

The ambiguous infrastructure of self-managing teams

Master thesis on the design of the infrastructure of self-managing teams in Dutch healthcare organizations

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Date 5 October 2020

Preface

In September 2018 I started the pre-master Business Administration at Radboud University in Nijmegen. I am still very happy that I made this choice. The course ‘Organisatieontwerp’ during the pre-master motivated me to choose ‘Organizational Design and Development’ as master specialisation, which I started in September 2019. Now, two years later, I present you my master thesis to finalize both my master and studying career. During the master, I developed a preference for organizational design. The master has provided me much knowledge about what the design of an organization could and should look like. This knowledge in combination with hearing personal experiences about working in self-managing teams in the healthcare sector, inspired me to apply for this topic. There are so many ideas, books and articles written about what the design of an organization and teams should look like, and still there are many problems in practice. How? This master thesis about the design of self-managing teams in the healthcare sector has given me the opportunity to combine both the theory about organizational design and how these designs work in practice. Self-managing teams is a very interesting and relevant topic nowadays. However, the choice to do a qualitative research in the healthcare sector has caused many challenges in the current circumstances. The COVID-19 crisis started at the same time as I started writing my master thesis, which caused many limitations and asked for a high flexibility. Nevertheless, I succeeded in writing a master thesis about the design of self-managing teams in healthcare organization.

First of all, I would like to thank my supervisor Prof. dr. Patrick Vermeulen, who guided and supported me during the process of writing my master thesis in the best way. Besides, I would also like to my second reader, Dr.ir. Hans Lekkerkerk for providing feedback on my research proposal. For both, I would like to say thank you for the flexibility since there were many changes during this process. Finally, I would like to thank my family and friends for supporting me during the process of writing my thesis and helping me to find respondents in these challenging circumstances. I would not be able to provide you this master thesis without their help.

Hereby, I proudly present you my master thesis.

Daphne Vonk

Abstract

The present study provides insights into the design of the infrastructure of self-managing teams in the Dutch healthcare sector. The designs of self-managing teams are compared to each other to identify potential differences between the teams and to identify the impact of those differences on the team performance. The comparison is based on guidelines provided by previous studies regarding what the design of a self-managing team should look like. These guidelines can be related to the team structure and team human resources, as part of the team's infrastructure. Moreover, this study has analysed the infrastructure of self-managing teams, in terms of the completeness of the team task, the degree of mutual dependency between the team members, the team size, the team's control capacity, and the employability of the team members. The study at hand has compared the designs of eight self-managing teams that are part of eight different Dutch healthcare organizations. The outcomes have shown that there is much variation between the designs of self-managing teams. The variation is mostly shown in the completeness of the team task, the team size and the team's control capacity. Part of the self-managing teams in this study has a complete team task. However, the results have indicated that a complete team task does not necessarily leads to a higher team performance and that self-managing teams with an incomplete team task can still be successful. Most of the self-managing teams in this study have a small team size, which is in line with the theoretical guidelines. Moreover, in line with prior research, the results have suggested that a large team size leads to more problems for self-managing teams. Most of the self-managing teams in this study lack sufficient control capacity to perform their tasks independently. Besides, the results suggest that when the design of self-managing teams meet only at least three out of five design criteria, the self-managing could still be successful. In sum, prior studies have provided unambiguous guidelines regarding what the design of a self-managing team should look like. However, in practice it appears that self-managing teams have an ambiguous design resulting in varying team performances. Implications, limitations, and directions for future research are described.

Keywords: self-managing teams, infrastructure, organizational design, healthcare sector, comparison.

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Chapter 1. Introduction

1.1 Problem definition

Organizations and society change continuously. Achterbergh and Vriens (2009) have argued that today's society can be described as an organization society, which means that almost everything within society is produced and coordinated. Organizations are mutually dependent on each other (Achterbergh and Vriens, 2009). Similarly, Perrow (1991) has argued that organizations are a key element within society resulting in a society of organizations. According to Walsh, Meyer, and Schoonhoven (2006), prior academic research has argued that developments such as new information, communication and technologies have changed the nature of organizations. The societal trends globalization and digitalization have led to globally operating organizations and the expansion of automated management processes in organizations (Walsh et al., 2006; Ivanova, Pulvaeva, Valsenko, Gibadullin, and Saddrinov, 2019). Hence, societal changes lead to changes within organizations. As previous academic research (Walker, Armenakis, and Bernerth, 2007; Berntzen and Wong, 2019) has suggested, organizations must be adaptive to respond to societal changes. Adaptability is especially important in the healthcare sector (Christensen, 2017). This sector is under high pressure because it must deal with too complex and too expensive care while also maintaining and improving the quality of the healthcare (Weerheim, Van Rossum, and Ten Have, 2018). The importance of adaptability is also emphasized in the current situation, in which the corona virus (COVID-19) has a big impact on the healthcare sector (Bapuji, De Bakker, and Brown, 2020).

One way in which organizations respond to societal trends and developments, is by the redesign of their organizational structure. The design of organizational structure is an important condition for an organization to meet the demands that are made by the society (Kuipers, Van Amelsvoort and Kramer, 2018). Achterbergh and Vriens (2019, p.51) have defined the organizational structure as: "the grouping of sub-activities into tasks and relations between tasks in a network". Many (healthcare) organizations have redesigned their organizational structures through the concept of self-managing teams (Van Amelsvoort, Seinen, and Kommers, 2003; Stephens and Lyddy, 2016; Wax, DeChurch, and Contractor, 2017; Renkema, Bondarouk, and Bos-Nehles, 2018; Weerheim et al., 2018). "With rapid technological developments, as well as globalisation and digitization, and active involvement of customers and clients in the business value proposition, we observe that the 'forgotten' SMTs are returning to the business agenda" (Renkema et al., 2018, p.81). As a result of today's society, in which adaptability and flexibility are the standards, traditional organizational forms such as bureaucracy are not enough anymore (Kuipers et al., 2018).

The concept of self-managing teams has originated in the Sociotechnical systems design literature during a study in the coal mining sector in Great Britain in 1950 (De Sitter, 1994; Van Amelsvoort et al., 2003; Kuipers et al., 2018). The implementation of self-managing teams led to a decrease in the percentage sick leave, from 26% to 8%, and an increase in productivity, from 78% to

95% (Van Amelsvoort et al., 2003). Moreover, Van Amelsvoort et al. (2003) argue that the concept of self-managing teams emerged again in the 90s due to some successes with self-managing teams within large and well-known organizations. These days, despite its origin in the production sector, the concept of self-managing teams is increasingly applied within public services such as the healthcare sector and educational institutions (Tjepkema, 2003; Van Amelsvoort et al., 2003). When newcomer Buurtzorg Nederland entered the Dutch healthcare sector in 2006, the concept of self-managing teams became more popular again (Renkema et al., 2018). Buurtzorg Nederland introduced a new business model in home care with self-managing teams consisting of higher-educated nurses. “The nurses decide together what to do, and each team is recognized for its collective wisdom and knowledge of what is best for its patients and community” (Monsen and De Blok, 2003, p.57). Buurtzorg Nederland has been known for its successes and positive results. The organization has received a high average evaluation (evaluation of 8.7) compared to other similar healthcare providers (evaluation of 8.3) (Nivel, 2018). Besides, the Nivel report (2018) has shown that 89% of the clients evaluated Buurtzorg Nederland with at least an eight, while for similar healthcare providers this percentage was 81%. Nevertheless, Buurtzorg Nederland was founded with a self-managing structure (Renkema et al., 2018). This means that Buurtzorg Nederland did not have to go through a transformation process, which is an important difference between Buurtzorg Nederland and other similar Dutch healthcare providers. Regardless of this important difference, the successes of Buurtzorg Nederland led to a ‘wave’ of other healthcare organizations implementing the concept of self-managing teams into their own organizations (Weerheim et al., 2018).

In the past few years, much has been written about self-managing teams in the healthcare sector. The implementation of self-managing teams in healthcare organizations can lead to successes. Van Amelsvoort et al. (2003) have argued that the implementation of self-managing teams leads to an increasing flexibility of 80%, an increasing involvement of 75%, an increasing productivity of 69% and an increasing quality of 66%. According to Juli (2012) self-managing teams might lead to new possibilities, freedom, and influence. Weerheim et al. (2018) have argued that self-managing teams increases client satisfaction and employee satisfaction and decreases the organizational costs. Cohen, Ledford & Spreitzer (1994) have stated that self-managing teams result in productivity improvement, cost saving and employee satisfaction. Likewise, Tata and Prasad (2004) have argued that self-managing teams increase the team effectiveness. However, it has appeared that the implementation of self-managing teams can also lead to problems. According to Lekkerkerk (2017), many complaints on self-managing teams and failures can be found. These might be caused by poor design and implementation. To specify, organizations have experienced resistance or conflicts amongst employees concerning the division of labour, which negatively influence the team performance (Zwaan and Molleman, 1998; Balkema and Molleman, 1999; Juli, 2012; Weerheim et al., 2018). Several healthcare organizations, such as Cordaan Thuiszorg and Laurens, have even decided to stop working with self-managing teams (Trouw, 2019; Zorgvisie, 2019).

The opposite success stories and failures of self-managing teams in healthcare organizations indicate that there are many differences between self-managing teams in practice. These differences can be caused by the design of the teams. Previous recent academic research (Magpili and Pazos, 2018; Weerheim et al., 2018; Renkema et al., 2018) has focused on the implementation of self-managing teams. Prior to the implementation of self-managing teams, organizations must think about the design of the teams. The appeared differences between self-managing teams and their performance might also be caused by the design of self-managing. Consequently, this study focuses on what the design of self-managing teams looks like. This study is focused on the design of the team structure and team human resources as part of the team's infrastructure.

1.2 Research aim

This study aims to provide insights into the design of the infrastructure of self-managing teams in the Dutch healthcare sector. Hence, a comparison between the designs of self-managing teams can be made to identify the differences between the teams and the impact of those differences. Prior academic research has argued what the design of a self-managing team should look like. These theoretical guidelines are the basis for examining the design of self-managing teams in practice.

1.3 Research question

What does the design of the infrastructure of self-managing teams in healthcare organizations look like?

1.4 Approach

To provide an answer to the research question, qualitative methods are used. Interviews are used to obtain an in-depth understanding of the design of the infrastructure of self-managing teams. The interviews are conducted in a deductive way. This means that prior academic research is the starting point for the interview questions. Besides, this study consists of a multiple case study. The data is collected in eight self-managing teams that are part of eight Dutch large healthcare organizations.

1.5 Relevance

Regarding the theoretical relevance, this study contributes to the current literature on self-managing teams. Prior academic literature was mostly focused on the implementation of self-managing teams instead of the design of the self-managing teams, which is the basis for the implementation. The present study provides insights into what the design of self-managing should look like. In particular, the study focuses on the design of the team structure and team human resources. In terms of the practical relevance, this study provides insights into the designs of self-managing teams in practice. This can be useful for other healthcare organizations in considering a redesign of their organizational infrastructure. Especially since there are many healthcare organizations in practice that encounter problems regarding their self-managing teams.

1.6 Outline

This study is structured as follows. In chapter two, the theoretical background is discussed. This chapter provides an overview of relevant academic literature on the design of organizational structure and a team's infrastructure. As a result, the most appropriate perspectives are selected as basis for the data analysis. Chapter three contains information about the methodology that is used in this study. Moreover, a description of the self-managing teams is provided. In chapter four, an analysis of the empirical data is carried out. Chapter five provides a discussion of the results. This chapter also covers both the theoretical and practical implications as well as the limitations and recommendations for future research.

Chapter 2. Theoretical background

2.1 Design of the organizational structure

Previous research (Achterbergh and Vriens, 2019) has argued that an organizational infrastructure should enable organizations to perform their primary processes, to deal with disturbances and to set goals. The organizational structure is an important part of the organizational infrastructure since it can firmly frustrate the organization's survival (Achterbergh and Vriens, 2019). Achterbergh and Vriens (2019) argue that the organizational structure defines the tasks and therefore, relates the human resources and technologies to the organizational activities and goals. Tata and Prasad (2004) have argued that the organizational structure might affect the effectiveness of self-managing teams. Similarly, Kuipers et al. (2008) stated that the design of teams is based on the organizational design on the macro level. Hence, the organizational structure is the starting point for examining the infrastructure of self-managing teams. There are multiple perspectives towards the design of the organizational. This section discusses the following relevant organizational structure perspectives: (1) Mintzberg, (2) Thompson, (3) Womack & Jones and (4) De Sitter. These perspectives are compared based three criteria: the definition of an organizational structure, the formulated design parameters, and the essential variables. This comparison enables the researcher to choose the most useful perspective as basis to think about the design of self-managing teams.

2.1.1 Organizational structure perspectives

Mintzberg

Mintzberg (1980) has formulated several ideas about how to structure an organization. However, he has not explicitly defined an organizational structure. Mintzberg (1980,) has argued that structuring an organization should be understood through configurations. Such a configuration can be seen as an ideal type. There are five configurations, which are: (1) simple structure, (2) machine bureaucracy, (3) professional bureaucracy, (4) divisionalized form, and (5) adhocracy. According to Mintzberg (1980), these configurations are developed by means of four elements: (1) the basic parts of an organization, (2) the basic coordination mechanisms, (3) the contingency factors and (4) the design parameters. These elements can have different values, which leads to different configurations.

The contingency factors are the basis for designing the structural design parameters. These factors define, to some extent, how the design parameters should be tuned to achieve high organizational performance or effectiveness. Mintzberg (1980) has identified nine design parameters that affect the division of labour and coordination:

1. Job specialization; and
2. Behaviour formalization; and
3. Training and indoctrination; and
4. Unit grouping; and

5. Unit size; and
6. Planning and control systems; and
7. Liaison devices; and
8. Vertical decentralization; and
9. Horizontal decentralization.

According to Mintzberg (1970) there should be a close external fit between the contingency factors and the design parameters (congruence hypothesis) and a close internal fit between the nine design parameters themselves (configuration hypothesis). The congruence hypothesis and configuration hypothesis combined result in the extended configuration hypothesis, which aims to achieve organizational effectiveness. In other words, the external fit and internal fit combined should result in organizational effectiveness. This also means that effectiveness is the essential variable. “Effective structuring requires a consistency among the design parameters and the contingency factors” (Mintzberg, 1980, p.328).

In conclusion, Mintzberg’s (1980) main point is that the five configurations together as a set represent a conceptual framework that can be used to understand how structures emerge and how and why they change over time.

Thompson

Thompson (2008, p.51) defines the organizational structure as: “the internal differentiation and patterning of relationships”. To structure the organization, Thompson (2008) has defined three types of interdependence and matching types of coordination, aimed to decrease the coordination costs. The first type is pooled interdependence, with standardization as coordination type. The second type is sequential interdependence, with planning as coordination type. The third type is reciprocal interdependence, with mutual adjustment as coordination type. According to Thompson (2008), organizations desire to reduce the coordination costs through the design of their structure. In this way, the organizational structure allows the organization itself to cope with uncertainty. Throughout the whole reasoning of Thompson (2008), there are four design parameters that can be found:

1. Organizations should incorporate activities into their primary processes when these organizations are too uncertain to be left to the environment; and
2. Organizations should group reciprocally interdependent activities in the primary processes together at the micro level (teams); and
3. Organizations should group sequentially interdependent activities in the primary processes together at the meso level (segments); and
4. Organizations should group pooled interdependent activities in the primary processes together at the macro level (flows).

Additionally, Thompson (2008) has identified two perspectives to understand organizations. On the one hand, organizations can be understood as closed systems aimed at predictability. On the

other hand, organization can be understood as open systems aimed at adaptability. Thompson (2008) has combined these perspectives in that he perceives organizations as open systems that need to adapt, but also strive for predictability. Hence, predictability and adaptability are the essential variables.

In sum, Thompson's (2008) main point is that the three types of interdependence are the basis for developing the organizational structure that enables the organization to adapt and strive for predictability.

Womack and Jones

Womack and Jones (1996) are well-known for developing the approach 'lean thinking'. In their approach, a definition of the organizational structure is lacking. Nevertheless, the whole idea of Lean is closely related to the organizational structure.

According to Womack and Jones (1996), there are five steps that organizations should go through to be successful. These steps are the parameters for designing the organization and are as following:

1. Define value precisely from the perspective of the end customer, in terms of a specific product with specific capabilities offered for a specific price at a specific time; and
2. Identify the entire value stream for each product or product family and eliminate the waste; and
3. Make the remaining value-creating steps flow; and
4. Design and provide what the customer desires only when the customer wants it; and
5. Pursue perfection.

Womack and Jones (1996) aim to realize two essential variables by means of the five steps. The first essential variable is reduction of waste, meaning that waste should be as low as possible. The second essential variable is customer value, meaning that customer value should be as high as possible.

To conclude, Womack and Jones (1996) have argued that organizations should follow the five steps to develop an organizational structure that reduces waste and increases customer value.

De Sitter

De Sitter is well-known for the Modern Dutch Sociotechnical Approach, which is about how to design the work in an organization to keep it viable (Achterbergh and Vriens, 2009). De Sitter has defined an organizational structure as "a network of related tasks" (Achterbergh and Vriens, 2009, p.213) or "the way that tasks are defined, allocated and related" (Achterbergh and Vriens, 2019, p.27). Additionally, De Sitter has stated that an organizational structure consists of two sub-structures, which are the production structure consisting of the operational activities and the control structure consisting of regulatory activities (Achterbergh and Vriens, 2009). Moreover, De Sitter has argued that, first, the production structure should be designed from macro level till micro level, and second, the control structure should be designed from micro level till macro level based on the production structure

(Kuipers et al., 2018). “De Sitter holds that organizational structures should decrease the number of disturbances affecting the three classes of essential organizational variables (attenuation), and increase the potential to deal with the remaining disturbances (amplification)” (Achterbergh and Vriens, 2009, p.246).

De Sitter has formulated seven structural design parameters that can be used to describe the organizational structure (Achterbergh and Vriens, 2019). These parameters provide guidelines for what the design of an organizational structure should look like. The design parameters are:

1. Functional concentration; and
2. Differentiation of operational activities; and
3. Specialization of operational activities; and
4. Differentiation of regulatory activities into parts; and
5. Differentiation of regulatory activities into aspects; and
6. Specialization of regulatory activities; and
7. Separation between operational and regulatory activities.

The design parameters can have different values, which enables or disables the organizational members to act in a particular way (Achterbergh and Vriens, 2019). An organizational structure with low values on the structural design parameters, has a decreased potential of disturbances and increased regulatory potential. In turn, a decreased potential of disturbances and increased regulatory potential improve the organization’s capacity to deal with disturbances that affect the organizational variables (Achterbergh and Vriens, 2009). In the ideal situation, low values on the design parameters result in an organizational structure, which leads to semi-autonomous groups that have the operational and regulatory means to perform the activities (Achterbergh and Vriens, 2009). Moreover, in this approach the team is the fundamental basis (Kuipers et al., 2018).

The organizational variables or essential variables in this approach are the quality of the organization, the quality of the work, and the quality of working relations. “By the quality of the organization, De Sitter refers to an organization’s potential to effectively and efficiently realize and adapt its goals, by the quality of work, De Sitter refers to the meaningfulness of jobs and (the possibility to deal with) work related stress and by the quality of working relations, De Sitter refers to the effectiveness of communication in organizations” (Achterbergh and Vriens, 2009, p.224).

2.1.2 Comparison of organizational structure perspectives

This section compares the organizational structures based on three criteria: (1) definition of the organizational structure, (2) structural design parameters, and (3) essential variables. The comparison is the basis for deciding which organizational perspective is the basis for this study to think about the design of self-managing teams. Table 1 shows the comparison of the organizational structure perspectives.

Table 1: Overview organizational structure perspectives

	Mintzberg	Thompson	Womack and Jones	De Sitter
Definition organizational structure	Lack of a concrete definition	The internal differentiation and patterning of relationships	Lack of a concrete definition	A network of related tasks / The way tasks are defined, allocated and related.
Structural design parameters	<ol style="list-style-type: none"> 1. Job specialization 2. Formalization of behaviour 3. Training and indoctrination 4. Unit grouping 5. Unit size 6. Planning and control systems 7. Liaison devices 8. Decentralization 	<ol style="list-style-type: none"> 1. Incorporate too uncertain activities into primary processes 2. Group reciprocally interdependent activities in the primary processes at micro level (teams) 3. Group sequentially interdependent activities in the primary processes at meso level (segments) 4. Group pooled interdependent activities in the primary processes at the macro level (flows) 	<ol style="list-style-type: none"> 1. Define value for the customer 2. Identify value stream and waste 3. Create flow 4. Design and provide what the customer wants only when the customer wants it 5. Pursue perfection 	<ol style="list-style-type: none"> 1. Functional concentration 2. Differentiation of operational activities 3. Specialization of operational activities 4. Differentiation of regulatory activities into parts 5. Differentiation of regulatory activities into aspects 6. Specialization of regulatory activities 7. Separation between operational and regulatory activities
Essential variables	<ol style="list-style-type: none"> 1. Effectiveness 	<ol style="list-style-type: none"> 1. Predictability 2. Adaptability 	<ol style="list-style-type: none"> 1. Reduction of waste 2. Increase customer value 	<ol style="list-style-type: none"> 1. Quality of organization 2. Quality of work

				3. Quality of working relations
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The overview has shown that there are several differences between the organizational perspectives. First, Thompson and De Sitter are the only two perspectives that have formulated a definition of the organizational structure. De Sitter's definition is more concrete compared to Thompson's definition. Moreover, the definition formulated by De Sitter is the most related to the design of teams because of the focus on the tasks. Second, the structural design parameters formulated by Mintzberg, Thompson and Womack & Jones, are all more focused on the process of designing an organizational structure instead of the actual design of the organizational design itself. De Sitter has formulated clear structural design parameters regarding the actual design. Additionally, the structural design parameters formulated by De Sitter affect the design of teams the most compared to the other perspectives. Third, all perspectives have formulated complete different essential variables. Mintzberg and Thompson have identified very abstract and broad essential variables, while Womack & Jones and De Sitter are more concrete in their essential variables. De Sitter aims, by means of decreasing internal disturbances and increasing regulatory potential, to increase the quality of organization, work and working relations. Especially increasing the regulatory potential is very similar to the concept of self-managing teams. Besides, De Sitter has identified a clear relationship between the structural design parameters and the essential variables.

In conclusion, De Sitter's perspective on the design of an organizational structure has the highest scores on all three criteria. Consequently, this is the most appropriate and useful perspective to think about the design of self-managing teams. This is illustrated in table 2.

Table 2: Comparison organizational structure perspectives

	Mintzberg	Thompson	Womack and Jones	De Sitter
Definition organizational structure	-	+	-	++
Structural design parameters	-/+	-/+	-	++
Essential variables	-	-	+	++

2.2 Design of teams

The comparison of the organizational structure perspectives has shown that several scholars address working in teams. In this section, the design of teams is discussed. First, the infrastructure of a team is discussed. Second, this study has explored the definition of a self-managing team. Third, three different perspectives on the design of teams have been compared.

2.2.1 Team's infrastructure

The central concept of this study is the infrastructure of a self-managing team. The infrastructure of a team should enable the team to perform their activities efficiently and effectively (Achterbergh and Vriens, 2019). The infrastructure conditions the interaction within the team (Achterbergh and Vriens, 2019). Hence, the infrastructure is important to realize a good team performance. Defining a team's infrastructure can be based on the definition of the organizational infrastructure. Achterbergh and Vriens (2019, p.27) have defined the organizational infrastructure as "the particular set of conditions, which are human resources, technology and organizational structure, at some moment in time".

Consequently, this study argues that the infrastructure of a self-managing team consists of the team members with their skills, knowledge and motivation (human resources), the particular way that the team tasks are defined and related (structure) and the available technology for the team. This study only focuses on the team structure and team human resources.

2.2.2 Self-managing teams

Defining a self-managing team is not an easy thing to do since researchers have given different definitions and terms to this concept. Prior academic research has provided a variety of definitions of self-managing teams through the years. A few relevant definitions of self-managing teams are provided in table 3 below.

Table 3: Definitions self-managing teams

Prior academic research	Definition self-managing team
Cohen, Ledford and Spreitzer (1996, p.644)	"Self-managing work teams are groups of interdependent individuals that can self-regulate their behaviour on relatively whole tasks"
Van Amelsvoort, Seinen and, Kommers (2003, p.9)	"A relatively permanent group of employees who are jointly responsible for the total process in which a product is created and then delivered to an internal or external customer. The team plans and monitors the progress of the process, solves problems daily and improves processes without the help of management or support services"

Jones (2007, p.139)	“Formal work groups consisting of people who are jointly responsible for ensuring that the team accomplishes its goals and who are empowered to lead themselves”
Van der Vegt, Bunderson and Kuipers (2010, p.1169)	“The team as a collective, rather than some external manager, has the authority to determine how member efforts will be organized, monitored, and managed to accomplish the team’s work”
Stephens and Lyddy (2016, p.1)	“Groups of interdependent individuals that have the authority and power to determine how to interrelate their efforts to complete some task”
Magpili and Pazos (2018, p.4)	“A group of individuals with diverse skills and knowledge with the collective autonomy and responsibility to plan, manage, and execute tasks interdependently to attain a common goal”
Kuipers, Van Amelsvoort and Kramer (2018, p.309)	“A smaller group of people that is responsible for the make, prepare and support activities of a complete task segment, and that has access to the necessary resources. The group does not only focus on daily operations, but also on the improvement of those operations based on analysing and evaluating the performance.”

The varying definitions of self-managing teams show a few corresponding elements. First, the central concept in each definition is the team or the group of individuals. Second, every definition includes the regulatory potential of the team in terms of joint responsibility, authority, autonomous or power. Third, most definitions mention that the teams try to achieve a certain goal in terms of total process, team’s goals, team’s work, performance, some task, or common goal. Similarly, previous academic research (Renkema et al., 2018; Tjepjkema et al., 2003; Langfred, 2007) has argued that the comparable characteristics in all these definitions are the team as a central concept, the team’s authority and responsibility to achieve the team goals and the skills of the team members to perform the tasks.

This study uses the term ‘self-managing team’ and the definition of Kuipers et al. (2018) as basis. The term self-managing team is frequently used in prior research. Besides, Kuipers et al. (2018) have formulated a recent and comprehensive definition of a self-managing team. This definition is based on the Dutch Sociotechnical approach of De Sitter, which is chosen as the organizational structure perspective to think about the design of teams.

2.2.3 Comparison team perspectives

Prior academic research has argued many things about teams and their design. This study has focused on three perspectives on teams, and their arguments about the infrastructure of a team. The three

perspectives are: (1) Hackman, (2) Cohen, Ledford and Spreitzer and (3) Van Amelsvoort, Seinen and Kommers. These perspectives are compared based on their arguments about what the design of a team's structure and human resources should look like. The comparison is shown in table 4 below.

Table 4: Overview team perspectives

	Hackman (1976; 2002)	Cohen, Ledford and Spreitzer (1996)	Van Amelsvoort, Seinen and Kommers (2003)
Team structure	<p>The team task should be a whole and meaningful piece of work for which team members have autonomy to exercise judgment about work procedures and the team should provide team members with regular and trustworthy data about the performance of the team.</p> <p>The team should be as small as possible.</p> <p>The team members should have ample tasks.</p>	<p>There should be group task variety, group task significance, group task autonomy and group task feedback.</p> <p>Team members should have the power to make decisions about their work.</p> <p>The team should be as small as possible.</p> <p>The team members should be able to work together without duplicating or wasting efforts.</p> <p>The team should be able to innovate and improve itself.</p>	<p>The team task should be as complete as possible.</p> <p>There should be mutual dependency between the team members in performing their activities.</p> <p>The team should consist of 4 till 20 people.</p> <p>The team should have enough control capacity and authority to perform the team task as autonomously as possible.</p>
Team human resources	<p>The team members should have interpersonal skills.</p> <p>The team should consist of a good mix of members.</p>	<p>The team should consist of a good mix of members.</p> <p>There should be some stability in the team members.</p>	<p>The team members should be able to perform multiple tasks within the team.</p>

	<p>There should be specified team norms and values.</p> <p>There should be an expert available whom can help the team to work together.</p>	<p>There should be specified team beliefs and norms.</p> <p>The team should have the ability to do trainings.</p>	
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The comparison has shown that the arguments of all three perspectives on teams are quite similar. Regarding the design of the team task, Hackman (1976; 2002) argues that the team task should be a whole and meaningful piece of work, Cohen et al. (1996) argue that there should be group task variety and significance, and Van Amelsvoort et al. (2003) argue that the team task should be as complete as possible. Regarding the regulatory potential of the team, Hackman (1976; 2002) argues that the team members should have autonomy to exercise judgment about the work procedures, Cohen et al. (1996) argue that there should be group task autonomy and that team members should have the power to make decisions about work, and Van Amelsvoort et al. (2003) argue that the team should have enough control capacity and authority. Regarding the team size, both Hackman (1976; 2002) and Van Cohen et al. (1996) argue that the team size should be as small as possible and Van Amelsvoort et al. (2003) argue that the team size should be between 4 and 20 people. Nevertheless, there are also a few minor differences between the perspectives on teams. Hackman (1976; 2002) is less extensive than Van Cohen et al. (1996) and Van Amelsvoort et al. (2003). Another difference is that Cohen et al. (1996) mention innovation, while the other perspectives do not. Additionally, each perspective has made some arguments about the design of the human resources of the team. Both Hackman (1976;2002) and Van Cohen et al. (1996) have argued that there should be a good mix of team members and that there should be certain team norms and values in place. Van Amelsvoort et al. (2003) have argued that the team members should be employable for more than one task within the team. In sum, the team perspective of Van Amelsvoort et al. (2003) is the most recent, explicit and elaborate perspective towards self-managing teams. Hence, this perspective is chosen as theoretical basis for this study. Moreover, Van Amelsvoort et al. (2003) have based their arguments on De Sitter's theory about the Sociotechnical design theory. This means that the chosen organizational structure perspective and team perspective are a perfect fit as a theoretical basis for thinking about the design of self-managing teams.

2.2.4 Van Amelsvoort, Seinen and Kommers

Van Amelsvoort et al. (2003) have provided several guidelines for what the design of a self-managing team should look like. These guidelines can be related to a team's infrastructure. There are four guidelines that have to do with the team structure and one guideline that has to do with the team human resources. These guidelines are already briefly mentioned in the comparison of the three team

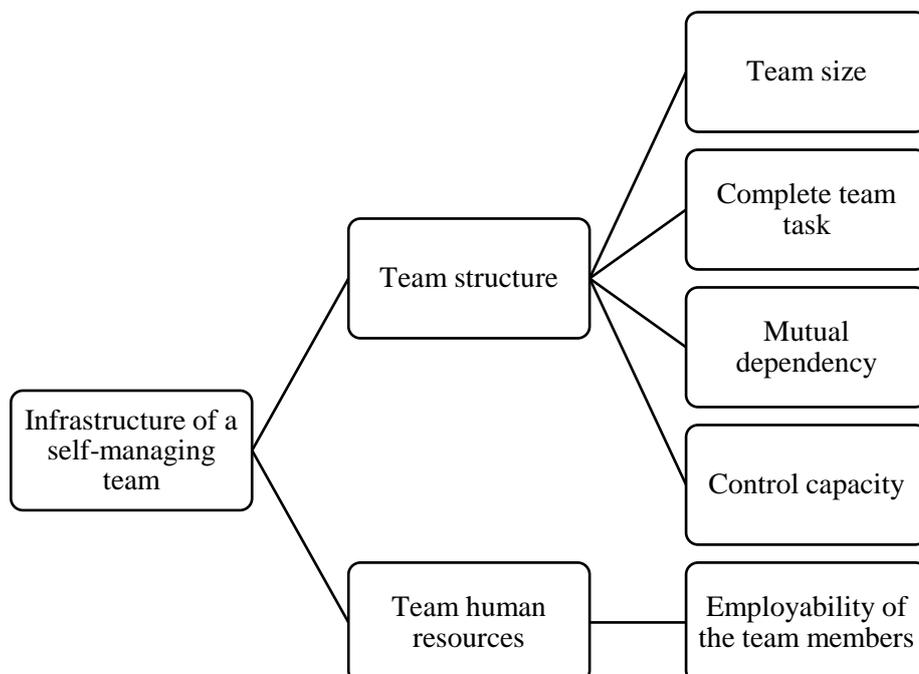
perspectives. This section focuses on the relevant theoretical guidelines of Van Amelsvoort et al. (2003), as a basis for the empirical research in this study. First, Van Amelsvoort et al. (2003) argue that the team task should be as complete as possible. This means that a self-managing team should have a complete process or a complete part of a large process as their task. A complete team task might enable a team to be self-managing. A self-managing team has a complete team when the team performs all the tasks that are required to perform that entire process. Second, Van Amelsvoort et al. (2003) state that there should be mutual dependency between the tasks of the team members. Mutual dependency could improve the functioning of a team. In some organizations there is always mutual dependency between team members because of the design of the process, such as a process in which people must relay their work to colleagues. This applies to the healthcare sector, since healthcare organizations often need to provide healthcare 24 hours per day which automatically means that team members rely on each other in performing their tasks and providing the healthcare. Third, Van Amelsvoort et al. (2003, p.35-38) argue that the team size should enable recognizable contributions of team members to the team members, should enable an adequate decision-making process and should minimize the vulnerability of the team. More specifically, Van Amelsvoort et al. (2003, p.35) have said that the team size should be between 4 and 20 people. On the one hand, more than 20 people might lead to smaller informal groups within the team which might obstruct the cooperation within the team. On the other hand, less than four people might result in a too vulnerable team. It is also important to realize that the appropriate team size is also dependent on the degree of complexity and variation in the process (Van Amelsvoort et al., 2003). Third, according to Van Amelsvoort et al. (2003) a team should have enough control capacity and authority to perform the team task as independent as possible. A sufficient degree of control capacity can only be realized when the team has a complete team task, when there is mutual dependency between the team members and when the team has an appropriate team size. Enough control capacity means that the team is capable to plan the process, to adjust the process, to solve problems and to control, monitor and improve the team performance (Van Amelsvoort et al., 2003). Furthermore, Van Amelsvoort et al. (2003) have argued that there are multiple levels regarding the degree of independence of the team, which are (1) the team is independent as the team decides itself, (2) the team decides in consultation with an external functionary such as a team manager, (3) the team advises but the decisions are made by the external functionary such as a team manager and (4) the team has no influence on the decisions that are made. It should be emphasized that the degree of independence and thus enough control capacity of a team is realized through a development process and therefore takes time. Fifth, Van Amelsvoort et al. (2003) claim that the team members should be employable for multiple tasks within the team to ensure the continuity of the team. In other words, for one task within the team multiple team members should be employable. A high employability increases the flexibility of a team.

2.3 Overview and conceptual model

2.3.1 Overview theoretical background

This study aims to provide insights into what the design of the infrastructure of self-managing teams in healthcare organizations looks like. Moreover, this study is focused on the team structure and team human resources as part of the team's infrastructure. The theoretical background has provided a comparison of several organizational structure perspectives and team perspectives. The perspective of De Sitter about the design of the organizational structure and the perspective of Van Amelsvoort et al. (2003) about the design of self-managing teams, which were already linked, are chosen as the theoretical basis for this study. Regarding the design of self-managing teams, Van Amelsvoort et al. (2003) has provided several theoretical guidelines of which a five of them can be related to the team's structure and team human resources.

2.3.2 Conceptual model



Chapter 3. Methodology

3.1 Research strategy

This study aims to provide insights into the design of self-managing teams in the healthcare sector. Hence, a qualitative research is conducted. Qualitative research concerns all types of research aimed at collecting and interpreting linguistic data to eventually make statements about a social phenomenon in practice (Bleijenbergh, 2016). The self-managing team itself is the social phenomenon in this study. Self-managing teams in the healthcare sector are complex since many social interactions are involved. To understand how self-managing teams, work and what their design looks like, qualitative research is the appropriate research strategy. This qualitative study is carried out in a deductive way. This means that the study is theory driven (Bleijenbergh, 2016). Miles and Huberman (1994, p. 22) argue that a deductive model can be described as follows: “We begin with orienting constructs, extract the questions, and then start to line up the questions with an appropriate sampling frame and methodology”.

Moreover, the chosen research strategy is a multiple case study. Yin (2009) has provided the following definition of a case study: “A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Symon and Cassell, 2012, p.353). The present study is focused on the design of the infrastructure of self-managing teams. This means that in-depth information about how teams work is needed to analyse the design of each team and to compare these designs. Hence, a multiple case study is the most appropriate method of data collection (Yin, 2003). A multiple case study increases the probability that a study contributes to theory development (Bleijenbergh, 2016). The cases are analysed and compared to explore potential patterns of similarities or differences.

3.2 Case description

The present study aims to provide insights into the design of self-managing teams in healthcare organizations, by means of a multiple case study. Hence, there are several cases selected. The cases are selected based on two criteria, which are the type of teams: self-managing teams, and the sector in which these teams operate: the healthcare sector. The data in this study is collected in eight self-managing teams, that are part of eight large Dutch healthcare organizations. The self-managing teams are compared based on several characteristics, which are: the patient group, the type of disease, the team size, the number of locations and the team performance. The comparison of these six characteristics shows that there are some similarities and variations between the self-managing teams. The comparison is shown in table five below. The self-managing teams are given fictional names because of anonymity reasons.

Table 5: Cases description

	Type of clients	Type of disease	Team size	Number of locations	Team performance
Hyacint	Children between 10 and 18 years	Severe multiple disabilities	4	1	High
Zonnebloem	Elderly people	Dementia	24	1	Low
Madelief	Children between 2.5 and 5 years	Language development disorder	16	2	Low
Lelie	Elderly people	Home care	6	1	High
Paardenbloem	Younger people	Complex behavioural problems	7	1	High
Violtje	Everybody	Dietetics	22	2	Low
Korenbloem	Younger people	Mild intellectual disabilities	15	1	High
Fuchsia	Elderly people	Dementia	27	1	Low

Regarding the type of clients, the teams can be divided into four categories. First, there are three teams focused on providing healthcare to elderly people. Second, there are two teams focused on providing healthcare to younger people. Third, there are two teams focused on providing healthcare to children. Fourth, and last, there is one team focused on providing healthcare to all people.

Concerning the type of disease, the teams can also be divided into four categories. First, there are two teams that have clients with dementia. Second, there is one team focused on providing healthcare to people that need home care. Third, there are four teams that treat people with certain disorders or disabilities. Fourth, and last, there is one team focused on dietetics.

With regard to the team size, there are two categories. The first category includes teams that have a team size of 4 till 20 people, which consists of five teams. The second category comprises teams that have a team size of more than 20 people, which consists of three teams.

Concerning the number of locations, the teams have either one location or two locations. There are only two teams that provide healthcare on two separate locations.

With respect to the team performance, there are two categories. These categories are high team performance and low team performance. During the first phase of data collection, the respondents were asked to answer a few open questions of which one was: “To what extent do you think that your team is functioning well”? The categories regarding the team performance are mostly based the answers to that question. In this study, a high team performance means that the respondents have indicated that the teams do not experience any (big) problems. “In general, I think that the team functions well” (Marjolein, team Korenbloem), “We function well since both the clients and team members have been very satisfied in the past few years” (Fabièn, team Lelie). A low team performance means that the respondents have suggested that the teams do experience some ‘big’ problems, such as coordination and communication problems. “I think that, recently, we have not functioned well as a team”(Merel, team Madelief), “Our team definitely has multiple points of improvement”(Maria, team Fuchsia), “We have recently had difficulties” (Demi, team Zonnebloem), “There are many points of improvements, such as communication” (Denise, team Violtje). In conclusion, the eight self-managing teams have many different characteristics. Nevertheless, there are some similarities between the teams which could help the researcher to find patterns between the teams in relation to their design and performance.

3.3 Data collection

In this study, the data has been collected in two phases. In the first phase, the respondents have received a few open questions via mail as a tool for exploration. The respondents were asked to describe the overarching healthcare organization, to give a description of themselves and their team, to give their opinion about the degree of self-organization within their team and they were asked to give their opinion about the team performance. The second phase consisted of conducting interviews to collect in-depth information about how the teams, work. The researcher has interviewed thirteen respondents. The respondents were selected based on one criterion: working in a self-managing team in a Dutch healthcare organization. Some interviews have been conducted face-to-face, but most of the interviews have been conducted via normal call or video call. The time span of the interviews was between 30 and 45 minutes. The interviews have been conducted in Dutch, since all respondents were Dutch. Because of the deductive approach that is used in the present study, structured interviews were conducted (Bleijenbergh, 2016.). This means that the interview questions were based on theoretical concepts. The interviews were structured as follows. First, the interview began with a question about the situation of their team. Second, the interview proceeded with questions about each theoretical concept. Third, the interview ended with a general question about the respondents’ opinion about the success of self-managing teams in the healthcare sector. The structure of the interviews can be found in the appendices. An overview of the interviews is provided in table six below.

Table 6: Overview interviews

Respondents	Self-managing team/ healthcare organization	Job position	Date	Duration of the interview	Type of the interview
Merel	Team Madelief	Team member	01-06-2020	33:03	Face-to-face
Fleur	Organization Lelie	Team coach	04-06-2020	36:21	Telephone
Tess	Team Madelief	Team member	05-06-2020	30:33	Video calling
Maria	Team Fuchsia	Team member	08-06-2020	31:51	Face-to-face
Marjolein	Team Korenbloem	Team member	10-06-2020	28:21	Video calling
Fabiën	Team Lelie	Team member	10-06-2020	42:24	Video calling
Piet	Team Paardenbloem	Team member	12-06-2020	37:00	Telephone
Suzanne	Team Hyacint	Team member	14-06-2020	46:45	Face-to-face
Demi	Team Zonnebloem	Team member	15-06-2020	38:10	Video calling
Michelle	Team Fuchsia	Team member	17-06-2020	39:47	Telephone
Annefleur	Team Fuchsia	Team member	19-06-2020	35:01	Telephone
Marlien	Team Violtje	Team member	23-06-2020	41:26	Telephone
Denise	Team Violtje	Team member	24-06-2020	41:54	Telephone

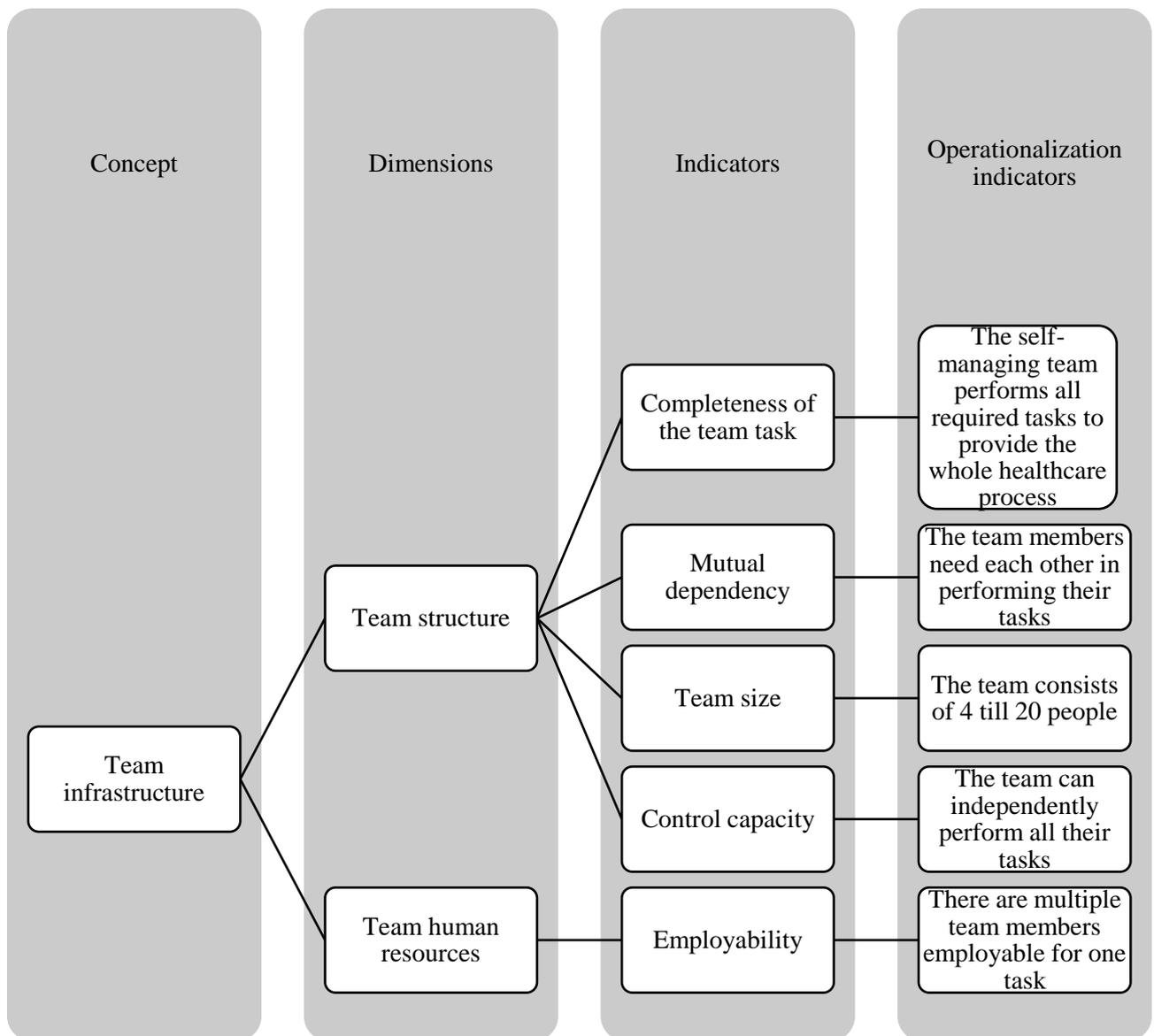
3.4 Operationalization

The present study is focused on the infrastructure of a self-managing team. Hence, the theoretical concept in this study is the infrastructure. The infrastructure of a team consists of the team structure, the team human resources and the technology that the team uses (Achterbergh and Vriens, 2019). However, this study focuses on the team structure and team human resources as part of the team's

infrastructure. The team structure can be defined as “the way that the team tasks are defined and related” (Achterbergh and Vriens, 2019, p?). The team human resources can be defined as the team members with their skills, knowledge, and motivation (Achterbergh and Vriens, 2019, p.?).

Prior research has provided several guidelines about the design of a team’s infrastructure. These guidelines are based on several factors that affect the design of a team. Hence, there are several factors that affect the team structure and team human resources. The factors that affect the team structure are the completeness of the team task, the mutual dependency between the team members, the team size and the team’s control capacity. The factor that affects the team human resources is the employability of the team members. (Van Amelsvoort et al., 2003). These factors can be further operationalized. First, the team task should be as complete as possible. In other words, the team should perform all the tasks that are required to provide the whole healthcare process to their clients. This means that the self-managing should perform all healthcare related tasks and the tasks concerning: purchase, planning, finance, and recruitment. Second, there should be mutual dependency between the team members which means that the team members should need each other to complete their tasks. Third, the team size should be between 4 and 20 people. Fourth, the team should have enough control capacity to perform the entire healthcare process independently. Fifth, the team members should be employable for multiple tasks. To put it another way, there should be multiple team members employable for one task.

In conclusion, the theoretical concept ‘team infrastructure’ can be operationalized in two dimensions ‘the team structure and team human resources’, which can be further operationalized into five indicators ‘the completeness of the team task, the mutual dependency between team members, the team size, the team’s control capacity, and the employability of the team members’. Moreover, these five indicators can be further operationalized into measurable guidelines for what the design of a team infrastructure should look like. An overview is provided below.



3.5 Data analysis

Bleijenbergh (2016) argues that qualitative data analysis consists of interpreting texts by means of a coding process. The researcher interprets codes the texts and assigns meaning to it. Accordingly, the data analysis in this study was performed by means of this coding process. First, structured interviews were conducted and recorded. The interviews were transcribed, and these transcripts were the basis for the coding process. "Coding is a tool to help unravel, combine, and interpret the data" (Bleijenbergh, 2016, p.103). Because of the deductive approach in this study, the researcher used a coding scheme which was based on prior academic literature (Achterbergh and Vriens, 2019; Van Amelsvoort et al., 2003). As already mentioned in the previous section, there are five theoretical indicators that affect the design of a self-managing team. The researcher formulated interview questions based on these indicators, which were aimed at establishing what the design of that certain aspect of the teams looked

like. Thus, the researcher started coding based on the indicators. For instance, the researcher asked the following question: “When a team member becomes sick, can other team members take over that person’s tasks?”. The respondent then answered the following: “Well yes, because there are always multiple team members that work on one task so to speak” (Marlien). Consequently, the researcher coded this statement as “employability”, which is part of the team structure. The coding process, based on these indicators, enabled the comparison of the designs of the team structure and team human resources in the self-managing teams. In other words, the researcher coded the transcripts based on the indicators, which resulted in a comparison of the design of the dimensions of the team infrastructure. This comparison was aimed at finding patterns of similarities and differences between the self-managing teams. As Bleijenbergh (2016) suggested, the coding process was performed three times to minimize the probability of missing anything important within the data. This resulted in several differences between the three phases, which lead to new insights. Moreover, the first phase was conducted manually while the second and third phases were conducted with Atlas.ti.

3.6 Quality criteria

According to Bleijenbergh (2016), the most classic and appropriate quality criteria for a deductive study are: internal validity, controllability, and external validity. These quality criteria are supported by Symon and Cassel (2012). First, internal validity is about assuring that the researcher measures what he or she intends to measure (Bleijenbergh, 2016; Symon and). The present study has realized internal validity by member checking during the interviews. The researcher has repeated and summarized the answers that the respondents provided, to check whether the researcher understood the answer of the respondent correctly. Second, controllability means that the researcher should provide insights into the research process (Bleijenbergh, 2016; Symon and Cassel, 2012). To realize controllability, the researcher has provided insights into the transcripts of the interviews and the data has been analysed systematically. Third, external validity is about the possibility to generalize the results of the study to a larger population (Bleijenbergh, 2016; Symon and Cassel, 2012). The present study has realized the external validity by involving multiple cases instead of one case.

3.7 Research ethics

Ethical concerns and methodological concerns are closely related. Ethical concerns often need or have methodological solutions. Upholding relevant ethical standards have methodological implications. Hence, this section about research ethics is included in the present study. The researcher has taken several ethical issues into account. First, the researcher has avoided doing harm to the participants and has treated the participants respectful. Second, the researcher has informed the participants about the aim and approach of the study and about what was expected of the participants in terms of time and honesty. Third, the information that has been provided by all respondents has been treated as confidential. Fourth, anonymity of the respondents and their teams and organizations has been assured. (Nijmegen School of Management, 2019; Symon and Cassel, 2012).

Chapter 4. Analysis

4.1 Introduction data analysis

In chapter four the results of the data analysis are provided. The present study has aimed to provide insights into what the design of the infrastructure of self-managing teams in the healthcare sector looks like. The infrastructure of a self-managing team is analysed in terms of the team structure and the team human resources. First, the design of the team structure is discussed in terms of the completeness of the team task, the mutual dependency between team members, the team size and the team's control capacity. Second, the design of the team human resources is discussed in terms of the employability of the team members. Third, an overview of the results is provided and elaborated on. Finally, a conclusion of the results regarding what the design of the infrastructure of the self-managing teams looks like is provided.

4.2 Complete team task

A complete team task means that teams perform all required tasks to provide the entire healthcare process. This means that those tasks are organized on team level. In this study, the required tasks to perform the whole healthcare process are all client or care related tasks and several team tasks which are: finance, planning, purchase, and recruitment. The respondents were asked to tell something about their team and the activities the teams performed. Consequently, respondents provided insights into which tasks were performed by the teams. All respondents have indicated that their team performed all client or care related tasks, without needing another team. "Yes, all healthcare tasks, for the residents, yes around the residents, keeping contact with the family members, report. Well, the complete healthcare process actually" (Maria, team Fuchsia). "It is with emergency situations that you can call each other. As for the rest, that is performed with the team itself" (Suzanne, team Hyacinth).

In terms of the necessary team tasks, there is some variation between the teams. Respondents of the teams Lelie, Viooltje and Fuchsia have stated that their team performs the tasks concerning finances, planning, purchase, and recruitment. Hence, these three teams have a complete team task. It appeared that the other five teams (Paardenbloem, Korenbloem, Hyacinth, Zonnebloem, and Madelief) did not perform at least one of the before mentioned team tasks. As a result, these five teams do not have a complete team task. Respondents of team Paardenbloem and Korenbloem did not refer to recruitment tasks when they were asked about which tasks the teams perform. Consequently, it is assumed that teams Paardenbloem and Korenbloem did not perform the tasks related to recruitment. Teams Hyacinth and Zonnebloem do not perform the tasks related to finances, planning and recruitment. Team Hyacinth is a small team of four people that is part of a larger location-based team of 20 people. The tasks concerning finances, planning and recruitment are performed by that location-based team instead of team Hyacinth. These tasks are divided amongst the team members of the larger location-based team, which could be a team member of Hyacinth but does not necessarily have to be.

Team Hyacint does perform the tasks related to purchase. The respondent of team Zonnebloem has indicated that the tasks related to finances, planning, and recruitment are performed by other organizational members higher in the healthcare organization. Planning tasks were initially performed by the team itself, but because of an employee shortage this changed. Lastly, the results have indicated that team Madelief did not perform any team task. Team Madelief falls within the region Northern-West, which consists of two teams. The respondents have stated that an administrative assistant, who works for the complete region, is responsible for performing the tasks that are related to finances, purchase, and planning. The team manager performed the tasks in terms of recruitment. Hence, the team tasks are performed by the administrative assistant and team manager and not by the team itself. In sum, there are three teams in this study that have a complete team task and five teams which lack a complete team task. These teams lack a complete team task because they do not perform all necessary team tasks. An overview of the teams and which tasks they perform is provided below in table seven.

Table 7: Overview tasks per team

	Client or care tasks	Team tasks			
		Finances	Planning	Purchase	Recruitment
Lelie	✓	✓	✓	✓	✓
Viooltje	✓	✓	✓	✓	✓
Fuchsia	✓	✓	✓	✓	✓
Paardenbloem	✓	✓	✓	✓	
Korenbloem	✓	✓	✓	✓	
Hyacint	✓			✓	
Zonnebloem	✓			✓	
Madelief	✓				

The overview shows that several teams are similar in terms of which tasks they perform. First, the teams Lelie, Viooltje and Fuchsia perform all client or care tasks and team tasks. Despite this similarity, these three teams vary in the way that the performance of the tasks is organized. The respondents of team Lelie have indicated that the tasks within their team are divided based on a list that consists of all the tasks that need to be performed. The team members discuss this list and based on their preferences, the tasks are divided and assigned to a team member. The respondents of team Viooltje and Fuchsia have divided their team into subject areas, such as finances, planning or ICT. Each subject area consists of several tasks that need to be performed. Multiple team members are assigned to a subject area and based on that the tasks are divided amongst the team members. An explanation of this difference could be that team Lelie is a small team whereas teams Viooltje and

Fuchsia are both large teams. Second, the teams Paardenbloem and Korenbloem perform all client or care tasks and three of the four team tasks. “Uhm, arranging the finances, making the planning, apply for our shifts, uhm, the uhm, medication. And uhm. That’s it. Oh, and the groceries.” (Piet, team Paardenbloem). Both teams do not perform the tasks concerning recruitment and the outcomes of the analysis did not indicate any differences between these teams in terms of the tasks. Third, teams Hyacint and Zonnebloem perform all client or care tasks and only one of the four team tasks. Both teams only perform the tasks concerning purchase. Team Hyacint is an exceptional case, because this team is a self-managing team of four people which is part of a larger location-based self-managing team consisting of around 20 people. The location-based team consists of five self-managing teams, of which one is team Hyacint. Thus, self-managing groups or teams within a larger self-managing team. All the tasks required to perform the entire healthcare process are performed by the location-based teams, and thus these tasks are divided amongst the five smaller self-managing teams such as team Hyacint. Hence, team Hyacint itself does not perform all tasks and does not have a complete team task. However, team members of team Hyacint could perform a few tasks because of this design. The most important reason that team Zonnebloem lacks a complete team task is that recently there have been many changes within the team. Last year the healthcare organization has made several savings, which resulted in less team members. Hence, the remaining team members had a high work pressure which made the organization reverse the measures that were taken. Everybody in the team basically has permanent tasks. But because of all the changes, many new people and many people leaving, these tasks are not performed properly. Besides, team Zonnebloem was responsible for the planning before all these changes happened. Thus, the incomplete team task of team Zonnebloem is partly due to the current situation in which the team is to be found. Fourth and last, team Madelief performs all client or care tasks and no team tasks. Respondents of team Madelief have argued that the team tasks are performed by either the administrative assistant, who works for multiple teams, or the team manager. The outcomes regarding the completeness of the team task has been supported by the illustrations provided in table eight.

Table 8: Illustrations complete team task

Self-managing teams with a complete team task	Illustrations
Team Lelie	“Uhm, we actually try to divide it, uhm, yes, actually just by discussing the preferences of everyone and then uhm, we try to, once in a while, mostly one time per year or year and a half, to rotate it” (Fabiën)
Team Violtje	“Uhm, well we have divided our team into quadrants. Uhm, and I am, for instance, in the quadrant employees. So, I am responsible

	<p>for the planning and for job interviews with new employees” (Marlien)</p> <p>“But there is also a quadrant finances and ICT or a quadrant about the quality and uhm, uhm, the accessibility of patients. So, we truly divided all those tasks.” (Marlien).</p>
Team Fuchsia	<p>“So, we have roles, subject areas and division of labour. So, we work with different subject areas such as medicine safety, uhm till and transfer, uhm oral care, uhm, uhm, hygienic infection prevention. Uhm one, uhm two colleagues have the subject area facility. So, that means that everything that is related to facility, for budgets, but also uhm, well things break, who keeps the overview regarding that someone is called to repair something.” (Michelle?)</p>

4.3 Mutual dependency

The results have indicated that there is mutual dependency between the team members in all self-managing teams. Respondents have suggested that team members need each other for different reasons. First, respondents have stated that team members need each other to provide the healthcare. As Merel (team Madelief) states: “We definitely need each other to get a complete picture and to provide a complete treatment to the children”. Similarly, Marlien (team Viooltje) states: “Yes, so, you need each other to keep the department going.”. Second, respondents have stated that the team members need each other to consult with each other to determine how to deal with a particular situation. Maria (team Fuchsia) has stated “Yes of course you need each other completely. Even during the care with supporting in terms of lifting or transfer, consulting in terms of what is your opinion about how this madam or sir is doing, do we have to call a doctor, so you consult with each other”. This is supported by the following statement of Marlien (team Viooltje): “Uhm or if you want to consult someone about how someone else does it, obviously you can consult that kind of things with your colleague”. Likewise, Fleur (organization Lelie) has stated: “And obviously, if you run into a problem, you need your colleagues. To brainstorm with each other in terms of how to solve it and make some agreements about it”. Third, respondents have stated that the team members need each other to take over each others’ tasks. “Uhm, well for the patient care I think uhm, if you work part time and you have to assign your patients to your colleague since you are not there the next day. Uhm, so in that you need each other” (Marlien, team Viooltje). An explanation for mutual dependency between the team members in terms of that they need to take over each others’ tasks, might be the sector in which all these teams operate. The self-managing teams in this study operate in the healthcare

sector. In the healthcare sector clients need 24 hours care per day, which automatically means that team members need each other to provide the healthcare.

4.4 Team size

In this study, every team had a different team size. The size of the teams ranged from four team members till 27 team members. Prior research has suggested that the team size should be between 4 and 20 people. There were five teams (Hyacint, Madelief, Lelie, Paardenbloem, and Korenbloem) that had a team size between 4 and 20 people. Team Hyacint consists of four people, Madelief of 16 people, Lelie of six people, Paardenbloem of eight people, and Korenbloem of 15 people. The other three teams (Zonnebloem, Violtje, and Fuchsia) had a team size of more than 20 people. Team Zonnebloem consists of 24 people, Violtje of 22 people and Fuchsia of 27 people. Teams Hyacint, Lelie and Paardenbloem are small teams. The respondent of team Hyacint has stated that the small team size works well for her. Moreover, the respondent indicated that the small team size contributes to an adequate decision-making process and problem solving. However, the respondent of team Lelie has stated that a team size of six people results in a vulnerable team. In the healthcare organization, that team Lelie is part of, the team sizes range from six till twelve people, which means that team Lelie is a small team compared to other teams in that organization. The respondent of team Paardenbloem indicated that size of the team is established based on the available hours and the type of contracts that the team members have. Currently, team Paardenbloem consists of eight people sine some people have an employment contact of 20 hours. As the respondent of team Paardenbloem argues, would the team members all work 40 instead of 20 hours, six people would be enough. Team Zonnebloem consists of 24 team members and still has an employee shortage. Because of that, many people with a temporary contract have been added to the team. Team Violtje consist of 22 people. As a result, the respondents have argued that such a large team size complicates the communication process. Similarly, team Fuchsia consists of 27 people and the respondent have also argued that the communication process is challenging in such a large team. Moreover, the respondents of team Fuchsia have argued that realizing a team spirit in a large team is also very difficult. An overview of the teams and their team sizes have been provided in table nine.

Table 9: Overview team size per team

Self-managing teams	Team size
Hyacint	4
Lelie	6
Paardenbloem	8
Korenbloem	15
Madelief	16
Violtje	22

Zonnebloem	24
Fuchsia	27

The overview shows that some teams have quite similar team sizes. First, the teams Hyacint, Lelie and Paardenbloem are small teams in terms of that their team size ranges from four till ten people. An important difference between these teams is that the respondent of team Hyacint has stated that the small team size works well, while the respondent of team Lelie has argued that the small teams increases the vulnerability of the team such as holidays or pregnancies. Besides, the sizes of teams Hyacint and Lelie have been deliberately chosen. The healthcare organization under which team Lelie falls, has formulated several guidelines regarding the team size. The teams consist of six till twelve people, as argued by a respondent of that organization. Team Hyacint is part of a larger location-based team which in total consists of five smaller teams or groups. It is assumed that the healthcare organization has deliberately chosen for five smaller groups of four people within that team instead of two larger groups of ten people. The size of team Paardenbloem is only based on the employees' contract hours and available treatments hours for the team. Thus, the team size of Paardenbloem is not based on any guidelines but a consequence of multiple factors. Second, teams Korenbloem and Madelief are both middle-sized teams. The outcomes of the analysis did not indicate any differences between these teams regarding the team size. Third, teams Violtje, Zonnebloem and Fuchsia are all large teams. The respondents of both team Violtje and Fuchsia have argued that a large team size complicates the communication process. The only thing that the respondent of team Zonnebloem has argued regarding the team size is that the team still experiences an employee shortage. The respondent has not mentioned anything about the communication within the team. The outcomes in terms of the team size have been supported by illustrations provided in table ten.

Table 10: Illustrations team size

	Illustrations self-managing teams with a small team size	Illustrations self-managing teams with a large team size
Team Hyacint	“Uhm, no I don't think that any extra people need to be added to the team. Because uhm, I think that it is very nice that if there is something now, we can discuss it together quickly and solve it together” (Suzanne)	
Team Lelie	“Because you often see that a team of ten people works well, but when the number increases, it becomes more difficult to	

	<p>reach everybody and to involve everybody in the decision making, and uhm, so they given it a lot of thought” (Fleur)</p> <p>“Uhm, because we notice that uhm, holidays and sickness, uhm, the planning is very difficult. You are very vulnerable. A while ago we were with six and we have two pregnant colleagues at the same time, that is very challenging” (Fabièn)</p>	
<p>Team Paardenbloem</p>	<p>“That, that, nee that depends, that depends on the formation and uhm, the number of hours per week write for guidance as a group. You just get the formation of hours; you receive the hours you can spend as a group from the organization and you can fill it in like you prefer” (Piet).</p> <p>“But we have eight, because we have a few with a 20 hours contract. But if you have six people that all work for 40 hours, you will have six people instead of eight but because of the distribution of hours we have more, that’s how you can see it. So, it’s more about uhm, filling in the hours than the actual quantity” (Piet).</p> <p>“If we all have people who work at least 32 hours, then someone has to leave because we just don’t have the hours. Or the other way around, if people want to work less hours, you need another person” (Piet).</p>	
<p>Team Violtje</p>		<p>“Because what you say, a team with 22 and then what, how do you keep everyone up to date. That is an</p>

		<p>important question in our team” (Marlien).</p> <p>“And besides, with self-managing a team of 20 is just too large. You often see that a team of ten people works. And uhm, in the healthcare sector, those groups are often larger, so I don’t think that is possible” (Denise).</p>
Team Fuchsia		<p>“I think that if you have a small team, of 12 à 13 colleagues, that works much better than such a large team” (Maria).</p> <p>“Yes, you know, you obviously have part timers and that can be a disadvantage of course” (Annefleur).</p> <p>“And with a large team, and uhm with short contracts, you need to communicate properly” (Annefleur).</p>
Team Zonnebloem		<p>“Yes, we have, uhm, uhm, there is still a shortage” (Demi)</p> <p>“You still have to run when, uhm, you are on your own from three till four o’clock to give everybody attention and, uhm, to get out of bed and things like that” (Demi)</p> <p>“Because it is like, uhm, we thought we have many more hours available, but the hours are all calculated and stuff, and that is truly almost the</p>

		maximum of available hours provided by the government” (Demi)
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4.5 Control capacity

In this study, the control capacity is related to two aspects of the design. First, the level of independence of the teams which is related to the presence and role of a team manager. Second, the degree of insights into the team performance that the teams have. Insights into the team performance is enables the teams to plan the process, adjust the process, to solve problems and to control, monitor and improve the team performance. In other words, insights into the team performance is required for the teams to have enough control capacity. First, results of this study have indicated that the self-managing teams have different levels of independence. The teams can have no influence on the decisions, have an advisory role towards the decisions, decide in consultation with an external functionary or make decisions independently. Team Lelie is the only team that has performed her tasks independently since this team had a regional coach for support reasons, and not a team manager. The respondent of the healthcare organization has argued that the team members are jointly responsible to coordinate, perform and control the tasks on team level. The outcomes of this study have suggested that teams Paardenbloem and Fuchsia performed their tasks in consultation with the team manager. The respondent of team Paardenbloem has argued that the team manager is the link between the team and the overarching healthcare organization. If needed, team Paardenbloem consults with the team manager and then together decides. Team Fuchsia consults with the team manager and overarching healthcare organization when large decisions need to be made. For instance, the decision to buy new furniture. The results of the analysis have also suggested that teams Korenbloem and Hyacint have an advisory role towards the decisions that are made. The respondent of team Korenbloem has stated that large decisions with big consequences are decided by the team manager. Nevertheless, team Korenbloem does advise the team manager about the decisions, but the team manager has the final responsibility to decide. Consequently, the respondent of team Korenbloem has argued that this limitation leads to an inefficient communication process and prevents the team from continuing with performing their tasks. Similarly, the respondent of team Hyacint has indicated that when things get too complicated the team manager gets involved. The team manager has the final responsibility to make the decision, but the team still advises the team manager. Thus, a team that makes decisions in consultation and that has an advisory role towards the decisions that are made, are quite similar regarding the control capacity. However, a team that makes decisions in consultation actually influences the decisions whereas a team that has an advisory role does not. Lastly, the results of the data analysis have indicated that teams Violtje, Madelief, and Zonnebloem could not influence the decisions at all. Team Violtje needs the permission of the team manager for many decisions. The respondents of team Violtje have stated that they needed the permission of the team manager to buy

new chargers for the work phones. Moreover, team Viooltje does perform the application procedure, but permission of the team manager is needed to actually hire someone. The respondents of team Viooltje have argued that this limitation is experienced as frustrating for both them and their team manager, since it increases inefficiency in the processes. Likewise, the respondent of team Zonnebloem has stated that the team needs permission of the team manager to place an order. The respondents of team Madelief have stated that the administrative assistant, who is not part of the team, is responsible for the finances and purchase. The team manager is responsible for the recruitment process of team Madelief. In sum, in this study there is only one team (Lelie) that has enough control capacity. There are seven teams that lack enough control capacity. Two teams decided in consultation with the team manager, two teams had an advisory role towards the decisions that were made, and three teams had no influence at all on the decisions that were made. An overview has been provided below.

Second, the results have indicated that the extent to which the teams have insights into their team performance varies. The teams Lelie, Fuchsia and Hyacint have insights into the team performance, while the teams Paardenbloem, Korenbloem, Viooltje, Madelief, and Zonnebloem do not. Team Lelie has the most insights into the team performance since the healthcare organization provides an online community in which several up-to-date overviews are available. These overviews are related to the team performance. The online community provides the team guidance to monitor and improve the team performance. The respondents of team Fuchsia have argued that the team has a financial and quality consultation. During the quality consultation, the goals, and points of improvements of each subject area within the team are discussed. During the financial consultation, the financial performance is discussed. These consultations lead to insights into the team performance. Team Hyacint makes a group plan every year that includes that goals in terms of what to achieve as a team. However, the respondent of team Hyacint has stated that this group plan and the development of it does not receive much attention which means that it dilutes quickly. The other five teams (Paardenbloem, Korenbloem, Viooltje, Zonnebloem and Madelief) lack insights into the team performance. This is because those teams did not have any goals in terms of the team performance. Respondents have stated that if there were any goals in the team, these goals were related to the subject areas or to related to the healthcare that is provided but not related to the performance of the team. Besides, respondents have stated that evaluation of the team performance is only needed when changes need to be made within the team. In other words, only when a team points out that something needs to be changed, the team performance is not assessed or evaluated. In table 11, an overview of the control capacity of the teams has been provided, in terms of the level of independence and insights into the team performance.

Table 11: Overview control capacity per team

Self-managing teams	Level of independence	Insights into the team performance
Lelie	Independent	Yes
Paardenbloem	In consultation	No
Fuchsia	In consultation	Yes
Korenbloem	Advise	No
Hyacint	Advise	Yes
Viooltje	No influence	No
Madelief	No influence	No
Zonnebloem	No influence	No

The overview shows that the teams have different levels of independence. Nevertheless, there are some similarities between the teams. First, the teams Lelie, Paardenbloem and Fuchsia are the teams in this study that have a certain degree of control capacity. Team Lelie is the only independent team, and team Paardenbloem and Fuchsia are the teams that make decisions in consultation with their team manager which means that they have some degree of influence on the decisions. An important difference between team Lelie and teams Paardenbloem and Fuchsia is that Lelie is the only team that does not have a team manager. The respondent of team Paardenbloem has stated that the team members ask the team manager for help to solve problems and that the team manager is consulted for situations in which incidents happen outside the care facility. Their team manager is the link between the team and the overarching healthcare organization. This is also stated by the respondents of team Fuchsia. Moreover, respondents of team Fuchsia have indicated that their team manager is someone they can rely on and who needs to be consulted when, for instance, new furniture needs to be bought. Thus, the role of the team manager in teams Paardenbloem and Fuchsia is similar whereas team Lelie does not have a team manager but a regional coach for support reasons. Second, team Korenbloem and Hyacint both advise the team manager when decisions need to be made. The teams can influence the decisions to a limited degree. “We have a manager, who arranges the facility and, uhm, the larger decisions related to costs. And uhm we have the behaviourist and uhm, who focuses on the clients. If you want to decide about that, you will do it in consultation with her” (Marjolein, team Korenbloem). In both teams, the team manager has the final responsibility to make the decisions. “We are in the self-managing in the standard easy things. But in uhm, yes, the more complicated things, uhm we are very depending on ‘above’, so to speak” (Suzanne, team Hyacint). The results did not indicate any differences between these teams concerning the level of independence. Third, teams Viooltje, Madelief and Zonnebloem can not influence the decisions. For all three teams applies that permission of the team manager is needed for many decisions. For instance, to order something like new chargers or to hire new employees. “Well yes, there are of course many things that need go through the team

manager. Because he or she has more power in that. For instance, uhm, recruitment, uhm, but also for instance recently we have too few chargers for the phones we use internal. And a charger needed to be ordered. And that all needs to go through the purchase system via the team manager” (Marlien, team Viooltje). “The finances and stuff. Mostly we ask the team manager for permission to order something” (Demi, team Zonnebloem). “Because our team manger has the final responsibility” (Tess, team Madelief). A respondent of team Viooltje have argued that this is experienced as frustrating. “Well, that uhm, that sometimes makes me feel like it takes much more time. Because we pass it on to the team manager who then to resume it, so there are always a couple of days or weeks in between before something is completed” (Marlien, team Viooltje). These outcomes are supported by illustrations provided in table 12.

Table 12: Illustrations level of independence

Self-managing teams that decide independently or in consultation	Illustrations
Team Lelie	<p>“We have, no, we do not have a team manager. We do have a regional coach, who deliberately is not called a manager. Because, that person has a more coaching or support role and should have. Uhm, that is very nice because uhm, that is someone we can ask for advise” (Fabièn)</p>
Team Paardenbloem	<p>“Uhm, there could arise situations that just falls outside the group. Younger people that walk away. That we have incidents, that uhm, uhm, that people with day treatment do not, do not keep their end of the bargain and then it is very nice to have a person that keeps the overview” (Piet)</p> <p>“We are, we are for the guidance here and not for the guidance in The Netherlands. So uhm, mostly when it falls outside the house, we go to her. Because she is for us the link between the house and the organization” (Piet).</p>
Team Fuchsia	<p>“Well, we have at least a manager on who we can rely if we get stuck or well, uhm have some difficulties with the family” (Maria).</p> <p>“And I am not sure if you can do it without a manager, I wonder. Because that is, that is the contact between the organization and us, the manager” (Annefleur)</p>

The overview also shows that the teams vary in the extent to which they have insights into the team performance. First, teams Lelie, Fuchsia and Hyacinth have insights into their team performance. However, these teams all have insights into the team performance in different ways. Team Lelie has insights through an online community that provides up-to-date overviews in terms of the team performance, team Fuchsia has insights through the financial and quality consultations, and team Hyacinth have insights via a group plan that consists of the team goals. Second, teams Paardenbloem, Korenbloem, Viooltje, Madelief and Zonnebloem do not have any insights into the team performance. Respondents of these teams have argued that they do have certain goals in terms of the treatment of the client or the subject areas, but not specifically related to the team performance. “We have some team goals in terms of how we want to treat clients. Uhm, I just don’t think that if you would say team goals in terms of how we can be a better team and how we can be more self-managing, we do not pay much attention to it because it happened naturally” (Piet, team Paardenbloem). “But we don’t have any goals in terms of the structure or safety or confidence concerning communication. We do not have any goals regarding that. It is all subject related” (Denise, team Viooltje). Moreover, some respondents have indicated that in their team, there is no need for continuous assessment or improvement, only when something is wrong changes need to be made within the team. “So, if it works, it works. And then they leave it like that. Kind of the idea that instead of continuous re-evaluation, it stays the same and they say it’s fine. Until the moment that something is going on that needs to be changed” (Piet, team Paardenbloem). These outcomes are supported by the illustrations provided in table 13.

Table 13: Illustrations insights into team performance

Self-managing teams with insights into their team performance	Illustrations
Team Lelie	“The great thing is that we have, uhm, web, our online community, uhm, a very useful system has been made to have an overview and that overview consists of, uhm, how many and which notifications of incidents have been made, the ratio between office hours and client hours and that is also an important indicator for the financial performance” (Fabièn).
Team Fuchsia	“We have a quality-improvement board, we have received, and in that we have a whole system. Uhm, we have two types of consultations. The first one is a financial consultation, which is a performance and budget consultation. The other one is a quality consultation. In the quality consultation should, uhm one by one the subject areas should be discussed, and then people who are assigned

	to that particular subject area are present, to avoid that you have one, two or three people that are present in every consultation. But that the people of the subject areas discuss it. Well the, the points that need to be improved. Those should be on the quality-improvement board” (Michelle).
Team Hyacint	<p>“Uhm es, we make every year, half a year, every year by heart but I am not sure, uhm, a group plan, and in which the goals for next year are formulated. Uhm, what you want to achieve, uhm, as a team so to speak. Uhm, and what you can to achieve as the location-based team” (Suzanne).</p> <p>“That kind of stuff. But also, what are the goals on the group. What do you want to achieve next year? And that is then discussed the year after and then your set a new plan and if goals need to be extended, that is also possible” (Suzanne).</p> <p>“But, I honestly have to say that it dilutes very much” (Suzanne).</p>

4.6 Employability

The outcomes of this study have suggested that almost all teams had a high employability. Team Madelief was the only team that had a low employability, which means that the team members were not employable for multiple tasks. Nevertheless, in the other seven teams (Lelie, Paardenbloem, Korenbloem, Viooltje, Fuchsia, Hyacint, and Madelief) there was a high employability. A high employability means that for one task within the team, multiple team members are employable. In team Lelie every team member performs a certain task which rotates every year. This means that every team member performs different tasks each year, which results in a high employability. In team Paardenbloem, a task is assigned to a team member and for each task a shadow person is assigned. As a result, when a team member cannot perform a task anymore, the shadow person for that task can take over. The respondent of team Paardenbloem has also stated that the tasks are not rotated since, in their opinion, it is easier the team to perform a task for a longer period of time to develop themselves. The respondent of team Korenbloem has stated that all tasks can be performed by all team members. Team Viooltje is divided into several subject areas, such as Planning or ICT and Finances. To each subject area, multiple team members are assigned. This means that if one team member gets sick or anything, the other team members of that subject area can take over. Similarly, team Fuchsia is also divided into subject areas to which multiple team members are assigned. Respondents of team Fuchsia have stated that the tasks and related subject areas are not rotated since, in their opinion, you grow in a subject area. In team Hyacint the tasks are divided into different commissions. For instance, there is a commission for the finances or the arcade. For some commissions, only one person is assigned while for other commissions two persons are assigned based on the amount of work the tasks require. The

respondent of team Hyacint has stated that they attempt to rotate the tasks, but this is not always the case. For instance, coaching interns is a task that is mostly performed by the same person(s). This is a task that requires a certain type education, and if every team member needs to get that education it will cost a lot of money. In team Zonnebloem, there are always two persons assigned to a task, which is like the design of team Paardenbloem. Thus, the design of the high employability of team Lelie and team Korenbloem are similar, the design of teams Paardenbloem and Zonnebloem are similar, and the design of teams Violtje, Fuchsia and Hyacint are similar. Lastly, respondents of team Madelief have indicated that it is very difficult to take over each others' tasks since these tasks are based on the specific function or position, such as pedagogue or treatment coordinator. "Uhm, that is difficult. Because we have, coincidentally, had that, that a treatment coordinator, uhm, dropped out. And the parents-supervisor a year ago. But then you notice that it is difficult to take over someone" (Merel, team Madelief). Hence, team Madelief has a low employability. The outcomes concerning the employability of the team members have been supported by illustrations, which are provided in table 14.

Table 14: Illustrations employability

Self-managing teams with a high employability	Illustrations
Team Lelie	<p>"Uhm, we try to divide it, uhm, yes actually just by discussing the preferences of everyone and then uhm, we try to do that once in a while, mostly one time per year or year and a half, to rotate" (Fabièn).</p> <p>"Yes, absolutely. That is what we want to achieve. And I think that in practice indeed, there are many people that can do the schedule, many people can do the planning, so that is okay" (Fabièn)</p>
Team Korenbloem	<p>"In general, every task, uhm, is for everyone, uhm, I mean. Everybody can do it" (Marjolein).</p>
Team Paardenbloem	<p>"Everybody has uhm, has its own task in that. And has the final responsibility and with every final responsibility, we have a shadow assigned for if uhm, if it is inconvenient or if that person is not present. Then we also need someone who can resume" (Piet).</p> <p>"And if you perform the financial tasks, it is much easier to keep doing that, than to explain it every year to some else. Uhm, because you have been doing it for multiple years and you have taken on that task, then it is confidential to keep doing so. And then you keep a better and easier</p>

	overview for yourself and for the group, then if you would rotate it very time” (Piet)
Team Zonnebloem	“Uhm some tasks are easier than others. Uhm, we actually always have a second person that knows how it works. Because for instance, incontinence orders, that are two people” (Demi)
Team Violtje	<p>“Uhm yes because there are always multiple people who perform one task, so to speak. So, I do, for instance, I do the schedule with three others” (Marlien)</p> <p>“Yes, we try to. And that is because, obviously, you have multiple groups, but then it is more like, let’s say we have the planning commission, if someone takes their maternity leave or something like that, then the commission consists not of four people but the other three resume the tasks” (Denise).</p>
Team Fuchsia	<p>“So, we have here roles, subject areas and task division. So, we work with different subject areas, for instance, medication safety, uhm till and transfer, uhm, oral care, uhm, uhm the hygienic infection prevention. Uhm, one, uhm two colleagues have the subject area facility” (Michelle).</p> <p>“And we say uhm well do you have to rotate each year, we don’t think so because you also grow in your subject area” (Michelle)</p>
Team Hyacint	<p>“Uhm, well they try to rotate. But with interns it is for instance very useful, uhm, that one person does that since you need a special education for it. So, it will cost a lot of money if every year someone else needs that education. So, then they make sure that the intern guidance is done by the same persons. Uhm, further on they try to rotate” (Suzanne).</p> <p>“Yes exactly. Then there are five per commission. And that’s how it is looked at. And the arcades are often also two people. Because that is a very big storage room that has be cleaned. A pretty big surface that needs to be kept clean and well, so that are also two. So that is how it is looked at” (Suzanne).</p>

4.7 Overview results team infrastructure per team

In het previous section, the design of each indicator in the teams has been discussed. The results have shown that there are both variations and similarities between the designs of the self-managing teams.

In table 15 an overview of these designs is provided. Besides, the self-managing teams are divided into two categories: high team performance and low team performance.

Table 15: Overview results infrastructure per team

	Team performance	Complete team task	Mutual dependency	Team size	Control capacity	Employability
Lelie	High	+	+	+	+	+
Hyacint	High	-	+	+	-	+
Paardenbloem	High	-	+	+	-	+
Korenbloem	High	-	+	+	-	+
Violetje	Low	+	+	-	-	+
Fuchsia	Low	+	+	-	-	+
Zonnebloem	Low	-	+	-	-	+
Madelief	Low	-	+	+	-	-

This study has focused on five indicators that are part of the team’s infrastructure. These five indicators can be seen as five criteria for what the design of the infrastructure should look like based on prior studies. The overview shows that for each indicator or criteria, a different number of self-managing teams meets that criteria. Based on that, the completeness of the team task, the team size and the team’s control capacity are the most striking. First, there are three teams that have a complete team task, of which two teams have a low team performance and one team has a high team performance. This means that there are five teams that have an incomplete team task, of which three have a high team performance and two have a low team performance. These outcomes indicate that a complete team task does not lead to a higher team performance and that self-managing teams with an incomplete team task can also have a high team performance. Second, the overview has shown that there are five teams that had an appropriate (small) team size, of which four teams had a high team performance. Consequently, the three teams with a (too) large team size, all had a low team performance. Hence, this study suggests that a large team size results in lower team performance. Third, the overview illustrates that there is only one team, with a high team performance, that has enough control capacity since this team performs the tasks independently and has insights into the team performance. The other seven teams lack enough control capacity, of which four teams have a low team performance. However, there are also three teams that lack enough control capacity and still have a high team performance, which contract the before mentioned assumption. The impact of sufficient control capacity on the team performance remains unclear because of that.

The overview also shows that the teams vary in the number of criteria their design meets. First, there is only one team in this study that meets all five criteria regarding what the design of the infrastructure should look like. This team, team Lelie, also has a high team performance. This suggests

that a self-managing team that has a complete team task, mutually dependent team members, a team size between 4 and 20 people, enough control capacity to perform the tasks independently and a high employability, can have a high team performance. Second, there are five teams that meet three of the five criteria. These teams are Hyacint, Paardenbloem, Korenbloem, Viooltje, and Fuchsia. Despite the similarity regarding the number of criteria these teams meet, the teams differ in which criteria they meet. Teams Hyacint, Paardenbloem and Korenbloem all meet the criteria concerning mutual dependency, team size and employability. This means that the teams Hyacint, Paardenbloem and Korenbloem all have an incomplete team task and insufficient control capacity. Both teams Viooltje and Fuchsia meet the criteria regarding the complete team task, mutual dependency, and employability. Hence, teams Viooltje and Fuchsia have a (too) large team size and insufficient control capacity. Furthermore, these five teams that only meet three out of five criteria also differ in their team performance. Teams Hyacint, Paardenbloem and Korenbloem meet three criteria and have a high team performance whereas teams Viooltje and Fuchsia meet three criteria and have a low team performance. These outcomes might suggest that the combination of a large team size and insufficient control capacity leads to a lower team performance (teams Viooltje and Fuchsia), while the combination of an incomplete team task and insufficient control capacity does not (teams Hyacint, Paardenbloem and Korenbloem). An explanation could be that the completeness of a team task and a team's control capacity are closely related. A team that does not perform all the tasks required to perform a complete process, can not have enough control capacity. A large team size and insufficient control capacity are two very important aspects of the design, and therefore might lead to lower team performance. It could also mean that a large team size is disastrous for a self-managing team to be successful. Lastly, there were three teams (Fuchsia, Zonnebloem and Madelief) that meet only two of the five criteria. Teams Fuchsia and Zonnebloem both lack a complete team task, a small team size and sufficient control capacity, while team Madelief lacks a complete team task, enough control capacity and a high employability. All three teams have a low team performance. This suggests that a self-managing team that meets only two of the five criteria, regardless of which criteria, it results in a lower team performance. In conclusion, prior research has argued that the ideal situation would consist of a self-managing team that has a complete team task, mutually dependent team members, a team size between 4 and 20 people, enough control capacity to perform the tasks independently and multiple team members employable for one task. A self-managing team that is designed like that, should be successful or at least that design should contribute to the success of a self-managing team. Nevertheless, the outcomes of this study suggest that the design of a self-managing team that meets only three or four of the five criteria, can still result in a successful self-managing team. However, it does depend on the team's context.

4.8 Conclusion data analysis

The outcomes have indicated several variations in the design of the infrastructure of self-managing teams. First, three teams have a complete team task in which the tasks are organized in different ways. The other five teams have an incomplete team task and vary in the performance of the team tasks. Second, all teams have shown mutual dependency because they need each other to provide the complete healthcare, or to consult with each other or to take over each others' tasks. Third, five teams have an appropriate team size which is between four and twenty people. The other three (too) large teams have some problems in terms of the communication. Fourth, there is only one team that has enough control capacity since this team performs the tasks independently and has insights into the team performance. Fifth, seven teams have a high employability since multiple team members are employable for one task. Nevertheless, these teams have organized their employability in different ways.

Chapter 5. Discussion

The purpose of this study was to contribute to current literature about self-managing teams in the healthcare sector, by providing insights into what the design of self-managing teams looks like compared to what existing literature prescribes. This study has shown that much variation is present between the designs of the infrastructure of self-managing teams in healthcare organizations. Prior research (Van Amelsvoort et al., 2003) has provided guidelines concerning the design of self-managing teams, which can be related to the team structure and human resources as part of the team's infrastructure. The present study has analysed the infrastructure of self-managing teams, in terms of the completeness of the team task, the degree of mutual dependency between the team members, the team size, the team's control capacity and the employability of the team members. The theoretical guidelines concerning these five aspects of a team's infrastructure are the criteria in this study to illustrate what the design of self-managing teams in healthcare organizations look like.

Previous academic research (Van Amelsvoort et al., 2003; Kuipers et al., 2018; Hackman, 2002) has argued that (self-managing) teams should have a complete team task. In this study, there are three teams that have a complete team task since they perform all required client or care related tasks and team tasks. Nevertheless, these three teams vary in the way that the tasks are organized. The other five teams do not have a complete team task, because these teams do not perform all necessary team tasks. The results have suggested that a complete team task does not (necessarily) leads to a high team performance and that self-managing teams with an incomplete team task can also have a high team performance.

Van Amelsvoort et al. (2003) have argued that there should be mutual dependency between the team members in self-managing teams. In line with this, all self-managing teams show mutual dependency because they need each other to provide the complete healthcare, or to consult with each other or to take over each others' tasks. Moreover, the mutual dependency might be caused by the healthcare sector in which the teams operate.

According to Van Amelsvoort et al. (2003), self-managing teams should consist of 4 till 20 people. This is supported by other prior studies, which argue that self-managing teams should have a small team size (Kuipers et al., 2018; Hackman, 2002; Cohen et al., 1996). Still, there are three self-managing teams in this study that have a large team size, or in other words a team size of at least 22 people. It is striking that all teams that have a large team size, have a low team performance. This might suggest that a large team size could cause (more) problems for self-managing teams.

Prior academic research (Van Amelsvoort et al., 2003; Hackman, 2002; Cohen et al., 1996) have argued that self-managing teams should have enough control capacity to perform their tasks independently. The control capacity of a self-managing team is related to the level of independence and the extent to which a self-managing team has insights into the team performance. In this study, there is only one self-managing team that has sufficient control capacity. Consequently, seven of the

eight self-managing teams lack sufficient control capacity to perform the tasks independently. For all seven teams that have insufficient control capacity applies that they either have an incomplete team task, a too large team size or both.

In line with the arguments of Van Amelsvoort et al. (2003), almost all self-managing teams have a high employability. This means that there are multiple team members employable for one task. Nevertheless, the design of the high employability in these seven teams does vary.

Overall, the outcomes of this study suggest that there is variation between the designs of the infrastructure of self-managing teams. These different designs can either lead to a high team performance or a low team performance. This study has only focused on five criteria about what the design of the infrastructure should look like. The results have indicated that a design of a self-managing team meets five criteria could lead to a high team performance. Moreover, the outcomes have suggested that a design of a self-managing team that meets only three of the five criteria might lead to a high team performance but can also lead to a low team performance. This might depend on which criteria the teams do not meet. The results have indicated that the combination of a large team size and insufficient control capacity leads to a lower team performance, while the combination of an incomplete team task and insufficient control capacity does not. The outcomes of this study have also suggested that when the design of a self-managing team only meets two of the five criteria, it might result in lower team performance.

5.1 Theoretical implications

This study has several theoretical implications. First, prior research (Van Amelsvoort et al., 2002; Kuipers et al., 2018; Hackman, 2002; Cohen et al., 1996) has argued that a self-managing team should have a small team size. To specify, a self-managing team should not have more than 20 team members. In line with this, the present study has suggested that a large team size of at least 22 people negatively impacts the team performance. Second, in line with the arguments of Van Amelsvoort et al. (2003), this study suggest that a self-managing team requires a complete team task, mutually dependent team members and an appropriate (or small) team size before the self-managing team can have enough control capacity to perform the tasks independently. This is because almost all teams that have insufficient control capacity have at least an incomplete team task or a too large team size. However, there is one team that has a complete team task, mutual dependency, and an appropriate team size, but not enough control capacity. This suggests that when a self-managing team has a complete team task, mutual dependency, and an appropriate team size, this does not automatically mean that the self-managing team has enough control capacity. This could mean that the design of the team's control capacity is separate from the design of the complete team task, mutual dependency and team size which is also argued by Kuipers et al. (2018). Furthermore, the results of the study at hand suggest that there is a relationship between a large team size and a team's control capacity. Third,

previous academic research (Van Amelsvoort et al., 2003; Kuipers et al., 2018) has argued that the design of a self-managing should meet all five criteria. However, this study indicates that when the design of a self-managing team meets only four, or maybe even three, of the five criteria, the self-managing team could still be successful.

5.2 Practical implications

The present study has several practical implications for organizations that work with self-managing teams. In line with prior academic research, results of this study suggest that self-managing teams should have a small team size. More specifically, self-managing teams should not consist of more than 20 people. In practice, there are several self-managing teams with a larger team size. The present study has focused on the design of self-managing teams on micro level. The team size is part of the production structure on micro level. The production structure is designed from macro level till micro level, which means that the organizational structure on macro level is the basis for the design of teams on micro level. Hence, organizations should design their team with a maximum of 20 people. When a small team size seems impossible given the size of the overarching organization, organizations should consider designing smaller groups or teams within a team. The outcomes of this study emphasize that a large team negatively impacts the team performance, which means that designing small groups is important.

The outcomes have also suggested that most self-managing teams do not have sufficient control capacity which reduces the degree of self-management of the teams. The team's control capacity is part of the control structure on micro level. The control structure is designed from micro level to macro level, based on the design of the production structure. Organizations should gain insights into the tasks that are organized on team level, to establish the degree of control capacity teams need to perform these tasks.

5.3 Limitations and future research

This study has several limitations that affect that quality of the study. The present study has been conducted during the corona (COVID-19) crisis, which had a big impact on the healthcare sector. The original idea was to conduct a qualitative research in one large Dutch healthcare organizations by means of, first, doing interviews in two self-managing teams within that organization, and second, studying the organizational documents regarding self-managing and team performance. In this way, a comparison could be made between the self-managing teams within the same context. For instance, these self-managing teams would have had the same clients and the same macrostructure. Moreover, the idea was to interview not only team members, but also organizational members higher in the organizations, such as management, to consider multiple perspectives. However, due to the pressure that corona situation has caused and still causes on the healthcare sector, this study had to be conducted in a different way. This has led to several limitations.

The first limitation concerns the case selection. The data has been collected in eight different

self-managing teams that are part of eight Dutch healthcare organizations. As a result, eight different cases had to be compared which was very challenging. Some teams provide home care, while other teams provide healthcare in a care facility. Similarly, some teams provide healthcare to younger people, while other teams provide healthcare to elderly people. As a result of this limitation, a few recommendations can be provided for future research. To increase the external validity, it is recommended to include more healthcare organizations and more self-managing teams since only eight cases are a very small part of the Dutch healthcare sector. To increase the internal validity, it is advised to base the case selection on one criterion, such as the type of clients or the type of healthcare that is provided. Now, the variations in factors such as the type of clients or healthcare can lead to different functional designs. A functional design of a self-managing team providing home care can be completely different compared to a functional design of a self-managing team that provide healthcare in a care facility.

The second limitation is about the selection of respondent. In this study, a maximum of three respondents per self-managing team have been interviewed. Even so, for most self-managing teams there is only one respondent interviewed. A self-managing team consists of multiple team members that all have their own perspective and opinion. Consequently, the current selection of respondent has highlighted the perspectives of only one or a few team members. This perspective might be the opposite of other team members. Hence, future research should increase the number of respondents per team to increase the internal validity. Preferably all team members in the self-managing teams should be interview, or at least most of the team members. Besides, the selection of respondents should also include organizational members higher in the organization.

The third limitation involves the method of data collection. The data has been collected in two stages. First, the respondents were asked to answer a few open questions to provide a basis for the interview. Second, structured interviews were conducted. The questions asked in the first stage were very open and basic questions. As a result, a variation of answers was provided by the respondents. A variation of answers complicated the comparison. Moreover, the interviews have been conducted in different ways. Most of the interviews have been conducted via de telephone. Consequently, facial expression and body posture of the respondents could not be observed. Some interviews have been conducted through video calling. Despite the similarities between video calling and face-to-face, interviews through video calling has several limitations such as not being able to observe the complete body posture (from head till toe and an increased absentee rate and rescheduling of the interviews (Janghorban, Roudsari & Taghipour, 2014). In future studies, researchers should both conducted interviews and study documents, to enable triangulation. Additionally, it is recommended to conduct the interviews either face-to-face or through video calling, to observe the facial expression. Preferably, all interviews should be conducted face-to-face, since this study has shown that video calling is still a barrier for some people.

The fourth limitation concerns the appropriate team size of a self-managing team. Prior

research has argued that self-managing team should have a small team size. More specifically, Van Amelsvoort et al. (2003) have argued that a team should consist of 4 till 20 team members. However, there is a lack of academic research about the role of full time and part time contracts towards the appropriate team size of a self-managing team. When a self-managing team consist of mostly or only part time team members, the performance of providing the whole healthcare process to their clients will be impossible. Besides, especially in the healthcare sector there are many part time contracts (Hart van Nederland, 2002). As a result, it is advised for future studies to examine the influence of full time and part time contracts on the appropriate team size of a self-managing team.

The fifth limitation involves the lack of examining the macro structure of the healthcare organizations. The present study has focused on the design of the self-managing teams on micro level without considering the design of the organizational structure on macro level. The design of the self-managing is part of the production structure on micro level. The production structure is design from macro level to micro level, which means that the designs of the teams on micro level is based on the design of the organizational structure on macro level (Kuipers et al., 2018). Especially the completeness of the team task and the team's control capacity are based on the design of the macro structure. Order flows are designed on macro level and further subdivided on meso- and micro level (Kuipers et al., 2018). This means that the reason for self-managing teams to have a lack of complete team task and/or control capacity could be due to the design on macro structure. Future research should also consider the design of the organizational structure on macro level when examining the design of the teams. In this way, future research might be able to explain the differences between the teams more.

The sixth and last limitation is related to the measurement of the team performance. The study at hand argues that half of the self-managing teams has a low team performance and the other half of the teams has a high team performance. This categorization is based on the answers provided by the respondents, during the two phases of data collection. However, there is a lack of measuring the team performance. The researcher was not able to analyse organizational documents regarding performance criteria. As a result, the researcher asked the respondents, during the interviews, if their teams had any goals related to the team performance and if the teams were assessed or evaluate. It appeared that most teams did not have any team goals related to their performance, nor were the teams assessed in any way by the healthcare organization. Thus, the present study lacks a definition and measurement of team performance. For future studies, it would be recommended to focus on measuring the team performance and to explore how the team performance of self-managing teams is assessed or monitored by the healthcare organizations.

Chapter 6. Conclusion

This study has aimed to provide insights into the design of self-managing teams in the healthcare sector. Hereby, the present study has focused on the team structure and team human resources as part of the team's infrastructure. To realize this goal, the following research question has been formulated: "What does the design of the infrastructure of self-managing teams in healthcare organizations look like?" Outcomes of this study have shown that there are several variations in the designs of the self-managing teams. As a result, this study provides an ambiguous answer to the research question. Prior studies have argued that self-managing teams should have a complete team task, there should be mutual dependency between the team members, the team size should be between 4 and 20 people, the team should have enough control capacity and there should be a high employability within the team. These theoretical guidelines have been the basis for the present study to examine and compare the designs of the self-managing teams. The outcomes have resulted in several important conclusions. First, it appears that there are still teams in practice that do not have a complete team task although a complete team task is one of the basis principles for designing a self-managing team. Second, this study suggests that there is a relationship between the team size and team performance. To specify, a larger team size might lead to more problems within self-managing teams. Third, the present study indicates that many self-managing teams do not have enough control capacity to perform their tasks independently, which in turn decreases the degree of self-management in the team. Fourth, the self-managing teams, in this study, that have a low team performance do not meet at least one of the criteria regarding the completeness of the team task, the team size or the control capacity. This could mean that the design of those aspects, as part of a team's infrastructure, is very important for a team to be successful. Fifth, the results of the present study have indicated that when the design of a self-managing team meets at least three of the five criteria in total, a team can still be successful. In conclusion, despite the unambiguous guidelines that prior research has provided, the designs of self-managing teams in practice appear to be ambiguous resulting in varying team performances. Future research regarding the design of self-managing teams should include more organizations and self-managing teams, based on one or two selection criteria. Besides, future studies could focus on the effect of full time and part time contracts on the appropriate team size for self-managing teams, the impact of the design of the macro structure on the design of teams on micro level and the measurement of team performance of self-managing teams.

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Appendices

Appendix 1 Orientation questions

Beste respondent,

Allereerst hartelijk dank voor uw tijd en deelname aan dit onderzoek. Het doel van dit onderzoek is om inzicht te verkrijgen in een zelfsturend team binnen een zorgorganisatie.

Dit betekent dat ik jullie graag wil vragen om deze korte vragenlijst in te vullen. Het doel van deze vragenlijst is om op een oriënterende manier informatie te vergaren over het werken in zelfsturende teams, om dit vervolgens te kunnen gebruiken als basis voor het diepte-interview. Deze korte vragenlijst invullen zal +/- 5 tot 10 minuten in beslag nemen en voor het interview zal dit tussen de 30 en 45 minuten zijn.

Participatie is geheel anoniem en de gegevens zullen vertrouwelijk behandeld worden. De resultaten zullen uitsluitend geanalyseerd worden door het onderzoeksteam van de betreffende master scriptie en zullen dus niet gedeeld worden met derden.

Voor vragen kunt u contact opnemen met: Daphne.Vonk@student.ru.nl.

- Vraag 1: In welke zorgorganisatie bent u werkzaam en zou u deze organisatie kunnen omschrijven? (denk aan: type cliënten, omvang van de organisatie, locatie, mate van zelfsturing binnen de organisatie)
- Vraag 2: Zou u uzelf kunnen omschrijven? (denk aan: leeftijd, thuissituatie, werksituatie, omschrijving van uw functie)
- Vraag 3: Zou u het team waarin u werkzaam bent kunnen omschrijven? (denk aan: aantal teamleden, rolverdeling binnen het team en de activiteiten die het team uitvoert)
- Vraag 4: In hoeverre bent u van mening dat het team, waarin u werkzaam bent, daadwerkelijk zelfsturend is? (denk aan: beslissingen nemen, verantwoordelijkheden)
- Vraag 5: In hoeverre bent u van mening dat het team, waarin u werkzaam bent, goed functioneert? (denk aan: behaalde resultaten, afstemming binnen het team)

Appendix 2 Interview questions

Mijn naam is Daphne Vonk, student bedrijfskunde aan de Radboud universiteit in Nijmegen. Op dit moment ben ik bezig met het afronden van mijn master Organizational Design and Development, door middel van het schrijven van een afstudeerscriptie over zelfsturende teams in de zorgsector. Vandaar ook de vraag om dit interview en ik ben zeer dankbaar dat u eraan wil meewerken. Het doel van dit interview is om data te verzamelen over hoe zelfsturende teams in de praktijk werken. Daarbij ligt de focus op een aantal aspecten van zo'n zelfsturend team, namelijk de team structuur (dus de arbeidsverdeling), de teamleden en de technologische hulpmiddelen die een team gebruikt. Op basis daarvan heb ik een aantal vragen opgesteld. Voordat we met deze vragen beginnen wil ik nogmaals benadrukken dat er vertrouwelijk met deze data wordt omgegaan en wil ik u graag vragen of u er akkoord mee gaat dat dit interview wordt opgenomen?

U heeft al een aantal vragen voor mij ingevuld door middel van de korte vragenlijst die ik u gestuurd, mijn dank daarvoor! Met behulp van die antwoorden heb ik een algemeen beeld kunnen vormen over het team waarin u werkzaam bent en heb ik nog wat verdiepende vragen voor u.

Interview vragen:

- Begin
 - o Kunt u uw team en de situatie waarin jullie zitten kort beschrijven?
- Complete team taak
 - o Kunt u beschrijven welke taken er binnen het team worden uitgevoerd?
 - o Zijn er andere teams nodig om de cliënten te voorzien in hun zorg?
 - o Kunt u aangeven hoe de verschillende activiteiten binnen het team met elkaar samenhangen?
- Regelcapaciteit van het team
 - o Kunt u aangeven hoe de werkzaamheden onderling worden verdeeld binnen het team?
 - o Kunt u aangeven in hoeverre de teamleden elkaar nodig hebben in het uitvoeren van hun taken?
 - o Is er een team manager binnen het team en hoe wordt deze rol vervuld?
- Inzetbaarheid teamleden
 - o In hoeverre kunnen teamleden elkaars taken overnemen?
 - o Is er een teamleider binnen het team en hoe wordt deze rol vervuld?
- Afsluiting
 - o Bent u van mening dat zelfsturende teams binnen zorginstellingen goed werkt?
 - o Kunt u aangeven hoe er vanuit de (overkoepelende) zorgorganisatie wordt gecommuniceerd over zelfsturing?