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 A Critical Exploration of Psychological Safety's Role on Change Readiness in an

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"A Critical Exploration of Psychological Safety's Role on Change Readiness in an Organizational Context"

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Executive Summary

The purpose of this dissertation was to investigate the role of psychological safety on creating and sustaining organizational change readiness. The literature review provided indications that psychological safety has a positive effect on creating change readiness. Psychological safety is recognized as an important strategy for creating change readiness in a group because psychological safe environments increase the team members' propensity to engage in learning behaviors which positively affects their ability to recognize and implement change initiatives. Further, it was suggested that psychological safety served as a positive catalyst on addressing the five key change beliefs which must be addressed in the change message for change recipients to support the change initiative.

To investigate the role of psychological safety on change readiness in an organizational context, a survey measuring the two constructs was distributed to all employees in Company X. The respondents were measured to have a high level of psychological safety and change readiness. The findings from the data analysis provided implications that a positive relationship between psychological safety and change readiness existed, and that the group of respondents with high scores on each construct were associated. There were found no statistically significant differences among respondents with the highest levels of psychological safety and change readiness related to their group memberships. This finding could indicate that the presence of a high level of psychological safety decreases the psychological barriers in the organization that potentially could have reduced the levels of change readiness. Due to the positively skewed distribution of respondents' scores, the absence of psychological safety on organizational change readiness were not possible to investigate.

Based on the literature review and data analysis, it was recommended that Company X re-address the key change beliefs and builds psychological safety to increase the employees' levels of change readiness. Scholars are recommended to further investigate the effect size of psychological safety on organizational change readiness, and adjust the ROCR questionnaire.

Acknowledgements

This dissertation symbolizes the final chapter of our Master's degree in Strategy and Management at University of Stavanger. It has been a challenging five years in many aspects, whereby this last semester required us to apply alternative work methods to complete our grade as Eline spent over a month working as a nurse due to the Covid-19 situation. However, as a result of good planning and cooperation, we were able to finalize the dissertation as a team.

We would like to extend our gratitude to our counselor Rune Todnem By. He has provided us with valuable feedback and guidance along the process of completing this dissertation. Additionally, we would like to thank Andreas Fidjeland, our bi-counselor, which proactively offered his guidance in terms of academic writing and method throughout the process.

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Table of Content

Tables

Table of figures

1.0 Introduction

For organizations to survive in today's rapidly changing environment, successfully managing (By, 2005) and implementing change initiatives (Burnes, 2004c;Cawsey et al., 2016) have become a vital organizational competency (By, 2005). For organizational members to successfully adopt and institutionalize a change initiative, change readiness is identified as a prerequisite, and refers to the first crucial step of any change process (Armenakis et al., 1993;Lewin, 1947). In this step, the behavioral standards of groups, and thereby the organizations, are unfreezed to become susceptible for change (Lewin, 1947). Change readiness is according to Armenakis et al., (1993;p.681); *"...reflected in organizational members' beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization's capacity to successfully make those changes"*.

Creating organizational change readiness requires convincing organizational members to change their current beliefs, behaviors and actions (Armenakis et al., 1993). To be able to effectively change these group standards, it is instrumental to identify and understand factors affecting the organizational members' propensity to either support or reject a change (Armenakis & Harris, 2009;Lewin, 1947). Armenakis et al. (1993;1999) has recognized five key change beliefs which must be addressed sufficiently in the change message for the members to deviate from their present behaviors. Schein (1996 in Burnes, 2004b) suggests that psychological safety as an important factor for making the group standard susceptible to change. Psychological safety is defined as: *"... a shared belief held by members of a team that the team is safe for interpersonal risk taking"* (Edmondson, 1999:p.350). The presence of psychological safety introduces a new set of behaviors to the organizational members whereby learning behaviors are portrayed which increases the members' ability to recognize and implement appropriate changes (Edmondson, 2019;Carmeli et al., 2009). This dissertation will thus investigate the effect of psychological safety on group dynamics, and the role it plays in creating and sustaining change readiness.

The purpose of this dissertation is thus to provide answers to the research questions *"What is the role of psychological safety when creating and sustaining organizational change readiness?"*. A literature review will be performed by exploring seminal research on the two constructs, in addition to measure and analyze the constructs in an organizational context by applying Cawsey et al's (2016) Rate the Organization's Readiness for Change questionnaire

(ROCR) and Edmondson's (1999) seven psychological safety statements. By combining the results with the literature review, the role of psychological safety on organizational change readiness will be explored, and recommendations will be provided to scholars and practitioners on how they could increase and sustain organizational change readiness.

1.1 Research Question

The purpose of this dissertation was to explore the concepts of psychological safety and organizational change readiness and provide answers to the following research question:

"What is the role of psychological safety when creating and sustaining organizational change readiness?"

To provide adequate answers to the research question, two research aims were defined:
1. Critically explore the theoretical framework on psychological safety and change readiness to investigate the link between the two constructs.
2. Provide recommendations on how scholars and practitioners can improve and sustain organizational change readiness.

To achieve these research aims, four research objectives were defined:

1. Undertake a critical review of relevant academic literature with a focus on the constructs; Psychological safety and change readiness.
2. Design and conduct a survey that measures the two constructs in Company X.
3. Analyze the collected data in relation to the literature review, present findings and investigate the link between the two constructs.
4. Combine findings from the literature review and the data analysis to provide recommendations for scholars and practitioners on how to improve and sustain organizational change readiness.

To answer the research question adequately, a literature review and a quantitative data collection was performed. The literature review consisted of an critical exploration of research on psychological safety and change readiness with a main focus on the seminal work by Armenakis et al. (1993;1999) and Edmondson (1999;2019), in addition to supplementary research articles on the constructs. In order to collect primary data on the constructs in an organizational context, one specific organization - hereby referred to as Company X - was focused upon. Company X is a mid-size organization with 150 employees located at several

offices across Norway. Company X provides services related to assurance, consultancy and system deliveries for accounting, payroll and software. The purpose of collecting data from the employees in this company was to measure and analyze the role of psychological safety on change readiness in an organizational context. Table 1 provides an overview of this thesis; aims and objectives, outlines, method applied and associated chapters.

Aims	Outline	Method	Chapter(s)
Critically explore the theoretical framework on psychological safety and change readiness to investigate the link between the two constructs.	Reviewing literature related to change readiness and psychological safety.	Literature Review	2
Provide recommendations on how scholars and practitioners can improve and sustain organizational change readiness.	Provide recommendations based on the findings in the literature review in combination with the results from the analysis of psychological safety and change readiness in Company X.	Quantitative Analysis and Literature Review	6
Objectives	Outline	Method(s)	Chapter(s)
Undertake a critical review of relevant academic literature with a focus on the constructs; Psychological safety and change readiness.	Review literature related to change readiness and psychological safety.	Literature Review	2
Design and conduct a survey that measures the two constructs in Company X.	Develop a survey to measure change readiness and psychological safety based on Cawsey et al.'s (2016) ROCR questionnaire and Edmondson's (2019) seven statements for measuring psychological safety.	Quantitative	3
Analyze the collected data in relation to the literature review, present findings and investigate the link between the two constructs.	Perform statistical analysis of the data, and combine the results with findings in the literature review to explore factors affecting the level of change readiness and psychological safety, and investigate the link between the two constructs	Quantitative Analysis and Literature Review	2,3,4
Combine findings from the literature review and the data analysis to provide recommendations for scholars and practitioners on how to improve and sustain organizational change readiness.	Provide recommendations based on the findings in the literature review in combination with the results from the analysis of change readiness and psychological safety in Company X.	Quantitative Analysis and Literature Review	6

Table 1: Summary of aims and objectives.

1.2 Structure of the Dissertation

In *Chapter 1,* the introduction and research question are presented. The literature review presented in *Chapter 2*, contains critically reviewed theory related to psychological safety and organizational change readiness. In *Chapter 3* the methodology is presented, including; data collection- and analysis, validity and reliability, ethical considerations and reflections regarding strengths and weaknesses of the method. *Chapter 4* presents the results from the data analysis and following discussions in relation to the literature review. *Chapter 5* contains the conclusion. In *Chapter 6* the recommendations for scholars and practitioners on how to create and sustain organizational change readiness is presented. Additional information regarding the survey and data analysis are presented in the *Appendix.*

2.0 Literature Review

The purpose of this chapter is to complete research objective 1: Undertake a critical review of relevant academic literature with a focus on the constructs; Psychological safety and change readiness.

2.1 Organizational Change

Organizations today operate in environment which could be described as turbulent (Burnes, 2004d;Holt & Vardaman, 2013) and subject to constant change (Cawsey et al., 2016). The internal and external catalysts for changes in the environment (Caldwell, 2013) are recognized as; technological innovations, globalization, more skilled workers, cultural- and economic variations (Armenakis et al., 1999;By, 2005) and market shifts (Walinga, 2008). The ripple effect of the evolving environment is reflected in the organizations' accelerating need to implement changes successfully to survive (Burnes, 2004c;Cawsey et al., 2016). Being able to successfully manage organizational changes has thus become a crucial organizational competency (Burnes, 2004a;By, 2005).

Organizational changes can be initiated by applying both proactive and reactive strategies. Proactive change initiatives are implemented when the organization wants to be prepared for future anticipated events, whilst reactive change initiatives are implemented as a response to changes in the organization's internal and external landscape (Cawsey et al., 2016). Despite the circumstance that trigger the organization's need for change, a discrepancy between the organization's present and desire state occurs (Armenakis et al., 1993). The organizational member's perception of the existence of this gap (Armenakis & Harris, 2009), and the appropriateness of the initiative in terms of type, size and rate (By, 2005) affect their propensity to support it or not, which ultimately affects the likelihood of successful implementation (Armenakis & Harris, 2001).

Lewin (1947) argues that the task of initiating and implementing a change is the change agent(s) responsibility. Armenakis et al. (1999) define the change agent as all organizational members who manage, support and/or initiate a change. This definition accepts all members of the organization as a potential change agent, in contrast to the common perception that the term exclusively is applicable to top-leaders or managers (Armenakis et al., 1999;Cawsey et al., 2016). Change agent could also refer to external consultants (Caldwell, 2003) and decentered groups or teams within the organization (Caldwell, 2005). The term "change

agent" will in this dissertation therefore be used to encapsulate all the various types of employees and/or structures which initiate, implement and facilitate the change initiative.

The behaviors displayed by organizational members are affected by a collective consensus related to what are considered appropriate actions performed within the group, which could be referred to as the group standard (Lewin, 1947). This standard is continuously fluctuating due to forces affecting the social dynamics within the group. However, this consensus must be altered to align the group's behavior in accordance with the change initiative (Lewin, 1947;1952) The change agent's ability to identify and understand the factors affecting the group standard, and ultimately change the consensus in a more favorable direction is thus a crucial competency for the change initiative to be successfully implemented (Armenakis & Harris, 2009;Lewin, 1947).

The negative behaviors portrayed by a group when introduced to a change initiative have commonly been described as resistance to change (Dent & Goldberg, 1999). The term was introduced by Lewin (1947) in an attempt to describe all types of negative reactions towards a change, ranging from resistance displayed by individuals, to resistance occurring in systems, structures or other organizational processes. However, the use of the term has evolved into only describing the expected negative reactions from change recipients (Ford et al., 2008), leading to an us versus them relationship between the change agent and the recipients. This perception could result in the change agent merely reactively monitors resistance (Ford et al., 2008), which will create difficulties when implementing the needed alterations to the group's collective consensus in accordance with the change initiative (Burnes, 2004b).

By instead focusing on creating change readiness, the change agent take on a more proactive role to change the collective consensus, which is expected to increase the likelihood of successful implementation of the change initiative (Armenakis et al., 1993;Lewin, 1947;Schein, 1979). The term change readiness was introduced by Armenakis et al. (1993) as a result of their reinterpretations of the first step in Lewin's three step model to change; Unfreeze (Lewin, 1947). By focusing on making the organizational members change ready, the members' propensity to display behaviors which support the change initiative increases, which ultimately eases the two preceding steps of the change process; Adoption and institutionalization (Armenakis et al., 1993). The group's consensus could be unfrozen by; Presenting information which diminishes the validity of the present state through persuasive communication (Armenakis & Harris, 2009) and/or management of external information

(Armenakis et al., 1993;1999); Implicit communication (By, 2007); Building psychological safety and inducing feelings of guilt or survival anxiety (Schein, 1996 in Burnes, 2004b).

2.2 Change readiness

Several different definitions on the term change readiness have been applied in organizational change management literature, whereby three of them are presented in table 2. However, Rafferty et al. (2013) argue that most of the definitions on change readiness derive from Armenakis and colleagues' seminal work (Armenakis et al., 1993;1999;Armenakis & Harris, 2001;2009). The definition by Armenakis et al. (1993:p.681) will thus be used in this dissertation: "*Change readiness is reflected in organizational members' beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization's capacity to successfully make those changes*". The definition suggests that change readiness is present when organizational members are open to change (Walinga, 2008), perceive change as necessary and appropriate, and when they believe that themselves and the organization have the necessary capabilities to implement the change in order to achieve the potential benefits (Armenakis & Harris, 2009).

	Change Readiness Definitions:
Weiner (2009:p.1)	*"...a shared psychological state in which organizational members feel committed to implementing an organizational change and confident in their collective abilities to do so"*
Jones et al. (2005:p.362)	*"The notion of readiness for change can be defined as the extent to which employees hold positive views about the need for organizational change (i.e., change acceptance), as well as the extent to which employees believe that such changes are likely to have positive implications for themselves and the wider organization."*
Armenakis et al. (1993:p.681)	*"...reflected in organizational members' beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization's capacity to successfully make those changes".*

Table 2: Change readiness definitions (Armenakis et al., 1993:p.681;Jones et al., 2005:p.362;Weiner, 2009:p.1).

2.2.1 Dimensions of Change Readiness

Change readiness is a multidimensional construct, that occurs at the individual, and organizational level (Cawsey et al., 2016), and that is also affected by social dynamics within the organization's groups (Armenakis et al., 1993). Having an understanding of the differences between individual, collective and organizational change readiness is important to change agent in their work of creating readiness, *"...because a readiness effort involves convincing a collection of socially-interacting individuals to change their beliefs"* (Armenakis et al., 1993:p.686).

2.2.2 Individual Change Readiness

Members of an organization may have different reactions to the same change due to differences in their level of change readiness (Armenakis et al., 1993). Five key change beliefs have been recognized by Armenakis et al. (2007) as viable indicators which reflects the organizational members change readiness levels. These five beliefs thus act as determinant precursors to the organizational members propensity to support the change or not (Armenakis et al., 2007). The five beliefs are; Discrepancy, appropriateness, efficacy, personal valence, and executive support (Armenakis et al., 1993;1999). A presentation of the five key change beliefs and related questions illustrating how the change recipients might question an organizational change initiative are presented in table 3.

Key Change Beliefs	Description	Questions
Discrepancy	The organizational members' belief that a gap exists between present and desired state.	"Is change really necessary?"
Appropriateness	The organizational members' belief that the proposed change initiative is suitable to close the gap between present and desired state.	"Is the specific change being introduced an appropriate reaction to the discrepancy?"
Efficacy	The organizational members' trust in their own, and the organization's capability to implement the change in terms of sufficient energy and access to resources.	"Can I/we successfully implement the change?"
Principal support	The organizational members' belief that leaders and change agents in the organization are committed to the change.	Will the leaders support this change or is it just a program-of-the month?
Personal valence	The organizational members must believe that they will benefit from the change.	"What is in it (the change) for me?"

Table 3: Five key change beliefs. Based on (Armenakis et al., 1993;1999:p.103;Armenakis & Harris, 2001;2009, Neves, 2009).

2.2.3 Social Phenomena

In an organization, multiple versions of groups exist, resulting in various levels of collective change readiness. Group memberships can be related to subcultures, hierarchical position or as a result of involvement in team structures within the organization (Armenakis et al., 1993). Independent of how the teams are structured in terms of numbers of employees and diversity, the structures provides an arena where employees must work together and interpersonal relationships occur (Hackman & Wageman, 2005;Schein, 1979). The quality of these relationships are considered important (Carmeli et al. 2009), as the members are interdependent of each other to retrieve information and resolve tasks (Newman et al., 2017).

The members of a group do not want to deviate too far from the group standard (Lewin, 1947). If a member presents alternative initiatives (Baer and Frese, 2002) or displays attitudes which are non-congruent with the group's standards (Guinot et al, 2014) the member potentially risks receiving negative sanctions (Maanen, 1979) such as humiliation, and/or rejection (Edmondson, 1999). These interpersonal risks can create psychological barriers which could reduce the members' propensity to speak up, share information, and/or detect errors (Carmeli et al., 2009) resulting in lower performance and necessary changes to structures and processes not being implemented (Baer & Frese, 2002). The relationship and social dynamics existing within the group therefore heavily affects the individuals perceptions of the five change beliefs, and ultimately their levels of change readiness (Rafferty et al, 2013), and thus also affect the teams' levels of effectiveness (Edmondson, 2019), social behaviors, engagement (Carmeli et al., 2009) and ability to implement changes (Edmondson, 1999). Establishing a group dynamic where a collective change readiness is present is therefore a crucial factor to increase the individual's levels of change readiness (Lewin, 1947).

2.2.4 Organizational Change Readiness

A higher level of organizational change readiness increases the organization's ability to attend to external and internal signals which implies that change is necessary (Armenakis et al., 1999;Cawsey et al., 2016), and increased capacity to adapt the organization accordingly (Rafferty et al., 2013). As illustrated in Figure 1, the organizational level of change readiness dependent on the organizational members' individual levels of change readiness, social phenomenons, organizational structures, culture (Armenakis et al., 1993;Cawsey et al., 2016) and formal policies (Holt & Vardaman, 2013). In order to create organizational readiness it is important that the organizational system and culture are flexible and adaptive towards implementing changes (Weiner, 2009). The structures related to rewards, measurements systems and resource management must be structured to reinforce such a culture. The members must be provided with information regarding the change which emphasizes the changes' ability to result in positive outcomes for the individuals and the organization as a whole. Additionally, the leaders must be perceived as trustworthy, credible and open to change (Armenakis et al., 1999;Cawsey et al., 2016).

Figure 1: Individual and Organizational Change Readiness, based on Cawsey et al., (2016); Armenakis et al. (1993); Edmondson, 1999;2019).

2.3 Psychological Safety

Schein and Bennis (1965) view psychological safety as an instrumental component of the change process, due to the expected behaviors portrayed by organizational members when psychological safety is present which is necessary to achieve organizational learning and change readiness. This link will be further explored in this chapter based on the critical review on theory on the two constructs.

The majority of researchers follow Edmondson's (1999:p.350) definition of psychological safety (Newman et al., 2017); *"... a shared belief held by members of a team that the team is safe for interpersonal risk taking"*. A team with a psychologically safe environment enables the members feel safe disclosing their true self (Edmondson, 1999), express their attitudes (Kahn,1990) and negative emotions (Carmeli et al., 2009), admit to errors and engage in discussions (Guinot et al., 2014;Edmondson, 2019) without fearing negative consequences (Edmondson, 1999). The members in these teams are thus expected to feel appreciated and valued (Carmeli et al., 2009). These behaviors are described as learning behaviors by Edmondson (1999;2019) which are catalyzed by the presence of psychological safety which reduces the psychological barriers related to interpersonal risk taking. (Carmeli et al., 2009;Edmondson, 2009;Frazier et al., 2017). Learning behavior occurs as a result of the dynamic process of interaction between members (Carmeli et al., 2009). Employees are often required to share ideas and collaborate horizontally and vertically within the organization to achieve the company's goals, which makes presence of psychological safety even more instrumental (Newman et al., 2017). Thus the presence of psychological safety and learning behaviors has become a critical success factor for organizations to successfully implement

changes, as it enables the organizational members to adapt to the continuously changing external and internal landscapes (Carmeli et al., 2009;Edmondson 2019).

The employees must have a collective group standard and strong corporate culture, which is achieved by frequent collaborations between teams, in order for psychological safety to be present at an organizational level (Newman et al., 2017). A high level of psychological safety within an organization has proven to increase performance (Newman et al., 2017), help members overcome geographical dispersion and increase their confidence (Edmondson, 2019), commitment (Newman et al., 2017), engagement, task performance (Frazier et al., 2017) and job satisfaction (Guinot et al., 2014) and their ability to recognize and implement change initiatives successfully (Carmeli et al., 2009;Choi & Ruona, 2011;Edmondson, 2019;Newman et al., 2017).

By building an environment where psychological safety is present, the organizational members' propensity to engage in learning behavior increases (Edmondson, 2019), and the psychological barriers associated with taking interpersonal risk could thus be reduced. As a result, the team's change readiness increases, due to the members' improved ability to recognize and implement change initiatives (Carmeli et al., 2009;Choi & Ruona, 2011;Newman et al., 2017). It could thus be suggested that the presence of psychological safety has a positive catalyst effect on the organizational members' five key change beliefs, because learning behavior increases the members' levels of change readiness. As a result of presence of psychological safety, the members ability to discuss errors and recognize discrepancy could increase (Edmondson, 1999), in addition to their levels of efficacy, as the member could rely on their team members for help and support when they don't feel they have sufficient energy or resources available to take on new tasks (Armenakis et al., 2007). The presence of psychological safety is thus suggested to influences the individual and organizational levels of change readiness positively, and reduces psychological barriers in the company environment and within the interpersonal relationships between team members. This assumption is illustrated in figure 2, where the individual and organizational levels of change readiness are interlinked with the social phenomena and psychological safety thereby positively impacting all factors which affect the organizations change readiness.

Figure 2: Individual and Organizational Change Readiness, based on Cawsey et al., (2016); Armenakis et al. (1993); Edmondson, (1999;2019).

2.4 The Readiness Model and The Leader's Tool Kit

In the previous sub-chapters, the effects of change readiness on the successful implementation of organizational changes have been critically explored (Cawsey et al.,2016; Armenakis et al., 1993;Schein, 1979). When creating change readiness, it is suggested that the change agent use a planned approach whereby planned interventions are introduced to change organizational members behaviors successfully (Caldwell, 2005;Lewin, 1947). Designing a program to create and/or sustain change readiness could be challenging, as levels of change readiness can vary among groups within an organization, and are affected by a range of internal and external factors (Armenakis et al., 1993). A change initiative could therefore be greeted in one organizational level and be rejected in another (Caldwell, 2013). The effect psychological safety has on the organizational members behavior is suggested to work as catalysts which affect the five key change believes in favorable directions, and therefore also improves the individuals' and the organization's levels of change readiness. It is therefore also important that the change agent possesses the competency to build psychological safety in order to increase change readiness. The purpose of this subchapter is thus to provide two concrete frameworks that can guide the change agent (scholars and practitioners) in their work on creating readiness.

2.4.1 Readiness Model

The Readiness model developed by Armenakis et al. (1993;1999) is considered a highly relevant framework for creating change readiness (By, 2007) in a dynamic organizational environment (Holt & Vardaman, 2013) by focusing on the organizational members in the process (Caldwell, 2013). The Readiness Model presented in figure 3 addresses five key change beliefs, by applying a variation of three conveying strategies to communicate the change message (Armenakis et al., 2007). The organizational members' understanding and acceptance towards the change message will either increase or decrease the level of organizational readiness, because it affects their propensity to either support or reject the change initiative (Armenakis et al., 1993).
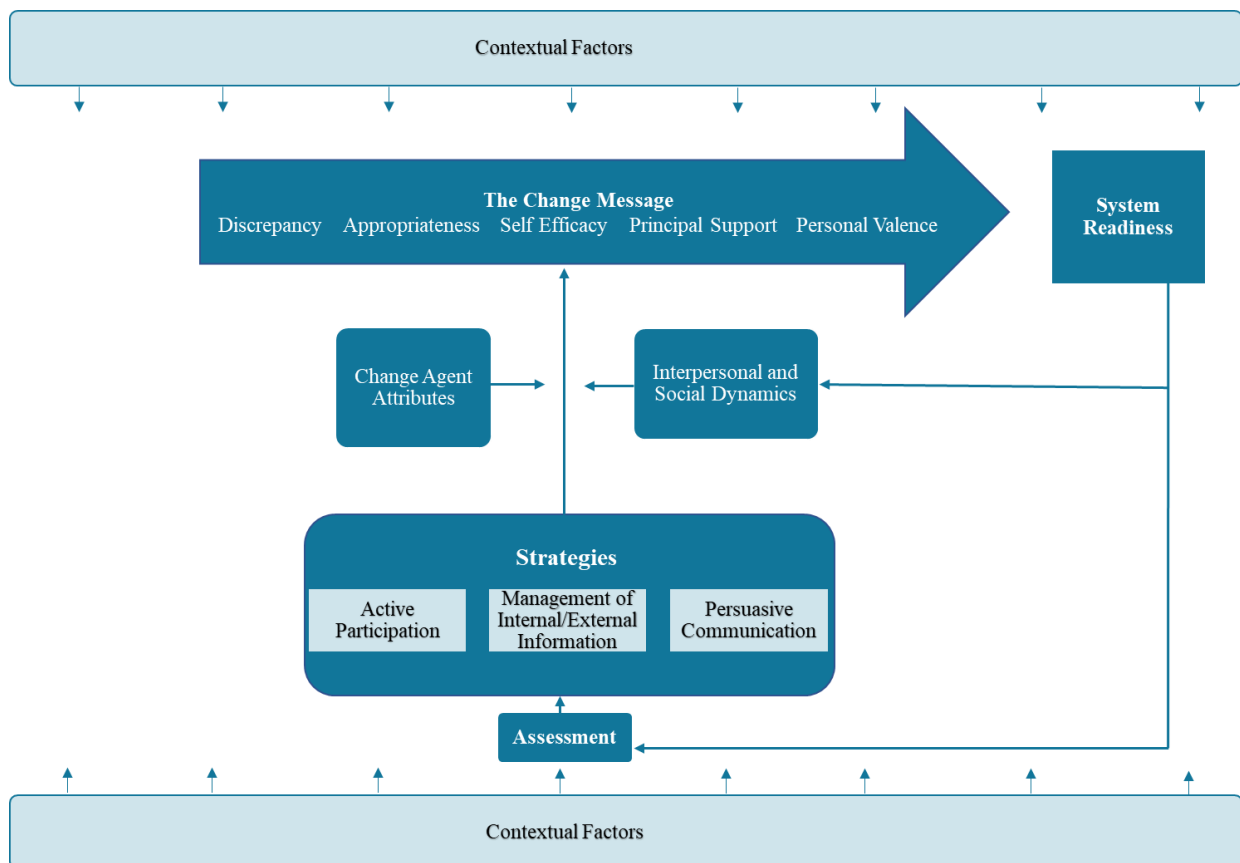
Figure 3: The Readiness Model contains the main components to be included when designing a readiness program (Armenakis et al., 1993:p.684)

How to best address these beliefs to increase the level of change readiness, and deciding on the optimal methods for communicating them are dependent on several factors, both internal and external to the organization. The contextual factors can affect how the organizational members perceive and interpret the change message communicating the five beliefs (Armenakis et al., 1993; Armenakis & Harris, 2009). Internal factors include the systems, structures, culture, and social dynamics within the organization. External factors could be

unexpected media announcements about changes in the industry or the economy, or other such events (Armenakis et al., 1993).

The current level of system readiness, attributes of the change agent, social dynamics and relationships between organizational members, external information and legitimacy of the change are factors that must be taken into consideration in order to address the five key beliefs sufficiently (Armenakis et al., 1993). The system readiness is reflected by the organizational level of readiness, and can be measured using quantitative or qualitative research methods (Armenakis et al., 1993;Armenakis & Harris, 2009;Cawsey et al., 2016). Cawsey et al. (2016) have developed an additive survey for measuring the organization's readiness, which includes six dimensions; Previous change experiences, executive support, credible leadership and change champions, openness to change, rewards for change and measures for change and accountability. This questionnaire allows the change agent to analyze and evaluate the organization's level of change readiness, and provides an understanding of factors affecting the individual change readiness reflected in the five key change beliefs (Armenakis et al., 1993;Armenakis & Harris, 2009).

To address the discrepancy belief, Nadler and Tushman (1989), suggest that in order for the organizational members to believe that the current situation is not optimal for the organization and change is necessary, the change agent could present an extensive description of where the organization want to be in the future to the organizational members who will be affected by the change. It is argued that by including such a description a signal will be sent to the employees that a change is needed, and it also serves as a directional lead on the outcome of the change (Nadler & Tushman, 1989). To increase the appropriateness belief, it is important that the change agent evaluates different change initiatives in terms of suitability to what the organization wants to achieve. By ensuring some transparency in this process, the employees' appropriateness belief is expected to be addressed as they are convinced the suggested initiative is the most suitable (Armenakis et al., 2007).

Bandura (1986 in Armenakis et al., 2007) states that people have a tendency to resist tasks that they believe they are not capable of completing, and accept and complete those they believe they will manage. The change agent must thus facilitate a belief among the organizational members that they are capable of completing the activities related to the organizational change, in order to make the members support the change (Armenakis et al., 2007). Efficacy and principal support are closely related, because when the leaders and other

employees are committed to and involved in the change, they are also expected to provide the necessary resources and guidance to successfully implement the initiative (Rafferty et al., 2013). If the belief of principal support is not satisfied, the perceived legitimacy and importance of the change initiative could decrease, leading to rejection of it (Armenakis & Harris, 2009). When addressing principal support, the change agent must communicate the overall support towards the change initiative from several levels of the organization, such as senior management, peers (Rafferty et al, 2013) and opinion leaders (Armenakis & Harris, 2009).

The change message should include information regarding benefits for the employees related to implementing the change initiative, to address the personal valence belief (Armenakis & Harris, 2001). The organizational members evaluate their costs related to their part of the work with the implementation of the change, and compare it with the expected benefits of the outcome of the change. When they perceive the benefits as outweighing the costs, they are expected to be more ready for change (Rafferty et al., 2013).

Armenakis and colleagues have suggested three conveying strategies available to the change agent when communicating the change message. These strategies are; Active participation, persuasive communication and management of external information (Armenakis & Harris, 2009;Armenakis et al., 1993;1999). By (2007) suggests that implicit communication should be included as a fourth conveying strategy to the Readiness Model (Armenakis & Harris, 2009). By (2007) argues that managers who lead by example implicitly will emphasize that the change will be beneficial for all the organizational members involved in the change, not just the leaders and stakeholders. There are pros and cons to each strategy, and the change agent should combine their use to optimize the communication of each change. The four strategies, with their related pros and cons are presented in table 4. The strategies' effect on the level of change readiness, is dependent on how credible, competent, and trustworthy the change agent is perceived by the change recipients (Armenakis et al., 1993;1999).

Strategy	Objective	How	Examples	Pros	Cons
Persuasive Communication	Present the change message using verbal and/or written information.	Verbal Written	Town-hall meeting CEO visiting departments Record videos Annual reports/newsletters Mail/Intranet	Add symbolic value to the message in terms of urgency and importance. Allows for direct feedback.	In person-communication could be time- and cost consuming
Managing External and Internal Information	Provide recipients with information regarding the change from different sources.	Mass Communication	Press release Expose the organizational members to books, articles, videos etc. containing information applicable for the change	Increase the level of believability	Does not open for direct feedback
Active Participation	Facilitate activities where change recipients self-discover the change.	Directly involving individuals where rich information is shared Vicarous Learning Enactive Mastery	Visiting manufacturing sites Involve the employees in the planning process Responding to customer complaints	Information which is self-discovered are perceived as more trustworthy. It is easier to change group standards than the individuals' standard	The change agent has little control of the outcome
Implicit Communication	Emphasize that all the organizational members face the change as a single unit, removing the us vs. them perspective.	Managers leading by example	Managers refrain benefits such as; dinners, car parking, higher pay etc. Share the resultant benefits from the change with all organizational members	Emphasizing the valence of the change for everyone in the organization.	

Table 4: Four conveying strategies Based on Armenakis et al., 1993;1999;Armenakis & Harris, 2001;2009;By, 2007;Lewin, 1947).

A framework to help the change agent decide on the combination of the four conveying strategies to use is presented in figure 4. Armenakis et al. (1993) suggest four readiness programs based on the timeframe available for implementing the change and the level of organizational change readiness. However, these dimensions are continuous, and to simplify, the programs are presented at the four extreme conditions of the dimensions. If necessary, the change agent could vary between the programs dependent upon the current situation of urgency and change readiness (Armenakis et al., 1993). By (2007) argues that implicit communication should also be included in the programs to reinforce the belief that the change initiative is beneficial for the entire organization. This strategy has therefore been included as

an alternative in figure 4, as it is suggested to be beneficial at all levels of change readiness and urgency of the change of the level of change readiness and urgency of the change (Armenakis & Harris, 2009;By, 2007).
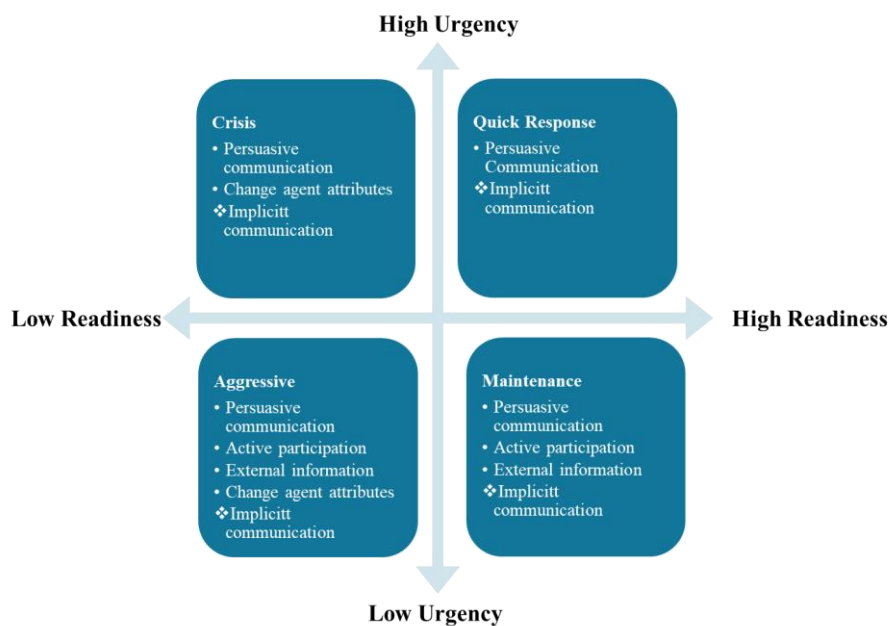
Figure 4: Hypothetical readiness programs for various combinations of organizational change readiness and timeframes for implementing the change (Adapted from Armenakis et al., 1993:p.692;By, 2007).

2.4.2 Building Psychological Safety

The presence of a psychologically safe environment within organizations and teams have been suggested in this dissertation to ease the work on creating readiness. However, psychological safety is an intangible construct, and its absence could thus be difficult to detect (Edmondson, 2019). It is therefore important that the change agent continuously works toward building psychological safety within the teams of an organization. Edmondson (2019) has developed a tool kit on how to increase psychological safety. The toolkit is developed as a result of Edmondson's (2019) research on psychological safety in an organizational context, and consists of three steps as presented in figure 5; Setting the stage, inviting participation, and responding productively to the received inputs.

Setting the Stage	Inviting Participation	Responding Productively
• **Frame The Work** Set expectations about failure, uncertainty, and interdependence to clarify the need for voice • **Emphazise Purpose** Identify what's at stake, why it matters and for whom.	• **Demonstrate Situational Humility** Acknowledge gaps. • **Practice Inquirery** Ask good questions. Model intense listening. • **Set up Structures and Processes** Create forums for input. Provide guiidelines for discussions.	• **Expresss Appreciation** Listen. Acknowledge and thank. • **Destigmitize Failure** Look forward. Offer help. Discuss, consider and brainstorm next steps. • **Sanction Clear Violations**
Accomplishment: Shared Expectations and Meaning	Accomplishment: Confidence That Voice is Welcome.	Accomplishment: Orientation Towards Continous Learning

Figure 5: The Leader's Tool Kit for Building Psychological Safety (Edmondson, 2019:p.159).

The key indicator of a team with low psychological safety is the members' fear of reporting mistakes (Edmondson, 1999). When building psychological safety within a team, it is crucial that the change agent reframes this perception. When setting the stage, the change agent should communicate the team's work and purpose, clarify and classify accepted types of failure to obtain a common understanding. As a result, the perceived interpersonal risks associated with reporting failures, voicing opinion and participate in discussions will be reduced (Edmondson, 2019).

When the change agent has set the stage and emphasized that the team is safe to fail in, the next step is to invite the members' participation. Self-protection is a part of human behavior, and therefore the change agent must design an environment which facilitates discussions and which diminishes the level of interpersonal risk related to participating. To achieve such an environment, the change agent should demonstrate situational humility, proactive inquiry, and set up structures and processes. The change agent should approach the organizational members with humility, encouragement and curiosity when probing for information. Additionally, the change agent should admit that also he or she makes mistakes and does not always have the correct answer (Edmondson, 2019).

To reinforce the psychologically safe environment, it is vital that the change agent responds productively and according to the type of failure reported. The risk taken by the organizational members who have chosen to speak up, should always be acknowledged. Failures as a result of clear violations should be sanctioned, to set an example that such failures are not accepted within the team. Other failures should be viewed as an opportunity to learn and improve future processes and/or structures (Edmondson, 2019).

2.5 Summary

Research objective 1 was completed by exploring the multidimensional constructs of change readiness and psychological safety. Organization's must continuously implement changes in order to survive in today's' rapidly evolving environment (Burnes, 2004c;By, 2005). To implement change initiatives successfully, the change agent's task is to proactively create change readiness, rather than reactively monitor resistance, to alter the present collective consensus of the organizational groups (Armenakis et al., 1993;Armenakis & Harris, 2009;Lewin, 1947). The five key change beliefs; Discrepancy, appropriateness, efficacy, principal support, and personal valence have been recognized as precursors for the individual levels of change readiness (Armenakis et al., 2007). Psychological safety was also found to have positive effect on creating change readiness by facilitating learning behavior, and the change agent should apply the Leader's Toolkit with the purpose of increasing psychological safety within the teams (Carmeli et al., 2009;Choi & Ruona, 2011;Edmondson, 2019;Newman et al., 2017). Interlinked with the social dynamics, the structure and culture within the organization (Armenakis et al., 1993;Cawsey et al., 2016) and formal policies (Holt & Vardaman, 2013), the organizational members' readiness are summed up to measure change readiness at the organizational level (Armenakis et al., 1993;Cawsey et al., 2016). Armenakis et al. (1993;1999) developed the Readiness Model as a guide for change agents to implement changes successfully by developing and conveying the change message in accordance with the five key change beliefs.

3.0 Methodology

The purpose of this chapter was to achieve research objective 2: Design and conduct a survey that measures the two constructs in Company X, and research objective 3: Analyze the collected data in relation to the literature review, present findings and investigate the link between the two constructs.

3.1 Research Paradigm, Strategy and Design

The research question, aims and objectives guide the research paradigm that the researcher follows when conducting research. A research paradigm is defined as *"...an integrated set of assumptions, beliefs, models of doing good research, and techniques for gathering and analyzing data."* (Neuman, 2007:p.41). Three alternative research paradigms are presented in table 5.

	Positivsm	Interpretivism	Critical
Ontology (The researcher's perception of reality)	Social reality consists of objective facts	Reality is based on the beliefs and perceptions of the individuals in a group, leading to multiple versions of reality	Reality is multilayered
Epistemology (How can the reality be validated?)	Through precise measurement methods	Through interpretaion	Strip away the layers
Methodology	Quantitative Experimental	Qualitative	Action research
Research Strategy	Inductive Deductiv	Inductive Abductive	Inductive Abductive Retroductive

Table 5: Research paradigms. Based on Johannessen et al., (2011);Neuman, (2007) and Blaikie & Priest (2017).

In order to answer the research question: What is the role of psychological safety when creating and sustaining organizational change readiness? the positivist approach was applied. Following the positivist approach, the researcher takes on a view of reality that it consists of objective facts which could be measured and analyzed (Johannessen et al., 2011). This approach was viewed as appropriate to provide objective conclusions to the research question, and to achieve the research aims and objectives, based on results from the literature review and findings from the data collection performed in an organizational context.

The positivist approach favors the quantitative method (Neuman, 2007). The primary data were collected through applying a cross-sectional quantitative survey to preserve objectivity, categorize findings and perform statistical analysis (Johannessen et al., 2011). To explore the

role of psychological safety on organizational change readiness a deductive research strategy was followed. A deductive strategy entails reviewing literature on the themes of study and develop hypothesis to test when the empirical data is collected (Olsson & Sörensen, 2009;Neuman, 2007). The literature related to the two constructs were critically reviewed and the findings were then statistically tested in terms of the empirical data collected from Company X (Olsson & Sörensen, 2009;Neuman, 2007). This research design makes it possible to measure and explore the levels of psychological safety and change readiness, and discuss the findings in relation to relevant theory, to investigate the role of psychological safety on creating and sustaining change readiness and provide recommendations.

3.2 Research Method, Argumentation and Methodology

The constructs could be measured and analyzed by applying either a quantitative or qualitative method (Cawsey et al., 2016;Edmondson, 2019). The quantitative method could provide the researcher with data from a large number of respondents in a fair amount of time to measure and analyze the two constructs (Neuman, 2007). Company X have approximately 150 employees. It was thus considered the most suitable approach to perform a quantitative data collection of the constructs in order to objectively measure and investigate the role psychological safety has on organizational change readiness, based on information provided by as many respondents as possible.

3.2.1 The Survey

Psychological safety and organizational change readiness are described as two intangible social constructs (Armenakis et al., 1993;Schein, 1979). To quantitatively measure these constructs, the two main components included in the survey was the ROCR questionnaire (Cawsey et al., 2016) and Edmondson's (1999) seven psychological safety statements (See appendix 1). The ROCR component measures the organization's change readiness using an additive score, and Edmondson's (1999) seven statements used to measure the levels of psychological safety on a 7-point Likert-scale were included in the survey.

The ROCR component consisted of 36 questions (Cawsey et al., 2016) with yes/no alternatives, whereby the questions were loaded positively and negatively to reduce response bias (Field, 2009). The questions are assumed to take into consideration the five key change beliefs as they measure the level of organizational change readiness based on six dimensions; (1)Previous change experiences, (2)executive support, (3)credible leadership and change

champions, (4)openness to change, (5)rewards for change and (6)measures for change and accountability (Armenakis et al., 2007; Cawsey et al., 2016;Seloter, 2019).

The ROCR applies an additive index to measure the intangible construct quantitatively. The survey therefore provides the researcher with a quantitative measurement which could ease the interpretation of the levels of change readiness. The scores given when the respondents answer "yes" to a question ranges from -2 to +2, and are weighted in terms of the questions relevance to increasing or decreasing change readiness. The resultant score ranges from -10 to +35, whereby a score of 10 or above, indicates that the organization is ready for change (Cawsey et al., 2016).

Edmondson's (1999:p.382) seven statements used to measure the levels of psychological safety are:

1. *"If you make a mistake on this team, it is often held against you"*.
2. *"Members of this team are able to bring up problems and tough issues"*.
3. *"People on this team sometimes reject others for being different"*.
4. *"It is safe to take a risk on this team"*.
5. *"It is difficult to ask other members of this team for help"*.
6. *"No one on this team would deliberately act in a way that undermines my efforts"*.
7. *"Working with members of this team, my unique skills and talents are valued and utilized"*.

Edmondson (2019) defined a team as a group of people which collaborate to achieve a common set of goals. To strengthen the reliability, and make sure that the respondents had a common understanding of the concept of teams, Edmondson's (2019) definition of teams were included in the survey.

Six demographic variables were included to classify the respondents to measure and compare the levels of psychological safety and change readiness across the different organizational groups. Two open-ended questions were included to gain deeper understanding related to the respondents perception (Fink, 2003) of the organizational culture and to provide them with an opportunity to provide feedback and comments to the survey overall. A one-item seven-point Likert scale was also included, to get an impression of the respondents' perception of how change ready Company X was.

The respondent's ability to answer questions in a survey may vary due to lack of knowledge and/or experience related to the construct in question (Johannessen et al., 2011), or in the case of closed questions, the available options might not fit their beliefs (Dillman et al., 2002). To increase the likelihood of the respondents to complete the survey, the alternative "don't know" was included to provide an alternative if the "yes" or "no" alternatives did not represent their opinion (Johannessen et al., 2011). According to Johannesen et al. (2011) questions should be formulated in a way that reduces the respondent's propensity to adjust their answers in accordance with what could be considered socially desirable. Some of the questions were therefore altered to included "Do you experience" instead of "what", to ensure that the respondent's subjective feelings were reflected. Additionally, to avoid the respondents being affected by the points given when responding yes (-2 to +2), the scores were removed from the ROCR component of the survey (Seloter, 2019).

As Company X is a Norwegian company, the survey was translated from English to Norwegian to potentially increase the response rate, and to ensure that the respondents understood the questions. In the translation process it was important to not alter the original meaning of the questions (Johannessen et al., 2011). The translation was compared to Seloter (2019) who used the same survey in his dissertation in a Norwegian context. To adjust the ROCR survey in accordance with the hierarchical structure of Company X the following terms were substituted, as presented in table 6:

Original Phrasing	Company Specific Phrasing
Senior managers Management Executives	Leader group
Middle management	Division managers
Management	Leader group and division managers

Table 6: Rephrasing of organizational roles in the ROCR to align with Company X hierarchical structure.

3.3 Pilot Study

Prior to surveying the employees in Company X, two pilot studies were performed to validate the questions and translation (Olsson & Sörensen, 2009). The pilot study allows the researcher to control that the content of the survey is not misunderstood, the tool functions properly, and allow for adjustments if necessary (Johannessen et al., 2011).

To ensure that the results from the pilot study were relevant for the final respondent group, 14 participants who were different in terms of geographic locations, educational backgrounds and professional occupations, gender and age were asked to participate (Johannessen et al., 2011). Based on the feedback from the participants, some adjustments were made related to spelling errors and reformulation of three questions. To investigate if the corrections were sufficient, a second pilot study was conducted, and 11 new respondents from various backgrounds participated. The results from the second pilot study were satisfactory, and no further adjustments were considered necessary.

3.3 Data Collection and Sampling Approach

Primary and secondary data were collected, analyzed and reviewed to answer the research question (Olsson & Sörensen, 2009). It is important that the researcher remains critical when reviewing literature and performing research (Johannesen et al. 2011). Literature regarding the two concepts change readiness and psychological safety were thus collected from valid sources such as books and scientific journals. The primary data was collected in Company X.

The design and distribution of the survey could affect the response rate and the respondents' answers (Johannessen et al., 2011). The data was collected using the online quantitative data collection program, SurveyXact. SurveyXact has an appealing visual design and allows respondents to self-administer the survey by using computer or mobile phone which eases the accessibility. Due to several sensitive questions in the survey, this feature was considered instrumental to increase the response rate because respondents could be expected to disclose more information regarding sensitive topics when self-administering the survey (Tourangeau et al., 2000).

The respondents' perceptions regarding the survey's legitimacy and importance affect their willingness to participate (Tourangeau et al., 2000). To increase the employees' willingness to participate, the overall purpose of the survey, privacy policies and the self-distribution link

were distributed on Company X's intranet by a member of the leader group, see appendix 1 (Johannessen et al., 2011). The information published mirrored Company X's sponsorship of the research.

The survey was published in early March in close dialogue with the contact person in Company X. It is unusual that respondents answer the survey within the predetermined timeline (Johannessen et al., 2011). This was taken into consideration, and there were time available to expand the deadline if necessary. After the first two weeks, the response rate was 11,3%, which was assumed to be related to the outburst of Covid-19. The initial time limit was therefore expanded with one week and a reminder was published (Johannessen et al., 2011), which increased the response rate to 20,7%. To increase the response rate closer to the acceptable 30-40% (Johannessen et al., 2011), the deadline was postponed, and the employees received an additional reminder to complete the survey. Additionally, to increase legitimacy and importance (Tourangeau et al., 2000), the contact person asked division managers to encourage their employees to respond, which resulted in a total response rate of 28,7 %. The higher response rate, the more generalizable are the results from sample to population (Field, 2009). The response rate was considered sufficient due to the time limit of the dissertation.

3.4 Data Analysis

To statistically investigate the role of psychological safety on organizational change readiness, it was important that the dataset was reviewed in terms of completeness and quality (Malhotra, 2014). Respondents who did not complete the survey were deleted prior to the analysis. The two open-ended questions were only answered by three respondents, and where thus also excluded. Negatively phrased questions were reversed in order to compare the results and perform statistical analysis (Malhotra, 2014). To secure anonymity, the categories within the variables tenure, age and location where combined if containing less than 5 respondents (Malhotra, 2014). Original labels of the demographic categories where substituted with A, B, X, Y, Z, (Løvås, 2013).

According to Malhotra (2014), missing values represent a challenge when the rate of missing values exceed 10%. The ROCR component of the survey contained 21,38% missing values, and the psychological safety component 2,66%. Three options are available when treating missing values; Casewise deletion, pairwise deletion or substituting the missing values with a neutral value (Malhotra, 2014). Casewise and pairwise deletion were not performed, due to the small sample size as it would result in excluding a large number of respondents (Malhotra,

2014). The missing variables on the ROCR component were therefore substituted with zero, which is the same score the respondent would have obtained if answering no, to not interfere with the resultant score. This method is also applied by Seloter (2019). The missing values on the psychological safety questions were substituted with the value four, being the mean response on the seven-point Likert scale used for these statements (Malhotra, 2014). However, when substituting missing values with a neutral value, it is important to be aware that it could skew the results in the statistical analysis (Olsson & Sörensen, 2009).

The negatively loaded questions were reversed so that a higher score indicated a higher level of psychological safety. In the absence of a defined score indicating low/medium/high levels of psychological safety, a score of 5 and above were decided to reflect the presence of psychological safety in this dissertation.

To test the reliability of the data, Cronbach's alpha was computed for each of the six dimensions in the ROCR component as well as the psychological safety component individually (Field, 2009; Malhotra, 2014). The data was found not normally distributed (see appendix 2), therefore non-parametric statistical analysis were conducted (Field, 2009). Several computations were performed to gain insights to levels of change readiness and psychological safety to be able to investigate potential correlations between the constructs. The mean was used to compute the respondents' resultant score on change readiness and psychological safety as the constructs are measured by interval data, and the dataset had no outliers (Malhotra, 2014). The range of the data were measured to investigate how the readiness scores and psychological safety scores were spread (Malhotra, 2014). The mode, which indicates the most frequent score was computed (Malhotra, 2014). The standard deviation was also calculated to assess the variation in individual scores around the mean (Malhotra, 2014).

To investigate the strength of the relationship between psychological safety and organizational change readiness, a nonparametric Spearman correlation test was conducted (Field, 2009). A multiple regression was conducted to investigate the effect sizes of psychological safety, the ROCR dimensions, and the demographic variables on change readiness. However, due to violation of several assumptions the regression was not included as the results were neither generalizable nor considered accurate for the sample (Field, 2009). To investigate the association between respondents' levels of psychological safety and change readiness, and to investigate whether group membership affected the respondents' levels of the two constructs, Pearson's chi-square test and Fisher's exact test were conducted.

However, the majority of respondents were measured to be change ready (93%) and perceived their environments as psychologically safe (88,37%). The data set thus not provided the option to further statistically investigate respondents which were not change ready and were not considered having psychological safety. To investigate the association between the two constructs and group memberships, the respondents were divided in terms of the upper quartile of each constructs' frequency. The results from the statistical analysis were combined with the literature review in order to discuss the potential impact psychological safety has on organizational change readiness.

3.5 Reliability and Validity

Reliability refers to whether the results from a survey are consistent and free from random error when repeated measurements are made. Reliability could be tested by applying three approaches; Test-re-test, alternative forms and internal consistency methods (Malhotra, 2014). Due to the time limitation, a re-test or applying an alternative questionnaire on the respondents were not possible. The level of internal-consistency reliability measures whether the items included in the survey sufficiently measures psychological safety and change readiness (Malhotra, 2014). To test the reliability of the data, Cronbach's alpha was applied (Field, 2009;Malhotra, 2014). The Cronbach's alpha values of the subscales is presented in table 7 below. An appropriate guide for reliability is according to Hinton et al. (2004): >0.9 excellent reliability, 0.7-0.9 high, 0.5-0.7 moderate, <0.5 low reliability. However, when using a scale to measure human behavioral dimensions, a value of 0.6 or above is considered satisfactory (Malhotra, 2014).

Subscale	Items	Cronbach alfa	Reliability
Dimension 1	Question 1-5	0.264	Low
Dimension 2	Question 6-9	0.332	Low
Dimension 3	Question 10-15	0.754	High
Dimension 4	Question 16-29	0.747	High
Dimension 5	Question 30-32	0.574	Moderate
Dimension 6	Question 33-36	0.282	Low
Psychological Safety	7-item Likert Scale	0.674	Moderate

Table 7: Results from Cronbach Alpha. The alpha value ranges from 0 to 1, whereby a higher value indicates that the questions included in the subscale measures the same construct (Cronbach, 1951).

Dimensions 3, 4 and psychological safety had a sufficient Cronbach alpha above 0.6 when measuring psychological constructs (Malhotra, 2014). Because the sample consisted mainly of respondents who were change ready and psychologically safe, it is assumed that low variation in the responses is what caused these low alpha values (Field, 2009). The operationalization of the dimensions are thus perceived as adequate and the instruments are considered reliable (Cawsey et al., 2016;Newman et al., 2017), therefore the data was analyzed in order to answer the research question.

According to Johannessen et al. (2011), reliability also refers to how reliable the data is collected and analyzed. To secure reliability, a pilot test was performed prior to distributing the survey to the respondents in Company X. The survey was distributed through Company X's intranet to limit the relationship between researcher and respondents and to maintain an outside perception (Olsson & Sörensen, 2009). The respondents received written information regarding the purpose of the survey, and definition of change readiness and teams. Throughout the process of performing statistical tests, the focus was to answer the research question as objectively as possible (Neuman, 2007). The tests conducted are included in the appendix.

Validity can be divided into internal and external validity (Yin, 2018). Internal validity refers to the researcher's ability to reach valid conclusions regarding the effect of the predictor variables on the dependent variable (Malhotra, 2014). The survey includes two components for measuring psychological safety and change readiness which are considered as valid tools (Cawsey et al., 2016;Edmondson,2019;Newman et al.,2017). Additionally, the validity was assessed by reviewing the questionnaire in relation to the findings in the literature review. The internal validity of the research performed in this dissertation was thus considered adequate. However, due to the small sample size and large number of missing values, the generalization was questionable (Johannessen et al., 2011) and thus the findings could only be used to provide indications of Company X's present levels of change readiness and psychological safety.

3.6 Ethical Considerations

It is instrumental that researchers take into account ethical considerations when collecting, analyzing and presenting data (Johannesen et al., 2011). When collecting data which could be viewed as personal, the Norwegian Center for Research Data must approve the questionnaire (Johannessen et al., 2011). This approval was obtained prior to the distribution of the survey, in addition to an approval from the contact person in Company X. The respondents were informed regarding the purpose and content of the survey, privacy policy, data treatment and period for storage of the data. To secure the respondents had read and understood the information, a declaration of consent needed to be accepted, prior to starting the survey (Johannessen et al., 2011). Contact information was provided if respondents had questions, wanted to withdraw, or change their response. They were informed that they would remain anonymous throughout the entire process and that the data would be deleted when the dissertation was finalized. To ensure anonymization of respondents and Company X, the names of the departments and locations were re-coded (Malhotra, 2014) and categories were combined if there were less than five respondents. The majority of the survey consists of closed-ended questions, but two open-ended questions were included to provide the respondent the with an opportunity to add comments and feedback (Fink, 2003).

It is important that the researcher conducts the analysis of the data in an ethical way, and does not withhold information which does not fit their initial presumptions or do not align with the hypothesis (Neuman, 2007). The analysis methods were critically evaluated, and literature were used to support the findings which has increased the level of reliability and validity of this study. Several data analysis were included in the appendix to ensure transparency.

3.7 Reflections

A strength of this research was that it quantitatively measured the intangible constructs of organizational change readiness and psychological safety. This method allowed for statistical testing of hypothesis, and investigation of the role of psychological safety on organizational change readiness. To measure the organization's level of change readiness, and the levels of psychological safety existing within the teams, it was important to collect data from as many employees as possible (Armenakis et al., 1993; Edmondson, 2019). Performing in-depth qualitative interviews with key personnel would have been beneficial to strengthen the understanding of the forces affecting the individuals levels change readiness and

psychological safety (Olsson & Sörensen, 2009). However, it could be more challenging to objectively analyze the data. It was therefore decided not to perform any interviews. Additionally, conducting interviews with a majority of employees in Company X within the time period available for writing this dissertation would not be feasible.

A weakness with the data collection was the relatively low response rate of 28,7%. A reason for this relatively low response rate could be that the employees were overloaded with surveys or did not find the subject interesting (Johannessen et al., 2011). Another reason for the low response rate could be related to distribution via intranet, rather than direct email, resulting in the employees had to actively engage themselves to participate. The data also had a relative high level of missing values, which could be related to the sensitivity of some questions or due to lack of knowledge (Tourangeau & Yan, 2007). Sensitive questions are often related to subjects where the respondents are worried that their responses does not aligned with the social norms existing in the environment and fear related to colleagues disclosing their identity (Beatty & Herrmann, 2002;Johannessen, 2011;Tourangeau et al., 2000). The questions in the survey related to leaders' actions and perceptions, handling of conflicts and/or rewards could be viewed as sensitive, and thus potentially lead to biased answers or frequent use of "don't know". The majority of missing values were found in the ROCR component. According to Seloter (2019) respondents could perceive the alternatives of either yes or no as too rigid, which could affect the level of missing values. The Psychological safety component, on the other hand only had a missing value rate of only 2,66%. This difference related to the number of missing responses could illustrate the the potential benefit of applying a Likert scale. However, the alternatives were not altered in order to obtain the original ROCR scoring system.

The sample size and non-normal distribution of the data were a limitation when applying statistical tests. The high number of missing values could potentially impact the reliability of the data (Fink, 2003), and the results could not be generalized beyond the sample due to the non-normally distributed data (Field, 2009). Another weakness of the data analysis was that several assumptions in the multiple regression were violated. As a result the effect size of psychological safety on organizational change readiness could not be calculated with sufficient accuracy, and thus was not included in the dissertation. There was also a skewed distribution of responses in terms of the majority of respondents being change ready and psychological safe, which made it not feasible to investigate the effect of lack of psychological safety on organizational change readiness.

3.8 Summary

To answer the research question, a positivist approach was followed which entailed objectively measuring reality by using a quantitative analysis and applying a deductive research strategy whereby the literature review in combination with the statistical analysis provided implications that psychological safety plays a role in increase organizational change readiness.

Research objective 2 was completed by designing a survey which included valid measurements of the two constructs. Some alterations were made to increase the response rate. The data was collected by applying a cross-sectional quantitative method, where all the employees in Company X were invited to participate. The data were collected over a four-week period, whereby two reminders were sent to increase response rate.

To complete research objective 3, the data was analyzed on the basis of the measured levels of the two constructs separately, in terms of investigating the means, distribution and range of the data. The results from this analysis, in combination with the findings in the literature review provided indications of a relationship between psychological safety and change readiness. This relationship was subject to further tests to gain more knowledge regarding the role of psychological safety on organizational change readiness.

4.0 Findings and Discussion

The purpose of this chapter is to obtain research objective 3: Analyze the collected data in relation to the literature review, present findings and investigate the link between the two constructs.

4.1 Change Readiness Score

The possible scores obtained on the ROCR ranges from -10 to +35, where scores of 10 and above indicates change readiness (Cawsey et al., 2016). Figure 6 presents the distribution of respondents' score on the ROCR. The scores ranged from 6 to 33, whereby the most frequent scores were 23,24,25,26 and 33. The average score was 22,6 which represents Company X's organizational change readiness level. The standard deviation was 7,139, indicating that most respondents scores ranged from 15,46 to 29,74. 93% of the respondents had a score of 10 or above. These findings indicate that the majority of respondents were change ready. This result can imply that the group standards within Company X are susceptible to change (Lewin, 1947). Thus the change agent can expect the members to portray supportive behaviors towards future change initiatives (Armenakis et al., 1993) if this high level is maintained (Lewin, 1947). The respondents were also asked to rate Company X's level of change readiness on a 7-point Likert scale. The overall score from their rating was 5,79. Based on the above findings it can be assumed that Company X has a high capability in terms of recognizing need for change (Armenakis et al., 1999;Cawsey et al., 2016) and make adjustments necessary to close the gap between present and future desired state (Rafferty et al., 2013), as these are capabilities found to be related to change ready organizations (Armenakis et al., 1999).
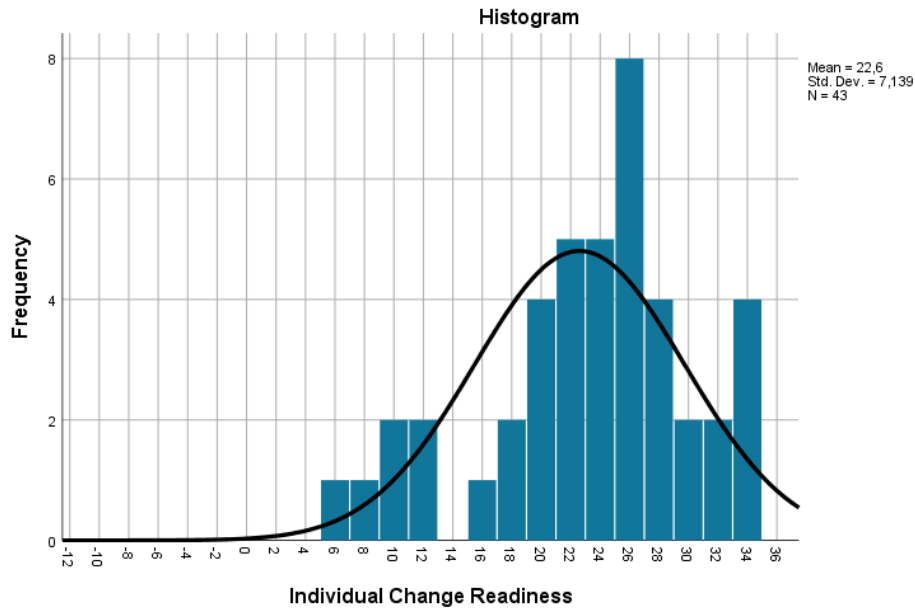
Figure 6: Distribution of respondents' individual levels of change readiness.

Figure 7 provides an overview over the actual scores obtained by Company X on each readiness dimension. These results can be used to identify which dimensions should be focused on in order to increase the organizational change readiness going forward. The ROCR uses an additive scoring system, and positive scores thus represent an increase in the organizational change readiness level (Cawsey et al., 2016). As figure 7 indicates, no dimensions contribute negatively to the change readiness level, and thus none are critical to address immediately.
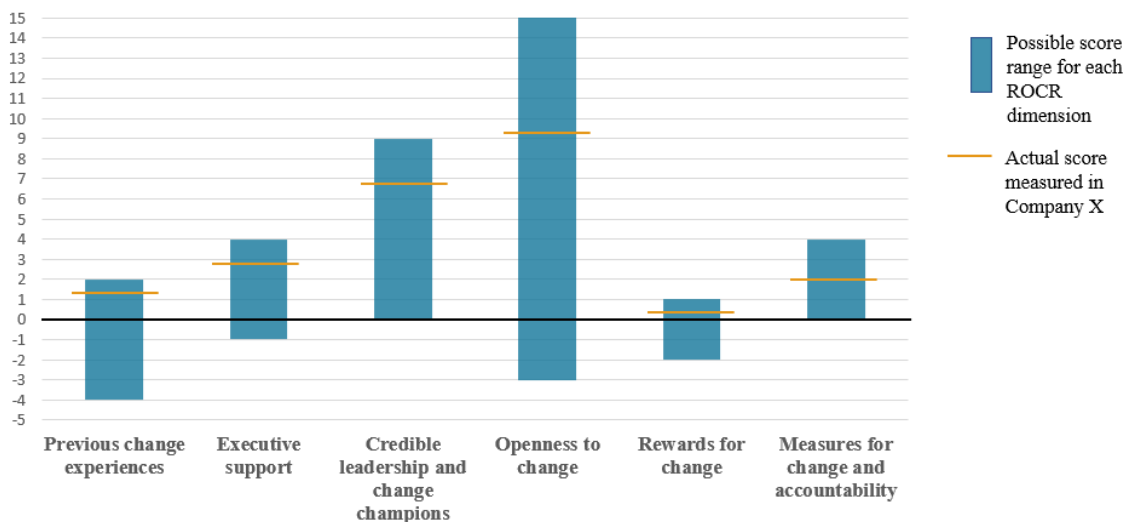
Figure 7: Possible obtainable scores on each ROCR dimension, and the actual average scores obtained by Company X.

Figure 8 presents the distribution of respondents who are ready for change, and those who are not, in terms of gender, age, department, location, tenure, and managerial responsibility.
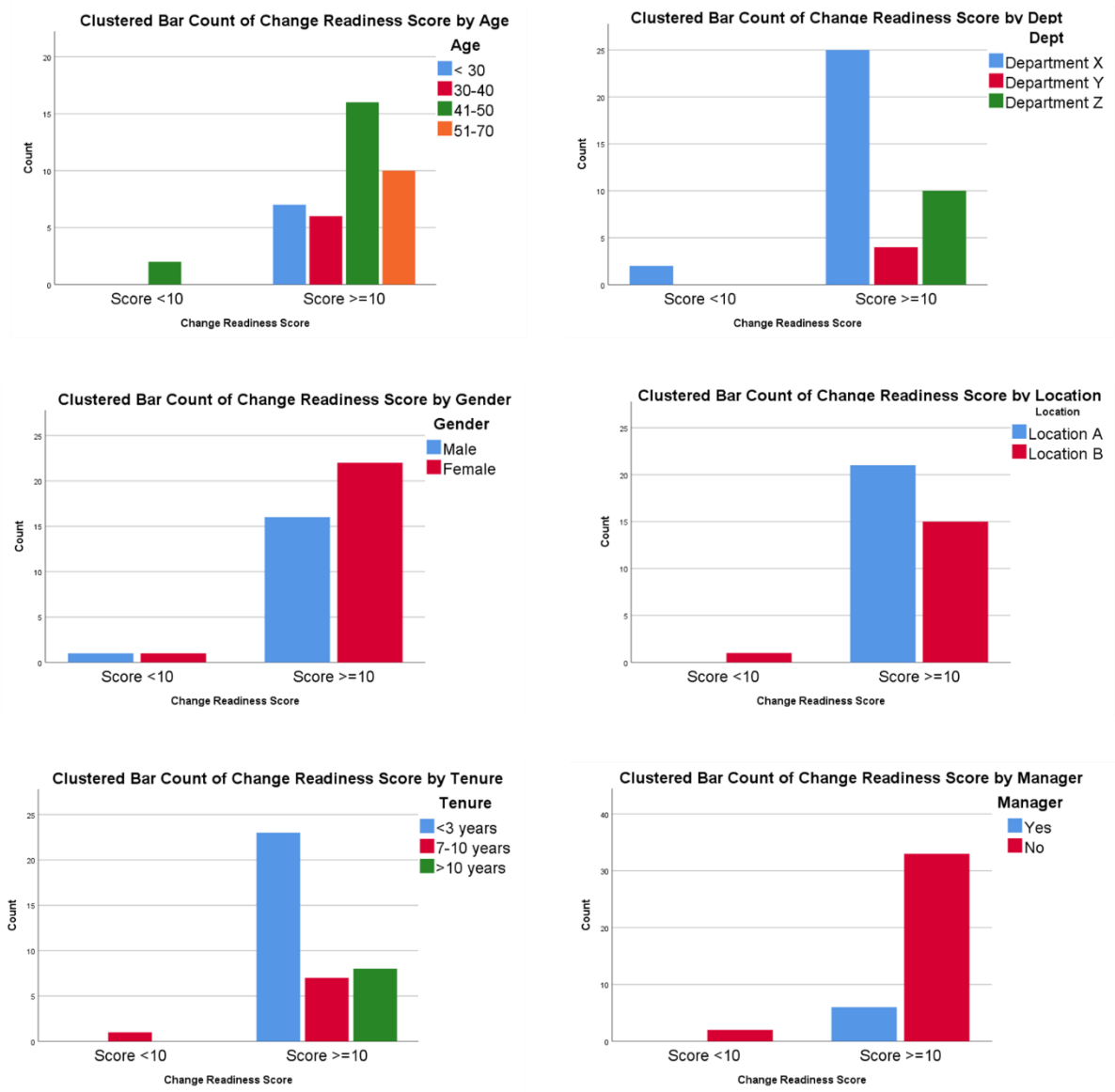
Figure 8: The distribution of the different demographic variables on change readiness scores below/above 10. Location A refers to Company X's headquarters, location B refers to the satellite offices.

4.2 Psychological Safety Score

The respondents' levels of psychological safety were estimated by combining their answers on the seven statements for measuring psychological safety. The respondents' scores are presented in figure 9, and ranges from 4 to 7. The most frequent scores were 6,14 and 6,43. The average psychological score of the respondents were 6,06. The standard deviation was 0,78, indicating that the majority of respondents scores range between 5,28 and 6,84 (Malhotra, 2014). 88,37% of the respondents had a score >=5, and were thus categorized as psychological safe. Since the majority of the respondents perceived their teams as psychologically safe, it could be assumed that the respondents portray learning behaviors within these teams (Edmondson, 1999). This behavior increases their ability to address errors, participate in constructive discussions (Guinot et al., 2014;Edmondson, 2019) and implement necessary changes to processes and systems (Carmeli et al., 2009;Edmondson, 1999;2019).

Figure 9: Distribution of the respondents' psychological safety scores.

According to Walinga (2008) the levels of psychological safety varies between teams due to differences in how the interpersonal relationships unfolds between the members. For psychological safety to be present at an organizational level, it is required that the employees share a common belief that they are safe from taking interpersonal risks when interacting in the organizational context (Newman et al., 2017). It is therefore debated whether it is possible to combine the employees' levels of psychological safety to reflect the organizational level of psychological safety (Newman et al., 2017). As presented in figure 10, respondents who were

categorized as having a psychological safe environment were present within in all the investigated groups in Company X. These distributions could indicate that psychological safety is present within those teams. However, due to lack of knowledge of Company X's team structures it thus could not be concluded that psychological safety is present within those teams and at an organizational level.
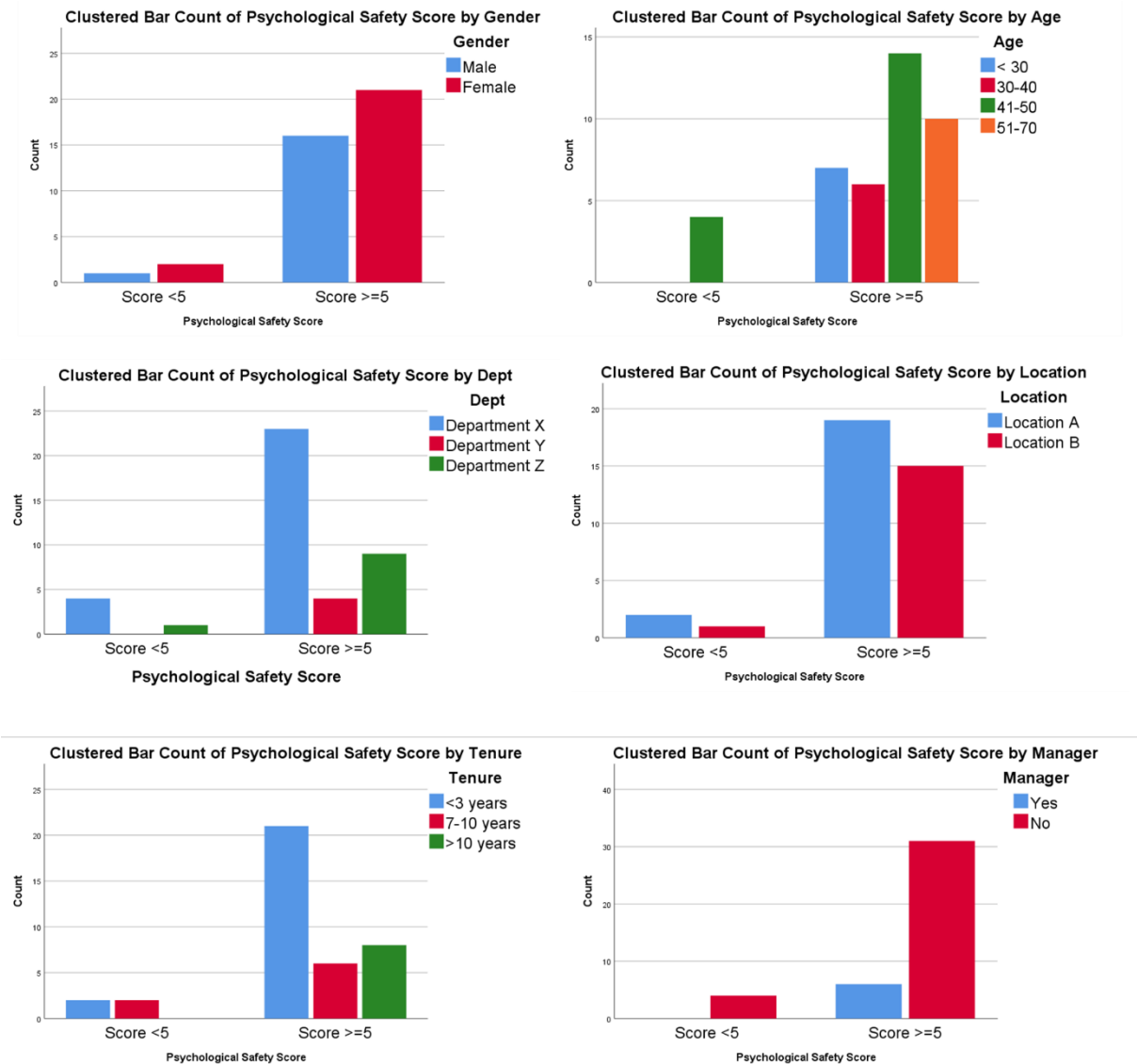
Figure 10: The distribution of the different demographic variables on psychological safety scores below/above 5.

4.3 Exploring the Role of Psychological Safety on Change Readiness in an Organizational Context

The average scores related to the organizational readiness and presence of psychological safety were relatively high. Thus it could be assumed that psychological safety plays a role in the Company X's change readiness. Schein (1996, in Burnes, 2004b) suggests that by building psychological safety, change readiness could be increased. The reasoning behind this assumption is that when psychological safety is present, the organizational members engage in learning behavior (Edmondson, 1999), which increase their ability to recognize the need for change, and implement appropriate initiatives to improve systems and structures (Carmeli et al., 2009;Choi & Ruona, 2011). This link was investigated by applying a non-parametric Spearman's correlation test including the two constructs (see appendix 3). The test was statistically significant at a 1% significance level, with correlation coefficients at 0,402. This result provided indications that there is a medium strength positive relationship between psychological safety and change readiness (Field, 2009;Johannessen et al., 2011). Which means that there is a positive relationship between the respondent's psychological safety scores and change readiness scores, indicating that if the respondent increases their psychological safety score, their change readiness score is also expected to increase (Field, 2009).

This relationship was further investigated by conducting a Pearson's chi square test comparing the distribution of the scores between the respondents with the highest scores in each construct. The groups were determined based on the upper quartile of the frequencies on each construct, which resulted in the variables:

- Highest change readiness group: Take on value 1 if score >=27, and 0 if score <27.
- Highest psychological safety group: Take on value 1 if score >=6,57, and 0 if score <6,57.

There was found a statistically significant association between the two groups at a 5% significance level (see appendix 4), which indicated that the respondents who were in the highest psychological safety group also were expected to be in the highest change readiness group (Field, 2009).

The group of respondents with highest levels of psychological safety and change readiness were further analyzed, by testing the association between these groups and the respondents group memberships applying a chi-square test. There were found no statistically significant

results (see appendix 4) indicating that there were no association between the respondents group membership and a high level of psychological safety and change readiness (Field, 2009). This can imply that among these highest score groups, the presence of psychological safety is expected to reduce psychological barriers that could otherwise have caused the level of change readiness to vary across the groups (Carmeli et al., 2009).

4.4 Addressing the Five Key Change Beliefs

An analysis of how satisfyingly the five key change beliefs were addressed in Company X was performed by investigating the respondents' answers on the psychological safety and ROCR component in the context of Armenakis et al.'s (1993;1999) Readiness Model. The distribution of the respondents' average score on each psychological safety statement and their answers on the ROCR component are presented in table 8 and 9 below.

Psychological Safety Statements	Respondents average scores
S1: If you make a mistake on this team, it is often held against you	6,58
S2: Members on this team are able to bring up problems and though issues	6,37
S3: People on this team sometimes reject others for being different	6,26
S4: It is safe to take risk on this team	5,47
S5: It is difficult to ask other members on this team for help	6,60
S6: No one on this team would deliberately act in a way that undermines my efforts	5,60
S7: Working with members of this team, my unique skills and talents are valued and utilized	5,56

Table 8: Average score on each psychological safety statements (Edmondson 1999;2019). The statements are originally positively and negatively phrased. To ease the comparison of the resultant scores, the scales on the negative statements have been reversed.

Questions	Respondents			%		
	Yes	No	Don't know	Yes	No	Don't know
Dimension 1 - Previous Change Experiences						
Q1: Has the organization had generally positive experiences with change?	37	0	6	86 %	0 %	14 %
Q2: Has the organization had recent failure with change?	20	9	14	47 %	21 %	33 %
Q3: Do you experience the mood of the organization as upbeat and positive?	39	2	2	91 %	5 %	5 %
Q4: Do you experience the organization as negative and cynical?	0	42	1	0 %	98 %	2 %
Q5: Does you experience that the organization appear to be resting on its laurels?	5	35	3	12 %	81 %	7 %
Dimension 2 - Executive Support						
Q6: Do you experience that the leader group are directly involved in sponsoring the change?	38	2	3	88 %	5 %	7 %
Q7: Do you experience that there is a clear picture of the future?	36	4	3	84 %	9 %	7 %
Q8: Do you experience that the leader group's success is dependent on the change occuring?	25	10	8	58 %	23 %	19 %
Q9: Have the leader group and/or the division managers ever demonstrated a lack of support?	14	23	6	33 %	53 %	14 %
Dimension 3 - Credible Leadership and Change Champions						
Q10: Do you experience that the leader group in the organization are trusted?	37	1	5	86 %	2 %	12 %
Q11: Do you experience that the leader group are able to credibly show others how to achieve their collective goals?	26	6	11	60 %	14 %	26 %
Q12: Is the organization able to attract and retain capable and respected change champions?	29	2	12	67 %	5 %	28 %
Q13: Are division managers able to effectively link the leader group with the rest of the organization?	22	9	12	51 %	21 %	28 %
Q14: Are the leader group likely to view the proposed change as generally appropriate for the organization?	35	1	7	81 %	2 %	16 %
Q15: Will the proposed change be viewed as needed by the leader group?	41	1	1	95 %	2 %	2 %
Dimension 4 - Openness to Change						
Q16: Does the organization have scanning mechanisms to monitor the environment?	25	3	15	58 %	7 %	35 %
Q17: Is there a culture of scanning and paying attention to those scans?	25	5	13	58 %	12 %	30 %
Q18: Does the organization have the ability to focus on root causes and recognize interdependencies both inside and outside the organization's boundaries?	27	4	12	63 %	9 %	28 %
Q19: Do you experience that "turf" protection exist in the organization?	9	28	6	21 %	65 %	14 %
Q20: Do you experience that the leader group are hidebound or locked into the use of past strategies, approaches and solutions?	3	34	6	7 %	79 %	14 %
Q21: Do you experience that employees are able to constructively voice their concerns or support?	35	3	5	81 %	7 %	12 %
Q22: Do you experience that conflict is dealt with openly, with a focus on resolution?	27	4	12	63 %	9 %	28 %
Q23: Do you experience that conflict is suppressed and smoothed over?	6	30	7	14 %	70 %	16 %
Q24: Do you experience that the organization has a culture that is innovative and encourages innovative activities?	38	3	2	88 %	7 %	5 %
Q25: Does the organization have communications channels that work effectively in all directions?	38	4	1	88 %	9 %	2 %
Q26: Do you experience that the employees not in the leader group will view the proposed change as generally appropriate for the organization?	32	0	11	74 %	0 %	26 %
Q27: Do you experience that the proposed change will be viewed as needed by those not in the leader group?	32	3	8	74 %	7 %	19 %
Q28: Do you experience that those who will be affected believe they have the energy needed to undertake the change?	21	9	13	49 %	21 %	30 %
Q29: Do you experience that those who will be affected believe there will be access to sufficient resources to support the change?	17	14	12	40 %	33 %	28 %
Dimension 5 - Rewards for Change						
Q30: Does the reward system value innovation and change?	18	11	14	42 %	26 %	33 %
Q31: Does the reward system focus exclusively on short-term results?	2	20	21	5 %	47 %	49 %
Q32: Are people censured for attemption change and failing?	0	31	12	0 %	72 %	28 %
Dimension 6 - Measures for Change and Accountability						
Q33: Are there good measures available for assessing the need for change and tracking progress?	12	6	25	28 %	14 %	58 %
Q34: Does the organization attend to the data it collects?	9	3	31	21 %	7 %	72 %
Q35: Does the organization measure and evaluate customer satisfaction?	34	3	6	79 %	7 %	14 %
Q36: Is the organization able to carefully steward resources and successfully meet predetermined deadlines?	31	7	5	72 %	16 %	12 %

Table 9: Response rates on the ROCR component. Due to zero decimals, some of the percentages does not add up to 100.

4.4.1 Discrepancy

Discrepancy refers to the organizational members' belief that it is necessary to implement changes to align the organization with the future desired state (Armenakis & Harris, 2009;Armenakis et al.,1999;Neves, 2009). 58% of the respondents reported that Company X has scanning mechanisms for monitoring the environment and 58% reported that there is a culture for paying attention to these scans. However, 58% reported that they did not know if Company X has good measures available for assessing the need for change and tracking progress and 72% did not know whether these data were attended to. These results can imply that Company X to some extent has systems in place whereby discrepancy is recognized. When the systems identify that changes are necessary, it is communicated to employees to create awareness that the current situation is not optimal, which increases the employee's discrepancy belief (Nadler & Tushman, 1989). However, the system's ability to assess the need for change and follow up the implemented change initiatives is either insufficient or under-communicated to the employees in Company X, which could decrease their ability to recognize the need for change.

However, 74% of the respondents believed the employees were able to recognize the need for change. 95% reported that the leader group were capable of recognizing the need for change. 84% stated that there is a clear picture of Company X's future, and 85% perceived the organization as not resting on its laurels. These results indicate that despite the potential lack of systems assessing the need for change and monitoring progress of implemented initiatives (Cawsey et al., 2016), Company X is able to present a clear description of where the organization wants to be in the future (Nadler & Tushman, 1989). This attribute, in addition to the majority of respondents having a psychological safe environment (87,38%), can increase their understanding of what necessary measurements are required by them to perform, to align the organization in accordance with its future desired state. It could therefore be concluded that the discrepancy belief is sufficiently addressed.

4.4.2 Appropriateness

81% of the respondents replied that they believed the leader group in Company X would perceive change initiatives as appropriate, and 74% replied that the employees share the same view regarding appropriateness of change. These findings indicate that the appropriateness belief is sufficiently addressed across the hierarchical levels in Company X. The common agreement on appropriateness across the respondents could be suggested as a result of the

clear picture of the future that was discussed above (84%). This result is suggested to be an effect of a forward-looking leader group that is found not hidebound and locked into the use of past strategies by 79% of the respondents. These findings indicate that the leader group is able to initiate and implement change initiatives which are perceived as appropriate by the respondents to move the organization in a more favorable direction, and thus increase the level of change readiness (Armenakis et al., 2007).

4.4.3 Efficacy

49% of the respondents answered that they believed those affected by the change has the necessary energy to undertake it, and 40% believed they had access to sufficient resources to support it. These results indicate that the belief of efficacy is not fully satisfied at the individual levels. A lack of efficacy could cause employees to resist changes when they believe they do not have sufficient capabilities and/or resources to complete it (Armenakis et al., 2007). However, 72% of the respondents believed that Company X had the ability to carefully steward resources and meet predetermined deadlines, which indicates that a collective belief of efficacy is present at the organizational level.

The sample data reflected a common consensus regarding a psychological safe environment in Company X. It was perceived as safe to take risk (5,47 out of 7) and accepted to make mistakes, because the failures are not held against those who make it (6,58 out of 7). The respondents perceived it as safe to ask for help (6,6 out of 7), and felt their unique skills and talents were valued and utilized (5,56 out of 7). When the employees feel safe to ask for help, they will also have access to their colleagues capabilities and this opportunity could facilitate a collective sense of efficacy. Additionally, when they know mistakes are not held against them, they might accept more challenging tasks than before, because the perceived risk associated with failure will thus be reduced (Edmondson, 2019). The high level of psychological safety is thus suggested to have served as a positive catalyst in creating a perception of organizational efficacy despite the lack of individual efficacy.

4.4.4 Principal support

88% of the respondents perceived the leader group in Company X to be directly involved in sponsoring the change, and 60% agrees that the leader group credible show others how to achieve their collective goals. These findings indicate that the belief of principal support is

present, and thus expected to increase the levels of change readiness (Armenakis & Harris, 2009;Neves, 2009).

However, 33% of the respondents reported that they had experienced lack of support from the leader group or division managers. Principal support and efficacy are two beliefs suggested to be related (Rafferty et al., 2013). When the leader group support the change, they implicitly communicate that they will offer the resources and guidance needed to successfully implement the change. When such support and resources are not provided, a lack of principal support and efficacy can occur (Armenakis et al, 2007;Rafferty et al., 2013). 49% of the respondents answered "no" or "don't know" when asked if division managers were able to effectively link the leader group with the rest of the organization. Based on these findings, lack of principal support is suggested to also cause lack of individual efficacy.

4.4.5 Personal Valence

Employees are expected to be more positive towards changes they believe they will benefit from (Neves, 2009;Rafferty et al., 2013). Based on the findings related to personal valence, there seems to be a great share of uncertainty among the respondents whether they will benefit from the changes. 49% of the respondents did not know whether the reward systems exclusively focused on short-term results and 33% of the respondents did not know whether the reward system value innovation and change. These responses imply that the belief personal valence is not properly addressed in the change message.

5.0 Conclusion

The purpose of this dissertation was to investigate the role of psychological safety on creating and sustaining organizational change readiness. The research question was answered by completing the aims and objectives. In the literature review psychological safety was found to have a positive role on creating and sustaining change readiness (Edmondson, 1999;2019;Schein, 1996 in Burnes, 2004b). Psychological safety facilitates learning behavior (Edmondson, 1999), and was thus suggested to serve as a positive catalyst on creating and sustaining change readiness.

The role of psychological safety on organizational change readiness was investigated in the organizational context of Company X. A survey which quantitatively measures psychological safety and change readiness was distributed to all the employees. The data collected indicated that the sample consisted of mainly change ready and psychologically safe employees. A positive correlation between the two constructs were found based on the sample data. The overall high scores among the respondents posed a challenge for testing the effect size of the independent variables, which was a weakness with this research. However, there was found a statistical association between the groups of employees with highest levels of psychological safety and highest levels of change readiness. There were found no statistically significant associations between these two groups and the demographic variables. This result indicated that group memberships were not expected to affect which respondents were in the highest groups. Based on these findings it was suggested that psychological barriers caused by group memberships were reduced as a result of the high scores of psychological safety.

The literature review in combination with the findings from the data analysis have led to four recommendations. Two for practitioners, focused at Company X, and two for scholars for future research. The recommendations will be further described in chapter 6:

1. Re-address the key change beliefs.
2. Setting the stage for psychological safety.
3. Adjust the ROCR questionnaire.
4. Further investigate psychological safety's role on organizational change readiness.

6.0 Recommendations

The purpose of this chapter is to answer research objective 4: Combine findings from the literature review and the data analysis to provide recommendations for scholars and practitioners on how to improve and sustain organizational change readiness.

Due to the lack of in-depth knowledge regarding Company X's formal and informal structures, these recommendations are based on the literature review and the results obtained from the data collected in the organization. The findings from the data analysis indicated that Company X was ready for change. There were also measured overall high levels of psychological safety within the teams. This could also provide indications that psychological safety is present at the organizational level (Newman et al., 2017). The levels of psychological safety and change readiness are continuously fluctuating because they are affected by internal and external factors in the organization's environment (Lewin, 1947). By (2007) suggests that implementing change readiness in the organizational culture will secure a continuous focus on increasing and sustaining readiness. By (2007) further suggests that Armenakis et al.'s (1993;1999) Readiness Model complements the continuous focus on change readiness. To implement psychological safety as a part of the embedded organizational culture, applying Edmondson's (2019) Leaders Toolkit is suggested as an appropriate approach.

To facilitate a continuous focus on creating and sustaining change readiness and psychological safety, Company X is recommended to implement the Readiness Model (Armenakis et al., 1993;1999) and the Leader's Tool Kit (Edmondson, 2019) as frameworks the change agents should apply. Based on the findings in this dissertation, two recommendations will be presented to guide the change agents in the use of the two frameworks:

- **Recommendation 1:** Re-addresses the key change beliefs.

    - Part 1: Apply implicit communication to legitimize principal support.
    - Part 2: Re-allocate resources and apply enactive mastery to increase efficacy at the individual level.
    - Part 3: Improve systems and structures to strengthen discrepancy and personal valence.

- **Recommendation 2:** Setting the stage for psychological safety.

Based on the experience and knowledge obtained by working on this dissertation, two recommendations are provided for scholars for future research:

- **Recommendation 3:** Adjust the ROCR questionnaire.
- **Recommendation 4:** Further investigate psychological safety's role on organizational change readiness.

6.1 Recommendation 1: Re-address the Key Change Beliefs

Company X was measured to be ready for change both at the individual and organizational levels. 93% of the respondents were change ready with a score >=10 and Company X's score on organizational change readiness was 22,6. The first recommendation for Company X is to implement the Readiness Model as a tool to guide the change agent in proactively designing and implementing readiness programs (Armenakis & Harris, 2001). By applying this model, the change agent's understanding of the change initiatives scope can increase, and in addition help prioritize which change initiatives should be addressed first (Armenakis & Harris, 2009). When change agents incorporate this framework to all change processes, a continuous focus on creating and sustaining change readiness is expected, which will ultimately increase the likelihood of successful implementation (Armenakis et al., 1993;Armenakis & Harris, 2009; By, 2007).

How well the change agent addresses the five key change beliefs affect the change recipient's propensity to support or resist a change (Armenakis, et al., 1999;Armenakis and Harris, 2001). As a result of the analysis performed in chapter 4, Company X is recommended to re-address the beliefs; discrepancy, efficacy, principal support and personal valence in order to increase the organizational members change readiness. The organizational members are exposed to a continuous flow of information, thus choosing the right combination of conveying strategies does affect how the employees interpret the change message (Armenakis et al., 1993;Armenakis & Harris, 2001). Due to the high level of change readiness in Company X, it is recommended that they use readiness programs located at the right side of figure 11. The urgency of the change affects how the conveying strategies should be combined (Armenakis et al., 1993). Due to lack of information about the organizational context and future changes in Company X, a specific readiness program was not

recommended. However, some examples of how different conveying strategies can be applied based on the analysis of the data collected is included.
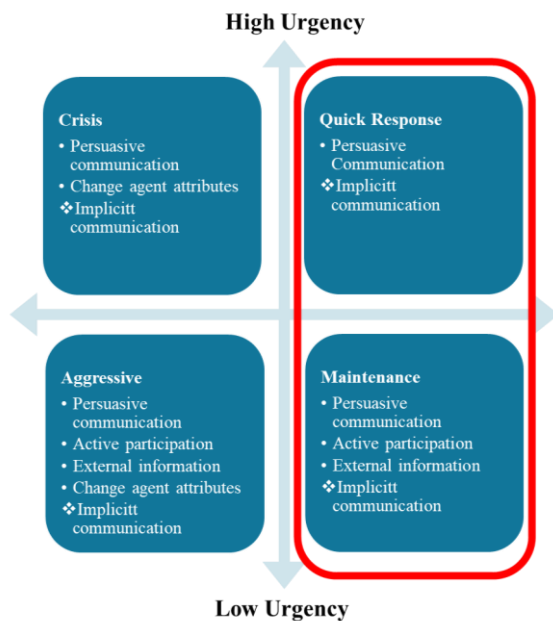
Figure 11: Suggested readiness programs for Company X based on four hypothetical readiness programs for various combinations of organizational change readiness and timeframes for implementing the change (Adapted from Armenakis et al., 1993:p.692;By, 2007).

6.1.1 Apply Implicit Communication to Legitimize Principal Support

The principal support belief was to some extent present among the respondents. However, there was found a lack in ability among the division managers to effectively link the leader group with the rest of the organization.

It is thus recommended that Company X apply the implicit communication strategy to increase the principal support belief in the change message. The strategy requires the leader group and divisional managers to lead by example, and thereby indirectly create awareness that the organization as a whole is working towards the same goals (By, 2007). Applying this conveying strategy when sending the change message is suggested to build trust among the organizational members that they will receive the necessary support in a change process, and thereby increase the legitimacy of the principal support. The implicit communication strategy is thus also suggested to better address the efficacy belief because it will emphasize that those at lower levels will also be provided access to necessary resources and energy (By, 2007;Rafferty et al., 2013).

6.1.2 Re-Allocate Resources and Apply Enactive Mastery to Increase Efficacy at the Individual Level

Organizational members are more likely to accept tasks when they believe they are able to complete them (Rafferty et al., 2013). The change agent should work to increase the change recipients' trust in terms of them being supplied with the sufficient resources to complete the tasks necessary to implement the change (Armenakis et al., 2007). To better satisfy the belief of individual efficacy among the organizational members in Company X, the change agent is recommended to revisit the current allocation of resources and energy among the different hierarchical levels of the organization.

To further strengthen the belief of individual efficacy, the change agent is recommended to also apply active participation when conveying the change message (Armenakis et al., 1993). By facilitating active participation, the change message is sent indirectly through the employees engaging in self-discovering activities (Armenakis et al., 1993; Armenakis & Harris, 2001). Enactive mastery is a form of active participation suggested for Company X. This conveying strategy builds the employees capabilities incrementally to eventually ready the organizational members for change (Armenakis et al., 1999). By applying this strategy, the organizational employees are expected to experience "easy wins" (Weick, 1984 in Armenakis et al., 1999) which will create a sense of efficacy among the employees that they are able to complete the activities needed for successful implementation of the change (Armenakis et al., 1993)

6.1.3 Improve Systems and Structures to Strengthen Discrepancy and Personal Valence

The discrepancy belief was found to be overall present among the respondents. However, the results provided an indication of lack in information related to the scanning mechanisms and measures for tracking change. To increase this belief, the change agent is recommended to apply persuasive communication by presenting newsletters and information related to these systems to create awareness and understanding (Armenakis et al., 1993). They could also directly involve the employees in the work of identifying the need for change by applying the active participation strategy vicarious learning (Armenakis & Harris, 2001).

A large share of the respondents had answered "don't know" on the questions in the ROCR component related to the personal valence belief. This finding was suggested to be a result of

lack of knowledge among the employees about Company X's reward system, or a result of the abstract phrasing of the questions the ROCR component. These findings thus indicated that the personal valence belief was not sufficiently addressed. The lack of information could decrease the employees' propensity to support the change, as they do not know how the change will benefit them (Rafferty et al., 2013). It is therefore recommended that Company X either redesign their reward systems so that activities of innovation and change is rewarded, or that they apply persuasive communication to increase awareness that the reward system currently values such activities.

6.2 Recommendation 2: Setting the Stage for Psychological Safety

The presence of psychological safety encourages the organizational members to portray learning behavior (Edmondson, 2019), which could increase their level of change readiness (Schein, 1996 in Burnes, 2004b). Having a psychological safe environment at an organizational level thus increases the employees' ability to share information and exchange ideas across vertical and horizontal levels of the organization (Newman et al., 2017). In such environments a common group standard could evolve, which unifies the reactions to the change message from the employees (Edmondson & Woolley, 2003).

The findings provided indications that psychological safety was present at an organizational level in Company X. However, this finding could not be concluded with certainty due to the low number of employees who participated in the survey. The change agent must therefore be aware of how differences in levels of psychological safety could affect the organizational members' reactions towards the change message (Edmondson & Woolley, 2003; Walinga, 2008).

However, there were found indications that there is psychological safety in many teams within Company X. To continually build and maintain psychological safety within teams Edmondson's (2019) Leaders Tool Kit was viewed as an appropriate approach. The respondents did highly agree on that mistakes were not held against them (6,58). They were also able to bring up problems and tough issues (6,37) and their team members would not reject others for being different (6,26). Based on these scores the respondents were assumed to have confidence in that "voice is welcome" and an orientation towards learning behavior

(Edmondson, 2019:p.159). The two final steps in the Tool Kit; Inviting participation and responding productively were thus suggested to be properly executed (Edmondson, 2019).

The change agent is recommended to focus on improving the first step in the Tool Kit; Setting the stage. They should focus on creating a common consensus related to what are considered acceptable mistakes and emphasize the teams' purpose and tasks (Edmondson, 2019). In this step it is essential that the change agent defines and emphasizes the importance of each team member's role to increase the members' feeling of being valued. This can also reduce the likelihood of team members undermining others efforts. When these expectations are set, the presence of psychological safety could be expected to increase. The employees will then be more likely to engage in learning behaviors which ultimately increases their levels of change readiness (Edmondson, 1999;2019).

Company X is also recommended to frequently re-test all employees to identify the present levels of psychological safety to follow the development of psychological safety levels within the various teams by applying Edmondson's (2019) 7-item Likert scale. Based on these findings, Company X should actively engage in and facilitate activities that builds psychological safety in teams where it is needed by applying the Leader's Tool kit (see chapter 2) to increase and sustain the levels of psychological safety.

6.3 Recommendation 3: Adjust the ROCR Questionnaire

As discussed in chapter 3, the data collected had a large percentage of missing values. The two components measuring organizational change readiness and psychological safety were distributed to the same respondents combined in one single questionnaire. However, the ROCR component had a substantially larger amount of missing values than the psychological safety component did (21,38% versus 2,66%). It could thus be assumed that causes for the variation in missing value were related to the phrasing of the questions, or due to the alternatives available for the respondents when answering (Johannessen et al., 2011).

The phrasing of some ROCR questions could be considered as somewhat abstract when referring to; "scanning mechanisms", "reward systems that value innovation and change" and "measures available for assessing the need for change and tracking progress" (Cawsey et al., 2016:p.108-110). It is thus recommended that scholars who apply the ROCR component in future research replace these phrasings with definitions or explanations to better align the questionnaire with the specific organizational context.

The ROCR consisted of three alternatives applicable for the respondent; Yes, no and don't know. The psychological safety statements however, offered more alternatives when answering on a 7-point Likert scale. The psychological safety statements could thus be perceived as less rigid by the respondents (Seloter, 2019). It is therefore recommended that scholars investigate the possibility of converting the ROCR additive scoring system into a Likert scale. By doing so, the respondents can choose between a range of alternatives which could be perceived as more a true representation of their perception regarding specific questions. Whilst maintaining the original scoring system of the ROCR, this alteration is expected to result in less missing values. In addition, the researcher is expected to gain an increased understanding related to the factors affecting the organization's level of change readiness,

6.4 Recommendation 4: Further Investigate Psychological Safety's Role on Organizational Change Readiness

Based on the data collected on psychological safety and change readiness in Company X, the two constructs where found to be positively correlated. The two constructs were also found to have a positive relationship in the literature review, whereby psychological safety and the associated behaviors could increase the change readiness among the members of a group and at an organizational level (Schein, 1996 in Burnes, 2004b).

The positive role of a high level of psychological safety on the creation of change readiness at an already high score of readiness was further investigated in this dissertation. The results indicated that the overall high levels of psychological safety among the different groups in the sample was suggested to remove psychological barriers that could have potentially reduced change readiness (Carmeli et al., 2009). However, due to the overall high scores on change readiness (93% of the respondents were change ready) and psychological safety (88,37% of the respondents perceived their teams as psychologically safe), it was not found feasible to further investigate the role of absence of psychological safety on the various levels of change readiness.

It is therefore recommended that scholars perform research in organizational contexts which provide the opportunity of exploring the effect of absence of psychological safety on organizational change readiness. It is also recommended that scholars investigate the effect size of different levels of psychological safety on different levels of organizational change

readiness. This further research could provide valuable insights regarding how absence of psychological safety affects organizational change readiness, in addition to measure the effect size of psychological safety on organizational change readiness levels.

Literature

Armenakis, A. A. & Harris, S. G. (2001). Crafting a change message to create transformational readiness. *Journal of Organizational Change Management, 15*(2), p:169-183. DOI: https://doi.org/10.1108/09534810210423080

Armenakis, A. A. & Harris, S. G. (2009). Reflections: our Journey in Organizational Change. Research and Practice. *Journal of Change Management*, *9*(2), p:127-142. DOI: https://doi.org/10.1080/14697010902879079

Armenakis, A. A., Bernerth, J. B., Pitts, J. P. & Walker, H. J. (2007). Organizational change recipients' beliefs scale. Development of an assessment instrument. *The Journal of Applied Science. 43*(4), p:481-505. DOI: 10.1177/0021886307303654

Armenakis, A. A., Harris, S. G. & Feild, H. S. (1999). Making Change Permanent: A Model for Institutionalizing Change Interventions. *Research in Organizational Change and Development, 12*, p:97-128. DOI: https://doi.org/10.1016/S0897-3016(99)12005-6

Armenakis, A., Harris, S., & Mossholder K. (1993). Creating Readiness for Organizational Change. *Human Relations, 46*(6), p:681-703.

Baer, M. & Frese, M. (2002). Innovation is not enough: climates for initiative and psychological safety, process innovations, and firm performance. *Journal of Organizational Behavior, 24*(1), p:45-68. DOI: https://onlinelibrary.wiley.com/doi/epdf/10.1002/job.179

Beatty, P., Herrmann, D. (2002) To answer or not to answer: Decision processes related to survey item nonresponse. In Groves, R. M., Dillman, D. A., Eltinge, J. L. & Little, R. K. A (edt) *Survey Nonresponse* (p.3-26). New York: John Wiley & Sons Inc.

Blaikie, N. & Priest, J. (2017) *Social Research: Paradigms in Action.* United Kingdom*:* Polity Press.

Burnes, B. (2004;d). Emergent change and planned change – competitors or allies? The case of XYZ construction. *International Journal of Operations & Production Management, 24*(9), p:886-902.

Burnes, B. (2004a). Kurt Lewin and complexity theories: back to the future? *Journal of Change management, 4*(4), p:309-325. DOI: 10.1080/1469701042000303811

Burnes, B. (2004b). Kurt Lewin and the Planned Approach to Change: A Re-appraisal. *Journal of Management Studies, 41*(6), p:977-1002.

Burnes, B. (2004c). *Managing Change: A Strategic Approach to Organizational Dynamics.* Harlow, Essex: Prentice Hall.

By, R. T. (2005). Organizational change management: A critical review. *Journal of Change Management,* 5(4), p:369-380.

By, R. T. (2007). Ready or Not… *Journal of Change Management, 7*(1), p:3-11. DOI: https://doi.org/10.1080/14697010701265249

Caldwell, R. (2003). Models of Change Agency: a Fourfold Classification. *British Journal of Management, 14*(2), p:131-142. DOI:10.1111/1467-8551.00270

Caldwell, R. (2005). Things fall apart? Discourses on agency and change in organizations. *Human Relations, 51*(1), p:83-114. DOI: 10.1177/001872670505093

Caldwell, S. D. (2013). Are Change Readiness Strategies Overrated? A Commentary on Boundary Conditions, *Journal of Change Management, 13*(1), p:19-35. DOI: 10.1080/14697017.2013.768428

Carmeli, A., Brueller, D. & Dutton, J. E. (2009). Learning Behaviours in the Workplace:The Role of High-quality Interpersonal Relationships and Psychological Safety- *Systems Research and Behavioral Science 26*, p:81-98. DOI :10.1002/sres.932

Cawsey, T. F., Deszca, G. & Ingols, C. (2016). *Organizational Change. An Action-Oriented Toolkit* (3rd edition). United States of America: Sage Publications.

Choi, M. & Ruona, W. E. A. (2011). Individual readiness for organizational change and its implications for human resource and organization development. *Human Resource Development Review, 10*(1), p:46-73. *DOI: 10.1177/1534484310384957.*

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), p:297–334. DOI:10.1007/bf02310555.

Dent, E. B., & Goldberg, S. G. (1999). Challenging "Resistance to Change." *The Journal of Applied Behavioral Scienc*e, 35(1), p:25–41. DOI: https://doi.org/10.1177/0021886399351003

Dillman, D. A., Eltinge, J. L., Groves, R. G. & Little, R. J. A (2002). Survey in nonresponse in design, data collection and analysis. In Groves, R. M., Dillman, D. A., Eltinge, J. L. & Little, R. K. A (edt) *Survey Nonresponse* (p.3-26). New York: John Wiley & Sons Inc.

Edmondson, A. C. (2019). *The fearless organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth*. New Jersey: John Wiley & Sons, Inc.

Edmondson, A. C., & Woolley, A. (2003). Understanding outcomes of organizational learning interventions. In M. Easterby-Smith, & M. Lyles (Eds.), *International handbook on organizational learning and knowledge management*. London: Blackwell.

Edmondson, A., (1999) Psychological safety and learning behavior in work teams. *Administrative science quarterly, 44*(2), p:350-383.

Field, A. (2009). *Discovering Statistics Using SPSS* (3rd edition). Los Angeles: Sage Publications.

Fink, A. (2003) *How to ask survey questions.* California: Sage Publications.

Ford, J. D., Ford, L. W. & D'Amelio, A. (2008). Resistance to Change: The Rest of the Story. *Academy of Management Review, 33*(2), p:362-377.

Frazier, M.L., Fainshmidt, S., Klinger, R.L., Pezeshkan, A. & Vracheva, V., (2017). Psychological Safety: A Meta-Analytic Review and Extension. *Personnel Psychology*, *70*(1), p:113-165. DOI: 10.1111/peps.12183

Guinot, J., Chiva, R. & Roca-Puig, V. (2014). Interpersonal trust, stress and satisfaction at work: an empirical study. *Personnel Review, 43*(1), p:96-115. DOI: https://doi.org/10.1108/PR-02-2012-0043

Hackman, R. J. & Wageman, R. (2005). A theory of team coaching. *Academy of Management Review, 20*(2), p:269-287. DOI: https://doi.org/10.5465/amr.2005.16387885

Hinton, P. R., McMurray, I., Brownlow, C. & Cozens B. (2004). *SPSS Explained*. London: Routledge.

Holt, D. T., & Vardaman, J. M. (2013). Toward a Comprehensive Understanding of Readiness for Change: The Case for an Expanded Conceptualization, *Journal of Change Management, 13*(1), p:9-18, DOI:10.1080/14697017.2013.768426

Johannessen, A., Christoffersen L. & Tufte, P.A. (2011) *Forskningsmetode for økonomisk-administrative fag.* Oslo: Abstrakt forlag.

Jones, R. A., Jimmieson, N. L., & Griffiths, A. (2005). The impact of organizational culture and reshaping capabilities on change implementation success: The mediating role of readiness for change. *Journal of Management Studies, 42*(2), p:361-386.

Kahn W., A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, *22*(4), p:692-724.

Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social science; social Equilibria and social change. *Human Relations, 1*(1), p:5-41.

Lewin, K. (1952). Group decision and social change. In Swanson G. E., Newcombe T., M. & Hartley E., L. (red.) *Readings in social psychology* (p. 197-211). New York, USA: Holt.

Løvås, G. G. (2013). *Statistikk for universiteter og høgskoler* (3rd edition). Oslo: Universitetsforlaget.

Maanen, J. V. (1979). On the understanding of Interpersonal Relations. In Bennis W., Maanen J. V., Schein E. H. & Steele F. I. (1979) *Essays in interpersonal dynamics* (p:13-43)*.* Illinois: The Dorsey press.

Malhotra, N. K. (2014) *Basic Marketing Research.* Essex: Pearsons Education Limited.

Nadler, D. A. & Tushman, M. L. (1989). Organizational Frame Bending: Principles for Managing Reorientation. *The Academy of Management Executive*, *3*(3), p:194-204.

Neuman, L., W. (2007). *Basics of social research: Qualitative and quantitative approaches.* United States of America: Pearsons Education Inc.

Neves, P. (2009). Readiness for Change: Contributions for Employee's Level of Individual Change and Turnover Intentions. *Journal of Change Management. 9*(2), p:215-231. DOI: https://doi.org/10.1080/14697010902879178

Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. *Human Resource Management Review, 23*(3), p:521-535. DOI: http://dx.doi.org/10.1016/j.hrmr.2017.01.001

Olsson, H., & Sörensen, S. (2009). *Forskningsprosessen, Kvalitative og kvantitative perspektiver.* Oslo: Gyldendal Norske Forlag.

Rafferty, A., Jimmieson, N., & Armenakis, A. (2013). Change Readiness: A Multilevel Review. *Journal of Management*, *39*(1), p:110-135.

Schein, E. H. (1979) Personal change through interpersonal relationships. In Bennis W., Maanen J. V., Schein E. H. & Steele F. I. (1979) *Essays in interpersonal dynamics* (p:129-163). Illinois: The Dorsey press.

Schein, E. H., Bennis, W. G. (1965). *Personal and organizational change through group methods.* New York: John Wiley & Sons Inc.

Seloter R. (2009) *Supporting Organizational change through a focus on change readiness.* (Executive MBA). Universitet i Stavanger, Stavanger.

Tourangeau, R., & Yan, T. (2007). Sensitive Questions in Surveys. *Psychological Bulletin, 133*(5), p:859-883.

Tourangeau, R., Rips, L. J. & Rasinski, K. (2000). *The psychology of survey response.* New York: Cambridge University Press.

Walinga, J. (2008). Toward a Theory of Change Readiness: The Roles of Appraisal, Focus, and Perceived Control. *The Journal of Applied Behavioural Sciences, 44* (3), p:315-343.DOI: https://doi.org/10.1177/0021886308318967

Weiner, B. J., (2009). A theory of organizational readiness for change. *Implementation Science*, 4:67. DOI:10.1186/1748-5908-4-67

Yin, R., K (2018). *Case study research and applications; Design and Methods.* Los Angeles: Sage Publications.

Appendix 1: Survey (in Norwegian)

<u>Information to Company X:</u>

Våren 2020 har vi et samarbeid med to masterstudenter i Strategi og Ledelse (Siv.øk.) fra Handelshøgskolen ved Universitet i Stavanger, Martine Andersen og Eline Hille.

Formålet med masteroppgaven er å analysere Company X's endringsklarhet. Endringsklarhet kan defineres som individenes tanker og holdninger omkring hvorvidt endringer er nødvendig, og organisasjonens kapasitet til å foreta disse endringene.

Masteroppgaven baserer seg på en spørreundersøkelse som alle ansatte i Company X har mulighet til å besvare. For å sikre en best mulig analyse håper vi så mange som mulig har anledning til å delta.

Undersøkelsen er anonym og tar 6-8 minutter å gjennomføre. Du starter undersøkelsen ved å trykke på linken: XXXXXXX

Svarfrist innen fredag 20.mars.

Questionnaire including privacy policy.

SPØRREUNDERSØKELSEN

Innledende tekst i spørreundersøkelsen

Hei

Denne spørreundersøkelsen er en sentral del av masteroppgaven til Martine Andersen og Eline Hille som studerer Strategi og Ledelse (Siv.øk.) på Handelshøgskolen ved Universitet i Stavanger.

Denne innledende teksten vil gi deg informasjon om hensikten for spørreundersøkelsen og masteroppgaven, samt hva deltakelse vil innebære for deg.

Formål:

Formålet med masteroppgaven er å analysere bedriftens endringsklarhet. Endringsklarhet kan defineres som individenes tanker og holdninger omkring hvorvidt endringer er nødvendig, og bedriftens kapasitet til å foreta disse endringene (Armenakis et al., 1993).

Spørreundersøkelsen tar 6-8 minutter å gjennomføre, og er basert på arbeidet til Stewart (1994), Holt (2002) og Judge og Douglas (2009) som presenteres i boken til Cawsey, Deszca og Ingols (2016), samt Edmondson (1999).

Det er frivillig å delta:

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykke tilbake uten å oppgi noen grunn. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger

Vi vil kun bruke opplysningene om deg til formålene vi har omtalt i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket. Eline Hille, Martine Andersen og Rune Todnem By (veileder) vil ha tilgang til dataene. Respondentene vil ikke kunne gjenkjennes i den ferdige masteroppgaven eller underveis i arbeidet.

Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?:

Arbeidet med masteroppgaven avsluttes 15.juni 2020. Etter prosjektslutt vil alle opplysninger fra spørreundersøkelsen slettes. Den ferdige masteroppgaven vil bli tilgjengelig offentlig, og alle personopplysninger vil være anonymisert og ikke kunne spores tilbake til enkeltpersoner.

Dine rettigheter:

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg,

- å få rettet personopplysninger om deg,

- få slettet personopplysninger om deg,

- få utlevert en kopi av dine personopplysninger (dataportabilitet), og

- å sende klage til personvernombudet eller Datatilsynet om behandlingen av dine
  personopplysninger.

Hva gir oss rett til å behandle personopplysninger om deg?

Vi behandler opplysninger om deg basert på ditt samtykke.

Hvor kan jeg finne ut mer?

Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

· Eline Hille, Mail: elinehille@outlook.com, Martine Andersen, Mail:
  martine.maa@gmail.com, Veileder Rune Todnem By, Mail: rune.t.by@uis.no, Universitetet i
  Stavanger.

· Vårt personvernombud: personvernombud@uis.no, Universitet i Stavanger.

· NSD – Norsk senter for forskningsdata AS, på epost (personverntjenester@nsd.no) eller
  telefon: 55 58 21 17.

Med vennlig hilsen

Eline Hille og Martine Andersen

Jeg har mottatt og forstått informasjon om hensikten med spørreundersøkelsen, og har fått anledning til å stille spørsmål. Jeg samtykker til:

(1) ❑ Å delta i spørreundersøkelsen og at mine opplysninger behandles frem til prosjektet er avsluttet, 15.juni 2020

Har bedriften generelt sett hatt positive erfaringer med endringer?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Har bedriften nylig hatt opplevelser/erfaringer med endring som ikke har lykkes?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du den generelle stemningen i bedriften som positiv og munter?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du den generelle stemningen i bedriften som negativ og kynisk?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at bedriften er tilfreds med nåværende situasjon (ofte brukt ordtak: "hviler på sine laurbær")?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at ledergruppen er direkte involvert og støtter opp om endringer?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at det eksisterer et klart bilde for hvordan bedriften ønsker å se ut i fremtiden?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at ledergruppen sin suksess er avhengig av at det forekommer endringer?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Har ledergruppen og/eller avdelingsledere noen gang vist mangel på støtte?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at ledergruppen har tillit blant de ansatte?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at ledergruppen er i stand til å vise andre hvordan man kan oppnå felles målsetninger på en troverdig måte?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Er bedriften i stand til å rekruttere og beholde dyktige og respekterte "Endringsforkjempere"?
(Med endringsforkjemper mener vi en person som er villig til å kjempe for endring, også dersom det oppstår motstand og utfordrende situasjoner)

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Klarer avdelingsledere å effektivt knytte sammen ledergruppen med resten av bedriften?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Er ledergruppen i stand til å identifisere endringsbehovet til bedriften?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at endringer anses som nødvendig av ledergruppen?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Har bedriften mekanismer for å måle og overvåke endringene i omgivelsene (markedet, teknologi, konkurrenter osv.)?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Eksisterer det en kultur for å faktisk måle og tilpasse seg disse endringene?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Har bedriften evne til å identifisere årsakene til problemer som oppstår, og anerkjenne sammenhenger både innenfor og utenfor selskapet?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at det eksisterer en kultur i bedriften hvor teamene tenker mer på seg selv enn bedriften som en helhet?
(Med team mener vi den gruppen mennesker du samarbeider med for å oppnå felles mål)

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at ledergruppen er fastlåst i tidligere tenkemåter, løsninger og strategier?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at ansatte i bedriften er frie til å uttrykke bekymringer og/eller støtte på en konstruktiv måte?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at konflikter blir håndtert åpent, med et hovedfokus på å oppnå en løsning?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at konflikter blir dysset ned og bagatellisert?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at kulturen i bedriften er innovativ, og at den oppmuntrer til innovative aktiviteter?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Her kan du legge igjen en kommentar dersom du ønsker å utdype mer angående kulturen i bedriften:

_____

_____

_____

_____

_____

Har bedriften effektive kommunikasjonskanaler (i og mellom avdelingene, mellom ledelsen og øvrige ansatte, internt og eksternt)?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at ansatte som ikke er i ledergruppen anser endringer som generelt passende for bedriftens utvikling?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at endringer blir sett på som nødvendig av ansatte som ikke er i ledergruppen?

(1) ❏ Ja

(0) ❏ Nei

(9) ❏ Vet ikke

Opplever du at de som blir påvirket av en endring har nødvendig energi til å foreta endringen?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Opplever du at de ansatte som blir påvirket av en endring har tilstrekkelig tilgang på ressurser for å foreta endringen?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Blir innovasjon og endring belønnet i bedriftens belønningssystem (f.eks. lønn, skryt, nye arbeidsoppgaver, kurs)?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Fokuserer bedriftens belønningssystem kun på kortsiktige resultater?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Blir ansatte kritisert for sine forsøk på endring dersom de ikke lykkes?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Har bedriften gode måleinstrumenter for å vurdere behovet for endring, og spore, følge og observere progresjonen?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Ivaretar og anvender bedriften dataen som er samlet inn?

(1) ❑ Ja

(0) ❑ Nei

(9) ❑ Vet ikke

Måler og evaluerer bedriften kunde/brukertilfredshet?

(1) ☐ Ja

(0) ☐ Nei

(9) ☐ Vet ikke

Er bedriften i stand til å forvalte sine ressurser samt lykkes med å overholde fastsatte tidsfrister?

(1) ☐ Ja

(0) ☐ Nei

(9) ☐ Vet ikke

Med team mener vi den gruppen mennesker du samarbeider med for å oppnå felles mål.

Vennligst svar på følgende påstander basert på skalaen 1 til 7, hvor 1 = Helt uenig og 7 = Helt enig

Hvis jeg gjør en feil i mitt team, kan dette ofte bli holdt mot meg.

1 (Helt uenig)	2	3	4	5	6	7 (Helt enig)	Vet ikke
(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐	(7) ☐	(9) ☐

Mine teammedlemmer kan ta opp problemer og utfordringer.

1 (Helt uenig)	2	3	4	5	6	7 (Helt enig)	Vet ikke
(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐	(7) ☐	(9) ☐

Medlemmene i mitt team avviser noen ganger andre, fordi de anser dem som annerledes.

1 (Helt uenig)	2	3	4	5	6	7 (Helt enig)	Vet ikke
(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐	(7) ☐	(9) ☐

Det er trygt å ta risiko i mitt team.

1 (Helt uenig)	2	3	4	5	6	7 (Helt enig)	Vet ikke
(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐	(7) ☐	(9) ☐

Det er vanskelig å spørre mine teammedlemmer om hjelp.

1 (Helt uenig)	2	3	4	5	6	7 (Helt enig)	Vet ikke
(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐	(7) ☐	(9) ☐

Ingen i mitt team ville med vilje handlet på en måte som underbygger min innsats.

1 (Helt uenig)	2	3	4	5	6	7 (Helt enig)	Vet ikke
(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑	(6) ❑	(7) ❑	(9) ❑

I mitt team blir mine unike evner og talenter verdsatt og anvendt.

1 (Helt uenig)	2	3	4	5	6	7 (Helt enig)	Vet ikke
(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑	(6) ❑	(7) ❑	(9) ❑

Kjønn

(1) ❑ Kvinne
(2) ❑ Mann
(8) ❑ Ønsker ikke å oppgi

Hvilken aldersgruppe tilhører du?

(1) ❑ Under 30 år
(2) ❑ 30-40 år
(3) ❑ 41-50 år
(4) ❑ 51-60 år
(5) ❑ 61-70 år
(8) ❑ Ønsker ikke å oppgi

Hvilket fagområde jobber du hovedsakelig innenfor?

(1) ❑ Fagområde X
(2) ❑ Fagområde Y
(3) ❑ Fagområde Z
(8) ❑ Ønsker ikke å oppgi

Hvilket kontor/lokasjon jobber du hovedsakelig på?

(1) ❑ Lokasjon A
(2) ❑ Lokasjon B
(8) ❑ Ønsker ikke å oppgi

Hvor lenge har du jobbet i bedriften?

(1) ❑ Under 3 år
(2) ❑ 3-6 år
(3) ❑ 7-10 år
(4) ❑ Over 10 år
(8) ❑ Ønsker ikke å oppgi

Har du personalansvar?

(1) ❑ Ja

(2) ❑ Nei

(8) ❑ Ønsker ikke å oppgi

Helt generelt sett, hvor endringsklar mener du bedriften er?
(Svar på en skala fra 1 til 7, hvor 1=Ikke endringsklar og 7=Veldig endringsklar)

1 (Ikke endringsklar)	2	3	4	5	6	7 (Veldig endringsklar)	Vet ikke
(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑	(6) ❑	(7) ❑	(9) ❑

Hvis du ønsker å utdype mer angående endringsklarheten i bedriften, eller andre relaterte temaer du mener denne undersøkelsen ikke favnet, kan du legge igjen en kommentar her:

_____

_____

_____

_____

_____

Takk for at du tok deg tid til å gjennomføre denne spørreundersøkelsen.

Resultatene fra undersøkelsen vil bli brukt som grunnlag for videre arbeid med vår masteroppgave som vil bli tilgjengelig etter 15.juni.2020.
Deltakelse er frivillig, alle svar er anonymisert og blir behandlet konfidensielt. Det vil ikke være mulig å gjenkjenne enkeltpersoner underveis i prosessen eller i den ferdigstilte masteroppgaven.

Med vennlig hilsen
Eline Hille og Martine Andersen

Appendix 2 -Testing For Normal Distribution

Change Readiness

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Individual Change Readiness Score	,125	43	,089	,939	43	,024

a. Lilliefors Significance Correction

The test was not significant with p=0,024 < p,0,05, indicating that the data is not normally distributed (Field, 2009)

Psychological safety

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Individual Psychological Safety	,192	43	,000	,876	43	,000

a. Lilliefors Significance Correction

The test was significant with p=0,000 < p,0,05, indicating that the data was not normally distributed (Field, 2009)

Appendix 3 -Nonparametric Spearman Test

Correlations

			Individual Change Readiness Score	Individual Psychological Safety
Spearman's rho	Individual Change Readiness Score	Correlation Coefficient	1,000	,402**
		Sig. (2-tailed)	.	,008
		N	43	43
	Individual Psychological Safety	Correlation Coefficient	,402**	1,000
		Sig. (2-tailed)	,008	.
		N	43	43

**. Correlation is significant at the 0.01 level (2-tailed).

The results from the correlation analysis is that there is a significant relationship between the psychological safety score and the change readiness score, at a 1% significance level. The correlation coefficient is 0,402 indicating there is a moderate strength in the relationship between the two variables (Field, 2009).

Appendix 4 - Chi Square Tests

Highest Psychological Safety Group*Highest Change Readiness Group:

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Highest Levels of Change Readiness * Highest Levels of Psychological Safety	43	100,0%	0	0,0%	43	100,0%

Highest Levels of Change Readiness * Highest Levels of Psychological Safety Crosstabulation

			Highest Levels of Psychological Safety		Total
			0	1	
Highest Levels of Change Readiness	Below 27 ROCR	Count	25	6	31
		Expected Count	21,6	9,4	31,0
		Residual	3,4	-3,4	
		Standardized Residual	,7	-1,1	
	Above 27 ROCR	Count	5	7	12
		Expected Count	8,4	3,6	12,0
		Residual	-3,4	3,4	
		Standardized Residual	-1,2	1,8	
Total		Count	30	13	43
		Expected Count	30,0	13,0	43,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6,232[a]	1	,013		
Continuity Correction[b]	4,521	1	,033		
Likelihood Ratio	5,940	1	,015		
Fisher's Exact Test				,024	,018
Linear-by-Linear Association	6,087	1	,014		
N of Valid Cases	43				

a. 1 cells (25,0%) have expected count less than 5. The minimum expected count is 3,63.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	,381	,154	2,300	,021
	Spearman Correlation	,381	,154	2,636	,012[c]
Interval by Interval	Pearson's R	,381	,154	2,636	,012[c]
N of Valid Cases		43			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

__The results indicated a significant association between high levels of psychological safety and high levels of change readiness at a 5% significance level. The Cramer's V was significant at a 5% level, with a value of 0.381, indicating a medium association (Field, 2009).__

Chi Square Tests Highest Score Groups* "Group Memberships"

- Highest change readiness group: Take on value 1 if score >=27, and 0 if score <27.
- Highest psychological safety group: Take on value 1 if score >=6,57, and 0 if score <6,57.

The table below presents a summary of the results from the tests:

Group Membership	Highest Psychological Safety Group
Gender	Not significant
Age	Not significant
Department	Not significant
Location	Not significant
Tenure	Not significant
Managerial responsibilities	Not significant
Group Membership	Lowest Change Readiness Group
Gender	Not significant
Age	Not significant
Department	Not significant
Location	Not significant
Tenure	Not significant
Managerial responsibilities	Not significant

Crosstabs Gender* Highest Psychological Safety group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Highest Psychological Safety Group	40	93,0%	3	7,0%	43	100,0%

Gender * Highest Psychological Safety Group Crosstabulation

			Highest Psychological Safety Group		Total
			0	1	
Gender	Female	Count	15	8	23
		Expected Count	15,5	7,5	23,0
		Standardized Residual	-,1	,2	
	Male	Count	12	5	17
		Expected Count	11,5	5,5	17,0
		Standardized Residual	,2	-,2	
Total		Count	27	13	40
		Expected Count	27,0	13,0	40,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	,129[a]	1	,720	,748	,496	
Continuity Correction[b]	,000	1	,986			
Likelihood Ratio	,129	1	,719	,748	,496	
Fisher's Exact Test				1,000	,496	
Linear-by-Linear Association	,125[c]	1	,723	,748	,496	,252
N of Valid Cases	40					

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 5,53.

b. Computed only for a 2x2 table

c. The standardized statistic is -,354.

The test was not statistically significant at a 5% level.

Crosstabs Age*Highest Psychological Safety group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Highest Psychological Safety Group	41	95,3%	2	4,7%	43	100,0%

Age * Highest Psychological Safety Group Crosstabulation

			Highest Psychological Safety Group		Total
			0	1	
Age	<30 years	Count	6	1	7
		Expected Count	4,8	2,2	7,0
		Standardized Residual	,6	-,8	
	30-40 years	Count	4	2	6
		Expected Count	4,1	1,9	6,0
		Standardized Residual	,0	,1	
	41-50 years	Count	13	5	18
		Expected Count	12,3	5,7	18,0
		Standardized Residual	,2	-,3	
	51-70 years	Count	5	5	10
		Expected Count	6,8	3,2	10,0
		Standardized Residual	-,7	1,0	
Total		Count	28	13	41
		Expected Count	28,0	13,0	41,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	2,662[a]	3	,447	,481		
Likelihood Ratio	2,708	3	,439	,481		
Fisher's Exact Test	2,566			,481		
Linear-by-Linear Association	1,886[b]	1	,170	,192	,113	,053
N of Valid Cases	41					

a. 5 cells (62,5%) have expected count less than 5. The minimum expected count is 1,90.

b. The standardized statistic is 1,373.

The test was not statistically significant at a 5% level.

Crosstabs Department*Highest Psychological Safety group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Department * Highest Psychological Safety Group	41	95,3%	2	4,7%	43	100,0%

Department * Highest Psychological Safety Group Crosstabulation

			Highest Psychological Safety Group		Total
			0	1	
Department	Department X	Count	19	8	27
		Expected Count	18,4	8,6	27,0
		Standardized Residual	,1	-,2	
	Department Y	Count	3	1	4
		Expected Count	2,7	1,3	4,0
		Standardized Residual	,2	-,2	
	Department Z	Count	6	4	10
		Expected Count	6,8	3,2	10,0
		Standardized Residual	-,3	,5	
Total		Count	28	13	41
		Expected Count	28,0	13,0	41,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	,455[a]	2	,797	,872		
Likelihood Ratio	,446	2	,800	,872		
Fisher's Exact Test	,605			,872		
Linear-by-Linear Association	,291[b]	1	,590	,701	,360	,130
N of Valid Cases	41					

a. 3 cells (50,0%) have expected count less than 5. The minimum expected count is 1,27.

b. The standardized statistic is ,539.

__The test was not statistically significant at a 5% level.__

Crosstabs Location*Highest Psychological Safety group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Location * Highest Psychological Safety Group	37	86,0%	6	14,0%	43	100,0%

Location * Highest Psychological Safety Group Crosstabulation

			Highest Psychological Safety Group		Total
			0	1	
Location	Location A	Count	14	7	21
		Expected Count	14,2	6,8	21,0
		Standardized Residual	-,1	,1	
	Location B	Count	11	5	16
		Expected Count	10,8	5,2	16,0
		Standardized Residual	,1	-,1	
Total		Count	25	12	37
		Expected Count	25,0	12,0	37,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	,018[a]	1	,893	1,000	,589	
Continuity Correction[b]	,000	1	1,000			
Likelihood Ratio	,018	1	,893	1,000	,589	
Fisher's Exact Test				1,000	,589	
Linear-by-Linear Association	,018[c]	1	,895	1,000	,589	,274
N of Valid Cases	37					

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 5,19.

b. Computed only for a 2x2 table

c. The standardized statistic is -,132.

__The test was not statistically significant at a 5% level.__

Crosstabs Tenure*Highest Psychological Safety group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Tenure * Highest Psychological Safety Group	39	90,7%	4	9,3%	43	100,0%

Tenure * Highest Psychological Safety Group Crosstabulation

			Highest Psychological Safety Group		
			0	1	Total
Tenure	<3 years	Count	16	7	23
		Expected Count	15,9	7,1	23,0
		Standardized Residual	,0	,0	
	3-6 years	Count	7	1	8
		Expected Count	5,5	2,5	8,0
		Standardized Residual	,6	-,9	
	>6 years	Count	4	4	8
		Expected Count	5,5	2,5	8,0
		Standardized Residual	-,7	1,0	
Total		Count	27	12	39
		Expected Count	27,0	12,0	39,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	2,644[a]	2	,267	,250		
Likelihood Ratio	2,759	2	,252	,250		
Fisher's Exact Test	2,485			,317		
Linear-by-Linear Association	,473[b]	1	,492	,528	,314	,130
N of Valid Cases	39					

a. 2 cells (33,3%) have expected count less than 5. The minimum expected count is 2,46.
b. The standardized statistic is ,688.

The test was not statistically significant at a 5% level.

Crosstabs Managerial Responsibility*Highest Psychological Safety group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Managerial Responsibility * Highest Psychological Safety Group	41	95,3%	2	4,7%	43	100,0%

Managerial Responsibility * Highest Psychological Safety Group Crosstabulation

			Highest Psychological Safety Group		Total
			0	1	
Managerial Responsibility	Yes	Count	4	2	6
		Expected Count	4,1	1,9	6,0
		Standardized Residual	,0	,1	
	No	Count	24	11	35
		Expected Count	23,9	11,1	35,0
		Standardized Residual	,0	,0	
Total		Count	28	13	41
		Expected Count	28,0	13,0	41,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	,009[a]	1	,926	1,000	,632	
Continuity Correction[b]	,000	1	1,000			
Likelihood Ratio	,009	1	,926	1,000	,632	
Fisher's Exact Test				1,000	,632	
Linear-by-Linear Association	,008[c]	1	,927	1,000	,632	,355
N of Valid Cases	41					

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 1,90.
b. Computed only for a 2x2 table
c. The standardized statistic is -,092.

__The test was not statistically significant at a 5% level.__

Crosstabs Gender*Highest levels of change readiness group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Highest Levels of Change Readiness Group	40	93,0%	3	7,0%	43	100,0%

Gender * Highest Levels of Change Readiness Group Crosstabulation

			Highest Levels of Change Readiness Group		Total
			0	1	
Gender	Female	Count	18	5	23
		Expected Count	16,1	6,9	23,0
		Standardized Residual	,5	-,7	
	Male	Count	10	7	17
		Expected Count	11,9	5,1	17,0
		Standardized Residual	-,6	,8	
Total		Count	28	12	40
		Expected Count	28,0	12,0	40,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1,759[a]	1	,185	,296	,164	
Continuity Correction[b]	,955	1	,328			
Likelihood Ratio	1,749	1	,186	,296	,164	
Fisher's Exact Test				,296	,164	
Linear-by-Linear Association	1,715[c]	1	,190	,296	,164	,117
N of Valid Cases	40					

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 5,10.

b. Computed only for a 2x2 table

c. The standardized statistic is 1,309.

__The test was not statistically significant at a 5% level.__

Crosstabs Age*Highest levels of change readiness group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Highest Levels of Change Readiness Group	41	95,3%	2	4,7%	43	100,0%

Age * Highest Levels of Change Readiness Group Crosstabulation

			Highest Levels of Change Readiness Group		Total
			0	1	
Age	<30 years	Count	4	3	7
		Expected Count	5,0	2,0	7,0
		Standardized Residual	-,4	,7	
	30-40 years	Count	3	3	6
		Expected Count	4,2	1,8	6,0
		Standardized Residual	-,6	,9	
	41-50 years	Count	14	4	18
		Expected Count	12,7	5,3	18,0
		Standardized Residual	,4	-,6	
	51-70 years	Count	8	2	10
		Expected Count	7,1	2,9	10,0
		Standardized Residual	,3	-,5	
Total		Count	29	12	41
		Expected Count	29,0	12,0	41,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	2,717[a]	3	,437	,473		
Likelihood Ratio	2,616	3	,455	,510		
Fisher's Exact Test	2,806			,472		
Linear-by-Linear Association	1,881[b]	1	,170	,182	,116	,053
N of Valid Cases	41					

a. 5 cells (62,5%) have expected count less than 5. The minimum expected count is 1,76.

b. The standardized statistic is -1,372.

The test was not statistically significant at a 5% level.

Crosstabs Department*Highest levels of change readiness group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Department * Highest Levels of Change Readiness Group	41	95,3%	2	4,7%	43	100,0%

Department * Highest Levels of Change Readiness Group Crosstabulation

			Highest Levels of Change Readiness Group		Total
			0	1	
Department	Department X	Count	20	7	27
		Expected Count	19,8	7,2	27,0
		Standardized Residual	,1	-,1	
	Department Y	Count	4	0	4
		Expected Count	2,9	1,1	4,0
		Standardized Residual	,6	-1,0	
	Department Z	Count	6	4	10
		Expected Count	7,3	2,7	10,0
		Standardized Residual	-,5	,8	
Total		Count	30	11	41
		Expected Count	30,0	11,0	41,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	2,362[a]	2	,307	,306		
Likelihood Ratio	3,324	2	,190	,232		
Fisher's Exact Test	1,969			,306		
Linear-by-Linear Association	,404[b]	1	,525	,549	,328	,128
N of Valid Cases	41					

a. 3 cells (50,0%) have expected count less than 5. The minimum expected count is 1,07.

b. The standardized statistic is ,636.

__The test was not statistically significant at a 5% level.__

Crosstabs Location*Highest levels of change readiness group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Location * Highest Levels of Change Readiness Group	37	86,0%	6	14,0%	43	100,0%

Location * Highest Levels of Change Readiness Group Crosstabulation

			Highest Levels of Change Readiness Group		Total
			0	1	
Location	Location A	Count	15	6	21
		Expected Count	14,2	6,8	21,0
		Standardized Residual	,2	-,3	
	Location B	Count	10	6	16
		Expected Count	10,8	5,2	16,0
		Standardized Residual	-,2	,4	
Total		Count	25	12	37
		Expected Count	25,0	12,0	37,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	,330[a]	1	,565	,726	,411	
Continuity Correction[b]	,049	1	,826			
Likelihood Ratio	,329	1	,566	,726	,411	
Fisher's Exact Test				,726	,411	
Linear-by-Linear Association	,321[c]	1	,571	,726	,411	,235
N of Valid Cases	37					

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 5,19.

b. Computed only for a 2x2 table

c. The standardized statistic is ,567.

___The test was not statistically significant at a 5% level.___

Crosstabs Tenure*Highest levels of change readiness group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Tenure * Highest Levels of Change Readiness Group	39	90,7%	4	9,3%	43	100,0%

Tenure * Highest Levels of Change Readiness Group Crosstabulation

			Highest Levels of Change Readiness Group		Total
			0	1	
Tenure	<3 years	Count	16	7	23
		Expected Count	15,9	7,1	23,0
		Standardized Residual	,0	,0	
	3-6 years	Count	5	3	8
		Expected Count	5,5	2,5	8,0
		Standardized Residual	-,2	,3	
	>6 years	Count	6	2	8
		Expected Count	5,5	2,5	8,0
		Standardized Residual	,2	-,3	
Total		Count	27	12	39
		Expected Count	27,0	12,0	39,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	,296[a]	2	,862	1,000		
Likelihood Ratio	,295	2	,863	1,000		
Fisher's Exact Test	,426			1,000		
Linear-by-Linear Association	,027[b]	1	,870	1,000	,527	,166
N of Valid Cases	39					

a. 2 cells (33,3%) have expected count less than 5. The minimum expected count is 2,46.

b. The standardized statistic is -,164.

The test was not statistically significant at a 5% level.

Crosstabs Managerial Responsibility*Highest levels of change readiness group

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Managerial Responsibility * Highest Levels of Change Readiness Group	41	95,3%	2	4,7%	43	100,0%

Managerial Responsibility * Highest Levels of Change Readiness Group Crosstabulation

			Highest Levels of Change Readiness Group		Total
			0	1	
Managerial Responsibility	Yes	Count	5	1	6
		Expected Count	4,2	1,8	6,0
		Standardized Residual	,4	-,6	
	No	Count	24	11	35
		Expected Count	24,8	10,2	35,0
		Standardized Residual	-,2	,2	
Total		Count	29	12	41
		Expected Count	29,0	12,0	41,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	,539[a]	1	,463	,651	,423	
Continuity Correction[b]	,062	1	,804			
Likelihood Ratio	,591	1	,442	,651	,423	
Fisher's Exact Test				,651	,423	
Linear-by-Linear Association	,526[c]	1	,468	,651	,423	,317
N of Valid Cases	41					

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 1,76.
b. Computed only for a 2x2 table
c. The standardized statistic is ,725.

The test was not statistically significant at a 5% level.