First, they might be not really interested, or they might not have any time for that.” (Subject #6)

One of the frequently mentioned challenges was the reinforcing of the new ways of working within the local business. The interviewees felt that the previous organizational changes were implemented but after the roll-out there had been too little evaluation of how the new practices are followed up in the local business. The localized ways of working were discussed from two opposite perspectives. Some interviewees hoped that due to SAPphire-program the ways of working within an organization would be harmonized and there would be fewer local workarounds. That way all the employees would have same guidelines and common practices how to use the new system.

On the other hand, many of the change agents expressed that their motivation to become a change agent was related to expectation to have more opportunities to make local business feedback heard before the implementation of the new ways of working. A common opinion in many interviews was that previous organizational changes in Metso (and Metso Outotec) had been heavily led by Finnish principal company and different operational working ways of local business' were not considered well enough. Partly due to this factor, many interviewees were glad that the role of a change agent seemed to have opened a possibility for people from locations all around the world to have an influence on the change process on a practical level.

In many interviews the change agents also mentioned the challenge of having enough resources to act in the role of a change agent. The concern related to especially the implementation phase. The resource that change agents were most concerned about was having an adequate amount of system training before they were expected to support the local business with their learning process. Many interviewees felt that there has not been enough system related training during previous organizational changes, nor has there been enough refreshing training after the implementation has been completed. Some interviewees have had feelings of being abandoned to troubleshoot the system related issue themselves whereas the project team of that specific organizational change had already moved on to preparing another change in the company.

There's gonna need to be a lot of training and my experience within Metso Outotec SAP training has been very minimal. Personally, I've taught myself everything I know about SAP. I've had no direct training on SAP. (Subject #5)

Another major resource that was mentioned in many interviews was time availability. Some interviewees noted that their current work position is already fulfilling their work schedule completely, yet they acknowledged that one of the change agent's responsibilities was to be available when local business requires their support during the change process. Some interviewees expressed difficulties to image how much they can contribute the role of a change agent and some interviewees noted that they need to be able to contribute some time to each of their separate roles in the program on top of their everyday working tasks and responsibilities.

“[Challenge is] having time to do it because change agent is above my actual position and my actual position is all already filling my day. -- So, as a change agent in [country], I will have to go to the other people who are not in the same market area than me. So, that will require some time because you will have to organize meeting you will have to communicate with that with them and that will be time consuming.” (Subject #3)

In addition, many interviewees saw the amount of change related information as a resource as well and that served as a motivator to become a change agent for them. Some interviewees expected that the role of a change agent would provide them with more firsthand information about the change process which they felt was not available for them during previous organizational changes within the company. Some described how during previous organizational changes there was not enough time to process the change related information, and it happened fast based on their experiences. The amount of available information was not only seen as a benefit of the role but also as an expectation as interviewees felt that as a change agent, they also should have more information that is publicly shared within the company in the intranet and change process related SharePoint sites.

To be able to inform other people, you have to know things. You have to be sure of everything, so I need to have more information than the people I am supposed to inform. So, I guess I need more than the Boulevard page, which is accessible to all other. (Subject #7)

#### 4.3 Cognitive biases and heuristics related to the challenges in the change agent's role

According to Ly et al. (2013, 15) nudge development process (figure 5), after choice architect has gather good enough understanding of the context a subject makes their decision, the choice architect should then define the main heuristics and influences that may have an effect of the subject's decision-making process. This phase of the nudge development process gives also answer to the thesis objective which was to examine what kind of cognitive biases and heuristics may appear in the role of a change agent when a company is deploying a new enterprise resource planning program.

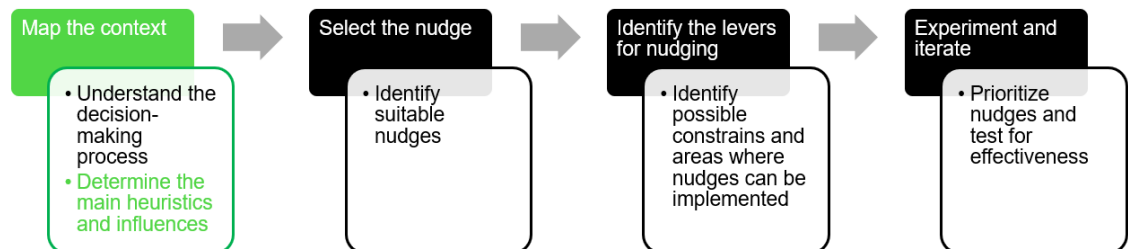


Figure 5: The state of the nudge development process when main heuristics and influences are defined (Source Ly et al. 2013, 15)

The weight of each identified challenge in the role of a change agent based on the results of the content analysis' table 2 has been visualized in the figure 6. Each challenge can be a possible bottleneck preventing a change agent to perform in his or her role successfully. As seen in the figure, several different cognitive biases and heuristics may appear in a change agent thinking process when the change agent is acting in his or her role within the local business. Although the figure showcases the challenges and possible biases related to each challenge in a linear way, it is important to acknowledge that each bias may appear in a change agent's decision-making process during different phases of organizational change process.

The change agents' dependency of the Global Change Management -team's support in the role execution was identified to be the biggest challenge in the role of a change agent. The value of the relationship between the change management and an individual change agent should not be underestimated even though the change management team does not act as an official supervisor for a change agent. In the interviews, the change agents without exception expressed trust and satisfaction towards the change management organization which may activate for example authority bias or halo effect in a change agents thinking.

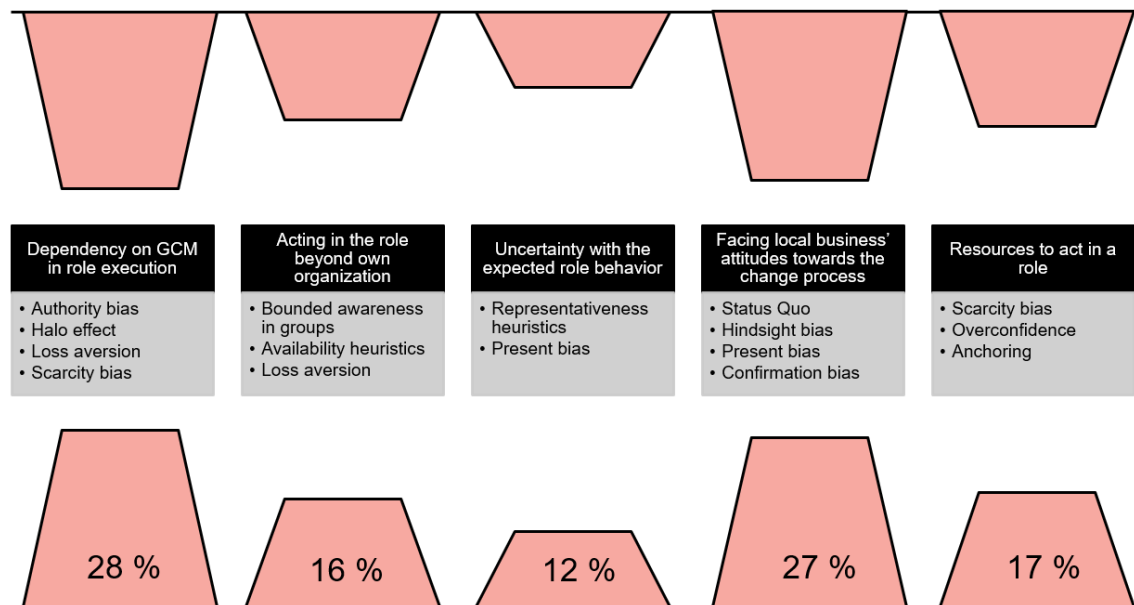


Figure 6: The challenges in the change agent role execution and related cognitive biases and heuristics (Challenges frequency presented with percentages)

The halo effect means, for example, tendency to like all of person's features, even those that have not been observed, as System 2 is producing a presentation of the person that is simpler and more coherent than reality. (Kahneman 2011, 82.) Halo effect is commonly used marketing method as many commercials have famous and respected celebrities advocating different products (Root III 2022). Halo effect around the current change management organization can be beneficial for the SAPphire-program. Its effect can be interpreted from the collected data as many of the interviewees stated that they felt more positive feelings towards the ongoing change compared to the previous organizational changes based on how the SAPphire-program was managed.

People are prone to authority bias which means for example that they comply more easily to the request if it is made by authority figure rather than a peer (Honkanen 2016, 51). In other words, authority bias may appear as a tendency to emphasize the opinion of an authority figure when a person is forming one's own opinion about the subject matter (Milgram 1963, 376-378). The Global Change Management -team's name includes the word "management" which already implies the authority in the change process. In the role execution, many interviewees said that they were expecting guidance and task assignment from Global Change Management how they should execute their role as a change agent and what kind of messages they should convey to the local business about the SAPphire-program. On the other way around, many interviewees said that they will rely on Global Change Management to make the evaluation what is the priority level of the feedback from the local business. Already in the initial role sending, Global Change Management advised that one of the role responsibilities of a change agent is to raise local business' concerns and feedback to the change team's

attention. The bottleneck appears in case the number of concerns and feedback surpasses Global Change Management's ability to prioritize and resolve the received requests.

Loss aversion refers to human motive to avoid losses over achieving gains. For example, what comes to achieving a goal, people behavior is more strongly lead by avoiding failure to reach the goal rather than exceeding the set goal. The bias can affect a human behavior from two opposite perspectives as loss aversion can lead a person to make a very risky decisions or to be very risk averse. (Kahneman 2011, 283-284; Parrish 2020, 32.) The preference to buy insurances is an example of being risk averse yet for example while playing gambling games people may end up making very risky decisions to cover the assets that they have possibly already lost. In the SAPphire program, the change agents may forward all the received feedback and concerns towards Global Change Management to avoid a risk that their own actions have contributed to a situation where feedback that they have not considered relevant turn out to be a bigger issue during an implementation phase. When communicating towards local business, loss aversion may appear as a desire to communicate all possible and available details regarding the change process to local business in case the change agent does not have understanding of the different organizations' informational needs.

The scarcity bias is one of the most prominent biases affecting human decision-making process. People often want something that is in short supply and that others may not be able to get. There may be a lack of, for example, money, food, time, space, work, friends, or attention from others. (Honkanen 2016, 291.) A person considers a thing or a product which availability is limited more valuable than a thing or a product that is available in plenty (Convertize 2022). The scarcity bias may appear in a change agent's thinking process if the change agent faces one of the two identified bottlenecks in the role. First, a change agents might already have had feelings of scarcity with the amount of information he or she had received regarding the change process due to limited amount of information sources. On the other hand, due to change agents' experiences of previous organizational changes, many on the interviewees were motivated to become a change agent based on the expectation to get an access to bigger amount of information than would be available for the people not participating in a SAPphire-program related role. Secondly, based in the results of the content analysis, a change agent may have feelings of scarcity with the time to execute the role responsibilities on top of the current work position.

The benefit of working together in a group is that amount of information that the group collectively possess is more than any indivual would have alone. This advantage may not be achieved automatically when forming a group as only the individual's information that is shared with other group members will become part of the group's discussions and that way the group's decision-making. In other word, information that is not shared within the group, no matter how relevant that would be, has a little effect on the group's final decision.

Studies have shown that when working in a group, people tend to spend time talking about information that is previously known for all group members rather than bringing more unique and unshared information to the discussion. This phenomenon is called bounded awareness, and more precisely in this case, bounded awareness in groups. (Bazerman & Moore 2009, 50-51.)

Among the group of SAPphire change agents there are people from all around the world working in various positions in various teams and locations. The amount of information existing within the group of change agent is already massive. Based on the interviewees' responses, at this point of a change process this advantage of the change agent network is underused and there are differences between market areas how change agents have been networked together. Bounded awareness in groups can appear in change agents thinking process for example, if the change agent isn't fully aware of the other change agent's contributions to the program within their own market area or if the change agent is not aware what kind of expertise and support, she or he would already have within the existing change agent network.

Based on the content analysis, there is a certain level of uncertainty among the interviewees what is the expected role behavior of a change agent. Some of the participants had also other roles in the change process but what they also described that the role of a change agent is the vaguest for them. Among the group there are also people for which the role of a change agent is the only role in the change process. As the expected role behavior is not fully clear for some of the change agents, there is a possibility that the expected role behavior will actually be based the representativeness heuristics in a change agent mind. Bazerman & Moore (2009, 8) explain that people have tendency to look for "traits that that correspond with their previously formed stereotypes" when making a judgement about an individual, object, or event. Research has also found that consensus implies correctness as people tend to think that the opinion of the majority is always correct or valid. This can also appear as social comparison and modeling the behavior of the others. (Honkanen 2016, 51.) Ly et al. (2013, 18) refer to this phenomenon as "social proof" in which a person monitors their peers' behavior for the ques what kind of decisions and behavior would be socially suitable and accepted. The representativeness heuristics may cause discrepancy between Global Change Management's initial role description and a change agent's role execution.

Availability heuristic may have a significant effect on the change agent role execution. Bazerman and Moore (2009, 18-19) refer one of the subcategories of the availability heuristics as "Ease of Recall (based on vividness and recency)" -bias. This means that the events and memories that are in more recent memory or have a stronger engram have more effect on a person's decision making than the events that are not as vividly in person's mind. The other subcategory emanating from the availability heuristics is retrievability bias. Bazerman and

Moore explain that “individuals are biased in their assessments of the frequency of events based on how their memory structures affect the search process.” The biases related to availability heuristics may influence how widely a change agent is operating in the role within market area, locations or even in the change agent’s own office building as the organizations he or she is more commonly in contact most likely are the ones which are most vividly in his or her mind.

Conclusions can also be based on what is easiest to recall from memory. For example, a person may overestimate his or her performance and contribution to a teamwork in relation to other team members just because it is easier to remember your efforts than the others. (Honkanen 2016, 50.) The easiest actions for a change agent to recall are obviously the contributions the change agent him- or herself have done for the SAPphire-program. This could lead a change agent to overestimate their contributions to the program compared to their peers especially in this case when some market area’s change agent might more networked together compared to the others. Assumably the availability heuristics may affect a change agent decision-making process especially in those location where change agent within the same market area don’t share such strong ties together and that way, they may have less information about their peers’ contributions.

When comparing their own performance as a change agent to their peers, memory availability related heuristics may not be the only biases that may misdirect a change agent decision-making process. Studies suggest that people also have a systematic tendency to emphasize internal, person-related reasons more than external, situation-related reasons in their reasoning. This is called the attribution bias or fundamental error (Dickerson 2012; Sutton & Douglas 2013 cited in Honkanen 2016, 61). It appears that people’s reasoning seems to depend on whether they are evaluating their own behavior or the performance of the others. For example, when thing go wrong and an error has been made, people tend to judge other people’s actions as being due to their internal characteristics. On contrary, external causes and situational factors are often blamed when one is evaluating its own behavior. (Dickerson 2012 cited in Honkanen 2016, 61.)

Change resistance, negativity towards a change and local business inertia were all topics that were brought up in the research interviews. Some interviews were sensing that the opinion within their organization was that people were not satisfied how previous organizational changes were managed and the local business would not like to change their current ways of working. These thoughts related to hindsight and status quo bias which natural part of human thinking process during a change.

Memory does not always serve us well, though, as people are unable to fully reconstruct their prior beliefs which may lead them to underestimate the extent to which past events have

surprised them. The hindsight bias may occur when people look back the decision they or the others have made. It may be harder to recall the factors that were known when the decision was made after you have witnessed the result of that decision. The effect of hindsight bias can be very cruel when judging decision made by people with authority and people who represent others such as doctors, CEOs, and politicians. The observes the decision made can seem simply good or bad and the rationality of the decision-making process itself is not being reviewed and evaluated. (Bazerman & Moore 2009, 38; Kahneman 2011, 202-203).

Status quo refers to “an individual preference to maintain their current state even if a change in their circumstances would provide better options” (Ly et al. 2013, 17). Kahneman says that “the preference for the status quo is a consequence of loss aversion”. Tendency of trying to avoid losses does not mean that a person never prefers to change his situation, because the benefits of the opportunity can be greater than even the exaggerated estimated losses. Loss aversion only implies that choices are strongly biased in favor of the reference situation and generally biased in favor of small rather than large changes. (Kahneman 2011, 291-292.) Based on the interview, people in local business may feel they are losing their old and familiar ways of working and there could be fear that the operating models in the new system are more based on theory than practicality. Where the change agents themselves expressed positive feelings towards the change process and stated that they understand the benefit of going through the change, some of the participant felt they do not really have any practical tools they could utilize when facing local business’ attitudes towards the change. Many interviewees described that it would require will power and self-control from them to overcome the negative attitudes and resistance if those phenomena appear in great extent. In that sense, the change agents themselves are not immune to hindsight and status quo biases in their thinking.

People tend to seek information that is in line with their existing beliefs and expectation. When a human observes information that is consistent with his existing thoughts about the subject matter the human tends to accept it with open mind and not pay attention to all the information which would be in contrary to his initial thoughts. The cognitive bias related to this tendency is called as confirmation bias. The reason for this stem from human mind’s tendency to retrieve information from memory but also the humans’ cognitive limitations process all the information that would be available. (Bazerman & Moore 29-30.) The confirmation bias does not relate only the change agent’s challenge of facing the local business’ attitudes towards the change process. Obviously, it may appear with any information that the change agent interprets according to his or her existing thinking model. In the interviews, some of the participants reported, for example, that there might be people within their organizations that are change resistance by default. During the change process this existing expectation can lead to a situation that a change agent is more prone to monitor all the attitudes against the change and he or she does not pay attention all the change

supporting behavior within the organization. On an individual level, the bias causes a risk that a change agent may label any expression of hesitance or negative as change resistant behavior without considering the reasons behind the behavior that closely.

Where status quo is related to human tendency to remain in current situation it does not mean the same as the term “present bias” which refers to people’s tendency to prefer smaller immediate rewards at current moment over larger rewards that one could be achieve in the future (Chakraborty 2021, 1921.) The present bias may appear in a role of a change agent at least from two perspectives. During the implementation phase this could appear as hesitation towards more challenges change agent role responsibilities especially if the change agents is facing negativity towards the change process within the local business. In addition, many participants felt that as the actual ERP system change is not immediate, the SAPphire-program itself is not in local business minds actively yet. Among the change agent there can be a tendency to think that the also acting as a change agent is not that immediate and the role related work is considered to happen in the future.

Overconfidence refers to human tendency to be too optimistic of their evaluation accuracy when answering to moderately to extremely difficult questions (Bazerman & Moore, 41; March & Shapira 1987, 1414-1415). As of now, it may seem that there is a lot of time before the SAPphire-program will be implemented to the market area, and in that sense working as a change agent is not that relevant now. On the other hand, if the change related preparations would be started only when the implementation is immediate, a change agent may feel that there is not enough time resource to work as a change agent. Moving difficult change related tasks from this moment to future may lead a change agent to overconfidently estimated the time required to complete the different tasks. Bazerman & Moore (2009, 41) explain that due to anchoring bias “individuals make estimates for values based upon an initial value” which can be “derived from the past events, random assignments, or whatever information is available”. The amount of time used in a change agent role currently can also be an anchor value in the persons thinking regarding the amount of time the role execution requires from him or her. If the change agent role related activities are difficult to fit in a change agent schedule prior implementation, the time required for the role execution during implementation phase may feel even overwhelming.

## 5 Development plan

According to Ly et al. (2013, 15) the next step in the nudge development process (figure 7) is the identification of the suitable nudges that could be utilized to improve the decision-making process in question. In this thesis, the aimed benefit of the designed nudges is to help Global Change Management to support the change agents in their role and that way minimize

the negative effect of heuristics and cognitive biases during the SAPphire-program. The Behavioral Insights Team's EAST-framework (Service et al. 2014, 6-8) was used as a guideline when the thesis writer designed suitable nudges for the identified challenges in the change agents' role.

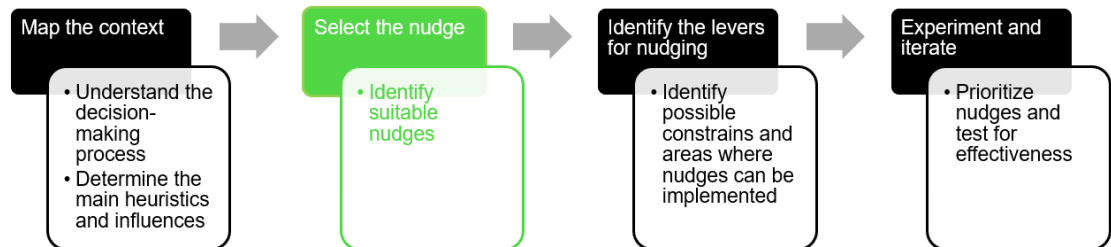


Figure 7: The state of nudge development process when suitable nudges are identified (Source Ly et al. 2013, 15)

It is important to point out that an identified challenge and the possible heuristics and cognitive biases related to it may appear during any of the Prosci ADKAR -change model's phases. From that perspective each nudging action could happen at any point during the organizational change process, and they are not tied to the order in which they are implemented. Nevertheless, for the sake of creating structured development plan for the thesis commissioner, the thesis writer prepared a suggestion what could be the main challenge of change agent's role execution during each change process' phase. That way the nudging actions can be divided to happen during the whole organization change process and there is a clear focus area for each ADKAR-phase and not too many nudging actions take place at the same time.

The thesis writer has gathered the results of the development work to the table 3. In that, the thesis writer presents his view about which bottleneck should be the focus area during which ADKAR-change model phase. In addition, in table 3 it is presented what are the main cognitive biases and heuristics related to the bottleneck and what are the designed nudges to minimize the negative effects of those behavioral insights.

Preparing a change agent for ADKAR-change model-phase	Identified challenge in role execution	Heuristics and cognitive biases related to the challenge	Suggested nudge action for the challenge	Utilized principal from the EAST-framework	Aimed benefit
Awareness	Uncertainty with the expected role behavior	<ul style="list-style-type: none"> <li>Representativeness heuristics</li> <li>Present bias</li> </ul>	<ul style="list-style-type: none"> <li>Reminder of the initial role description in a change agent meetings/post on the Teams Channel</li> <li>Film a special episode(s) of studio SAPphire about the role of a change agent</li> </ul>	<ul style="list-style-type: none"> <li>Make it Social: Descriptive norm, messenger effect</li> <li>Make it Attractive: Saliency</li> </ul>	Change agents get updated information about expected role behavior. GCM manager can utilize her halo effect and authority to promote the importance of the change agent role within the company
Desire	Acting in the role beyond the change agent's own work team	<ul style="list-style-type: none"> <li>Bounded awareness in groups</li> <li>Availability heuristics</li> <li>Loss aversion</li> </ul>	<ul style="list-style-type: none"> <li>Create "player cards" of each change agent</li> <li>Create change agent coverage checklist</li> <li>Change agents' are encouraged to gather feedback regarding their performance in the role through PeoplePoint</li> </ul>	<ul style="list-style-type: none"> <li>Make it Easy: Checklists</li> <li>Make it Social: Resiprocity, people helping people, feedback</li> </ul>	Change agents are more aware of the expertise and support available within the group. Change agents become better aware of the area in which they operate as a change agent. Based on received feedback, a change agent can develop in his or her role execution.
Knowledge	Dependency on GCM's support in the role execution	<ul style="list-style-type: none"> <li>Authority bias</li> <li>Halo effect</li> <li>Loss aversion</li> <li>Scarcity bias</li> </ul>	<ul style="list-style-type: none"> <li>Change agents are introduced to the other change process related roles</li> <li>Key users present training materials to the change agents</li> </ul>	<ul style="list-style-type: none"> <li>Make it Social: Resiprocity, people helping people, network nudge</li> <li>Make it Easy: Simplification</li> </ul>	Change agents have wider support network available in their every day work related challenges. Key users can receive feedback from change agents regarding the instruction they have created
Ability	Resources to act in the role	<ul style="list-style-type: none"> <li>Scarcity bias</li> <li>Overconfidence</li> <li>Anchoring</li> </ul>	<ul style="list-style-type: none"> <li>Use Microsoft Outlook Task assignment - function when assigning tasks for the change agents</li> </ul>	<ul style="list-style-type: none"> <li>Make it Easy: Defaults, goal setting, friction cost</li> <li>Make it Attractive: Personalize</li> <li>Make it Social: Commitment contract</li> <li>Make it Timely: Implementation intention, deadlines</li> </ul>	GCM supports change agents time management by assigning tasks to CA's calendar. The change agents are activated in their role frequently. Change agent can schedule the task completion time.
Reinforcement	Facing local business' attitudes towards the change process	<ul style="list-style-type: none"> <li>Status Quo</li> <li>Hindsight bias</li> <li>Present bias</li> <li>Confirmation bias</li> </ul>	<ul style="list-style-type: none"> <li>Concise trainings about heuristics and cognitive biases in a change process through Teams meeting(s)/Microsoft Outlook Task assignment</li> </ul>	<ul style="list-style-type: none"> <li>Make it Easy: Chunking</li> <li>Make it Attractive: Saliency, Scarcity</li> </ul>	Change agent receive 'exclusive' information in their role, GCM provides information that helps to understand human behavior

Table 3: Compiled results of the development work

### 5.1.1 Nudges preparing a change agent for The Prosci ADKAR - change model's Awareness - phase

When this thesis was written, the SAPphire-program was in a relatively early phase from the change agents' role execution point of view. As the change process is in its early phase, it provides a great opportunity to improve the change agents' understanding of their expected role behavior. The change management's expectation towards a change agent role execution can be communicated to change agents in the form of instructions, role description or assigning tasks yet the change agents themselves have also their own beliefs and attitudes

towards the role. (Katz & Katz 1978 cited in Tucker, Hendy & Barlow 2014, 1050.) In practice, the simplest way to do to nudge change agent to go through the change management's initial role sending with the group in the change agent training session and consider of writing a post about the role to the change agents' Microsoft Teams Channel.

Media richness theory recommends using richer and more engaging communications techniques to improve communication effectiveness. An example of richer and more engaging communication format especially in the post-pandemic hybrid working model is video format. (Dennis & Valacich 1999 cited in Newman & Golpalkrishnan 2022, 50, 53.) Korhonen & Bergman (2019, 111, 115, 130) have similar view, as they argue that communication related to a change process should cover both traditional ways of communications such as email information letter and posts on company's intranet but also the modern ways of communication in the company's digital channels. If the core change message is coherent, the multi-channel approach to the change communication can be effective.

The video format can obviously mean keeping a camera on during live Microsoft Teams or Zoom meetings, but also scripted and recorded video. Both ways of communicating about the change are in fact already being used in SAPphire-program but not necessary in the context of change agents' role execution. The suggested nudge for the identified challenges of uncertainty of expected role behavior would be filming a change agent role focused episode to the company's intranet and internal on-demand video portal. The change management have previously released a couple of short videos in their Studio SAPphire- video series which has been used as a tool to create awareness of the change program. In this nudge EAST-framework (Service et al. 2014, 5) "make it social" and "make it attractive" principles could be utilized. "Make it social" in this context would mean that the episode could focus on interviewing a change agent that Global Change Management considers as "an ideal change agent" and set that as a descriptive norm for the role execution. Based on the collected data, the change agents in certain local businesses are more organized in their role execution than the others. According to Service et al. (2014, 5) in the nudge creation, it is beneficial to highlight that most of the people, in this case change agents, "perform the desired behavior".

"Make it attractive" principle would mean in this context the format the information is provided. In the past the same information has been conveyed through text and conversation. The video about the change agent role posted in the company intra site is a new way to convey salient information for the group of change agents, and it can also be used to attract attention to the role within the whole company. The change agents would not only be able to see the expected role behavior of an ideal change agent, but they could also use the video as a tool to promote the change agent role within their local businesses. In the video, change management's acknowledgement of change agents' importance the change process could also improve change agents' informal authority to execute the role within local business.

### 5.1.2 Nudges preparing a change agent for The Prosci ADKAR -change model's Desire -phase

According to Hendy & Barlow's (2012, 353-354) research, the more challenging tasks for a change agent were identified to be sense-making of the organizational change and implementing changes to the organization. They argue that when executing those tasks, contributions and efforts from other stakeholders are often needed as the change agent's ability to promote the changes beyond their own job position should not be taken for granted. Their findings are in line with the research results. In SAPphire-program context the challenges were identified to be evaluating the informational needs of different organizations and uncertainty with how widely a change agent should operate in the role within his local business.

As a result of the development work, one way to nudge change agents towards preferred way of behavior could be assigning them a task to fill in "a change agent player card" with key information about the change agents themselves. In this context the key information about a change agent could be related to their working background within the company and their areas of expertise regarding the ERP system. A change agent can also list the physical locations where he or she is working. By comparing the player cards, the change agent within the same location can identify if, for example, some teams in the same location but in different buildings have not been covered by change agents before.

The player card template (figure 8) would be assigned for a change agent to fill in, for example, during the change agent training session so that the assignment's completion would not happen fully on a change agent's normal working time. The player cards would be stored in the Microsoft Teams Change agent channel. The aim of the player cards is to create awareness about the already existing expertise within the group of change agents and support change agents' networking within their own market area. The key EAST-principle of player cards is "make it social". Service et al. (2014, 5, 32) recommends choice architects in their EAST-framework to "use the power of networks" by providing opportunities to mutual support and encouraging preferred behaviors to spread peer-to peer.

[Picture]	<p><b>Name:</b> Edward Example</p> <p><b>Country:</b> Finland</p> <p><b>Location:</b> Tampere</p> <p><b>Position title:</b> Senior Delivery Specialist</p> <p><b>Metso Team:</b> Delivery Management</p> <p><b>Business Line:</b> SVS BDH</p> <p><b>Part of</b> Global team [ X ] or local team [ ]</p> <p><b>Role(s) in SAPphire:</b> Change agent, key user</p>
<p><b>The core competences:</b></p> <p>Project spare part sales order processing, global supply chains and pricing in PCM model, master data creations</p> <p><b>Physical locations covered within local business:</b></p> <p>Lokomonkatu office main office, Kello and Valimon vintti (Logistics operations) -offices</p> <p><b>The key stakeholders in Metso:</b></p> <p>BDH Global Quotation Support, Project Logistics, Operational purchasing, MINFIL Project Management, SVSBDP Complex sales orders</p>	

Figure 8: A example template of a change agent's player card

Change agent player cards could be accompanied with a change agent checklist (figure 9) to which a certain country or market area's change agents can list all the separate locations, offices and/or organization that needs to be covered in their change agent role execution. Change agent could also agree which change agent would be most suitable to cover some "grey areas", meaning if there is a location or organization without any local change agent, who would be suitable person to make sure that the specific location will stay in loop with change process related information transfer.

Checklist is part of the EAST-framework's "make it easy" -principle. According to Thaler, Sunstein & Balz (2010, 8) choice architect should 'expect error' from a human and from that perspective, checklists as nudges serve two purposes. First and foremost, they help people with memory recall, but they also help to break down complex processes into a series of smaller steps that are clear for a person to follow. For example, various kinds of checklists are common in hospitals and air traffic related occupations where a small mistake can cause a serious risk for human lives. A checklist could create clarity and structure to the change agent's role execution. Ideally, both the change agent player cards and the change agent location checklist are the same presentation stored in the change agents' Microsoft Teams -channel.

**Location checklist for change agents: Finland**

Location	Change agent coverage
Espoo	Change agent name 1 Change agent name 2 Change agent name 3
Helsinki Group Head Office	Change agent name 4 Change agent name 5
Lappeenranta	Change agent name 5
Oulu	<b>No own change agent:</b> Connected change agent 3
Tampere Lokomonkatu	Change agent name 6 Change agent name 7 Change agent name 8
Kokkola	<b>No own change agent:</b> Connected change agent 7



Figure 9: An example of the change agents' location checklist

Thaler, Sunstein & Balz (2010, 9) argue that feedback is the best way to help humans to improve their performance. The Behavioral Insights Team has feedback as a part of their "make it social" principle and the G-letter of Thaler, Sunstein & Balz's (2010, 9, 15) "NUDGES" -acronym stands for the same matter: "Give feedback". Modern technology includes various nudges that follow Thaler, Sunstein & Balz guideline about importance of giving feedback. For example, before shutting down due to low battery, a laptop gives an alert that suggests the user connect the charger. Also, a driver may receive prompt feedback about his driving speed with the help of speed cameras that highlight an unhappy face when a driver is speeding or a happy face when the driver is driving according to the speed limits.

In order evaluate their performance the role, change agent would need to receive feedback about their role execution. Receiving developing feedback automatically from the local business about a change agent's performance in the role can be difficult as there is no feedback loop created for this specific role. On the other hand, Global Change Management is too far away from a change agent's daily operational environment to give detailed one-to-one coaching for each agent. Still, the feedback concept is an important part of the nudge theory and could be applied to development plan too.

Figure 10: An example of the feedback form that a change agent can send to his local business representative

Metso has an internal HR-topic related website called “PeoplePoint” which is used for posting intercompany job recruiting post and as an employee evaluation tool. Through the tool, employees can request feedback about their performance from the other members in the company. Requesting feedback from an employee’s colleagues is part of the company’s employee growth dialogue recommendations. Growth dialogue is an employee’s personal competence development conversation most often with his or her manager. The feedback tool has three default questions which can be modified based on the feedback needs. The PeoplePoint Feedback-tool could be utilized as a tool to develop change agent in their role execution. Change agent could be encouraged to ask for feedback by assigning them a task with a deadline. For example, they would be challenged to ask feedback from three different the local business representatives in monthly or bi-monthly bases especially in cases when a change agent has uncertainties how they could support the organization which is represented by the feedback giver.

The three default questions that change agents could ask from the members of local business as a conversation starter could be, for example, “Have you and your team familiarized

yourself with SAPphire-program already?”, “What kind of questions you and/or your teams have regarding SAPphire-program?” and “How could I as a change agent support you the best during the change process?”. An example of the feedback form is presented in figure 10. The questions in the feedback form could vary depending on what the organizational change process phase is ongoing. According to Honkanen (2006, 280), to gain the full benefit of receiving feedback, a person should be able to perform some kind of self-reflection based on it. Hence, the change agent could process the feedback given themselves or elaborate the role execution with the support of one-on-one conversation with their manager or a fellow change agent.

### 5.1.3 Nudges preparing a change agent for The Prosci ADKAR -change model's Knowledge - phase

The result of the thesis analysis suggests, that while a change agent may work in managerial position themselves, they also need management and guidance themselves on how to execute their role during the organizational change process. It can be challenging for an organization so small such Global Change Management to support the whole group of change agent on one-to-one basis and help the change agents on an individual level to have full understanding of the information about the change process. According to Bazerman & Moore (2009, 42) when being overwhelmed with available information humans have a tendency to avoid making decisions. In addition, as discussed earlier, during uncertain times employees are more likely to look up to managers when trying to understand their changing work environment. Research indicates that peers can be effective change advocates during the later phase of the change process. (Parke, Tangirala & Hussain 2021, 1716, 1727.)

To reduce the high dependency of Global Change Management in the change agent role execution, Global Change Management could encourage different change process related teams such key users to interact more with the group of change agents on the market area level. The key users are selected for their roles based on their knowledge and expertise of ERP system usage. During the SAPphire change process, among the key users' responsibilities will be the ERP system instruction creation and they will also train the end users to use the new system. Previous research argues that ultimately it is more important to onboard “a critical mass” to new way of working rather than relying too heavily on the efforts of individual change agents during the implementation phase. (Hendy & Barlow 2012, 353-354.) In other words, that research recommends that it would be more beneficial to invest training resources to make sure that all employees have good enough understanding of the system use rather than providing intensive training for certain employee groups, such as change agents.

The nudge suggested for Knowledge-phase considered this factor. Instead of providing system related intensive training specifically for change agents, it could be beneficial to enhance

collaboration between the key users and the change agent instead. The constructive collaboration between the key users and the change agents could mean that key users will practice their training sessions with the local change agents before the training is held for the wider audience. Also, key users could present the end user instructions to local change agents. That way change agents would receive some extra system-related training before the critical mass of employees are trained to use the new system. Also, the key users themselves would be able to receive some valuable feedback concerning their training material if those are tested with the help of a change agent before the actual training sessions for the local business employees.

The nudge follows the EAST-framework “make it social” principle by utilizing the power of networks (Service et al. 2014, 32). In Desire-phase, the designed nudges supported change agents’ networking to each other and in the Knowledge-phase Global Change Management supports change agents by providing them a possibility to expand the network beyond the change agent own group. At its best, peer-to-peer communication between different change process related roles could also follow the EAST-framework’s principle “make it easy”. The Behavioral Insights Team argues that the language of the message should be kept as simple as possible to achieve the best effectiveness (Service et al. 2014, 18). In the context of SAPphire-program the same principle could be considered from a slightly different perspective. A key user may have the ability to explain ERP-system related detailed information not only in change agent own native language, but also from more practical point of view compared to the high-level information provided on an organizational level.

#### 5.1.4 Nudges preparing a change agent for The Prosci ADKAR -change model’s Ability -phase

The fourth identified challenge in the role of a change agent was the change agent’s limited resources to act in the role. As discussed earlier, the feelings of scarcity may relate to the amount of received system training but also the amount of time a change agent considers having reserved for the role execution. This intervention aims to support change agent’s role execution from the time management point of view.

Global Change Management could bring needed structure and clarity to the role by assigning change agent related tasks directly to the change agents by utilizing Microsoft Outlook’s task assignment function. This suggested nudge is more related to the way the tasks are assigned to individual change agents during the change process rather than what the tasks themselves are. The Outlook function could be utilized during the whole change process but especially during the ability-phase when the change process is the most immediate for the change agent itself and for the local business. It could be practical especially if Global Change Management needs to assign various kinds of tasks to certain change agents depending on their market areas and the market area specific deployment schedule.

The Microsoft Task assignment function combines all the principles from the EAST-framework and follows Thaler, Sunstein & Balz recommendation of using the power of defaults. Each change agent receives the assigned task to their Outlook inbox by default, but they can decide whether they accept or reject the assignment as seen in figure 11. Thaler Sunstein & Balz (2010, 5-6) refers to this approach to defaults as “required choice” or “mandate choice”. The required choice is considered a more transparent and ethical way of using defaults as nudges. In addition, The Behavioral Insights Team (2014, 12) suggest in their “make it easy” - principle to reduce the friction cost when nudging humans to preferred way of behaving. The Outlook task assignment function reduces friction cost when Global Change Management wants to assign a task for a change agent. The task will be assigned directly to the change agent’s Outlook inbox and calendar instead of the change agent having the assignment separately only on the change agents’ Teams Channel.

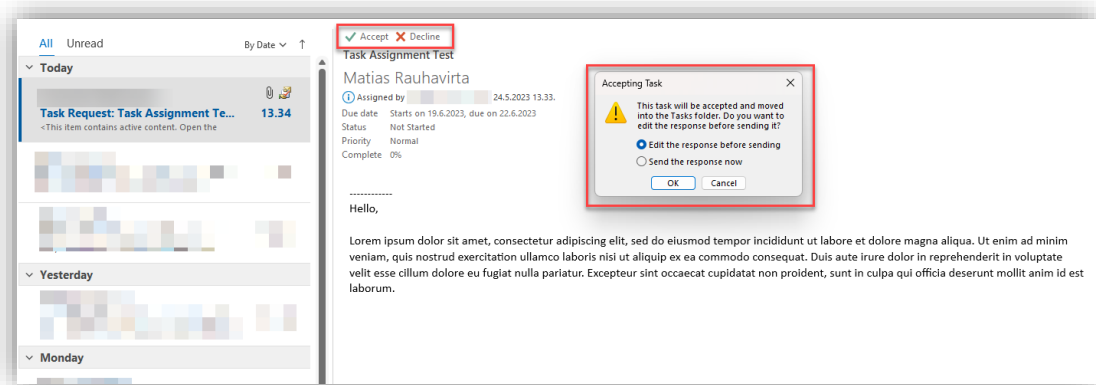


Figure 11: An example of a personalized task assignment message that the change agent can accept or decline

The task assignment function also provides an opportunity to make the task more attractive. According to Behavioral Insight Team, having a message receiver name in the task assignment is an effortless way to attract receiver attention and studies have proven that it can lead to higher task completion rate. Personalizing usually requires a bit more work from the message sender but from the receiver’s perspective certain names that are significant for us, such as our own name, draw our attention quickly and effortlessly when they occur. It has been studied that personalized messages have positively affected people’s willingness to donate money to charity and pay court fines by the defined deadline. (Service et al. 2014, 21.) Similar kinds of methods were used when the thesis writer invited a change agent to participate in a research interview. The change agents were approached by their names, and they had an opportunity to simply approve, re-schedule or reject the suggestion meeting timeslot.

Also, when accepting a suggested task, a change agent makes a certain commitment contract with the task sender. Accepting a task will send an automatic acceptance message to the sender and the message itself serves as commitment to other person which is part of the EAST-frameworks “make it social” principle. The tool also gives the opportunity to evaluate the effectiveness of this designed nudge as it can be compared how many tasks were assigned and how many acceptance messages were received. That is valuable information when considering how the role execution of a change agent could be developed further.

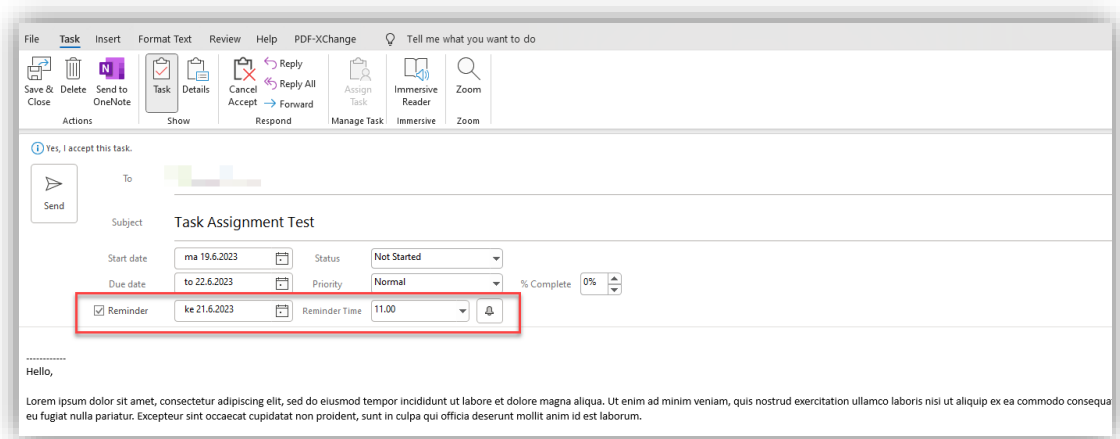


Figure 12: An example how change agent can set a reminder for a task

When accepting the task, the message receiver has an opportunity to modify the task’s start and end time and set a reminder for himself as seen in figure 12. Both, having a deadline and setting a reminder, can be considered nudges which are based on the EAST-framework’s “make it timely” principle (Service et al. 2014, 6, 37). The Behavioral insight team argues that timing is an overlooked aspect, for example, in policy making. Humans are more likely to achieve their goals, in this context the assigned change agent task, if they have a clear deadline. In addition, a choice architect should carefully consider what are the immediate costs and benefits of the nudge. As discussed, people are more motivated by the immediate costs and benefits than those that occur later, and the phenomenon is called present bias. The team recommends that the choice architecture should help people to minimize the gap between their intentions and their actual behavior.

In SAPphire-program context, change agent could be first nudged to commit to a task by accepting the task assignment message. The immediate “cost” of this action for a change agent is low yet it serves as a commitment device. When a change agent accepts the assigned task, it will appear in the Outlook’s Tasks -tab. Global Change Management can define the start and end date for the task, but a change agent can modify the default dates based on his own work schedule. That way a change agent will beforehand reserve a time slot to complete

the task. Also, the change agent can set a reminder for the task completion for himself. That aim of this designed nudge is not only frequently activate the change agents in their role execution but also minimize the feelings of scarcity of time for role execution as tasks and the task completion times are encouraged to be planned.

#### 5.1.5 Nudges preparing a change agent for The Prosci ADKAR -change model's Reinforcement -phase

Based on the content analysis of the collected data, the interviewees experienced that facing the local business' attitudes towards the change process is one of the challenges in their change agent role. Especially facing the local business' possible negative feelings towards the change process raised some concerns among the interviewee participants. It was hoped that in change agents' training Global Change Management would provide some practical tips and tools that the change agents could utilize during the change process. The topic of change resistance has been part of the training session agenda already. Behavioral insights related literature provides more in-depth perspective to the topic. As discussed, during the change process multiple different heuristics and cognitive biases may appear not only in a change agent's but also in the members of local business decision-making. Where nudging takes into consideration the human tendency to deviate from rational decision making, the quality of the decision-making itself can be improved with debiasing actions. Debiasing means mitigating the effect of biases in the decision-making process (Edmondson 1999, 375).

Soll, Milkman & Payne (2016, 18-19) state in their work that biases are caused by humans' narrow thinking and tendency to underuse of System 2 thinking which decreases humans' "decision readiness" and abilities to make unbiased decisions. They also suggest that decision-making processes could be improved by educating individuals about possible cognitive biases in human decision-making process and providing strategies and tools support their decision-making. Bazerman & Moore (2009, 14) agree as they claim that decision-making can be improved when a human is familiarized the common biases that may influence the choices the human makes. They refer to Lewin's change model by noting that become aware of the biases the human "unfreezes" his decision-making process and that opens an opportunity to change his behavior. Based the Soll, Milkman & Payne's and Bazerman & Moore's work and the result of the thesis research, introduction to common heuristics and cognitive biases could create a "change agent toolbox" -training series.

The common heuristics and biases could be introduced to the group of change agents via an online training session or "making it easy" and preferably chunking the information into smaller pieces and providing short introductions through Outlook's task assignment function. The focus areas of the training materials could be the main heuristics and cognitive biases that were identified to appear in a change agent role execution: status quo, hindsight bias,

present bias, and confirmation bias. The introductions aim to familiarize the change agents with the phenomena and initiate a change agent's System 2 thinking by assigning a small self-reflection assignment how the biases have appeared in their own thinking process during their role execution. A simple example of a change agent toolbox -training message is presented in the figure 13. The attractiveness of the message can be increased by visualization.

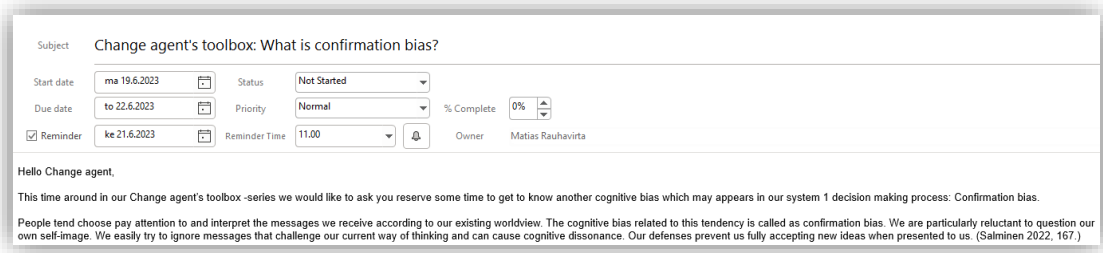


Figure 13: An example of “Change agent’s toolbox” -assignment including information about common heuristics and cognitive biases

In the context of SAPphire-program, scarcity bias could work in favor of making the role and the training received through the role more attractive for the change agents. The Behavioral Insights Team argue in their EAST-framework (Service et al. 2014, 25) limitations draw human attention and this tendency is widely used in sales and marketing. Limitation can concern the time the offer is available, or the offer is only available for certain group of people.

The introductions to behavioral insights could serve as information that a change agent is able to receive through their role, but which is not that widely available within the company otherwise. Arguably, the whole company would benefit from the trainings, but in the SAPphire-program the trainings and provided information could be more ‘change agent exclusive’. Trainings not only emphasizes the more human-centered aspect of the role compared to more system-oriented role of a key user, but the information provided is also important and salient for the change agents who are in a sort of intersection of information distribution. In general, people may not like when their irrational thinking process and behaviors are exposed but when change agent is able to identify internal patterns of thoughts and actions leading to that kind of behavior, he or she can try to change the pattern towards more rational direction (Honkanen 2006, 280).

## 5.2 Identifying the levers for nudging

As seen in figure 14, Ly et al. advise the choice architects to also consider what are the possible constraints for the designed nudges. As the SAPphire-program is one of the biggest organizational changes within the company during recent years and requires full attention of Global Change Management, it needs to be emphasized that when designing the suitable

nudges, the thesis writer as a choice architect needed to keep the Thaler and Sunstein's mantra "Make it easy" in his mind. The possible levers for nudging related to resources to test and implement the designed nudge suggestions. Also, the designed nudges should not preferably require, for example, that a change agents familiarize themselves with any additional new tool.

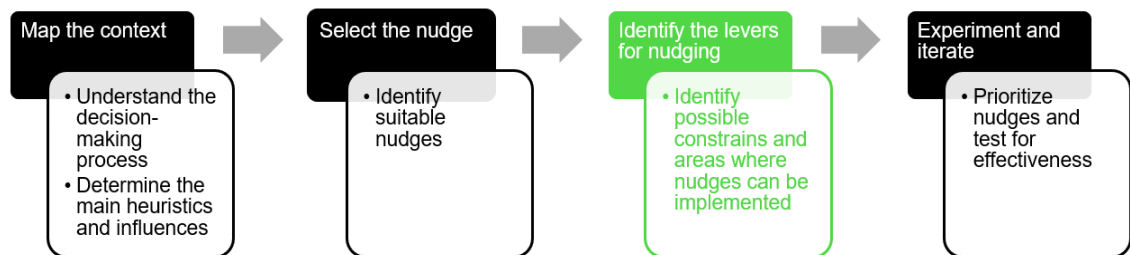


Figure 14: The state of nudge development process when constrains for nudging are identified (Source Ly et al. 2013, 15)

In addition, when the constraints for suggested nudges were considered, thesis writer kept in mind that according to Thaler and Sunstein (2021, 8) the interventions can be counted as nudges in case it is easy and cheap to avoid. The interventions should improve the end users' quality of life, or in this case abilities to be successful in their role execution, rather than causing more cognitive uneasiness for a person.

Even though the suggested nudges may seem quite simple on paper, the nudging will require some time and employee resources from the Global Change Management -team. There is a need to identify the tasks that the organization wants change agents to execute within local business and assigning those tasks to the change agents. In addition, when deepen the constructive collaboration with the group of change agents and key users within local business, some time and employee resources may be needed not only when the training concept is explained to these two groups but also when the actual key user - change agent - training sessions are planned and scheduled. Luckily, not all the nudges are meant to be implemented at the same time. The organization can focus on only certain suggestions at a time based on their evaluation of how many resources they have available for the nudge implementation.

### 5.3 The recommendations for the next steps in the nudge development process

The last step in the nudge development process is experimenting and iterating. That way the effectiveness of the designed nudges can be evaluated, and choice architect can review if some modification needs to be done to the suggested nudges before the use of the nudge is expanded to wider implementation scope. (Ly et al. 2013, 15) The step seen highlighted with

green in figure 15 represents the point in which the thesis writer has completed his thesis writing work and handed out the development plan for the commissioner.

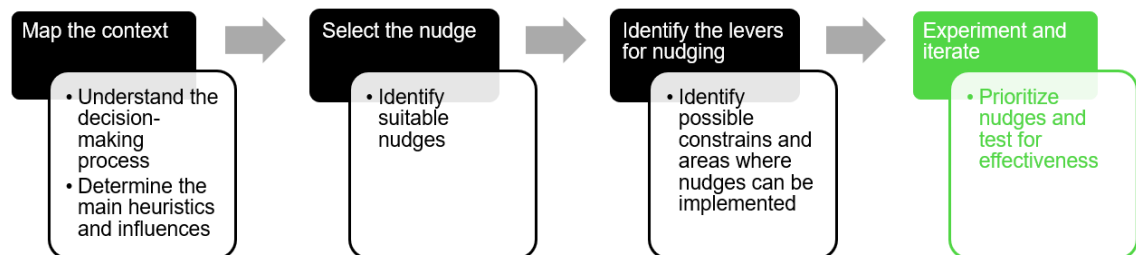


Figure 15: The state of nudge development process when suggestions were given to the commissioner (Source Ly et al. 2013, 15)

The Behavioral Insights Team argues that randomized controlled trials (RCTs) are the best way to test the effectiveness of a nudge. According to the team, RCTs are commonly used, for example, when effectiveness of a drug, a policy or a sales method is tested. (Haynes, Service, Goldacre & Torgerson 2012, 4-5.) The concept means that the population of research is split into two groups. One of the groups are being exposed to intervention, in this case to the designed nudge. The other group's purpose is to be a control group which represents the situation of what would happen if nothing were changed. The Behavioral Insights Team states that introduction of a control group would eliminate many biases that can complicate the research evaluation process. In randomized controlled trials, the outcomes for both groups are measured and compared and that way the effectiveness can be validated.

The thesis writer recommends that the effectiveness of the nudges designed in the thesis be tested with a group of change agents from a certain market area before the nudges are implemented to support the whole change agent group worldwide. The user experiences of task assignment through Microsoft Outlook should be collected and analyzed so that the designed nudge will not have an opposite effect on a change agent role execution by causing more confusion and frustration rather than clarity and structure.

According to The Behavioral Insights Team (Service et al. 2014, 5, 28), it is important to let people know what others do in the similar situation, in this case, how people are being guided in their role execution, and that way encourage the other to get on board as well. The EAST-framework's "make it social" -principle emphasizes the importance of showing people that most people perform the desired behavior. The team adds that "social norms often offer implicit guides to our behavior". They describe social norms as "the values, actions or expectations of a particular society or a group". From this perspective, it could also be a bit easier to launch nudges to wider use in case some nudges have proven to be effective and well-received by the test group and become an essential part of their role execution.

Some suggested nudges serve a wider purpose than just supporting the change agent in their own role execution. Posting a change agent themed SAPphire-studio -episode to the company's internal communication channels can be considered not only nudge to support change agents' abilities to successfully execute their role during the SAPphire-program but also as internal marketing action to build awareness of the program itself.

## 6 Discussion

The objective of this thesis was to examine what kind of cognitive biases and heuristics may appear in the role of a change agent when a company is deploying a new enterprise resource planning program. The purpose of this thesis was to have better understanding how those phenomena may appear in this specific role when a change agent is operating based on The Prosci ADKAR -change model. Based on the qualitative research's findings the thesis writer created a development plan how the Global Change Management -team could nudge change agents to improve their decision making process. The challenge of this thesis was that there is limited amount of previous research about the topic. Obviously, change agents are humans as any other participants in the organizational change process, but they position as "an intersection of information" from the change management towards local business and then again from local business towards the change management was intriguing role to examine from the behavioral insights point of view.

In general, the interviewees stated that they have positive feelings and expectations towards the change process that had begun in the company. Many of the interviewees noted that they saw the benefit of going through the change process to achieve one common ERP system instead of using two separate ERP systems of the legacy companies. The role of a change agent role was seen for example as an opportunity to be involved in the change process despite their status in organizational hierarchy, an opportunity that would be beneficial for the change agent's career development, or a way to get firsthand information how the change process will affect on their local business. Based on the thesis findings, the change agent as a new role in the company's change process was received well and the purpose of the change agents was acknowledged. Previous research has found out that participating in change interventions can stabilize an employee's feelings towards job security during the organization change process (Abildgaard, Nielsen & Sverke 2018, 120). It can also improve the employees' overall job satisfaction if the employee perceives that his or her characteristics and skills are suitable for the role, he or she has in the change process. The research argues that the increase in job satisfaction can be greatest with those who were less satisfied with their jobs before the start of the change process. (Nielsen, Dawson, Hasson & von Thiele Schwarz 2021, 69)

When research interview discussions progressed from ideal level to the practicalities, the uncertainties started to come up. “Communicating about the change process” is quite simple and concise task to assign for a change agent but when you think about it in practical level in the company’s working environment, you may understand how challenging and complex task it truly is. The words “challenging” and “complex” indicate that more thoughtful and diverse thinking is needed in the role meaning change agents should use their System 2 thinking in their role execution. On the same time, the organizational change process itself includes a lot of uncertainties. How the change will affect me? How the change will affect my roles and responsibilities? When old and familiar working ways are changing, System 1 can activate and prioritize focusing on spotting potential threats from the environment. No matter how change positive a change agent appears to be on the surface, according to the results of the thesis, many different kind of cognitive biases and heuristics may appear in their decision-making process when they face the challenges in their role execution.

Research argues that use of change agents can be very effective when they are communicating the vision of the change, motivating others, and experimenting with new ways of working with them (Hendy & Barlow 2012, 353-354.). To so, research emphasizes how important it is that the change management has realistic idea of what are the tasks and responsibilities that a change agent is expected to perform in advance and communicate those expectation to change agent in a comprehensive way. (Tucker, Hendy & Barlow 2014, 1061.) It appears that the tasks that research has found to be successfully performed by change agents can also lack a certain concreteness. Where a change agents own working position may have very clear responsibilities, processes and tasks, the concept of spreading change related information and supporting the change process within the local business can seem vague compared to that.

In case communication about the role is not understandable enough, it leaves more room for a change agent to him- or herself to interpret what kind of behaviors are expected from them. If not brought up and corrected, conflicting role expectation can cause different understanding related to role enactment not only between role sender, for example the change management organization, and a change agent but also among the group of change agents themselves. The longer the role ambiguity has existed among change agents the harder it is to make corrective actions for it. The study also argues that the role of ambiguity has significant negative effects on a person job satisfaction, self-confidence and performance and can cause feelings of frustration as ambiguity is against a human need of clarity and structure. (Katz & Katz 1978 cited in Tucker, Hendy & Barlow 2014, 1050.) The ambiguity related to the role can also lead to the role responsibilities’ expansion beyond what was originally meant by the role sender as change agent may interpret certain change process related operational tasks to be his or her responsibility. (Tucker, Hendy & Barlow 2014, 1058-1059.)

The early signs of differences of how change agents interpret the role execution in SAPphire-program could be identified based on the collected data. Change agents from certain market areas might already have a more structured and cohesive approach to the role than some other change agents from different market areas. There could be several logical reasons causing in this difference. One of the main reasons could be that the new ERP system will be enrolled in different market areas in separate phases. The change agents within the market areas that have changed pilot location need to be active already at this stage of the process whereas some market areas are not impacted until later during the change process. In other words, where all the change agents should be creating awareness about the change process within their market area already, in some locations the group of change agents need to move forward towards Desire-phase in the Prosci ADKAR -change model with faster pace.

In addition, the reason for difference in the activity with role execution could also stem from a change agent personal feature of taking initiative and ownership of his or her role as a local business' change agent or a change agent's initial motivation to apply to the role. The thesis research's findings indicate that role was seen as an access to larger amount of change process related information than was available for employees during previous organizational changes. During the organizational change process, having more change related information him- or herself than published in the company's intra website for a wider audience can be viewed almost as intangible currency that creates a benefit of being a change agent. Scarcity and hindsight biases towards available information may be a motivational factor to participate in the role related training sessions and information loop, but overall, the more important question to be considered is what change agent decides to do with this gained access? Will a change agent be happy that he or she and his or her work team know more about the process, or will he or she voluntarily make the extra effort of trying to make sure that the information is spread as widely as possible within the local business?

As discussed earlier, the change agent's ability to promote the changes beyond their own job position should not be taken for granted. The more successful results can be achieved when a change agent has an ability to work in his or her change agent role without identifying too strongly to any specific group and consider wider values and mission of the organization (Hendy & Barlow 2012, 353-354). The previous research is in line with the findings of this thesis. Working in a multicultural, global corporation such as Metso, an employee may more connected with his or her team member from the other side of the world than his or her colleagues from the same office. The employees networks may be multidimensional which also brings a interesting twist to the role of a change agent as the change agent may share stronger common ground work position wise with a person from another culture and country than his or her colleagues that are physically in the same working facilities. For example, an organization from another country can be for example more vividly in a change agent's memory than an organization from physically same location where the change agents is

working but not in contact in his or her daily job position. To perform successfully on a local business level, due to the availability heuristics, change agents may need some support to look closer to their immediate working environment rather than the possible global working environment of their daily job position.

Previous studies accompanied with the thesis research results indicate how important it is to find a correct balance to keep change agents, who participate in SAPphire-program voluntarily, involved with the change process without overloading them with information and assignments yet providing them enough structure, guidance, and clarity to execute their role successfully. This brings a challenge for the Global Change Management -team as the relationship between the organization and a change agent him- or herself is at the same time different than formal manager-subordinate - relationship yet some change agents may look for that kind clear authority from Global Change Management side.

Previous research argues that during the uncertain times, such as organization change process, managers are still expected to have a clear and adequate understanding of not only the goal of the change but also about the challenges related to the change. The members of an organization may expect that the managers should be able to convey coherent information even though the change process itself involves a set of incoherent and disorderly events. Even though the company's values and preferences can indicate the clarity in direction often its practices, power struggles and limitations with resources can be obstacles when managers, or change agent agents themselves, work towards the goal of an organizational change. (Saka 2013, 493.) While some change agents may work in manager positions themselves and there is no formal manager-subordinate setup between Global Change Management and a change agent, interestingly, based on the thesis' findings, the change agents may look up for Global Change Management in the similar way as their own formal manager expecting clear and consistent task assignments and firm decision-making from them. The Global Change Management -team's representatives seem to have convinced change agents with their abilities to lead and communicate about the SAPphire-program during the change agents training sessions. It is important that organization is aware that authority bias and halo effect may appear a change agent decision-making as that could influence Global Change Management workload when local business feedback and concerns are raised to their attention especially during later change process phases when the change is more concrete to the members of local business.

Depending on the change agent's daily work position, they may already have authority status as managers themselves within the local business. Some change agents may not have formal managers but may have the benefit of being informal leaders and opinion influencers within their immediate working team. Research argues that the effectiveness of change agents' actions could be boosted by giving them formal authority within the organization but when

creating these opportunities top management need to be cautious (Hendy & Barlow 2012, 353-354). Hendy & Barlow point out that a change agent may feel protective of their existing job position and self-image which may have a major effect on how they communicate about the change within their own organization. Giving formal authority for change agents to push the changes through within their local business may not be suitable or even a realistic option in SAPphire-program. How the findings of previous study could be applied in the SAPphire-program is that authority figures, such as the Global Change Management director, use her status to promote and advocate the change agent role publicly within the company. That way the awareness and the appeal of the role could be increased globally, and with the help of that change agent could justify the need to have enough time availability to execute their valuable role in the change process within local business.

Being viewed as an authorized part of the change process could be an answer to the concern that change agents have in their mind regarding their abilities to reinforce the new ways of working within the local business especially in the end of the change process. The clear message based on the thesis research results was also that certain level authority and support is needed in order to avoid a situation that common instructions are not followed, and local business tries to continue working based on local workarounds instead of how the new designed processes. It might be easier to raise concern and suggestions from local business to the Global Change Management -team's attention but when the process is defined and new ways of working need to be followed it might be very challenging situation for a change agent to assertively reinforce the new operating model to be part of organization's way of working if the change agent faces resistance from the local business. The groundwork for the Prosci ADKAR reinforcement-phase could be laid before-hand by building by giving public recognition to the importance of the role of change agent and providing change agents some practical tools to face to local business' attitudes towards the change. Obviously, heuristics and cognitive biases will appear not only in change agents but also in the local business employees' decision-making process. The "change agent toolbox" could include tips on how to debias own or a group's decision-making process.

As discussed, Soll, Milkman & Payne (2016, 18-19) suggest that decision-making processes could be improved by educating individuals about possible cognitive biases in human decision-making process and providing strategies and tools support their decision-making. To reduce psychological biases on individual level, Goto (2007, 267, 281) suggests that companies should educate their staff to recognize cognitive biases in their own decision-making process and consequences of the biases. Organization could, for example, create risk-evaluation models that consider behavior aspects of enterprise risk management and that way improve the individual decision-making processes and the quality of the organization's risk management. Kreilkamp, Schmidt & Wöhrmann (2020, 558) argue that mitigating cognitive biases in a

company's decision-making process would improve the overall decision quality and that way create long-term competitive advantage for a company.

If applying the results of previous study to the SAPphire-program, providing to change agents concise yet informative material about heuristics and cognitive biases might help them to reflect their own thinking and observe how biases may affect the decision-making process within their own organization. Not only would those kinds of trainings be in line with the more human behavioral focus role of the change agents, but it could also support change agent to notice the situations when there is a risk that System 1 -thinking with its heuristics and biases overpowers the logical and profound System 2 -thinking.

The past experiences of the change agents have taught them the importance of having enough training in using the new system before and during the implementation period. In the Prosci ADKAR -change model the training is a key focus in the Ability-phase. The need for training in successful role execution is obviously understandable. How can you support your colleagues and other employees within the same market area if you, as a change agent, are not convinced of your own abilities to use the new system? Despite that as discussed in the development plan chapter, previous research argues that ultimately it is more important to onboard "a critical mass" to new way of working rather than relying too heavily on the efforts of individual change agents during the implementation phase. (Hendy & Barlow 2012, 353-354.) Based on that, it needs to be considered what is the most efficient way to make sure that change agents are more trained and prepared to use the new system than their colleagues that they are supposed to support. As argued by the research, it might not be efficient to invest too heavily in onboarding change agent to use the new system and only after that to train the other employees. In order to find a balance with training expectations and training investments, the further utilization of key user and change agent network constructive collaboration could be considered as a solution.

The organizational change process, especially in this case, is a multi-year undertaking which requires assertiveness and willpower not only from the change leaders but every member of the organization. In case the effects of a change process are not immediate to a change agent, it might be difficult to figure how to act in the role of change agent before the knowledge and especially ability-phases when the change will become more concrete on an operational level. Based on research, the members of organization, including change agents themselves, have tendency not to question status quo independently unless they face obligatory change factors such as financial or a political crisis that evoke the need of changing their mindsets. That is why it is important that during the change process change agents, among the other members of the organization, are discontinuously exposed to changes in the process in practice. This occasional external stimulus initiates the change in their way of thinking. (Saka 2013, 493.) From the Global Change Management point of view this would

mean in practice that to utilize the new change agent role in the SAPphire-program successfully, they would need to keep change agents activated during the whole change process.

Based on the previous research and the results of the thesis, utilizing the change agents as cross-organizational change advocates during the organizational change process is a simple and appealing concept. Nevertheless, to change agents to succeed in their role execution, the idea of what kind of change related interventions are expected from them need to be defined clearly and on detailed level so that the need of clarity and structure of the role is fulfilled. Even though there is no formal management relationship between Global Change Management and a change agent, their relationship can be presumed that kind of way by a change agent. The expectation from the change agent group's side seems to be that Global Change Management show firm leadership by providing not only frequently, up to date change related knowledge but also support to comprehend the provided information and assign clear tasks and responsibilities how the role should be executed within the local business.

#### 6.1 Review of development setup

The development setup included three main methods that were utilized: The nudge development process, qualitative research, and EAST-framework. The core of the structure of the development process was based on Ly et al. (2013, 15) Nudge development process. The process was applied in the thesis to that extent it was suitable for the thesis' objective and purpose. The process has been designed to support a develop nudges for a process which has more chronological decision-making points. In practice, the nudge development process can be particularly useful for example when a designing online store's user experience from the point when a customer enters the website to the point the customer has completed his purchase. In those cases, the decision-making points and related bottlenecks can be identified very precisely. In this thesis the Prosci ADKAR -change model served as a timeline in which a change agent makes his or her decisions during an organizational change process. In that sense, the context in which the nudge development process was applied in this thesis was more abstract.

The nudge development process begins with mapping the context in which a subject makes their decisions. For this purpose, the thesis writer used qualitative research method. The themes selected for the theme interviews were based on The Prosci ADKAR -change model is five separate phases. This supported the theme interviews aim to have a profound understanding as possible of the change agents decision-making points in their role executions and the working environment in which the decision was made. Ly et al.'s Decision map checklist was (2013, 28) was utilized as an inspiration when thesis writer designed a question template for the interviews. Again, the decision map checklist may be designed to be used to

map out decision-making context which is more concrete and proceeds chronologically. Nevertheless, the thesis writer utilized the decision map checklist more as guideline in his research planning rather than strict step-by-step instruction how to map the change agents' decision-making context.

Kananen (2012, 103, 108) argues that if the interview consists of a couple of dozen pre-prepared questions to which the interviewee can answer briefly, the method in use is not a qualitative theme interview. He also emphasizes that the wording of the questions should lead an interviewee to answer in a certain way. It cannot be denied by the thesis writer that there would not been twenty-something pre-prepared questions for the interviews. In this thesis, the pre-prepared questions were carefully chosen to support the data collection process from the possible language barrier point of view. Also, after the test interviews the thesis writer evaluated if the interviewees were able to answer to the presented question too briefly and make modifications to the wording of the questions based on the tests. Based on the test interviews' answers, the thesis writer also evaluated that the questions were neutral enough so that they would not lead the interviewee to answer certain way.

Kananen (2012, 102) also says that the questions should ensure that all the aspects of the phenomenon are under investigation. At the beginning of the thematic interview, do not go into details, because detail excludes non-detailed things that may be important. These points were considered when the pre-prepared questions were chosen. During the interview it was asked directly what kind of challenges the interviewee experienced in the role execution but to get a profound understanding of the possible bottlenecks during the change process, the order of the questions progressed from general level to more detailed level.

Honkanen (2006, 73) argues that when a researcher is using an interview method, the researcher often must rely on what people say based on their own observations and interpretations. People interpret the atmosphere of the organization based on their own internal models. Researchers need to be aware of this when analyzing people's reports about how they interpret their work community. From this point of view the interview method was the most suitable research method that could be used with this thesis topic as heuristics and cognitive biases related closely to the interviewees' perceptions and interpretations. Aaltio & Puusa (2020, 182-183) note that the researcher needs to critically reflect how his own pre-assumptions may influence his analysis of the collected data. The actions taken to ensure research and development work's reliability are evaluated in the chapter 6.3 Evaluation of the research's reliability, ethicality, and transferability.

Service et al.'s (2014, 8) EAST-framework was applied when designing suitable nudges for the identified challenges in the change agent's role execution. The framework usability in nudge design is supported by the fact that it has been utilized on British government level nudge

design by The Behavioral Insights Team. The examples presented in The Behavioral Insights Team's work were the thesis writer's inspiration when he designed nudges that could help minimize the negative effects of heuristics and cognitive biases in a change agent's role execution. As discussed earlier in theoretical framework, the team emphasizes that the theoretical framework, a nudge that has been successful in one area of policy might have an opposite effect on human behavior in another area of policy indicating how vital it is that a choice architect always considers the context where behavioral insights is applied. (Service et al. 2014, 8.) In addition, Ly et al.'s nudge development process' last step is the testing of the designed nudge. Both Service et al. and Ly et al.'s work indicate that the nudges should not be implemented without testing and evaluating their effectiveness first, for example in this case with the smaller group of change agents.

## 6.2 Review of the output of the development task

The purpose of the development plan's nudges was to minimize the negative effects of the heuristics and cognitive biases in the identified challenges in a change agent's role execution. As advised by Thaler and Sunstein, a choice architect needs to be kept in mind "NUDGES" (iNcentives, Understanding mappings, Defaults, Give feedback, Expect error and Structure complex choices) acronym in his mind when proposing suitable solutions for the identified bottlenecks in the process. Nudges should not limit a person's freedom of choice, but they should be economical to implement and maintain. On the other hand, the thesis writer as a choice architect needed to keep in mind that Global Change Management's main responsibility is the whole SAPphire ERP system change -program and leading a group of change agents is nobody's full day job. Also, the thesis writer himself is the one who is the subject matter expert what comes to behavioral insights-based development meaning that the development plan should be relatively easy to be tested and implemented even if the thesis writer himself were not involved with the process.

Based on the thesis writer's evaluations the action points in the development plan will help Global Change Management to create structure and clarity to the role and its responsibilities especially during those times when a certain market area's change agents are not that actively involved with the actual deployment related tasks. Some of the action points, such as providing information material or training related to the common heuristics and cognitive biases for the change agents, require additional contributions and knowledge from the service provider. There is a vast amount of literature related to behavioral insights. From nudging perspective, it could be evaluated by testing and receiving feedback, would change agents consider that well-timed and concise information packages are beneficial tools in their "change agent toolbox" when they prepare themselves to face the local business' attitudes towards the change process. Thesis writer said that he can contribute to the SAPphire-

program the best from the behavioral insights perspective rather than system development perspective itself.

The suggested nudges in the development plan are based on academic studies but the effectiveness has not been tested in this specific context. When designing suitable nudges, the thesis writer found that first as a choice architect he needed to overcome the fear of giving suggestions that would be “too simple” or “obvious”, which is a bit ironic as the Thaler and Sunstein mantra for nudging is “make it easy”. At this point, the thesis writer was at the very core of what he had learned about behavioral insight during this process. Nudging it is not about producing big and flashy interventions rather than considering well-targeted and timely solutions. Out of the box thinking is needed when creating something new but when nudging, the thesis writer found that the challenge to balance between creativity and simplicity. Based on the thesis writer’s evaluation, the balance was achieved well in thesis’ output.

### 6.3 Evaluation of the research’s credibility, transferability, and ethicality

The credibility of qualitative research means that the researcher convinces the reader of his professional skills with credible arguments. Professional skills include the ability to choose and use justifiable and the right approaches and methods to solve a research problem and execute the research process. The researcher must describe the research's progress as it has been realized to convince the reader of its reliability at each phase. (Puusa & Juuti 2020, 175.)

To ensure the credibility of the study, the thesis writer created a detailed research plan which was followed during the process. The thesis writer practiced the interview situation and questions by holding two test interviews before the actual data collection phase started. That way the thesis writer was able to make sure that the predefined themes and interview question would produce material that was relevant from the research question point of view. The participants of the thesis research were well informed about the purpose of the interview, and they were able to contact the thesis writer at any point of the research process if further information was needed.

Only two of the research interviews were held during the same working day. All the other interviews were held on separate days to ensure that there would not be unexpected hassle due to too tight interviewing schedule. Having one interview per a working day also ensured that the thesis writer was able to compare the transcript created by Microsoft Teams’ artificial intelligence to the equivalent interview recording straight after the interview was held and any possible spelling mistakes were corrected and anonymized immediately. Also, having a flexible interview schedule made it possible that the thesis writer was able to

process himself the collected data between the interviews and consider if some kind of modifications or changes to the question template needed to be done.

The participation in research was voluntary. To have in total of eight research interviews, approximately four times more research interview invitations were sent to change agents. Most common reason for invitation rejection was a scheduling conflict with a change agent's current workload. It can be speculated if taking time to participate in an hour-long voluntary interview would cause that the interview sample size consisted of those change agent that were already more active in their role execution than the rest of the group. Nevertheless, even if the sample would consist of the most active members of the group, the research results and the nudges designed based on those were designed to support the whole group of change agents no matter how actively they were executing the role within their local business at the time of the research. Only two change agents interviewed were in the same country. The collected data included answers from many different market areas and that way enriched the quality of the research.

The data collection process was carried on until the thesis writer evaluated that the participants answers started to repeat themselves indicating that the saturation point of the data collection was reach. To ensure reliable research process, the content analysis phase of the research started immediately after the data collection was ended. The thesis writer carefully familiarized himself with the material by going through the transcripts several times to have good understanding of the material before proceeding to analyzing it in more detailed level according to the research plan.

At the beginning of the research process, the researcher has personal knowledge or experience on the subject, which forms their pre-understanding of the subject being researched. At the same time, pre-understanding directs the researcher's thoughts and guides him in acquiring information. Data collection and interpretation of it are based on various background assumptions about the nature of reality. The researcher must have the ability to critically examine his own prior knowledge about the researched topic. (Aaltio & Puusa 2020, 181-182.)

The thesis writer himself wasn't part of the Global Change Management -team nor a nominated change agent. In that sense, the thesis writer truly was an impartial party between the role sender and the role executor. This does not mean that the thesis writer would not have his own experiences about organizational change within the same company or expectation towards what kind of information the collected data might include based on the vast literature he had read during his behavioral insights' studies. The challenge that needed to be acknowledged by the thesis writer was that while identifying possible bottlenecks in the change agent role execution and heuristics and cognitive biases related to those, ironically,

the thesis writer needed challenge his own thinking and confirmation bias constantly. During the whole research process there was real need of being aware that the thesis writer himself needs to have his own heuristics and cognitive biases on check.

The ethicality of qualitative research means that the researcher has followed ethical principles all the time while conducting his research. From the ethical point of view, the methods used by the researcher during the process should meet such criteria that they could serve as guidelines for any well-conducted, reliable study. In addition, the research must aim to effect positively on the lives of the people who are the subject of it. It is critical to evaluate and assure that the research does not cause harm or endanger the lives of the people who are the subject of it, or other parties related to or involved with the research at any point of the process, especially if the research focuses on a tender topic. (Puusa & Juuti 2020, 175.)

The research's ethicality was carefully evaluated before any information about it was published to the group of change agents. Even though the research did not endanger any of its participants, the thesis topic can be considered a delicate subject matter. By no means did the thesis writer want the participant to think that the objective and purpose of the thesis was to find "mistakes" from their answers on a personal level. That is why the development perspective of the work was emphasized in the research related communication towards the change agents. It was the thesis writer's priority that the participants can have a trustworthy and open communication with the thesis writer during the whole interview process. The anonymity of participants was ensured by removing any personal data from the transcripts, saving the collected data in password protected cloud service and by destroying all the collected data as soon as the thesis was published.

Puusa & Julkunen (2020, 190) discuss that "the requirement of generalizability includes the assumption that the research does not describe a unique event". In other words, to consider that research is generalizable, the research result should apply to more than just the investigated case. In qualitative research, however, this is not the central goal of the research. In qualitative research, the researcher justifies the credibility of the research through a deep understanding of the phenomenon under investigation and tries to describe the phenomenon as comprehensively and thoroughly as possible. In addition, when examining credibility, it must be considered that different researchers can interpret the same material in separate ways. Puusa & Julkunen argue that the new interpretations can enrich and deepen research rather than weaken it. Instead of generalizability Kananen (2012, 175) advises that the research's transferability should be evaluated. by transferability, he means the consistency of the results in similar cases. In company-specific research, this means reporting the company's industry, size, turnover and number of employees.

As discussed in the theoretical framework, the widely known organizational change theories share similarities that can be recognized from the Prosci ADKAR -change model as well. No matter which model is being utilized in the company, people are the ones that make the change and need to change themselves as well. When people are making decisions, heuristics and cognitive biases are bound to happen. Even though this thesis concerns heuristics and cognitive biases in a change agents decision-making process in the organizational change process based on the Prosci ADKAR model at Metso, the thesis writer considers that the transferability of the thesis results is good. The SAPphire-program represents an ERP system change which might happen in several companies from different fields of industry soon due to digitalization.

Alavi & Habel (2021, 27-28) discuss in their work that in many different industries is not a question “if” digitalization will change companies operating models in the near future but “when”. They add that even though a company would acquire cutting edge technology to remain competitive, the organization’s overall unwillingness to change remains one of the main operational risks during the change process. In addition, Mugge, Abbu, Michaelis, Kwiatkowski and Gudergatan (2020, 84-85) noted in their work that future research should focus on reviewing human side of digital transformation. They referred to Forbes’ 2019 and Microsoft’s 2017 research which stated that employees are found to be reluctant to use new digital technologies in a fear of losing their jobs for automation or the technology would otherwise change their current position dramatically. From these perspectives, the subject of the thesis can be considered very relevant for various companies in different fields of industry already at this moment or in the near future. The thesis results can be utilized when developing the role of a change agent in the commissioner company’s ongoing organizational change but also as a help when defining role description and responsibilities in the future change processes.

As Puusa & Julkunen (2020, 190) discussed, different researchers may have different interpretations of the collected data. The interpretations could be a bit different between the thesis writer and a person who would not work for the company him- or herself. It needs to be addressed that as the thesis writer is the company’s employee, it can be argued that he shared common ground with the interviewees. Even though the interviewee would have been in different location and work for different organizations, both the thesis writer himself and the research interviewees likely had experienced the same pre- and post-merger related organizational changes within the company. The common ground between the thesis writer and the interviewees could have to achieve more in-depth research interviews with the participants but at the same time, as the thesis writer has his own experiences and thoughts as the company’s employee, he did not have full outsider’s objectivity to the collected data.

Bruns et al. (2018, 49-50) brought up in their academic work the criticism towards nudging theory and claims of that being “a manipulative behavioral intervention”. The ethicality of identified nudges must be reviewed and evaluated from the thesis results. The whole change agent concept is mainly based on a person’s freedom of choice. Most of the change agents applied voluntarily to the role and have freedom of choice to carry on in the role to that extent they feel comfortable. The role is not bound by an official contract, or the success of role execution being measured against certain key performance indicators. That said, it is up to the change agents themselves how motivated they are to act in the role. The identified nudges are designed to support the change agents which are willing to participate in the change process on top of their daily job responsibilities by providing them more clarity about the expected role execution and practical tools to act in the role successfully. The genuine aim of the thesis writer as a choice architect was to “nudge for good” as Thaler and Sunstein suggest.

#### 6.4 Further research

As Goto (2007, 267, 281) recommends, the behavioral approach should be an essential part of company’s risk management and more attention should be paid to mitigate and control the biases and their consequences. The review of the effects of heuristics and cognitive biases in a Metso employee decision-making won’t be limited to the change agent role as the company’s HR-department has raised cognitive biases effects on recruiting decision as one of their main topics of 2023. There seems to be great interest within the company towards behavioral insights.

The thesis’s development suggestion is based on the situation in which the organizational change and the role execution of the change agents are in the beginning stage. Even though the selection process of the change agents is referred to in the thesis, the work does not comment on what would be the best practices for when the change agent is recruited. It could be beneficial for the commissioner and the companies that are planning to have a group of change agents included in the organizational change process to review and evaluate how the change agent selection process could be further developed from the behavioral insights’ perspective.

The current group of change agents include change agents that were applied voluntarily to the role, but also some locations decided to appoint some employees to the role. The existing set up already provides a new perspective for future research. Further research could focus on evaluation of what are the benefits of each selection type and on the other hand are there some significant differences in how the role is interpreted and executed based on the way a change agent was nominated to the role. In this thesis the question whether an interviewee did apply him- or herself and was appointed to the role wasn’t part of the interview question

template as the purpose of the thesis was to identify suitable nudges to minimize heuristics and cognitive biases negative effects that could be utilized for the whole group rather than evaluating whether different kind of nudges could be needed based on how a change agent was selected to his or her role.

The thesis does not comment on how social norms, local culture, and hierarchy affect a change agent's role execution. These factors affect human behavior on many levels. The cultural differences could be identified between different countries and market areas and those factors may have a significant effect on a change agent's interpretation of the role and on how the change agent executes the role within local business. Even though it is already a few years since legacy companies merged, the legacy companies' own culture may influence the change agent's decision-making and behavior. Further research could investigate these factors in more detail and review what kind of heuristics and cognitive biases could be identified from that perspective.

#### 6.5 The commissioner's feedback about the thesis

The commissioner company's representatives provided their feedback based on the collaboration between the thesis writer and the commissioner team during the thesis writing process, about the thesis presentation meetings and the draft version of the writing work. The commissioner described that thesis's subject as fascinating as well as helpful to manage a program of the size of the SAPphire-program. According to the Global Change Management - team, the thesis widened their understanding of the change agent network and the layers of people, their personality, values and thought processes that the team considered to have significant impact on the change agents' approach to their role. The team continued by adding that people are complex and topics, such covered in this thesis, help them to begin to discover how to respect that complexity, but still convert to actionable items by utilizing behavioral insights.

The commissioner described that the collaboration with the thesis writer was a joy. According to them the thesis writer was respectful with the team's time resources by keeping the amount of contact requests limited yet putting emphasis on the quality and efficiency of the planned meetings. When asked what the thesis writer could have done better during the process, the team felt that the thesis writer could have reserved more time for the handover meeting itself. Originally, the thesis presentation session was scheduled to be held in two hours but at the end of session it was agreed that the presentation could continue in another two-hour-meeting in coming weeks. The team said that rather than reducing the content of the meetings they suggested that it would have been better to reserve more time or a second meeting for the handover already beforehand. They considered that the information provided

in the presentation and the conversation regarding the results and suggested nudges were completely relevant for their work in the program.

The team decided to proceed with some suggested nudges, such as the change agent player cards, immediately and visioned of deepening the collaboration with HR (Human Resources), to develop a program directed at facilitating Metso resources to understand behavioral insights' phenomena about themselves. The commissioner did not find just the development work results beneficial for their work with SAPphire-program. The team reported that they found it useful to be introduced to the methodologies presented in the thesis such as the EAST-framework. The topics covered in the thesis and in organizational psychology were seen as critical factors for the program's success from the commissioner's perspective.

#### 6.6 The thesis writer's reflection on the writing process

The thesis writing process was instructive and a challenging experience for the thesis writer. The subject matter provided an opportunity not only to deepen his knowledge about the organizational change process as a decision-making environment for a human being but also to apply the discussed theories and methods into practice. The writing process required discipline and having the mind focused on the goal, which was not always an easy task to achieve. For example, as the development work did not concern a certain step-by-step process that has a clear chronological action point, the methodology used, such as a nudge development process, was applied to this thesis only to the extent it was possible. The theories served as a guideline when the thesis writer went into unknown territory to find out how change agents can be supported in the SAPphire program by utilizing behavioral insights.

In addition, during the writing process the thesis writer needed to balance between separate roles himself. He was participating in the change agent training sessions but was not a change agent himself. He was the commissioner company's employee experiencing the organizational change while also an observer who looked at the situation from a more general level. In addition, he was a student developing his understanding of behavioral insights in practice but also an employee with his own job tasks and responsibilities. It took a certain amount of time for the thesis writer to find out how to navigate through the process and distribute his time and contributions between these various roles. As the result indicated, the group of change agents were challenged, for example, by the feelings of uncertainty and the experienced limitations with resources and related cognitive biases and heuristics. Yet, the thesis writer himself was not a stranger to the same phenomena either. Making similar kinds of observations about the change agents in the organizational change process and himself in a thesis writing process was a learning experience. No matter how many labels we would have attached to us, at the end of the day, we all are humans after all.

During the writing process the thesis writer came to understand the magnitude of the organizational change process which the commissioner company will undergo during the coming years. It was apparent that the time and attention of the Global Change Management -organization was in high demand which really emphasized the value of being well-prepared and efficient when the thesis writer and the commissioner team got together through Microsoft teams or during face-to-face meetings. It was essential that the critical points of the thesis were gone through in detail with the team before proceeding to the execution. Those points related to the meeting about defining the subject of the thesis, discussing about the research question themes, going through the results and development suggestions, and having a conversation how some of the thesis writer's initial ideas, nudges, could be further refined in the SAPphire-program context.

As the commissioner company's representative team included native English speaking team members, the thesis needed to be written in English as well. Not writing in the thesis writer's native language Finnish increased the writing process' challenge level but also widened the thesis works appeal by being more accessible for the internationally operating companies which are planning or currently undergoing organizational change. Other companies' change processes may have various kinds of change models, programs, and ways of working that need to be implemented. Nevertheless, the common factor for all organizational changes is that even though the change would concern a change from a program A to a program B, people are the ones that need to change their own behavior as well. The thesis writer was pleased with the transferability of the thesis as the work can be utilized in various kinds of organizational change contexts in multiple different fields of industry.

The thesis writer was glad to learn how the commissioner valued not only the results of research and development work but also collected literature in the theoretical framework. While the thesis writer was focusing on a certain group of people participating in the SAPphire-program, the commissioner team itself had various separate stakeholders in their contact network. The team's interest in the theory side of the thesis opens them an opportunity to utilize the presented methodology beyond the thesis' target group. Obviously, the commissioner will draw their own conclusion based on the material presented to them and utilize the thesis to the extent they feel comfortable. From the writing process point of view, it was rewarding for the thesis writer to notice how the commissioner team truly showed interest in the subject matter and wanted to know how to make transition process for the employees smoother and better experience.

Being able to participate in a globally known and respected company's organizational change process by reviewing it from the behavioral economics perspective was an opportunity that the thesis writer is grateful for the commissioner company. Global Change Management was not the only team the thesis writer contacted when he searched for a thesis subject and a

commissioner organization in 2022. The conversations the thesis writer has had with representatives from various organizations have indicated that there is a lot of interest, but also exciting potential, to examine how people's decision-making process within the company, and in the corporate world overall, can be "nudged for good".

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## Appendix 1: The theme interviews' questions

### Awareness

- What is your understanding of why the SAPphire-program is important for the company now?
- What is your understanding about your role as a change agent in the SAPphire-program?
- What kind of things do you think that Global Change Management is expecting from you as a change agent?
- How much direct instructions are you expecting to receive from Global Change Management about how to act in the change agent role?

### Desire

- What kind of things motivate you to be a change agent in the SAPphire-program?
- How important do you consider your role as a change agent in the SAPphire-program?
- What kind of benefits do you see in the role of a change agent for yourself?
- What kind of challenges do you see in the role of a change agent for yourself?
- How would you describe your current mood towards the change that will happen due to the SAPphire-program?
- How would you describe the current mood towards the SAPphire-program within your organization?

### Knowledge

- What kind of knowledge and expertise do you think you need to have in your role as a change agent during the SAPphire-program?
- How much information do you expect to receive directly from Global Change Management about SAPphire-program?
- What are your other sources of information about the SAPphire-program?
- How would you describe your trust level towards Global Change Management compared to your other sources of information about the SAPphire-program?
- How do you evaluate what kind of concerns and feedback you think are relevant to raising Global Change Management's attention from your local organization?
- What kind of uncertainties do you have towards the organizational change coming along with the SAPphire-program?

### Ability

- How would you describe your communication network within the company?
- Describe in what kind of situations do you think your organization needs your support as a change agent during SAPphire-program?
- What kind of things do you consider that you need to consider when communicating about the SAPphire-program to your local organization?
- What kind of ways do you think you are able to receive feedback about your performance as a change agent in SAPphire-program?
- How would you describe your autonomy level to act in the role of a change agent in your organization?

### Reinforcement

- How much do you think that your own emotions affect how you communicate about change within your organization?

- How much willpower or self-control do you think acting in the role of a change agent requires from you?
- How do you think that the opinions of the other members of your organization influence your own thoughts and feelings towards the change process?
- How well do you think that organizational changes have been established in the past?
- What do you think about the way the efforts and contributions have been acknowledged and appreciated during previous organizational changes in your organization?

## Appendix 2: The change agents' Microsoft Teams Channel -post

Hello change agents, I am studying Behavioral Insights in Business Applications -degree at Laurea University of Applied Science. I am currently writing my Master of Business Administration (MBA) thesis for the Global Change Management -team. The objective of my thesis is to have a better understanding of a change agent's decision-making process and operational environment during an organizational change. I would like to hear **your thoughts and experiences about organizational change and the role of a change agent**. There are no right or wrong answers. I will randomly select a few of you to whom I will send an invitation to an interview which will be scheduled for the following weeks. Participation in research is voluntary. You will have a right to reject the invitation if you don't want to participate in research.

**About the research:** The interview via Microsoft Teams will take a maximum of 1 hour of your time. All the interviews will be in English and will be recorded for content analysis purpose. You, as an interviewee, can decide if you want to have your camera on or off during the interview. Me, as a thesis writer, will be the only person with the access to the collected data and the collected data will be handled anonymously in the thesis. **I am not a change agent myself nor a member of the Global Change Management organization**. Based on the analysis, development suggestions will be given to the Global Change Management regarding how change agents could be supported in their role during the SAPphire-program from behavioral insights perspective. The material collected during the interviews (recording and the transcript) will be destroyed after the thesis has been published. If you have further questions regarding the research, please contact me by email.

### Appendix 3: Invitation to research interview - The role of a change agent during an organizational change

Hello,

I am studying Behavioral Insights in Business Applications -degree at Laurea University of Applied Sciences. I am currently writing my Master of Business Administration (MBA) thesis for the Global Change Management Organization. The objective of my thesis is to have a better understanding of a change agent's decision-making process and operational environment during an organizational change. I would like to hear your thoughts and experiences about organizational change and the role of a change agent. There are no right or wrong answers. The Microsoft Teams interview will:

- be voluntary
- be in English
- be recorded for content analysis purpose
- take a maximum of 1 hour of your time

I am not a change agent myself nor a member of Global Change Management organization. Me, as a thesis writer, will be the only person with the access to the collected data. The collected data will be handled anonymously in the thesis. Based on the analysis, development suggestions will be given to the Global Change Management regarding how change agents could be supported in their role during the SAPphire-program from behavioral insights perspective. You have a right to discontinue your participation in research at any point. After the interview, I will provide you with further information about how the research is progressing if requested. The material collected during the interviews (the meeting recording and the transcript) will be destroyed after the thesis has been published.

If the suggested time slot is suitable for you, please choose "Accept - Send the response now."

In case you want to participate but the suggested time slot is not convenient for you, please choose "Tentative - Edit the response before sending" and suggest meeting time slots that would be better for you.

Your time and contribution would be highly valued but if you don't want to participate in research, please choose "Decline - Send the response now" - option.

If you have further questions regarding the research, please contact me by email. Looking forward to hearing from you!

Regards,  
Matias Rauhavirta