

# **A Deeper Understanding of Real Teamwork and Sustainable Quality Culture**

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Faculty of Science, Technology and Media

Thesis for Doctoral degree in Quality Technology and Management

Mid Sweden University

Östersund, 2023-11-29

Akademisk avhandling som med tillstånd av Mittuniversitetet i Östersund framläggs till offentlig granskning för avläggande av filosofie doktorsexamen onsdag, 29 november, kl. 13.00, Q221, Mittuniversitetet Östersund. Seminariet kommer att hållas på svenska.

## A Deeper Understanding of Real Teamwork and Sustainable Quality Culture

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Printed by Mid Sweden University, Sundsvall

ISSN: 1652-893X

ISBN: 978-91-89786-36-3

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Mid Sweden University Doctoral Thesis 398

# Acknowledgement

There are many people that I would like to thank for supporting me during this research. You have always been there, both when it felt easy and when I debated my own reasoning or doubted myself.

First, I would like to thank my supervisors Pernilla Ingelsson and Marie Häggström for their knowledge, support, and guidance on this winding road. Your help has been invaluable. I also want to thank Ingela Bäckström for being a perfect leader for the project that constituted the first part of my thesis. This project led me to where I am today. Thanks also to the Kamprad Family Foundation for funding this project that became the start of my journey.

I also want to thank all generous and skilled researchers who have reviewed my work along this way. Without your comments, this thesis would not have turned out the way it has.

I want to gratefully thank all my colleagues at the department of Quality Management. You are always so supportive, encouraging and kind, and always make me feel welcome and appreciated. Thanks also to my fellow PhD students, who I have met during this journey. We have supported each other during courses and our discussions have been fruitful and productive.

Furthermore, I want to thank all co-workers and leaders that have participated in this research. Your contributions have been irreplaceable.

Last, but not least, I would like to thank my family and friends for always being there, listening to my incomprehensible discussions and questions, and cheering me up when it has been tough. I would like to give a special thanks to Andreas, my beloved companion in life, for always making me smile and to my dear children Simon and Alva for always encouraging me. Thank you also, Elsa and Algot, for being part of my life.

Sundsvall, October 2023

*Lilly-Mari Sten*

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# Abstract

Have you ever questioned why some teams and organisations rise to unparalleled heights, while others remain trapped in mediocrity? Unlocking the secrets to this mystery requires more than chance and luck. It is about discovering the potential and power of 'real' teamwork, and it is about how the combination of 'real' teamwork and sustainable quality culture can generate successful and sustainable performance and value. In contexts like healthcare, 'real' teamwork and a sustainable quality culture can play crucial roles in saving lives and are pivotal in ensuring high standards in care quality and safety for patients and their relatives. Furthermore, they are important in creating a positive working environment for healthcare professionals.

Organisations worldwide are increasingly structuring their work around teams, due to the rapid changes occurring in our surrounding world. Consequently, the challenges that today's organisations must address are more intricate and complex than ever before. This necessitates organisations, both internally and in collaboration with others, to cooperate. Research indicates that organisations that implement teamwork become more responsive, flexible, and adaptable to the new and unforeseen requirements of customers and suppliers, leading to improvement in their performance.

There are various types of teams, and teams can achieve varying levels of effectiveness. 'Real' teams exhibit a high degree of effectiveness and significantly impact performance. These teams possess specific prerequisites and the necessary skills for 'real' teamwork, including active collaboration towards shared goals and adherence to clear roles and responsibilities.

The top management team (TMT) of an organisation plays a pivotal role in motivating colleagues to pursue the organisation's goals and vision. Consequently, the TMT must establish the values that should guide the organisation in the correct direction, serving as role models and embodying these values. In this way, the TMT is more likely to inspire and encourage the development of a sustainable quality culture within the organisation. TMTs working as 'real' teams can be powerful, but there are challenges in reaching this level of teamwork.

Previous research has indicated a connection between teamwork and performance, as well as between sustainable quality culture and performance. However, research on the relationship between 'real' teamwork and sustainable quality culture is sparse and needs to be further investigated.

Therefore, the purpose of this thesis became how to contribute to a deeper understanding of 'real' teamwork and how 'real' teamwork relates to sustainable quality culture. The purpose has also been to describe perceived success factors in creating 'real' teamwork and sustainable quality culture, aiming at increasing an organisation's performance.

Three research questions were asked and subsequently addressed in order to fulfil this purpose. The answers of these questions are products of exploring 'real' teamwork and sustainable quality culture by co-workers in healthcare and by TMT members. Two questionnaires aiming to measure teamwork and sustainable quality culture have been developed, tested, and applied. In addition, focus group discussions were conducted to enhance a deeper understanding of real teamwork and sustainable quality culture. Furthermore, a novel

methodology for assessing teamwork and sustainable quality culture, with a specific focus on TMTs, was developed and evaluated.

The findings from this research validate existing research on 'real' teamwork and sustainable quality culture, while also introducing new insights. Furthermore, the findings contribute to the field of quality management research. Nevertheless, this research has also been advantageous for participating organisations by providing them with new perspectives on enhancing their abilities for 'real' teamwork and strengthening their sustainable quality culture. During the focus group sessions, participants learned from one another and engaged in reflections based on the narratives shared by the various professionals.

Conclusions drawn from this research can be summarised into seven overarching proposals or recommendations on how to increase the abilities for real teamwork alongside with creating a sustainable quality culture:

- Embrace the heart and develop 'emotional commitment': this involves 'touching the hearts' of individuals in the organisation, both when it comes to 'real' teamwork and in creating sustainable quality culture.
- Balance between structure and culture: structure and culture should go 'hand in hand' and harmoniously complement each other.
- Apply a systems view: this entails considering 'real' teamwork within the broader context and viewing core values as a system.
- Foster a culture of continuous improvement: improvement is achieved through reflexivity and the adoption of novel perspectives. Continuous improvement is fundamental for both



'real' teamwork and the development of sustainable quality culture.

- Apply a customer perspective on value creation: this is critical for practicing 'real' teamwork, as well as in developing a sustainable quality culture aiming to increase organisational performance.
- Apply long-term and sustainable thinking: as a part of practicing 'real' teamwork and when creating a sustainable quality culture. Both the present and the future should be built into the system.
- Measuring and assessing 'real' teamwork and sustainable quality culture is valuable in establishing the prerequisites and abilities necessary for 'real' teamwork, as well as for advancing the development of a sustainable quality culture within an organisation.

Additional research may include, for instance, delving deeper into the concept of 'emotional commitment' and incorporating the findings from this research into the developed questionnaires and the new methodology. Moreover, future research should encompass the advancement of discussions surrounding 'real' teamwork, sustainable quality culture, and sustainable organisational performance.

*Keywords:* ICU transitional care, QM, quality management, real team, real teamwork, sustainable quality culture, TMT, team, teamwork, top management team

# Summary in Swedish

Har du någon gång funderat över varför vissa team lyckas nå mål och framgång, medan andra inte riktigt får arbetet att fungera? Hemligheten bakom framgångsrika team är inte bara tur. Det handlar om att upptäcka den potential och kraft som riktigt teamarbete och hållbar kvalitetskultur tillsammans kan ge en verksamhet. Inom t.ex. hälso- och sjukvården kan riktigt teamarbete tillsammans med en hållbar kvalitetskultur bidra till ökad vårdkvalitet, patientsäkerhet och trygghet, och därmed även till att rädda liv. Det kan också vara en grund för att skapa en hälsosam och hållbar arbetsmiljö för de anställda.

De utmaningar som dagens organisationer måste hantera är mer komplicerade och komplexa än tidigare. För att bemästra dessa utmaningar behöver organisationer arbeta mer tillsammans, både inom sina organisationer och i samarbete med andra. Forskning visar att organisationer som arbetar i riktiga team blir mer responsiva, flexibla och anpassningsbara när det gäller att möta nya behov och önskemål från kunder och leverantörer, vilket i sin tur ofta leder till ett ökat värdeskapande.

Det finns olika typer av team, och som kan nå olika nivåer av effektivitet och framgång. Riktiga team uppvisar en hög grad av effektivitet och prestationsförmåga. Men för att bli ett riktigt team som arbetar på riktigt i team, behövs dock särskilda förutsättningar och förmågor. Det kan vara förmågan att arbeta aktivt mot gemensamma mål utifrån tydligare roller och ansvarsområden.

Ledningsgruppen i en organisation spelar en avgörande roll när det gäller att motivera sina medarbetare till att sträva efter att nå mål och visioner. För att lyckas behöver ledningsgruppen arbeta med att

formera värderingar som ska vägleda organisationens medarbetare i rätt riktning. Ledningsgruppen behöver också agera förebilder och levandegöra dessa värderingar. Genom att agera på detta sätt är det mer troligt att ledningsgruppen inspirerar och främjar utvecklingen av en hållbar kvalitetskultur. En ledningsgrupp som arbetar som ett riktigt team kan vara framgångsrik, men det finns utmaningar med att nå denna nivå av teamarbete i en ledningsgrupp.

Tidigare forskning visar att det finns ett samband mellan både teamarbete och en organisations resultat, och mellan en hållbar kvalitetskultur och en organisations resultat. Dock är forskningen om relationen mellan riktigt teamarbete och hållbar kvalitetskultur begränsad. Det behöver studeras ytterligare.

Syftet med denna avhandling har därför varit att bidra till en djupare förståelse för vad riktigt teamarbete är och hur riktigt teamarbete relaterar till hållbar kvalitetskultur. Syftet har också varit att beskriva upplevda framgångsfaktorer när det gäller att skapa riktigt teamarbete och en hållbar kvalitetskultur, med syftet att öka en organisations resultat.

För att svara på syftet utformades tre forskningsfrågor. Svaren på dessa frågor bygger på resultat från studier om teamarbete och hållbar kvalitetskultur med medarbetare inom hälso- och sjukvård samt med medlemmar av ledningsgrupper. Två enkäter som avsåg att mäta nivåer av teamarbete och hållbar kvalitetskultur utvecklades, testades och tillämpades. Fokusgruppsdiskussioner genomfördes för att fördjupa förståelsen för teamarbete och hållbar kvalitetskultur. Vidare utvecklades och utvärderades en ny metodik för att bedöma nivåer av teamarbete och hållbar kvalitetskultur, med särskilt fokus på ledningsgrupper.

Resultaten från studierna i denna avhandling bekräftar befintlig forskning om riktigt teamarbete och hållbar kvalitetskultur samt introducerar också nya insikter och utvecklar därmed forskningsfältet inom Quality Management, teamarbete och kvalitetskultur. Den här forskningen har också mynnat ut i praktiska råd om hur de deltagande organisationerna kan öka sina förmågor till riktigt teamarbete och för att stärka kvalitetskulturen i sina organisationer. De genomförda fokusgruppsdiskussionerna har skapat ett lärande hos deltagarna genom att de olika professionerna berättat om sina respektive upplevelser och erfarenheter av teamarbete och hållbar kvalitetskultur.

Slutsatserna från denna forskning kan sammanfattas i sju övergripande rekommendationer för att öka förmågan till riktigt teamarbete och hållbar kvalitetskultur:

- Omfamna hjärtat och utveckla känslomässigt engagemang: det innebär att 'beröra hjärtat' hos individerna i organisationen, både när det gäller riktigt teamarbete och att skapa en hållbar kvalitetskultur.
- Skapa en balans mellan struktur och kultur: struktur och kultur bör gå 'hand i hand' och harmoniskt komplettera varandra.
- Tillämpa ett systemperspektiv: detta innebär att se på riktigt teamarbete i det sammanhang det existerar samt att betrakta kärnvärderingar som ett system för att skapa en hållbar kvalitetskultur.
- Främja en kultur av ständiga förbättringar: förbättring uppnås genom reflexivitet och genom att tillämpa nya perspektiv. Ständiga förbättringar är grundläggande för både riktigt teamarbete och när det gäller att utveckla en hållbar kvalitetskultur.

- Utgå från ett kundperspektiv när det gäller värdeskapande: detta är avgörande både för riktigt teamarbete och för att utveckla en hållbar kvalitetskultur, och därmed också för att öka en organisations resultat och värdeskapande.
- Tillämpa långsiktigt och hållbart tänkande: som en del av att utöva riktigt teamarbete och vid skapandet av en hållbar kvalitetskultur. Både nutid och framtid bör byggas in i systemet.
- Att mäta nivån av riktigt teamarbete och hållbar kvalitetskultur i en organisation är nödvändigt för att kunna skapa förutsättningar och öka förmågor för riktigt teamarbete och för en hållbar kvalitetskultur.

Framtida forskning inom detta område kan inrikta sig på att närmare studera begreppet 'känslomässigt engagemang' med utgångspunkt från teamarbete och hållbar kvalitetskultur. Det kan innebära att studera hur begreppet kan definieras och vilka komponenter det består av. Ett annat förslag är att vidareutveckla de enkäter och den metodik som beskrivits i den nuvarande avhandlingen med utgångspunkt från de resultat som presenterats. Ett tredje förslag kan vara att studera relationen mellan riktigt teamarbete, hållbar kvalitetskultur och en organisations hållbara resultat.

Nyckelord: Övergångsvård från intensivvårdsavdelning, kvalitetsledning, kvalitetsteknik, riktiga team, riktigt teamarbete, hållbar kvalitetskultur, team, teamarbete, ledningsteam

# List of appended papers

*This thesis is mainly based on the following papers, listed in publication order and hereinafter referred to by their letters.*

**Paper A**      Ingelsson, P., Sten, L.-M., Bäckström, I., & Häggström, M. (2019). Assessing Quality Management culture in order to develop ICU transitional care. I *ICQSS 2019: Proceedings of the 22<sup>nd</sup> QMOD conference: Quality and Service Sciences*. Krakow, Poland, October 2019.

**Paper B**      Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2020). Improving ICU transitional care by combining quality management and nursing science—two scientific fields meet in a systematic literature review. *International Journal of Quality and Service Sciences*, 12(3), 385–403.

**Paper C**      Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2021). The development of a measurement instrument focusing on team collaboration in patient transfer processes. *International Journal of Quality and Service Sciences*, 13(1), 45–62.

An earlier version of the paper was published in the *ICQSS 2019: Proceedings of the 22<sup>nd</sup> QMOD conference: Quality and Service Sciences*. Kraków, Poland, October 2019.

**Paper D**      Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2021). Improving Team Collaboration in Patient Transfer Processes by Co-Workers' Perceptions and Suggestions. *Quality Innovation Prosperity*, 25(2), 1–18.

**Paper E**      Sten, L.-M., Ingelsson, P., & Häggström, M. (2022). Characteristics and success factors for top management teams in managing organizations towards sustainable quality culture—a scoping review. I *M2D2022: Proceedings in 9<sup>th</sup>*

*International Conference on Mechanics and Materials in Design.*  
Funchal/Portugal, 26-30 June 2022, Editors J. F. Silva Gomes  
and S. A. Meguid, 961–976.

- Paper F** Sten, L.-M., Ingelsson, P., & Häggström, M. (2023). The development of a methodology for assessing teamwork and sustainable quality culture, focusing on top management teams. *The TQM Journal*, 35(9), 152–172.
- Paper G** Sten, L.-M., Ingelsson, P., & Häggström, M. (2023). Creating a deeper understanding of real teamwork and sustainable quality culture, focusing on top management teams. Submitted to *The TQM Journal* July 12<sup>th</sup>, 2023.
- Paper H** Häggström, M., Ingelsson, P., Sten, L.-M, & Bäckström, I. (2023). Success Factors for Quality and Safety of Intensive Care Unit Transitional Care—Listening to the Sharp End. *Quality Innovation Prosperity*, 27(1), 1–20.
- Paper I** Sten, L.-M., Ingelsson, P., Häggström, M., & Bäckström, I. (2023). The relationship between teamwork and sustainable quality culture in transitional care. *I EISIC 2023: Proceedings of the 26<sup>th</sup> Excellence in Services International Conference*. University of West Scotland, Paisley Campus, Scotland, Great Britain, 31 August—1 September 2023.

# Appendices

- I. Questionnaire I
- II. Interview guide I
- III. Questionnaire II
- IV. Interview guide II



# Preface

This research journey started in autumn 2018, when I was first employed as a PhD student in a project called “Increased quality and efficiency in patient transfers”. This was a project aiming to improve care quality and patient safety within a patient transfer process, called ICU transitional care. The project was a collaboration between two research subjects: quality technology and nursing science. My role in this project became to investigate how co-workers working in teams within and between hospital units could improve their ways of working, aiming at increasing care quality and patient safety. To me, this seemed both very important and interesting. A chance to create value for individuals within these processes, and for society!

In my professional role, and in other circumstances, I have worked extensively in teams. Or, at least, these constellations have been called ‘working’ teams. Some of them could even be called ‘real’ teams, and maybe also ‘high-performance’ teams, but most of them, I would say, could be named ‘groups of individuals’ or ‘pseudo’ teams. My experiences of working in teams have been quite different, depending on a number of factors. For example, size of the team, knowledge and skills of the members, shared team goals, and attitudes and behaviours of the team members.

During my 30 years of experiencing teamwork and quality improvements in public authorities, I have seen a movement towards working together more often to solve more complex problems. Today, the world and the environment we share, are changing all the time, faster and faster, and organisations must adapt to these changes. For instance, the progress of digitalisation has opened up new possibilities to create value for society in form of more efficient customer and

communication processes between authorities. This has also led to new needs pertaining to how to work together in real life and virtually, synchronously, asynchronously, and over organisational boundaries. However, the goal is the same; to create value and quality for customers.

My personal interest lies in exploring how we can adapt our working processes and enhance our abilities for 'real' teamwork while nurturing the essential sustainable quality cultures required to maintain performance and deliver value and quality in a continually evolving environment. Additionally, I am intrigued by the role that members of a top management team (TMT) can play as role models; both in the context of 'real' teamwork and in the development of a sustainable quality culture within their organisation. I delve into these interests in this thesis, as I believe these aspects will hold significant relevance for future organisations and cross-organisational collaborations.

# Abbreviations

ICU	Intensive Care Unit
QM	Quality Management
TMT	Top Management Team
TQM	Total Quality Management
SOP	Sustainable Organisational Performance
SQC	Sustainable Quality Culture
SQD	Sustainable Quality Development
SQM	Sustainable Quality Management



# 1 Introduction

*This chapter aims to introduce the reader to the subjects and contexts of this thesis. This chapter also addresses the thesis' purpose and research questions. Last, the structure for this thesis is presented.*

## 1.1 Background

Due to various forces, like globalisation and digitalisation, evolving over the past decades, organisations worldwide have progressively structured their work around teams, with the intent of making them more responsive, flexible, and adaptable to new and unforeseen requirements of customers and suppliers (Kozlowski & Ilgen, 2006). Furthermore, today's organisations are often perceived as distinctly different from those of previous generations. New technologies and innovations demand changes to roles and responsibilities, as well as new ways of interaction and collaboration among employees. These developments herald a new era for teams and teamwork, in which previous team research and practices may not be fully appropriate in the light of the current to requirements of and demands placed on teams and teamwork (Benishek & Lazzara, 2019). This has led to a transformation in the work structure that has elevated teams and teamwork to a fundamental organisational focus (Kozlowski & Ilgen, 2006).

Teamwork and collaboration can be seen as essential structures of human life, evolving continuously (Wageman *et al.*, 2012). Individuals working in teams toward a common purpose have been a fundamental aspect of human social organisation since our ancient ancestors

initially congregated to hunt and protect their communities and families (Kozlowski & Ilgen, 2006). Accordingly, concept of teams and teamwork is a frequent encounter in our everyday experiences, taking various forms such as being a part of an organisational team, a sport team, or playing in an orchestra. Just as society changes, so will the reasons for and ways people find to work together, keep changing (Wageman *et al.*, 2012).

Previous research shows that members of teams, working collaboratively, contribute to the creation of values that hold significance across a wide spectrum of societal functions, as well as for the individuals within these teams. In that way, teams can be seen as different organisational systems interacting with each other. Deming (1993) argued that teams resemble systems, within a broader context, comprised of interdependent components striving to fulfil the system's purpose. The effectiveness of these teams or small systems is crucial for optimal performance. Effective teamwork is exemplified, for instance, as being essential in delivering optimal patient care during the ICU transitional process (Chaboyer *et al.*, 2013; Häggström & Bäckström, 2014).

Many organisations concentrating on improving teamwork and systemic processes, while applying Total Quality Management (TQM), often overlook the development of an organisational culture aligned with the philosophy of sustainable quality (Brown, 2013). An emphasis on organisational culture is essential within quality management (QM), as culture is a factor that influencing nearly every aspect of organisational interactions (Henri, 2006). TQM involves fundamental quality core values, along with methodologies and tools that support

these core values (Bergman *et al.*, 2022; Bergman & Klefsjö, 2020). The core values underpin the culture required to ensure sustainable quality (Bergman & Klefsjö, 2020). One such fundamental core value is “Develop committed leadership” (Bergman *et al.*, 2022).

Previous research shows that leadership is the most crucial component of team effectiveness and performance (Cohen & Bailey, 1997; Colbert *et al.*, 2014; Hambrick *et al.*, 2015) and that the top management team (TMT) is a crucial asset in an enterprise’s sustainability (Xu *et al.*, 2019). A TMT in an organisation plays a crucial role in instilling the motivation, values and behaviours necessary for realising TQM, including fostering a quality culture (Dale *et al.*, 2007). Similarly, Bergman *et al.* (2022) discussed how the TMT acts in an organisation regarding how they involve the employees in the work of improvements. This will influence the whole organisation and the rate of success in forming a quality culture (Bergman *et al.*, 2022).

Teams within an organisation, can be defined as ‘real’ teams performing ‘real’ teamwork. Katzenbach and Smith (2016) defined a ‘real’ team as “a small number of people with complementary skills who are equally committed to a common purpose, goals, and working approach for which they hold themselves mutually accountable” (p. 90). Small, in this case, is often seen as three to about ten members, depending on the nature of the working task and the number of members requested to fulfil this task (Gremyr *et al.*, 2020; Lyubovnikova *et al.*, 2015; West, 2012, 2013; West & Lyubovnikova, 2013). Real teams at the highest levels of an organisation are not common due to their composition; they often consist of leaders from different departments within an organisation, each focusing on their

respective department's performance and therefore operating in silos. This fragmentation can render the organisation inefficient (West, 2012). The transformation of a TMT into a 'real' team can be immensely powerful. Katzenbach and Smith (1993) asserted that becoming a team at the top of an organisation is challenging but a powerful tool in the organisation's toolkit. Consequently, the TMT of an organisation plays a crucial role in shaping and influencing the organisation itself. Schein and Schein (2017) argued that the core of leadership lies in creating and sustaining an organisational culture, with managers' behaviour playing a pivotal role in shaping that culture. Štreimikienė *et al.* (2021) similarly contend that leadership is an effective tool in shaping an organisation's culture. However, involving all employees in collaborative improvement efforts and culture-building within the organisation is also essential.

To summarise, working on enhancing 'real' teamwork, both in top-level management and among all employees in an organisation, and fostering a sustainable quality culture will be essential in determining whether an organisation can perform consistently and thrive.

## 1.2 A logical chain of reasoning

Various types of teams exist in organisations, including project teams, multiprofessional teams, leadership teams, and TMTs. These teams are formed with the aim of achieving goals and enhancing performance; often aspiring to become 'real' teams (e.g., Katzenbach, 1998; Katzenbach & Smith, 1993; Hackman, 2002; O'Leary *et al.*, 2011; Rasmussen & Jeppesen, 2006).



When team members possess and practice all prerequisites and abilities necessary to become a 'real' team, they perform 'real' teamwork. In this thesis, 'real' teamwork is seen as the ability to act and behave as a 'real' team. Such teams and teamwork have been found to contribute significantly to high performance and team effectiveness, aligning with Katzenbach and Smith's 'Team Performance Curve' (Katzenbach & Smith, 2016).

Enhancing an organisation's performance can be achieved through various quality initiatives that involve the entire organisation. One such quality initiative is TQM. Within TQM, core values are a part of TQM, alongside methodologies and tools (Bergman & Klefsjö, 2020; Bergman *et al.*, 2022). These core values shape the quality culture within an organisation. Dean and Bowen (1994) described Total Quality (TQ) as consisting of three principles: customer focus, continuous improvement, and teamwork. Dale *et al.* (2007) also included teamwork as a key aspect of an organisation's TQM approach. Consequently, teamwork is considered part of the development of a quality management system aimed at improving an organisation's performance, and practicing 'real' teamwork may therefore facilitate the creation of a strong quality culture.

The relationship between organisational culture and organisational performance has been a central focus of organisational researchers and managers for decades (Lukasova, 2015). Organisational performance is influenced by numerous factors; among which organisational culture is the most crucial (e.g., Henri, 2006; Lukasova, 2015; Samad *et al.*, 2018). Findings from a review by Samad *et al.* (2018) highlighted that organisational culture was considered the most significant

explanatory variable for organisational performance. Previous research has also demonstrated a connection between teamwork, organisational culture, and performance. For instance, Naranjo-Valencia *et al.* (2016) identified in their review of previous research an assumption that culture directly impacts performance by influencing the behaviour of the organisational members. In a study by Petty *et al.* (1995) results indicated that the strongest evidence of the relationship between organisational culture and performance was found in the correlation between teamwork (as one dimension of organisational culture) and performance. Teamwork in this context related to behaviours as; helping others and sharing information and resources, and seemed to enhance performance in the aggregate in the organisation.

A common thread that runs through 'real' teamwork, quality, organisational culture, and performance is a commitment to long-term and sustainable thinking. Thus, to achieve sustainable performance in an evolving context, teams and leaders need to possess the skills of long-term thinking (Mårtensson, 2022). Traditionally, an organisation's performance has been assessed using financial measures. However, corporate sustainability extends to how effectively organisations balance financial, social, and environmental performance dimensions. This comprehensive approach to performance is commonly referred to as "triple-bottom-line" (TBL) performance (Henry *et al.*, 2019). Therefore, long-term and sustainable thinking, within this logical framework, should be viewed through the lenses of time-, finance, social responsibility, and ecological impact. When measurements are introduced into an organisation, it is important to decide on measures and what measurements activities

that should be performed (Elg, 2022). Measures should be chosen in order to understand, predict and improve (ibid.).

In summary, this thesis operates on the assumption of a logical connection that ties together teams, 'real' teams, 'real' teamwork, sustainable quality culture, and sustainable organisational performance.

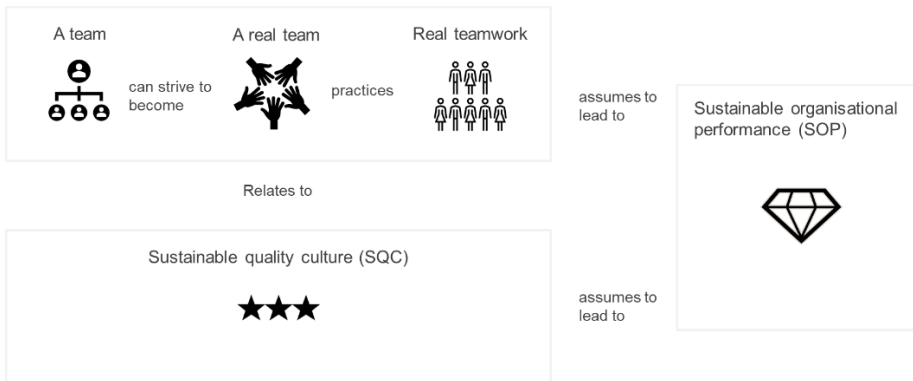


Figure 1.1 A logical chain of reasoning linking teams, 'real' teams, 'real' teamwork, sustainable quality culture (SQC), and sustainable organisational performance (SOP).

### 1.3 Purpose and research questions

The purpose of this thesis is to contribute to a deeper understanding of real teamwork and how real teamwork relates to sustainable quality culture. The purpose is also to describe perceived success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation's performance.

From this purpose three research questions were formulated.

- RQ1: How can perceived real teamwork and sustainable quality culture in an organisation be measured and explored?
- RQ2: How does real teamwork relate to sustainable quality culture?
- RQ3: What are perceived success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation's performance?

## 1.4 Connecting purpose and research questions to appended papers

Figure 1.2 illustrates the link between the thesis' purpose and research questions in relation to the appended papers. Papers B and E are different types of literature reviews that have contributed to the thesis' purpose and serve as a basis in the research. However, they are not directly linked to the research questions.

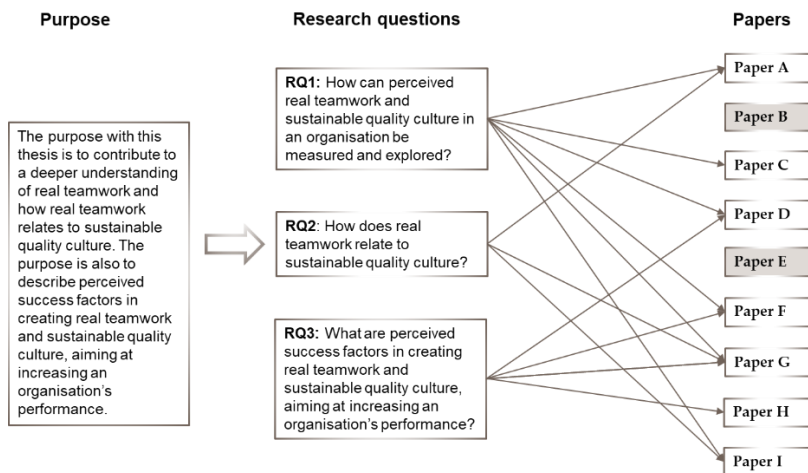


Figure 1.2 Illustration of the links between the thesis' purpose and research questions, in relation to the appended papers.

## 1.5 Structure of the thesis

- Chapter 1—Introduction to the research area, establishing the thesis' purpose and research questions.
- Chapter 2—Describes the theoretical frame of reference, encompassing topics such as the development of quality management, teams, teamwork, organisational culture, sustainable quality culture, systems thinking and learning organisations, as well as measuring teamwork, sustainable quality culture and performance.
- Chapter 3—Starts with an introduction to scientific research methodology, followed by purpose, approach, design and data collection methods. The chapter ends with describing research quality and ethics.
- Chapter 4—Provides a summarisation of the appended papers.
- Chapter 5—Presents the main findings, reconnecting them to the purpose of this thesis, by answering the research questions.
- Chapter 6—Includes a discussion of the findings in connection to theory, followed by a discussion on research methodology.
- Chapter 7—Presents the overall conclusions, along with suggestions for implications and future research.
- Chapter 8—Includes references, followed by appended papers A-I and Appendices.



## 2 Theoretical frame of reference

*This chapter introduces a theoretical framework and provides essential concepts and definitions pertinent to the research presented in this thesis. It begins with a historical overview of quality management from the perspectives of teams and teamwork. Following that, it delves into the theories surrounding teams, teamwork, sustainable quality culture, systems thinking, and learning organisations, offering descriptions and clarifying key concepts. Teamwork and sustainable quality culture in the context of healthcare and ICU transitional care is also described.*

### 2.1 The development of quality management with an emphasis on teamwork

Quality management has origins rooted deep in human history. Some describe quality inspections as early as during building of the pyramids in Egypt (Bergman *et al.*, 2022). The pyramids were not the result of one individual's hard work; they were built by teams of workers led by managers. Thus, teamwork was already an essential component of achieving remarkable architectural buildings in those ancient times. However, the approach to quality management has undergone significant evolution and transformation since then. Modern quality management is often traced back to the era of scientific management, in the late nineteenth and early twentieth centuries. This period marked the initiation of the quality management movement, often categorised into different schools (e.g., Kroslid, 1999) phases or stages (e.g., Bergman & Klefsjö, 2020; Dahlgaard, 1999; Garvin, 1988) or, paradigms (e.g., van Kemenade & Hardjono, 2019; Weckenmann *et al.*, 2015). Consequently, different researchers have described the

development of quality management in various ways. I will start by examining the division of quality management into two schools, as described by Kroslid (1999). These schools are the 'deterministic' school of thought and the 'continuous improvement' school of thought (see Figure 2.1). The deterministic school of thought is rooted in a product- and inspection-oriented approach and embodies the philosophies of quality gurus like Taylor and Crosby. On the other hand, the continuous improvement school of thought adopts a more culturally focused strategy, striving for ongoing improvement. It can trace its lineage to figures such as Shewhart, Deming, and Juran. Similarly, Williams *et al.* (2007) argue there should be a distinction between two forms of quality management – 'classical' and 'new' quality management. Classical quality management concentrated on how to eliminate quality errors and variation in the production in order to improve the quality of products. New quality management emerged in response to increased volatility, competition, demands for flexibility and agility, and economies of scale. An inherent challenge of new quality management was the necessity for enhanced cooperation, both within organisations and across external partners in the supply chain (*ibid.*).



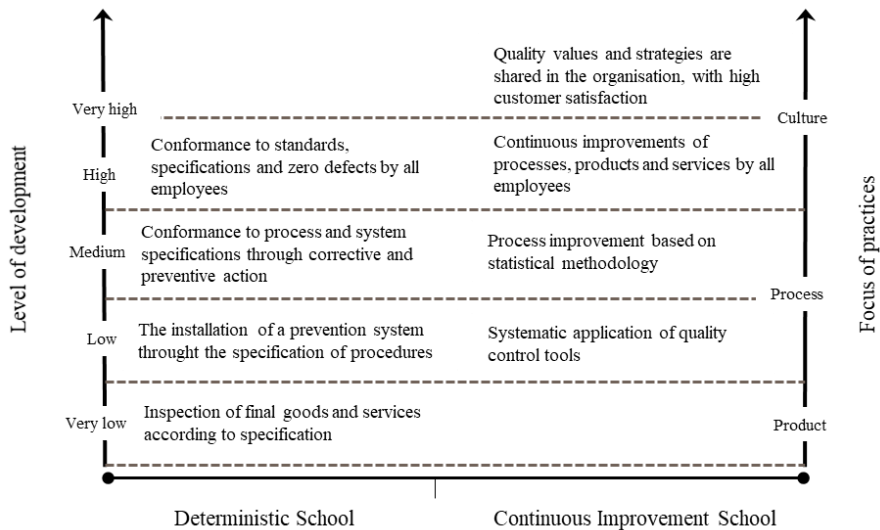


Figure 2.1 An illustration of the model for the proposed dual-path framework. Developed from Krosliid (1999).

Other researchers have described the development of quality management in emergent terms, for example in four phases, often named: inspection, control, assurance and total quality management (e.g., Bergman & Klefsjö, 2020; Garvin, 1988). These phases begin with the controlling products after production (quality inspection) and progress to focusing on continuous improvement before and during production, as well as after production (total quality management, or TQM). TQM includes core values that form a sustainable quality culture, and methodologies and tools for supporting this sustainable quality culture. A fifth phase, or a “fifth quality wave” was introduced by the Swedish Institute of Quality (SIQ) (Bergman *et al.*, 2022). In this fifth phase, “Quality Management 5.0”, the emphasis is on societal satisfaction, which represents a broadened perspective regarding the recipients of quality. In this context, society at large is also considered

a customer. Bergman *et al.* (2022) deem that what has changed from earlier phases are the methodologies supporting this shift. Now, the focus is more on so-called 'soft skills', such as teamwork, willingness to change, and commitment. The challenges that organisations are currently encountering require more flexible and adaptive leadership models and digitalisation driven by customer perspectives (Bergman & Klefsjö, 2020). The focus is more on sustainable and innovative perspectives of quality management (see Figure 2.2). Åslund (2016) called this new shift "system quality management", including "social, societal, and environmental factors through continuous improvements before, during and after value creation for customers." (p. 96). Fundin *et al.* (2018) stated that future challenges for quality management will encompass how to enhance organisational learning, ambidexterity, and adaptability. Bergman *et al.* (2022) expect to witness a development, where both private and public sectors are engaged in cultural transformations, and have a more inclusive customer-centred and holistic approach aimed at continuously improved the living conditions of all involved.



Figure 2.2 Different phases in the development of quality management. Inspired by Bergman and Klefsjö (2020) and Bergman *et al.* (2022).

Researchers have also chosen to use the term “paradigm” to describe the various transformations in quality management. Weckenmann *et al.* (2015) identified four major shifts encompassing: product-oriented quality inspection, quality control, process-oriented quality assurance, system-oriented quality management, and total quality management (see Figure 2.3). These paradigms can be likened to the previously described phases.

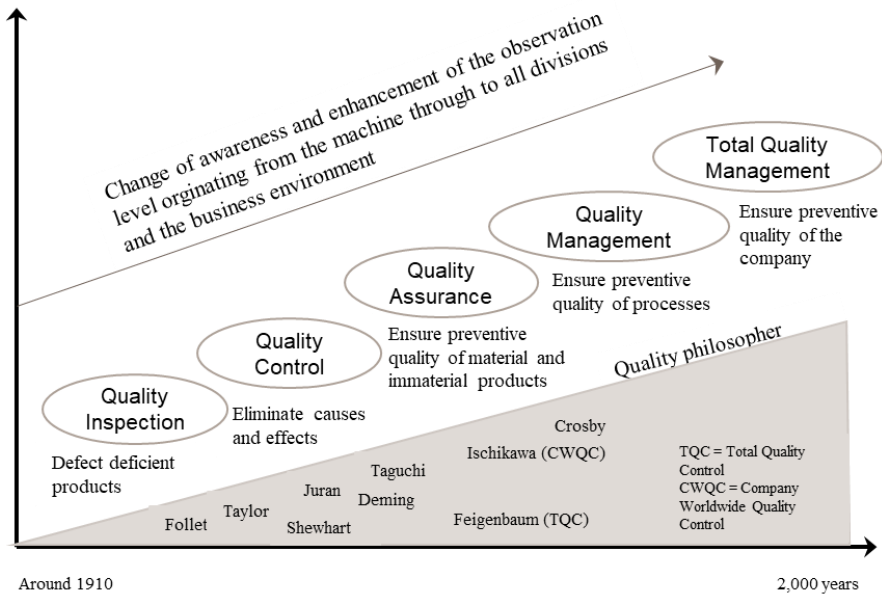


Figure 2.3 Four quality paradigms. Inspired by Weckenmann *et al.* (2015).

Van Kemenade and Hardjono (2019) summarised the characteristics of different paradigms in quality management into three existing paradigms, and identified possible characteristics for a fourth. These paradigms were called: the empirical paradigm, the reference paradigm, the reflective paradigm and the emergence paradigm. Together these paradigms form the TQM concept. Van Kemenade and Hardjono deemed that quality management in the twenty-first century needs to combine ways of thinking and the use of several tools and methods from different paradigms, depending on context. Like Barouch and Ponsignon (2016), van Kemenade and Hardjono (2019) believe that a multi-paradigm approach is needed.

In this thesis, the concept of quality management embraces several quality approaches, concepts, methodologies and tools. For example, TQM is seen as an initiative within the concept of quality management.

## 2.2 Teams and teamwork

### **The concept of teams**

Several researchers have defined the concepts of team (e.g., Hackman, 1987; Katzenbach & Smith, 1993; O'Leary *et al.*, 2011; Sundstrom *et al.*, 1990). Although, there are certain similarities between the definitions, there is still no united definition (Rasmussen & Jeppesen, 2006).

A review by Rasmussen and Jeppesen (2006), identified some common features in describing a team. According to them, a team refers to a group of employees which: (1) is formally established, (2) is assigned some autonomy, and (3) which performs tasks that require interdependence between members. Hackman (1987) defined a team as a bounded set of individuals who work interdependently toward a shared outcome. This definition extends the previous description, by including a shared outcome or objective. O'Leary *et al.* (2011) had an even wider definition and stated that "individuals are members of a team when they share responsibility and reward (or penalty) for the outcomes of a team's work and recognise each other as members of the team" (p. 464).

Other researchers have categorised teams into different types (Hollenbeck *et al.*, 2012; Sundstrom *et al.*, 1990). Hollenbeck *et al.* (2012) identified three underlying constructs as crucial dimensions across many different team types. These dimensions were: (1) skill differentiation, or the degree to which members have specialised

knowledge or functional capacities that make it more or less difficult to substitute members; (2) authority differentiation, or the degree to which decision-making responsibility is vested in individual members, subgroups of the team, or the collective as a whole; and (3) temporal stability, or the degree to which team members have a history of working together in the past and an expectation of working together in the future. These underlying dimensions share similarities with some of the definitions for teams, when it comes to differential competence and skills (skill differentiation), necessary authority and shared responsibilities, (authority differentiation), and intact social system and boundaries (stability).

Team optimism has been considered vital in enhancing group effectiveness, encouraging persistence in challenging tasks, and cultivating a team climate of positive affect (Richardson & West, 2009). 'Team optimism' refers to a team's ability to maintain a positive approach toward one another to achieve collective team success. According to West *et al.* (2009), team optimism is an important predictor of team outcomes when teams are newly formed. West (2013) also refers to the importance of a positive and supportive climate for staff; a climate that is open, curious and appreciative. "Good leaders enable their team members to feel confident about the team's ability to achieve its goals and deliver high-quality, compassionate, and inspiring care" (p. 42).

## **Top management teams (TMTs)**

There are various terms for a group or a team of managers; top executives, senior management, senior leadership, executives, the upper echelon, upper-level managers, and TMT. Like the concept of 'team', there is no singular definition of an organisation's TMT.

Cannella *et al.* (2008) defined a TMT as a relatively small group of the most powerful executives at the top of an organisation, mostly the CEO and those who report to him or her (often a constellation of three to ten executives) and Simsek *et al.* (2005) defined a TMT as "a group of senior managers, the top management team, that generally makes decisions that are important to the firm's future" (p. 74). Webber and Donahue (2001) defined a TMT as upper-level managers who have an important impact on organisational outcomes (p. 148). Thus, a TMT has importance both for organisational outcomes and for the future of the organisation.

In this thesis, a TMT is defined as:

"a group of the most influential executives at the top of an organisation, although it may also encompass other professionals. The TMT should consist of individuals best equipped to collectively achieve the organisation's goals and performance objectives. The team's membership should be limited in number. This team should possess the authority, mandate, and responsibility to make critical decisions that significantly impact the organisation's outcome and future."

(author's own definition)

What differs from earlier definitions is that a TMT, aside for managers, can consist of other roles that are important for the decision-making

process in the TMT. This can, for example include controllers, business developers, or communicators. Like all other teams, the TMT needs to have members whose competencies complement each other and that together become greater than sum of the individual parts.

### **The upper echelon theory**

Current understanding of how TMTs influence organisational strategy and performance is largely based on the Upper Echelon Theory (UET) by Hambrick and Mason (1984), which was later updated by Hambrick (2007). The core of this theory is the idea that top executives view their situations through their own personalised lenses. However, since executives' psychological constructs are difficult to measure, the theory suggests that demographic characteristics like age, gender, education, work experience, and tenure are reasonable proxies for underlying differences in executives' psychological attributes. These characteristics of top executives will ultimately manifest in a firm's strategic choices, outcomes and performance.

### **The team performance curve**

The team performance curve, as proposed by Katzenbach and Smith (2016), depicts the performance of a group of individuals based on their level of functioning as a group or as a team. The curve illustrates the impact on performance in relation to team effectiveness (see Figure 2.4).



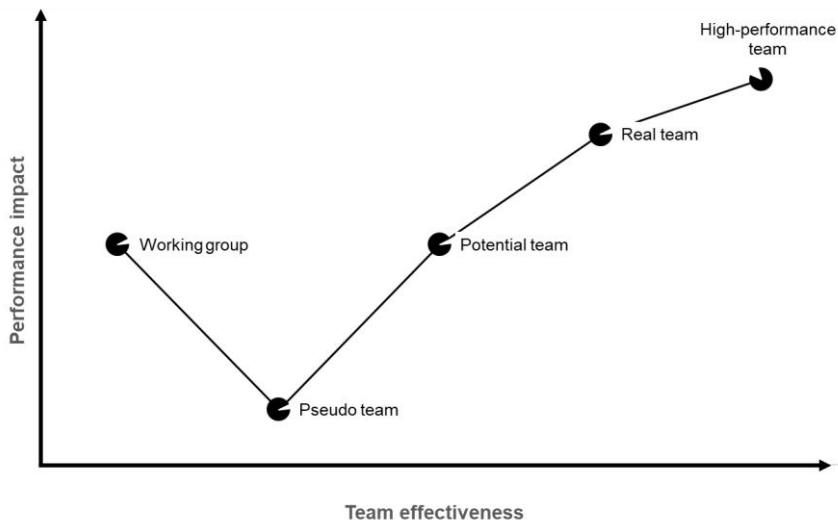


Figure 2.4 The team performance curve inspired by Katzenbach and Smith (2016).

Working groups, unlike teams, rely on the sum of individual bests in their performance. In working groups, individuals prioritise their own success, and there are no collective work products that necessitate joint efforts. When a working group endeavours to transition into a team, it faces the challenge of potential conflicts, collaborative work products, and collective actions required to establish a common purpose, goals, and mutual accountability. Individuals who consider themselves part of a team but do not fulfil these criteria are, at best, pseudo-teams (Katzenbach & Smith, 2016). When a work group establishes shared goals and methods to achieve these goals, it transforms into a team (Wheelan, 2016).

Teams that take the risk of climbing the curve of performance and effectiveness will certainly face difficulties. While some teams will successfully overcome these difficulties, others may not. Katzenbach

and Smith (2016) assert that “the wisdom of teams lies in recognising that any person, whether previously an autocrat or democrat, who genuinely believes in the purpose of the team and the team itself, can lead the team toward higher performance (p. 83).

### **Working groups, pseudo teams, potential teams, real teams and high-performance teams**

The various types of teams will now be elaborated upon, starting with the working group. In a working group, there is no substantial need or opportunity for incremental performance that would necessitate its transition into a team. The members of a working group primarily interact in order to share information, and to make decisions to help each individual perform their best. There is no shared purpose or collaborative work product that requires a team-oriented approach or mutual accountability. A work group does not prioritise collective performance and has no interest in defining a common purpose, yet they often label themselves as a ‘team’. Guzzo and Dickson (1996) define teams as “social entities who are interdependent because of the tasks they perform as members of a group, who are embedded in one or more larger social systems (e.g., community, organisation), and who perform tasks that affect others” (p. 308-309). They argue that although the terms “group” and “team” are often used interchangeably, there are degrees of differences between such collectives (see also, Hollenbeck *et al.*, 1995; Kozlowski & Bell, 2003). Indeed, employees often report that they are part of a team, when they are merely working closely with other people or have the same manager.

Pseudo-teams are the weakest of all types of working groups in terms of performance impact. They contribute even less to the overall

performance of the company than a typical working group. In a pseudo-team, “the sum of the whole is less than the potential of the individual parts.” (Katzenbach & Smith, 2016, p. 89). Pseudo teams are also called “co-acting groups” (e.g., Hackman, 2002; Lyubovnikova *et al.*, 2015; West & Lyubovnikova, 2012).

A potential team has a clear need for improved performance and is actively striving to enhance its effectiveness. However, there is a requirement for a more defined purpose, goals, team-oriented approach, and work products within the team. A potential team has not yet established collective accountability.

Katzenbach and Smith (2016) described a ‘real’ team as “a small number of people with complementary skills who are equally committed to a common purpose, goals and working approach for which they hold themselves mutual accountable” (p. 90). The concept of ‘real’ teams will be further described in the following section.

Finally, a high-performance team is a team that meets all the conditions of a real team, and has “members who are also deeply committed to one another’s personal growth and success.” (Katzenbach & Smith, 2016, p. 90). This type of team outperforms all other teams, and is a powerful possibility for all real teams and potential teams. The path between a real team and high-performance team indicates the exceptional personal commitment required for high performance.

## **The concept of real teams**

Katzenbach and Smith (1993) stated that five elements are required to fulfil the definition of a real team: size, purpose and goals, skills, working approach, and mutual accountability. Other criteria outlined

in the literature include team members identifying themselves as part of a team; their team tasks require them to work closely and interdependently towards a shared objective; well-defined and specified roles; authority to decide how to accomplish team tasks and regular meetings for reflection, communication, and to review team processes and adjust their behaviours for improved collective functioning (Kock, 2007; Lyubovnikova *et al.*, 2015; Richardson, 2011). The size of the team depends on the nature of the work task and the number of members needed to accomplish this task. A recommendation is between 3 to 12 members (West 2012, 2013; West & Lyubovnikova, 2013; Gremyr *et al.* 2020). Preferably, not more than eight to ten members (West 2013). The members of the team are “together embedded in an encompassing organisational system with boundaries and linkages to a broader system context and task environment” (Kozlowski & Ilgen, 2006, p. 79).

This previous research on teams and teamwork, must be viewed in light of today’s context, so that current research remains relevant to the phenomena to be understood. For example, boundedness may no longer be the norm, as teams become more dynamic and frequently overlap. Likewise, both behavioural and structural interdependency may change as interconnections between team members become increasingly dynamic and self-determined (Wageman *et al.*, 2012).

In accordance with previous research described in the theoretical framework in this thesis, a ‘real’ team is defined as possessing eleven prerequisites for developing the abilities required to function as a real team (See also Papers G and H). Prerequisites, in this thesis, are regarded as the knowledge, skills, and fundamental foundations

necessary to enhance the ability for real teamwork and team performance. These prerequisites can also be likened to the success factors for attaining team performance<sup>1</sup>:

- (1) *Team communication*: regular communication between team members with the aim of adapting behaviours to function better collectively (e.g., Kock, 2007; Lyubovnikova *et al.*, 2015)
- (2) *Team competences and learning*: unique or complementary skills and learning within the team (e.g., Katzenbach, 1998; Katzenbach & Smith, 1993)
- (3) *Team composition, structure and membership*: a bounded set of individuals (more than two and up to about ten members) who perceive themselves, and are perceived by others, as a clearly defined social unit (e.g., Hackman, 2002; O'Leary *et al.*, 2011; Rasmussen & Jeppesen, 2006),
- (4) *Team context*: the embeddedness in an encompassing organisational system, with boundaries and linkages to the broader system and task environments (e.g., Kozlowski & Ilgen, 2006; Richardson *et al.*, 2010; Wageman *et al.*, 2012)
- (5) *Team culture*: a positive, supportive, and appreciative atmosphere (e.g., West, 2013)
- (6) *Team flexibility and adaptability*: flexibility and adaptability to changes in the broader system (e.g., Salas *et al.*, 1993; Wageman *et al.*, 2012)

<sup>1</sup> An example of a prerequisite can be 'team communication' within a team. Similarly, a success factor for achieving real teamwork can be described as 'team communication'. A team's ability is based on these prerequisites and can be described as 'the ability to communicate'.

- (7) *Team leadership and team decision-making*: shared leadership, mandate and autonomy for team decisions (e.g., Salas *et al.*, 1993)
- (8) *Team purpose and objective(s)*: a shared purpose, outcome, and accepted common goals (e.g., Gremyr *et al.*, 2020; Hackman, 2002; O'Leary *et al.*, 2011; Salas *et al.*, 2015; Tannenbaum & Salas, 2020; Woods & West, 2010)
- (9) *Team reflexivity and continuous improvement*: collective reflection on performance and goal achievement, and how to improve working methods (e.g., Richardson, 2011)
- (10) *Team roles and responsibilities*: specified roles and shared responsibilities (e.g., O'Leary *et al.*, 2011)
- (11) *Team tasks and coordination*: interdependently working to carry out relevant team tasks (e.g., Katzenbach & Smith, 1993)

## **Teamwork, team collaboration, teamworking, and teaming**

Teamwork can be seen as a way of organising work, that involves characteristics of teams, like boundedness, interdependency, and autonomy (Rasmussen & Jeppesen, 2006). Teamwork involves behaviours and work processes, and the attributes of 'real' teams should promote collaborative and cooperative teamwork behaviours. However, the effectiveness of these teamwork behaviours will partly depend on what is most appropriate to successfully accomplish a particular team task (Richardson, 2011). Teamwork encompasses shared behaviours (i.e., actions taken by team members); attitudes (i.e., emotions or beliefs held by team members); and cognition (i.e., thoughts or knowledge possessed by team members) that are essential

for teams to accomplish their tasks and achieve their objectives (Morgan & Murgatroyd, 1994).

Reeves *et al.* (2018) discuss different types of interprofessional practices such as teamwork, collaboration, coordination, and networking. Teamwork refers to “the dynamic, simultaneous, and recursive enactment of process mechanisms which inhibit or contribute to team performance and performance outcomes” (Salas *et al.*, 2007, p. 190).

Bronstein (2003) identified five core components of interdisciplinary collaboration between professionals from different disciplines engaged in work-related activities: interdependence, newly created professional activities, flexibility, collective ownership of goals, and reflection on processes. According to Bronstein, these core components were influenced by professional roles, structural characteristics, personal characteristics, and a history of collaboration.

Reeves *et al.* (2010) analysed over 20 descriptions of teamwork within health and social care and obtained six common elements for teamwork: shared identity, clear roles/tasks/goals; interdependence of members; integration of work; shared responsibility; and the predictability, urgency, and complexity of a team’s actual work (team tasks) that affect the delivery of patient care. Reeves *et al.* (2010) also argued that each of these elements could be viewed as a continuum along which a particular group or team can be placed; for example, from having a weak team identity to having a strong, shared team identity in a potential team. Thus, a central theory of this approach was that teams and teamworking should not be regarded as moving along a single, linear, hierarchical line from weak to strong, and a more

nuanced conceptualisation was needed in which the team design match the purpose for the work.

Sten *et al.* (2021) define team collaboration as “co-workers collaborating within and between hospital units based on shared views of person-centred care, continuous learning and sharing of knowledge, and with a focus on communication, coordination, structure and fact-based decisions” (pp. 47-48).

Mueller *et al.* (2000) used the term “teamworking” and suggest a five-dimensional framework (technological, economic, social, cultural and organisational governance; the TESCO framework) that are necessary in order to account for the conception and realisation of different forms of teamworking.

Edmondson (2013) refers to the term “teaming” instead of teamwork. She argues that teaming is a verb and a dynamic activity; not a bounded and static entity. It is a fluid process. “Teaming is teamwork on the fly” (p. 44). She also stresses that successful teaming involves four specific behaviours: speaking up, collaboration, experimentation and reflection (*ibid.*).

In this thesis, *teamwork* is considered synonymous with *team collaboration*, *teaming*, and *teamworking*. ‘Real’ *teamwork* is defined as follows:

“a dynamic system of interactions between a team’s members, possessing the prerequisites and actively utilising the abilities required for a ‘real’ team.”

(author’s own definition)



## **Challenges in teamwork with a special focus on TMTs**

Assembling individuals into teams is not always the solution to organisational problems (Thompson, 2004). In fact, it may even result in additional problems. Poorly designed teams, an overemphasis on harmony or individualism, and the tendency of managers to blame individual team members can all contribute to failure (ibid.). Additionally, certain tasks are better suited for individuals than for team-based solutions; particularly if the work task is highly standardised or is not centred around problem-solving.

A major issue for teams overall and specifically for TMTs is the confusion between the broad organisational objectives and the specific purpose and goals of their small group at the top of the organisational hierarchy (Katzenbach, 1998; Katzenbach & Smith, 1993). For a real team there must be a team purpose that is adjusted to the team, and for top managers, to the TMT. West (2012) argued that if TMT members believe that their primary role is to fulfil the objectives of their individual functional areas, the existence of a TMT becomes redundant. Therefore, TMTs, like any other team, must establish objectives that, while contributing to overall organisational goals, are still tailored to their specific roles.

Another issue with TMTs is the tendency to assign roles based on members' positions rather than on their skills (Katzenbach & Smith, 1993). It has been suggested that TMT membership should be determined by the combination of skills needed to achieve the team's outcomes and objectives.

In some TMTs, a strong sense of individualism may prevail, together with demands on the executives' time, which can hinder effective teamwork at the top (Katzenbach & Smith, 1993). Nevertheless, despite these challenges, Katzenbach and Smith (1993) thought that more real teams at the top will emerge, as organisations grapple with increasingly complex problems and the need for substantial changes within and across structures.

## 2.3 Organisational culture and sustainable quality culture

### **Organisational culture**

Emphasising organisational culture is central in quality management, as culture is a general factor influencing almost every facet of organisational interactions, including activities at the TMT level (Henri, 2006). How managers behave and what they are paying attention to, as well as what they measure, will influence the culture (Ingelsson, 2013).

Organisational culture has been the object of extensive study over time, leading to numerous definitions. Most of these definitions primarily relate to macro cultures, such as nations, occupations, ethical groups, or large organisations. However, some are also applicable to micro cultures or subcultures, including groups, teams, or individuals. (Schein & Schein, 2017).

Schein and Schein (2017) defined the culture of a group as:

“the accumulated shared learning of that group as it solves its problems of external adaption and internal integration; which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, feel and behave in relation to those problems. This accumulated learning is a pattern or system of beliefs, values and behavioural norms that come to be taken for granted as basic assumptions and eventually drop out of awareness.”  
(p. 6).

Robbins and Judge (2018) described culture as “the social glue” that helps to hold an organisation together. Hernes (2014) refers to organisational culture as the set of history, learning, and shared experiences that forms an organisational memory. This memory that can be both retrospective and prospective (i.e., looking back and learning from the past). An organisation’s identity is formed from its past and from its memories, but culture is also changeable and affected by new impressions.

The culture of an organisation can be understood through the perspective of three levels. The first level is artefacts, including visible and feelable organisational structures and processes (Schein, 2009; Schein & Schein, 2017). The second level refer to espoused beliefs and values, which are defined as values, ideals, ideologies, strategies, goals and philosophies that exist in the organisation and create an image of the organisation. The third level are basic underlying assumptions; a deeper level of understanding grounded in the history of the organisation. Assumptions include the essence of culture instilled

through common learned values and beliefs that have become taken for granted.

An important aspect of leadership involves the ability to transition an organisational culture toward sustainability (Neculaesei *et al.*, 2019). Nevertheless, individual leaders may find it challenging to create or change cultures by themselves, because they are part of the organisation (Sharma & Jain, 2013). Transforming organisational culture is a time-consuming process, often difficult to accomplish, and requires the active participation of the entire organisation (Gimenez-Espin *et al.*, 2013).

## **Sustainable quality culture**

Quality culture is a specific aspect of organisational culture and could be seen as the second level (espoused beliefs and values) defined by Schein (2009). A quality culture of an organisation is formed by common core values or cornerstones (Bergman & Klefsjö, 2020). These core values are: focus on customers, base decisions on facts, focus on processes, improve continuously, let everyone take an active part, and develop committed leadership<sup>2</sup> (Bergman *et al.*, 2022) (see Figure 2.5). Developing committed leadership is seen as very important in creating a quality culture and therefore serves as a foundation. However, it is crucial that these core values coexist harmoniously, forming a cohesive whole.

<sup>2</sup> In the research within this thesis, an earlier version of this core value (Committed leadership) is also used, although with the same meaning, see Bergman & Klefsjö (2020).

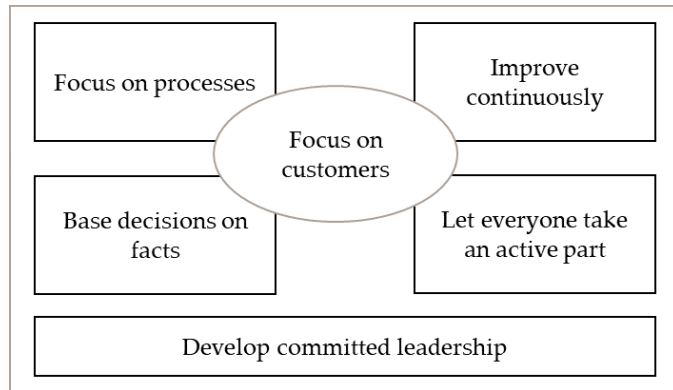


Figure 2.5 The corner stone model. Inspired by Bergman *et al.* (2022).

In a study by Lagrosen and Lagrosen (2019), five categories were identified, underlying the mechanics of sustainable quality management. These categories, constituting a foundation for the cultural pillars in the studied organisation, included: commitment, equality, innovative dynamics, sustainable thinking, and openness to learning. These categories were seen as the underlying assumptions of Schein’s (2009) theory. The expressed cultural pillars or business practices identified include: transparency, flat management, consensus, service, performance, and leadership. These categories and pillars were formed into a model explaining the mechanisms of sustainable quality management (*ibid*).

The concept of a quality culture can be viewed as having embedded sustainability. Since an organisation’s quality culture should remain constant, it must also, simultaneously be flexible and adaptable. Štreimikienė *et al.* (2021) argued that a sustainable organisational culture is one of the most important intangible assets and drivers of competitiveness in organisations.

The definition of sustainable quality culture in this thesis is, to some extent, inspired by Bergman and Klefsjö (2020) and Bergman *et al.* (2022).

“A sustainable quality culture within an organisation is formed by collectively agreed quality core values. These values are interconnected and are considered as a whole, adapting to environmental changes to ensure long-term and sustainable thinking”

(author’s own definition)

## 2.4 Teamwork and sustainable quality culture within healthcare and ICU transitional care

According to the Swedish Society for Nursing, teamwork is one core competence in creating high levels of patient safety and care quality (SSN, 2016). Rosen *et al.* (2018) similarly argue that teamwork is needed to manage the coordination and delivery of safe, high-quality care demands. This involves teamwork within, as well as across, organisational, disciplinary, technical, and cultural boundaries. Care coordination that is ineffective and teamwork processes that are suboptimal are a public health issue (*ibid.*). Drotz and Poksinska (2014) found that there seems to be a shift from a traditional focus on healthcare professionals, to a focus on process improvement and teamwork in healthcare organisations viewed as successful examples of lean applications. Also, Körner *et al.* (2015) reinforce the importance of interprofessional teamwork within healthcare organisations and stress that investigating organisational culture and its impact on interprofessional teamwork and team effectiveness in healthcare is important for future research. Likewise, Häggström *et al.* (2012)

emphasised the importance of a healthcare organisation that can provide the possibility of delivering coordinated and person-centred transitional care. High levels of quality in care and patient safety are crucial when transferring patients between hospital units, as patient transfers can threaten the patient's safety and health conditions. In this process, the risk of losing critical clinical information is high if the process is not clear and coordinated.

ICU transitional care can be described as care "provided before, during, and after the transfer of an ICU patient to another care unit that aims to ensure minimal disruption and optimal continuity of care for the patient. This care may be provided by ICU nurses, acute care nurses, physicians, and other healthcare professionals" (Chaboyer *et al.*, 2005, p. 16). Häggström and Bäckström (2014) argued that the transfer of a patient from an ICU to a general ward can be a challenging process due to the complex health situation of critically ill patients. Patients recently discharged from an ICU are at greater risk of unexpected events that can affect their health (Chaboyer *et al.*, 2008). Complications associated with transfers from ICU to general wards are often related to patients' acuity and the mix of skills by the staff, lack of care coordination, and poor communication between medical and nursing staff (*ibid.*). As the ICU transitional care process involves multiple healthcare professionals, it can be difficult to coordinate and thus to ensure safe care. Häggström and Bäckström (2014) argue that teamwork is a foundation for ICU transitional care and is intertwined with the healthcare chain. Early discharge planning, education for all nursing staff and the consideration of new ways of working may reduce stress and prevent problems associated with discharge from the ICU (Whittaker & Ball, 2000). The process of discharging patients from

the ICU is a complex process that requires integrated teamwork, not only within the ICU, but also between other hospital units (Lin *et al.*, 2013). Reader *et al.* (2009) investigated previous research on the relationship between teamwork and patient outcomes in intensive care. Conclusions from this review addressed the importance of team leadership for guiding ICU team members how to interact and coordinate with others.

## 2.5 Systems thinking and learning organisations

In 1993, Edwards Deming proposed a knowledge system which he called “profound knowledge”. This concept consisted of four elements: understanding of variation, psychology, theory of knowledge, and appreciation for a system (also called “systems thinking”). His definition of ‘system’ was “a network of interdependent components that work together to try to accomplish the aim of the system” (Deming, 1993, p. 51). Furthermore, he also argued that a system must have an aim, and the aim must be clear to everyone in the system and the aim also must include the future. All components of a system need to be clearly defined and documented. Managing a system requires knowledge of the interrelationships between all the components within the system and the people that work in it. Failure in one part of the system affects success in another part. Deming also stated that a system cannot be managed by itself, and the secret is cooperation between components toward the aim of the system.

The organisation in which a team acts can be seen as a system (Deming, 1993), and the team itself can be viewed upon as a system. To achieve performance within the system, members of the system need to be



knowledgeable about the components of the system. Schein and Schein (2017) distinguish between macro and micro systems, where an organisation can be considered a macro system and a team a micro system. However, this is dependent on the context. In another context, an organisation can be considered a micro system, compared to society, in the form of a macro system.

Managing a system requires knowledge, which includes learning. Senge (2006) describes five elements or disciplines important for a learning organisation. These elements are: personal mastery, mental models, team learning, shared visions and systems thinking. Personal mastery is the desire and ability of the individuals to learn. Mental models can exist both at a personal and at an organisational level, and are not always visible. Examples of mental models are how we experience things, like how we view other's behaviours. Team learning is a team skill (Bergman *et al.*, 2022). Individuals within a team can be good at individual learning, but may not possess strong team learning skills. Therefore, the enhancement of team learning is a prerequisite for improving team performance. Shared goals require shared vision within a team. In teams with shared visions, there exists a mutual understanding and acceptance of how to complement each other effectively to achieve common objectives (Bergman *et al.*, 2022). Systems thinking is the fifth discipline according to Senge (2006). Systems thinking integrates the other four disciplines into a coherent body of theory and practice. Senge argues that systems thinking must exist within and between all of the disciplines. For instance, a vision lacking a systems thinking approach for its implementation will only become a painted picture of the future. Another illustration of the

requirement for systems thinking lies in team learning, which develops skills beyond those possessed by individual team members.

Systems thinking is essential in TQM (e.g., Deming, 1993; Juran, 1974). Consequently, the core values within an organisation that form its culture should be seen as mutually dependent on each other in combination with working methods and quality tools (Bergman *et al.*, 2022; Bergman & Klefsjö, 2020). This system of culture, methodologies, and tools is necessary for the organisation to achieve long-term improvement and success. Sustaining in this context can be defined as “maintaining a process of continuous improvement” (Dale *et al.*, 2007 p. 127). Åslund *et al.* (2019) recommended an additional core value in quality management to support and accelerate sustainable development within organisations - the value of “focus on sustainable development”.

In this thesis, the systems perspective is fundamental, as teams do not function in an organisation as isolated systems. They are micro systems that need to interact, in order to achieve goals and high performance. ‘Real’ teams are high-performing and efficient systems contributing to the macro system - the organisation, its customers and society at large.

## 2.6 Measuring teamwork, sustainable quality culture and performance

### **Measuring teamwork and performance**

According to Salas *et al.* (1993), one challenge of team research has been developing reliable and valid measurement techniques to measure team performance. Salas *et al.* deemed that “the goal of team performance measurement must be to assess the process that a team employs in task performance, as well as to assess the outcome of that process.” (p. 94). However, this should also be equally essential in understanding the specific behaviours that led to these outcomes. The ideal team performance measurement system should, therefore, have following characteristics: 1) provide measurement at both team and individual levels; 2) assess the quality of team processes as well as outcomes; 3) focus attention on teamwork skills; and 4) provide data that can be used to describe, evaluate and diagnose team performance (Cannon-Bowers *et al.*, 1993).

Richardson (2011) developed a model for measuring the realness of all types of teams operating in organisations, the “real team scale”. Other examples of measuring teamwork are presented by Alexander *et al.* (2005), Edmondson (1999), Kirkman & Rosen (1999), Vinokur-Kaplan (1995), and Wageman *et al.* (2005).

A common way of measuring teamwork is related to the outputs of team performance and team efficiency (e.g., number of patients discharged from an ICU or number of products delivered of a certain quality). Such performance indicators can be aggregated to an organisational level. A well-known and well-used model for

measuring team efficiency is the IPO-model (Input–Process–Output), which is a framework originally proposed by McGrath (1964). This model suggests that inputs affect outputs via the interactions between team members (team processes) (Hackman, 1987). West and Lyubovnikova (2013) used this IPO-model to outline input, processes, and outputs that, from their research, seemed to be the most important predictors of performance in healthcare teams. Inputs included team tasks, team composition, and organisational support. Processes included team objectives, leadership and reflexivity. Output, in turn was referred to as: high quality of care, patient satisfaction, and team member well-being.

## **Measuring sustainable quality culture and performance**

Measuring organisational or quality culture is not easy, as culture is something that exists in a group's unconscious, and has a powerful influence on the behaviour of the group's members (Schein & Schein, 2017). Ingelsson (2013) concluded that in order to improve quality, it is important to also include 'softer' measures like perceptions and experiences, as a complement to 'harder' measures, like financial data. Quality culture has been measured in previous research using different versions of a quality culture questionnaire, which has been refined, validated, and applied in diverse settings and contexts (see, for instance, Bäckström & Ingelsson, 2015, 2016; Ingelsson & Bäckström, 2017; Ingelsson *et al.*, 2018; Ingelsson & Mårtensson, 2014; Mårtensson & Ingelsson, 2018; Sten *et al.*, 2021). Cronemyr *et al.* (2017) proposed a model and a tool for measuring and analysing quality culture. This tool,

a survey, focused on behaviours within an organisation and only used statements about the behaviours, not the quality core values directly.

Henri (2006) argue that to understand the importance of organisational culture for an organisation's performance, it is necessary to examine and understand performance measurement systems from a holistic perspective. Furthermore, Mackenzie and Bititci (2023) stress that the purpose of performance measurement and management (PMM) should be to achieve organisational effectiveness (OE). However, performance measures and their functions in managerial work should be combined with experience-based knowledge from the 'real world', in the form of information coming from lower managerial levels (Elg, 2001).



## 3 Research methodology

*This chapter describes the thesis' research methodology, along with a discussion about quality and ethics of the research.*

### 3.1 Introduction to scientific research methodology

Scientific research needs to include three necessary and interrelated aspects according to Arbnor and Bjerke (2009). First, there should be an explicit relation between ideas, empirical observation, and relevance to a given reality. Second, the research should follow a consciously applied methodology. Third, members of society have a legitimate right to protection from public scrutiny of his/her private life.

When conducting research, the research process often starts by preparing for research by performing a literature review; defining fundamental concepts; identifying relevant theories; formulating research purpose and questions; making choices about sampling, and data collection methods, as well as how data should be compiled and interpreted; and deciding on how results and findings should be reported (Bryman, 2018; Olsson & Sörensen, 2021). Creswell and Creswell (2018) argue, that a scientific research approach involves plans and procedures for research from a broad assumption to detailed descriptions of data collection, analysis and interpretation.

It is important that the research approach should be based on the research problem and purpose, the philosophical assumption and

experiences of the researcher, the audience for the research, and relevant research design and methods (Creswell & Creswell, 2018).

The research methodology for this thesis is described in Figure 3.1, starting with the purpose of the research.

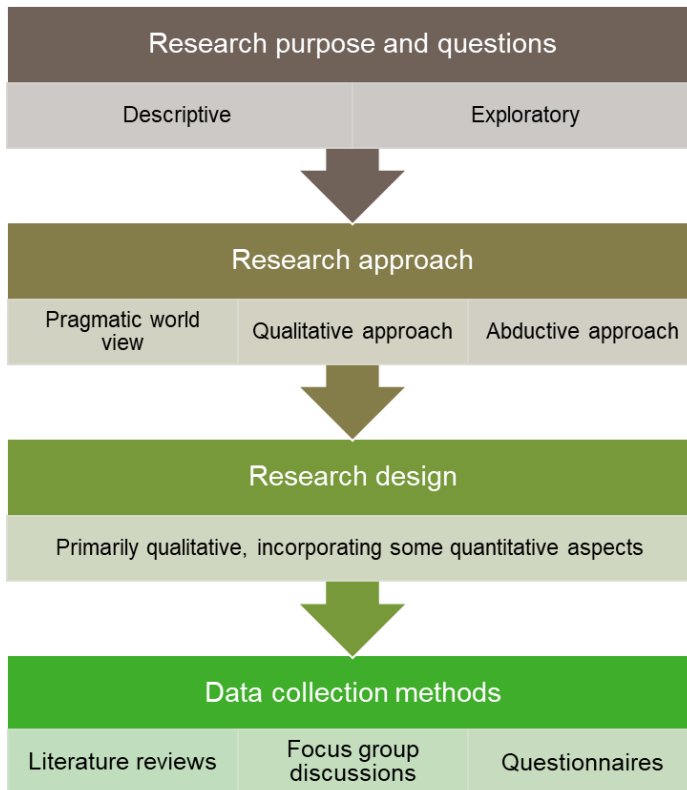


Figure 3.1 The research purpose and questions, research approach, research design, and data collection methods for this thesis.



## 3.2 The purpose of the research

The foundation for choosing research design and data collection methods should be rooted in the underlying purpose of the research and the research questions. The purpose therefore sets the intent or the main idea of a study and can be refined into specific research questions, built around the main purpose (Creswell & Creswell, 2018).

According to Onwuegbuzie and Leech (2006), qualitative research questions seek to discover, explore a process, or describe experiences and often begin with “how?” or “what?”. Creswell and Creswell (2018) define a qualitative research question as one that often uses exploratory verbs like explore, understand, or discover. A quantitative research question tends to be very specific in nature and should identify the population and dependent variable(s) for the study (Onwuegbuzie & Leech, 2006). The mixed methods question should integrate qualitative and quantitative data, and should be addressed by using a combination of qualitative and quantitative data (Onwuegbuzie & Leech, 2006).

The purpose of the research in this thesis was to contribute to a deeper understanding of real teamwork and how real teamwork relates to sustainable quality culture. The purpose was also to describe perceived success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation’s performance.

For this purpose, the research in this thesis can be seen as both descriptive and explorative. It is descriptive, as it is intended to describe how members of healthcare teams and members of TMTs perceived real teamwork and sustainable quality culture, how these

phenomena relate, as well as descriptions of perceived success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation's performance. The research questions in this thesis start with "how" and "what", which is in line with descriptive research (Yin, 2018) and qualitative research (Onwuegbuzie & Leech, 2006). However, the research is also exploratory, offering newly developed measurement instruments for measuring teamwork and sustainable quality culture (research question I). Research question II is also, to some extent, explorative in nature as the relationship between real teamwork and sustainable quality culture is explored.

### 3.3 Research approach

The approach or framework for research includes a philosophical world view, research design, research methods, descriptions of research problems, and the personal experience and pre-understandings of the researcher (Creswell & Creswell, 2018).

#### **Philosophical world view**

A philosophical world view can be seen as a general view of the nature of the research combined with the researcher's disciplinary orientations and research communities, and his or her past experiences (Creswell & Creswell, 2018). The philosophical assumptions of a study will be reflections on how the researcher thinks about reality (ontological issues) and the development of knowledge (epistemological issues) (Bryman, 2016).

Creswell and Creswell (2018) highlight four worldviews: postpositivism, constructivism, transformative, and pragmatism.

Postpositivism includes a deterministic and reductionistic philosophy in which variables are tested and cause determines effects or outcomes (ibid.). A postpositivistic world view aims to generate hypothesis and identify theories that can be generalised based on an objective truth (Bryman, 2016; Lincoln & Guba, 1985).

A constructivist world view is typically seen as an approach to qualitative research. Constructivists believe that individuals seek to understand the world in which they are living in and they develop subjective meanings. These meanings are multiple and different, and the researcher will study the complexity of views. Open-ended questions are suitable for this, as the researcher wants to interpret the meaning others have about the world (Creswell & Creswell, 2018).

A transformative worldview holds that any research inquiry needs to be intertwined with politics and political change. This world view focuses on the needs of groups of individuals in our society that may be marginalised (ibid.).

The pragmatic worldview includes actions, situations and consequences, and its focus is on the research problem and questions, as well as on the use of all approaches available to understand a research problem. A pragmatic approach advocates practical implications from research (Morgan, 2014).

Hermeneutics is a worldview centred on gaining an interpretive understanding of social actions (Bryman, 2016). In hermeneutics, the social context is important, since things that are created are influenced by their context and by those who experience them. Olsson and Sörensen (2021) maintain that 'modern' hermeneutics is about

interpreting and understanding how human lives are expressed through the spoken and written word. Arbnor and Bjerke (2009) argue that the primary focus in hermeneutics lies on understanding and communication, with the “hermeneutic spiral” serving as a critical tool in the art of understanding (Olsson & Sörensen, 2021). The “hermeneutic spiral”, refers to the idea that a part can only be understood through the whole, and the whole can only be understood through its parts (Alvesson & Sköldberg, 2017; Olsson & Sörensen, 2021).

### **Philosophical world view in this thesis**

The scientific view of quality management as a research field can be understood as originating from positivism, with a focus on quality inspection, control, and statistics (Bergman & Klefsjö, 2020), becoming more hermeneutic over time with an increased focus on quality culture and the softer values of quality management. According to van Kemenade & Hardjono (2019), research from the 1990s until now has seen a paradigm shift from ‘hard’ to ‘soft’ concepts and skills in quality management. This ‘soft’ side of quality management includes employee empowerment, involvement, shared values among everyone in the organisation, and the role of emotions in shaping corporate behaviours. This paradigm shift has influenced the research field of quality management.

Studying teamwork and sustainable quality culture derives from the ‘softer’ side of quality management. In this thesis it has been important to interpret and gain a deeper understanding of the phenomenon in study by using the most appropriate research method for its study. Olsson and Sörensen (2021) argue that by using the “hermeneutic

spiral”, understanding of both the parts and the whole is deepened. Therefore, applying a systemic perspective was central in interpreting results and drawing conclusions about the phenomenon. Teamwork and sustainable quality culture have been examined in various contexts, and results were analysed both in detail and collectively to enhance understanding of the phenomenon.

Applying a pragmatic worldview means that knowledge is created by action and reflection (Morgan, 2014). In the studies performed within this thesis, co-workers and managers have discussed their views and perceptions of teamwork and sustainable quality culture. These interactions have created knowledge for both the informants and the researchers. Creswell and Creswell (2018) deem that pragmatic researchers look for *what* and *how*, which is in line with the research questions of this thesis. The aim of the studies forming the basis of this thesis has been—in addition to creating knowledge—to generate practical suggestions for how co-workers and managers can enhance their ability to engage in ‘real’ teamwork and sustainable quality culture.

## **Induction, deduction, and abduction**

Induction is when theory is the result of a research approach (Bryman, 2018). This means that conclusions are drawn from empirical results, as an inductive approach starts with observations or results, which result in a theory. An inductive approach is often used in explorative studies, such as when exploring a concept or a phenomenon (Onwuegbuzie & Leech, 2006).

Contrary to induction, deduction begins with theory, and the researcher's conclusions are based on a general theory or rule (Alvesson & Sköldbberg, 2017). The deductive approach involves testing hypotheses or research questions, from which the researcher defines and operationalises variables derived from the theory. The researcher is often measuring variables using an instrument (Creswell & Creswell, 2018).

Abduction is an iterative process between induction, and deduction and includes understanding (Alvesson & Sköldbberg, 2017; Bryman, 2018). Bryman (2018) argues that abduction can be seen as broadly inductive, but unlike induction, the theoretical understanding is grounded in the research context.

The research approach in this thesis can be described as an abductive approach, as the research process has been interactive, moving between collecting, compiling and analysing empirical data and comparing it to existing theory and vice versa. New interpretations were made from collected data and then compared with theories on teams, teamwork, and sustainable quality culture, generating and growing deeper understanding, and using the "hermeneutic spiral" of deepening the understanding of both the parts and the whole.

### **Qualitative, quantitative, and mixed methods**

Creswell and Creswell (2018) divide research approaches into qualitative, quantitative, and mixed methods. In qualitative research, multiple subjective realities are studied. The researcher aims to present these experienced realities using the words of individuals and from different perspectives. Often, this research has an emergent process,

with evolving research questions and procedures. This form of inquiry supports an approach that emphasises inductive methods, focusing on individual meaning and the importance of conveying the complexity of a situation (ibid.). Often, qualitative research involves multiple variables being investigated in a smaller population (Olsson & Sörensen, 2021).

Quantitative research is built on hypotheses, which are tested deductively applying existing theory. The aim of quantitative research is to generalize findings and replicate them (Creswell & Creswell, 2018). In quantitative research there are few variables investigated on a larger population (Olsson & Sörensen, 2021).

Finally, mixed methods involves both qualitative and quantitative data collection in response to research questions or hypotheses (Creswell & Creswell, 2018). A mixed methods approach integrates the two kinds of data in the analysis by merging the data. The core assumption is that the integration of qualitative and quantitative data yields additional insights that are beyond the information that could be gained from qualitative or quantitative data alone (ibid.). Onwuegbuzie and Leech (2006) argued that mixed methods provides a bridge between qualitative and quantitative paradigms. Mixed methods research resides in the middle of a continuum between qualitative and quantitative research, because it incorporates both elements (Creswell & Creswell, 2018).

Regarding the purpose and research questions for this thesis, a qualitative approach was perceived as the most suitable in achieving a more comprehensive understanding of the research phenomenon. If

the research problem involves understanding and/or exploring a new phenomenon and the variables of study are unknown, a qualitative approach is preferred (Creswell & Creswell, 2018). Qualitative research includes the study of multiple subjective realities, and the intent of the researcher is to report these realities using the participants' actual words. These insights cannot be generalised, but they can provide a deeper understanding of the phenomena under study, which is the case of the research that forms this thesis. The research evolved as new knowledge was obtained, and likewise, the research questions evolved as the research process progressed. Data collection methods have been chosen in accordance with the evolving research questions and the evolving research progress.

### 3.4 Research design

A research design is a type of inquiry within qualitative, quantitative, and mixed methods approaches, that provides a specific direction for procedures in a research study in relation to the research purpose and the questions (Creswell & Creswell, 2018). Research designs are "strategies of inquiry" (Denzin & Lincoln, 2013).

A qualitative research design involves studying a phenomenon in context and trying to describe and interpret the phenomenon based on meaning (Creswell & Creswell, 2018). The general characteristics of traditional qualitative research are induction, discovery, exploration, theory/hypothesis generation, the researcher as the primary 'instrument' of data collection, and qualitative analysis (Johnson & Onwuegbuzie, 2004). A quantitative research design involves a positivistic view, describing the systematic collection of empirical data, which are often analysed statistically (Creswell & Creswell, 2018).



Traditional quantitative research is typically focused on deduction, confirmation, theory/hypothesis testing, explanation, prediction, standardised data collection and statistical analysis (Johnson & Onwuegbuzie, 2004). A mixed methods design involves both qualitative and quantitative research and data, which are analysed separately, integrated, and merged (Creswell & Creswell, 2018). According to Creswell and Plano Clark (2017), there are three different core mixed methods designs; explanatory sequential design, exploratory sequential design, and convergent design.

The research forming the basis of this thesis has a multi-methods design and is primarily qualitative, incorporating some quantitative aspects. The qualitative approach and design were suitable, considering the purpose of contributing to a deeper understanding of real teamwork and sustainable quality culture. Focus groups on teamwork and sustainable quality culture were carried out within healthcare and TMT contexts, aiming to describe and interpret results based on their meaning. By adding quantitative elements, such as measuring and statistically analysing questionnaire data, a more comprehensive understanding of the research purpose and questions was attained.

### **3.5 Data collection methods**

The data collection methods employed in this thesis have been both qualitative and quantitative, aligning with a pragmatic view. Qualitative data collection methods are typically emergent and open-ended and may involve interviews or document analysis. Qualitative data analysis often entails identifying themes, patterns, and generating interpretations based on data (Creswell & Creswell, 2018). The

qualitative data collection methods used in this thesis are literature reviews and focus group discussions.

Quantitative data collection methods are pre-determined and often involve measuring using different instruments like questionnaires and surveys. Analysis of quantitative data typically involves various kinds of statistical analysis (Creswell & Creswell, 2018). The quantitative data collection methods used in this thesis are questionnaires developed and validated to measure teamwork and sustainable quality culture.

Mixed data collection methods can be both pre-determined and emergent and include open- and closed-ended questions (Creswell & Creswell, 2018). In mixed data analysis, quantitative and qualitative data are merged, analysed, and interpreted. In this thesis, data from questionnaires and focus groups were merged when studying TMTs, and interpretations were subsequently derived from the merged data.

### 3.6 The research process

My research journey consists of two parts. In part I, I explored and described teamwork from the perspective of co-workers in ICU transitional care in order to gain a deeper understanding of teamwork in a healthcare context. This was also part of a research project, focusing on quality and efficiency in patient transfer processes, namely the ICU transitional care process. The appended papers related to part I are: A, C, D, H, and I.

Part II of this thesis focus on teamwork within TMTs, alongside sustainable quality culture. To begin exploration and achieve a more comprehensive understanding of TMTs, sustainable quality culture

and sustainable quality development, a scoping review was conducted (see Paper E). This review investigated the existing literature in the research field to identify research gaps. To delve deeper into the research area of teamwork within TMTs and sustainable quality culture, methodology based on a convergent mixed methods design was developed (see Paper F). This methodology was then further tested and validated (see Paper G), see Figure 3.2.

The research process has developed and evolved throughout the course of the process and are described in more detail in the following section.

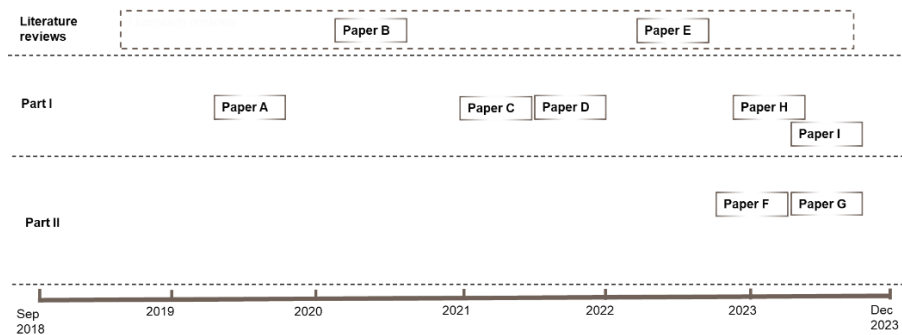


Figure 3.2 The research process of this thesis, constituting two parts, where literature reviews form a base for the research.

## Literature reviews

Literature reviews are part of the research process and are used to gain knowledge about existing research. The results from two reviews— one systematic literature review and one scoping review—were published and presented. One in a scientific journal (Paper B) and one as a published conference paper (Paper E). The search terms employed

in the reviews are in accordance with the purpose and research questions for the specific study and the main databases used for searches were Miun Discovery (search engine for Mid Sweden University), Business Source Complete via EBSCO, Pubmed (Medline), Scopus, and Web of Science.

## **Part I—A healthcare project**

### **Description of study subjects in Part I of this thesis**

The participants in Part I of this thesis worked at two medium-sized hospitals located in rural areas in the middle of Sweden. One hospital had 2500 employees, and the other hospital had about 3000 employees. Two ICU units at the two hospitals and two general wards at one of the hospitals participated. The participants included ICU nurses, ward nurses, physicians, assistant nurses and physiotherapists, see Tables 3.1 and 3.3.

### **Interview guide I and focus groups discussions**

To create a deeper understanding of teamwork and sustainable quality culture in the ICU transitional care process, focus group discussions were conducted at the hospitals described above. The focus groups were led with the support of an interview guide. This semi-structured interview guide with open-ended questions was developed by the project members, based on previous research and inspired by appreciative inquiry. As a method, appreciative inquiry has a positive approach on raising possibilities instead of problems (Cooperrider, 1986). This interview guide was used to ensure that all focus group discussions had the same basic lines of inquiry (cf. Patton, 2015). The interview guide embraced four overarching areas; quality of care,

teamwork, success factors and strengths, and continuous improvement. See Appendix 2.

Participants in the focus groups were recruited by their managers at the two ICUs and at two general wards at one of the two hospitals<sup>3</sup>. The participants of the focus groups were physicians, ICU nurses, ward nurses, assistant nurses, and physiotherapists. A total of 9 focus groups with 47 co-workers were conducted between November 2018 and February 2020 (see Table 3.1).

Table 3.1 Number of focus groups discussions and informants.

Time period	Nov 2018—Feb 2020				
<i>Focus group discussions using interview guide I</i>	<i>Hospital I, ICU</i>	<i>Hospital II, ICU</i>	<i>Hospital II, Ward I</i>	<i>Hospital II, Ward II</i>	<i>Total (N)</i>
<i>Focus group discussions (n)</i>	3	2	2	2	9
<i>Informants (n)</i>	16	12	9	10	47
<i>Informants (n) by profession</i>	3 physicians 6 ICU nurses 6 assistant nurses 1 physiotherapist	3 physicians 4 ICU nurses 3 assistant nurses 2 physiotherapists	1 physician 2 ward nurses 6 assistant nurses	4 ward nurses 4 assistant nurses 2 physiotherapists	

Two researchers participated in each focus group discussion. One acted as a moderator and the other as an assistant moderator. The moderator guided the participants with open-ended questions from the developed semi-structured interview guide. Each focus group

<sup>3</sup> The intention was also to include general wards at hospital I, but the COVID-19 pandemic made this impossible.

discussion lasted for 45–60 minutes, were digitally recorded and were transcribed verbatim.

The purpose of the research presented in Paper D was to describe how co-workers within a team perceived teamwork in patient transfers from an ICU to a general ward and, secondly, to describe co-workers' suggestions for improved team collaboration in the future. Data from the focus groups were analysed using qualitative deductive content analysis inspired by Elo and Kyngäs (2008), and characteristics for teamwork constituted the deductive analytical framework.

The purpose of the research described in Paper H was to present factors influencing success in increasing the quality and safety of ICU transitional care, as described by co-workers at the sharp end. For this study, the same data were used as in Paper D, however it was analysed from another purpose. Additionally, in this study, qualitative deductive content analysis was performed following the method by Elo and Kyngäs (2008). Factors influencing success in improving the quality and safety of ICU transitional care, as well as suggestions for improvement were identified from the transcribed texts. Data were mapped into six content areas using the TQM core values (Bergman *et al.*, 2022) as units of analysis.

### **Development and testing of questionnaire I**

To further contribute to the understanding of perceived teamwork, a new questionnaire was developed and tested with the aim of measuring teamwork in the patient transfer process from the ICU to a general ward.

The questionnaire, presented in Paper C, was developed in three stages. The first stage involved a literature review aimed at framing the current understanding of teamwork in ICU transitional care and how quality core values appeared in this literature. The second stage included the development of 20 statements concerning teamwork in ICU transitional care, formulated from theory. This included ten statements about teamwork within a hospital unit and ten statements about teamwork between hospital units (constituting two main areas). The last stage involved dividing each group of ten statements into three factors. Each factor consisted of three to four statements. Table 3.2 shows the newly developed factors and statements relating to teamwork in ICU transitional care.

The main areas, factors and statements about teamwork were included in an existing questionnaire measuring sustainable quality culture. The new questionnaire consisted of 50 statements divided into 16 different factors concerning teamwork and sustainable quality culture and was called the “Assessing Quality Culture Health Care Edition”, see Appendix 1.

Table 3.2 Main areas, factors, and statements measuring teamwork.

<b>Main area for teamwork</b>	<b>Factors for teamwork</b>	<b>Statements for teamwork</b>
<i>Team collaboration within a hospital unit</i>	<i>Person centred care</i>	<p>Our mission at the unit is based on the patient's individual needs.</p> <p>What we do in the care team is based on the patients' individual needs.</p> <p>At our department, care teams know what creates value for each individual patient.</p>
	<i>Continuous learning</i>	<p>In our unit, the care teams see their part in the care chain and act on it.</p> <p>In our unit, the care teams take advantage of combined competences and learn from each other.</p> <p>In our unit, the care teams have a good understanding of their own strengths and weaknesses.</p>
	<i>Prerequisites for successful patient transfers</i>	<p>In our unit, we communicate with each other within the care teams how to best transfer patients from the ICU to the general ward.</p> <p>In our unit, care teams coordinate their activities in the best possible way, in order to transfer patients from the ICU to the general ward.</p> <p>In our unit, decisions about patient transfers are well-grounded and based on facts.</p> <p>In our unit, the care teams follow a clear structure when transferring patients from the ICU to the general ward.</p>
<i>Team collaboration within hospital units</i>	<i>Person centred care</i>	<p>At our hospital we have a common goal based on patient's individual needs.</p> <p>When we collaborate in care teams across departmental boundaries, we start with the patient's individual needs.</p> <p>When we collaborate in care teams across departmental boundaries, we know how we together create value for each individual patient.</p>
	<i>Continuous learning</i>	<p>In the care chain, care teams at different units collaborate to take advantage of the overall competence.</p> <p>In the care chain, the care teams at different units learn from each other.</p> <p>In the care chain, the care teams at different units have a good understanding of each other's strengths and weaknesses.</p>
	<i>Prerequisites for successful patient transfers</i>	<p>In the care chain, care teams from different units communicate with each other in order to best transfer patients from the ICU to the general ward.</p> <p>In the care chain, care teams from different units coordinate their activities to best transfer patients from the ICU to the general ward.</p> <p>In the care chain, the decisions about patients' transfers are well-grounded and based on facts</p> <p>In the care chain, the care teams follow a clear structure when transferring patients from the ICU to the general ward.</p>



This questionnaire was tested at two ICUs (see Table 3.3), during January and March 2019. The purpose of this test was to validate the questionnaire, and identify areas for improvements in teamwork and sustainable quality culture at the two ICUs. The questionnaire was answered at staff meetings by nurses, assistant nurses, and physicians at the two ICUs. The questionnaire was handed out by members of the research group at staff meetings. All of the co-workers that joined the staff meetings answered the questionnaire, which was approximately 35% of total co-workers. The staff who did not participate at the meetings received the questionnaire from their leaders (65%). The response rate was about 55% (84 of 152 responded). The results from the test were presented in Paper C. The same data were also analysed with different purposes, as described in Papers A and I.

Table 3.3 Number of respondents.

<b>Time period</b>	<b>Jan—Mar 2019</b>		
<i>Respondents of questionnaire I</i>	<i>Hospital I, ICU</i>	<i>Hospital II, ICU</i>	<i>Total (N)</i>
<i>Respondents (n)</i>	45	39	<b>84</b>
<i>Respondents (n) by profession</i>	17 physicians 17 ICU nurses 11 assistant nurses	2 physicians 13 ICU nurses 24 assistant nurses	

The results from the questionnaires described in Paper C were analysed using Statistical Package for Social Sciences (SPSS), in four stages. First, Cronbach's alpha, mean and standard deviation were calculated for the six factors pertaining to teamwork. The second stage was to investigate whether there were any significant differences between ICUs, professions, and teamwork factors. The third stage

included studying correlations between main areas and factors, and the last stage was analysing missing values for the factors.

The analysis of the total questionnaire, including results for both teamwork and sustainable quality culture was presented at a conference (Paper A). In Paper I, the same empirical data was analysed with the purpose of exploring how teamwork and sustainable quality culture relate to each other in transitional care from the perspective of intensive care personnel.

## **Part II—Studying TMTs**

Part II of this thesis was built upon the results of Part I, and the conducted scoping review presented in Paper E. Thus, the research evolved pragmatically, in alignment with the results and analysis of empirical data from the research previously undertaken in Part I.

### **Description of study objects in Part II of this thesis**

Part II of this thesis included studies of four TMTs from different public and private organisations in Sweden. Two TMTs were selected because they had a good reputation of working successfully to improve quality in their organisations, and two TMTs wanted to participate due to their interest in enhancing their ability for ‘real’ teamwork and sustainable quality culture. Thus, all participating TMTs had a curiosity in and knowledge about how important quality improvements and quality culture are for an organisation’s performance. See Table 3.4.

Table 3.4 Description of study objects in Papers F and G.

<b>Characteristics</b>	<b>TMT 1</b>	<b>TMT 2</b>	<b>TMT 3</b>	<b>TMT 4</b>
<i>Number of members of the TMT</i>	7	7	7	9
<i>Role composition of the TMT</i>	3 managers 2 controllers 1 business developer 1 communicator	5 managers 1 controller 1 development leader	4 managers 1 controller 1 development leader 1 HR specialist	8 managers 1 secretary
<i>Organisation type</i>	Regional board	Association of municipalities	Private manufacturing company	Municipally owned company

### **The development of a new methodology**

As previous research indicated the importance of teamwork and leadership, Part II of this thesis became to describe and explore teamwork within TMTs, along with sustainable quality culture. The purpose of the study described in Paper F, therefore, was to present a developed, tested, and evaluated methodology for assessing teamwork and sustainable quality culture, focusing on TMTs. This study also held practical value by providing guidance to TMTs on how to enhance their abilities for real teamwork, alongside with creating a sustainable quality culture within their organisations.

The development of this new methodology followed a convergent mixed-methods design inspired by Creswell and Creswell (2018) and Creswell and Plano Clark (2017), and started with a literature review investigating the existing research on teamwork, real teamwork and sustainable quality culture, in accordance with the purpose of this study.

### *The development and testing of questionnaire II*

The development of questionnaire II, as presented in Paper F, was conducted in three steps: (1) development of the questionnaire, (2) internal testing and adjustments and (3) external testing.

The new questionnaire consists of two sections and 57 statements. The first section includes 18 new statements related to 'real' teamwork with a focus on TMTs. These newly developed statements are based on previous research on teams, teamwork, and 'real' teamwork. The second part of the questionnaire was compiled from existing questionnaires used to measure sustainable quality culture, and consisted of 39 statements (see, for instance, Bäckström & Ingelsson, 2015, 2016; Ingelsson & Bäckström, 2017; Ingelsson *et al.*, 2018; Ingelsson & Mårtensson, 2014; Mårtensson & Ingelsson, 2018; Sten *et al.*, 2021). See Appendix 3.

Before distributing the questionnaire to external respondents, it was read through and tested by seven members of the research team in Quality Management at Mid Sweden University. After some adjustments were made, the questionnaire was imported into an electronical survey tool, and distributed for testing to members of two different TMTs.

The third step was then to distribute the questionnaire electronically to two TMTs consisting of seven members each (TMT 1 and TMT 2). These TMTs were from different organisations in Sweden and had previously expressed their interest in participating in the current research. Survey data was collected in April 2022. The response rate was 100% for both TMTs.

## **Interview guide II and focus group discussions**

Parallel with developing the questionnaire II, an interview guide for focus groups discussions was developed. The focus group discussions, following the developed interview guide II, aimed at providing a deeper knowledge and understanding of respondents' perceptions of teamwork and sustainable quality culture. The development of the interview guide involved three steps: (1) development of the interview guide, (2) internal testing and adjustment, and (3) external testing.

1. The semi-structured interview guide consisted of open-ended questions and addressing two themes; 'teamwork' and 'sustainable quality culture', and was developed based on previous research (see Appendix 4). This interview guide was used to ensure that the focus group discussions had the same basic lines of inquiry (cf. Patton, 2015).
2. Before using the guide in focus groups discussions, the guide was read through carefully by the researchers. This internal test resulted in a few adjustments to the order and formulation of some of the questions.
3. External testing was conducted using the guide during focus group discussions with the same two TMTs (comprising all seven members of each TMT attended) who had previously completed the earlier questionnaire. Two researchers were present in each focus group discussion, with one serving as a moderator and the other as an assistant moderator. The moderator guided the participants using the open-ended questions from the developed semi-structured 'interview guide II'. The focus group discussions were digitally recorded in early May 2022 and lasted approximately 60 minutes each. After each

focus group discussion, the researchers conducted a short meeting to assess potential improvements to the interview guide and the interview process. Additionally, they discussed the interview results, reflected on the actions of the respondents, and analysed the interactions within the group.

### **Analysis of quantitative data**

SPSS was used to analyse the results from the responded questionnaires. However, as there were few respondents per group, no deep statistical analysis could be made with reliable results. The statistical analyses carried out, followed three steps: (1) calculating minimum, maximum, mean and standard deviation, (2) identifying categories and differences and (3) identifying missing values.

1. Minimum, maximum, mean and standard deviation values were calculated for statements, factors and dimensions<sup>4</sup> for each respondent group (each TMT). Focus of the analysis was to assess the differences in the minimum and maximum values, rather than extract exact values for mean and standard deviation.
2. The researchers then categorised the mean of each statement and factor according to the values on the Likert scale (1–7). Mean values between 1 and 3.99 were categorised as ‘low agreement’, and mean values between 6 and 7 were categorised as ‘high agreement’. This categorisation was applied to both themes—teamwork and sustainable quality culture—for each respondent group. The researchers also analysed differences in responses for

<sup>4</sup> In the papers included in this thesis, the concepts of dimensions and factors are both used when assessing sustainable quality culture. To facilitate, dimensions can be seen as equivalent to factors.

- each teamwork statement and for each factor and dimension measuring sustainable quality culture. This analysis was conducted separately for each respondent group. Statements and factors with a standard deviation value exceeding 1.0 were analysed in more depth.
3. Finally, missing values were analysed. This was performed for each statement, factor, dimension, and for each group of respondents.

### **Analysis of qualitative data**

The recorded focus group discussions were transcribed using Microsoft Word. After the transcriptions, each text file was compared to the corresponding audio file and adjustments were made by the researchers in the text files. This correction process applied to transcribed text that did not align with the audio file.

The results from the two focus group discussions were analysed by the researchers shortly after the interviews were conducted. The transcribed texts were coded and analysed using qualitative deductive content analysis, and the prerequisites for real teamwork and the factors related to sustainable quality culture constituted the deductive analytical framework.

### **Merging, interpreting and follow-up meeting**

The next step in the methodology was to merge quantitative and qualitative results for each theme. This was done by presenting the results side by side for each TMT. Quantitative and qualitative data for each theme were presented and mapped to prerequisites for real teamwork and quality core values for sustainable quality culture. Quotes from the focus groups were also added to make the results

more vivid and alive. Answers to the questions: “what are success factors in creating a sustainable quality culture?”, “how can you work together in the TMT to achieve these success factors?” and “what is important in your management team?” were also summarised and presented.

The merged results for each TMT were then interpreted. From this interpretation, the researchers agreed on proposals for each TMT on how to improve its ability to engage in real teamwork and sustainable quality culture in their organisation. Finally, the researchers met each TMT to present and discuss the results from the different analyses and the researchers’ suggestions for improvements based on the results. Besides presenting results, the purpose was also to verify the results with each TMT. Additionally, this also contributed to learning, both for TMT members and for the researchers. The follow-up meetings were held one month after the focus group discussions.

### **Further testing of questionnaire II**

The purpose of the research presented in Paper G was to describe the perception of real teamwork and sustainable quality culture as well as success factors for achieving a sustainable quality culture within an organisation, focusing on TMTs. An additional purpose was to explore the relationship between real teamwork and sustainable quality culture. The intention, besides that, was to further test and evaluate the developed methodology described in Paper F. The procedure, including responding to questionnaire II, attending focus groups and participating in follow-up meetings are presented in paper G, and are described in Table 3.5.



Table 3.5 The procedure for the study presented in Paper G, including respondents to questionnaire II, informants attending in focus groups, and participants of follow-up meetings.

<b>Time period</b>	<b>Apr 2022</b>	<b>Apr 2022</b>	<b>Nov 2022</b>	<b>Nov 2022</b>	
<i>Respondents to questionnaire II</i>	<i>TMT 1</i>	<i>TMT 2</i>	<i>TMT 3</i>	<i>TMT 4</i>	<i>Total (N)</i>
<i>Respondents (n)</i>	7	7	7	7	<b>28</b>
<i>Response rate</i>	100 %	100 %	100 %	88 %*	
<b>Time period</b>	<b>May 2022</b>	<b>May 2022</b>	<b>Dec 2022</b>	<b>Nov 2022</b>	
<i>Focus group discussions using interview guide II</i>	<i>TMT 1</i>	<i>TMT 2</i>	<i>TMT 3</i>	<i>TMT 4</i>	<i>Total (N)</i>
<i>Informants (n)</i>	7	7	7	9	<b>30</b>
<b>Time period</b>	<b>Jun 2022</b>	<b>Jun 2022</b>	<b>Feb 2023</b>		
<i>Participating in follow-up meetings</i>	<i>TMT 1</i>	<i>TMT 2</i>	<i>TMT 3</i>	<i>TMT 4</i>	<i>Total (N)</i>
<i>Participants (n)</i>	7	7	7	-	<b>21</b>

\*The questionnaires were sent to eight members of TMT 4, as instructions by the CEO. The ninth member was a secretary. Seven of eight respondents answered the questionnaire.

The research design for the research presented in Paper G followed the methodology outlined in Paper F. The previously developed questionnaire measuring teamwork and sustainable quality culture was used in all four cases, with some modifications made for TMT 3 and TMT 4. These adjustments were implemented following the evaluation of the first test with TMT 1 and TMT 2 were:

The section of the questionnaire relating to 'teamwork':

- one statement relating to team leadership was clarified, based on comments from the respondents

The section of the questionnaire relating to ‘sustainable quality culture’:

- was enhanced by including two additional factors, which consisted of three statements each, to address both internal and external systems perspectives. These adjustments were made by the researchers in order to underscore the importance of adopting a systems perspective

### **Meta-analysis**

After the final step of the methodology, a meta-analysis was performed by merging the results from the four TMT studies. The analysis was carried out in four steps, described in Paper G.

## **3.7 Meta-analysis in this thesis**

The meta-analysis in this thesis was based on the results and findings presented in the various scientific and conference papers (Papers A–I) that constitute the foundation of this thesis. The studies presented in these papers have all contributed in some way to addressing the purpose and research questions of this thesis. The procedure for analysing the results, findings, and conclusions of these studies followed the procedure as described (see Figure 3.3).

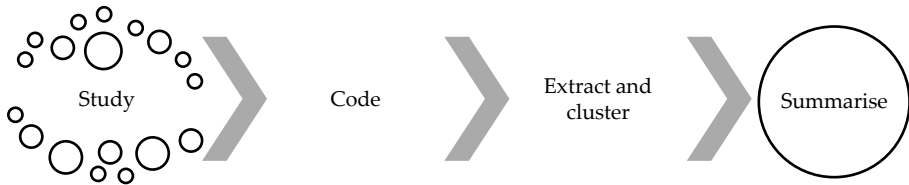


Figure 3.3 Process for meta-analysis in this thesis.

1. **Study**—The first step of the process was to read all appended papers from the perspective of the purpose and research questions for this thesis. This was done for all research questions.
2. **Code**—The second step involved color-coding the text in the papers based on the three research questions of this thesis. This process was applied to the results, findings and conclusion sections of each paper and was carried out for all research questions.
3. **Extract and cluster**— The third step was only done for research question 3 and involved extracting and clustering coded text. This clustering process followed an inductive approach, where main categories and sub-categories of the results were identified. The inductive approach was chosen because the aim was to identify new perspectives on success factors for teamwork and sustainable quality culture, rather than aligning with existing theory. To identify similarities, differences and deficiencies, the identified success factors were compared to previous research about real teamwork and sustainable quality culture. This comparison aimed to show new contributions from the research presented in this thesis.

4. **Summarise**—Finally, the results obtained from coding and analysis were summarised for each research question. This process was carried out for all research questions. See Chapter 5.

### 3.8 Quality in research

Bryman (2018) mentions three important aspects when judging the quality of social sciences studies: validation, reliability, and replication. Validity can be divided into measurement validity (or construct validity, right operational measures); internal validity (whether a conclusion establishing a causal relationship between two or more variables is tenable or not); external validity (generalising findings); ecological validity (how the research can be applied to people's everyday lives in their natural social environments); and inferential validity (are the conclusions valid according to the chosen research methods) (Bryman, 2018).

One approach to enhancing measurement validity is to employ multiple sources of evidence. In the studies conducted in this thesis, both quantitative and qualitative data were collected and analysed. Additionally, results were confirmed by participants during follow-up meetings and presentations of results. Another example of securing measurement validity in this research was that questionnaires were tested before distribution them to respondents, in regards to both comprehensibility and to wording. Some adjustments were also made after each test, regarding formulations and the order of statements. The interview guide for the healthcare project (interview guide I) was read through and commented on by one person educated in healthcare. Interview guide II was read through and commented on by the

attending researchers for research presented in Papers F and G. All of the statements in the questionnaires and the questions in the interview guides were based on previous research.

Internal validity is often connected to casual relationships between variables in explanatory case studies. In this research, which has an explorative and descriptive approach, the aim has been to gain a deeper understanding of the relationship between real teamwork and sustainable quality culture. However, the results from the statistical analyses presented in papers A, C, and I showed correlations that were significant, but no causality (showing cause and effect) was identified between real teamwork and sustainable quality culture. The possibility of a third variable that influences the other two should always be considered (Pallant, 2016).

External validity is connected to generalisation. In qualitative research, analytical (theoretical) generalisations are relevant, which includes expanding upon and generalising theories (Bryman, 2016; Yin, 2018). “How” and “why” questions are preferred in order to be able to achieve analytical generalisation. The research questions for this thesis are based on “how” and “what” questions and analytical generalisation was achieved by gaining a deeper understanding of real teamwork and sustainable quality culture in different contexts. Analytical generalisation is also about learning and expanding existing theory. This was for example, done by deepening the understanding of real teamwork in TMTs and sustainable quality culture in an organisation and how these concepts related to each other.

Ecological validity in this thesis can refer to how the research and results are applicable to co-workers and leaders in their organisations. Suggestions for improvements from co-workers in the ICU transitional care process and suggestions for improvements on how to improve teamwork in TMTs are examples of how the results can be applied by the participants in their organisations. This research has a practical purpose, which is also in line with the pragmatic view in this thesis.

Inferential validity is about how conclusions from a study can be valid according to the research method that was used. The conclusions from this research have been based on results from both focus groups discussions and questionnaires. This combination of data collection methods, complementing each other, were considered relevant according to the purpose of this research.

Reliability can be described as how results from a study will be the same if the study is conducted again, or if the results are affected by random conditions. Reliability depends on whether data collection and analysis are documented in such way that they can be easily repeated and allow researchers to hopefully arrive at the same results (Creswell & Creswell, 2018; Yin, 2018). The development of questionnaires and interview guides, the analysis of empirical data as well as the conducting of focus group discussions are described step by step in the papers for this thesis. Reliability for this thesis also involves describing theoretical and methodological standpoints, and procedures for analysing results in accordance with the research purpose and questions of this thesis. Further, a chain of evidence was established by consistently referring back to the research purpose and research questions when presenting the results and findings to participants and

in scientific papers. This approach allows both participants and readers to follow the steps taken during the research process.

### 3.9 Ethics in research

Ethical issues in research merit increased attention today (Creswell & Creswell, 2018). As new research methods are used and when new data are analysed, new ethical problems arise (Swedish Research Council, 2017). These issues apply to qualitative, quantitative, and mixed methods research and reflect the whole research process; from planning, conducting, and analysing, to reporting, sharing, and storing data. All this gives the researcher a specific responsibility—not only towards the people participating in their research, but also to all individuals and organisations who may be affected directly or indirectly, by the results. There is an expectation that researchers will carry out high-quality research (Swedish Research Council, 2017). According to The Act on Responsibility of Good Research Practice (SFS 2019:504), researchers have a responsibility to act according to good practices. Good research practices imply researchers are truthful about their research, consciously evaluate the basis of their studies, openly report their methods and results, refrain from stealing research findings from others, maintain good order in their research, and conduct their research without harming people, animals or the environment (SOU 2017:10).

Research ethics requirements prescribed by the Swedish Research Council (2017), and the World Medical Association (2013) have been the ethical guidelines for this thesis. Research has also been conducted in accordance with good scientific practice (SOU 2017:10). Good

research practice and the ethical principles by ALLEA (2017) have been important principles for the whole research process and for the papers included in this thesis. The ALLEA principles include: reliability, honesty, respect, and accountability.

## **Ethical evaluations of Part I and II**

Part I in this thesis was part of a research project, with the overall purpose of gaining new knowledge about how quality and efficiency in patient transfers in ICU transitional care could be improved, focusing on leadership, continuity of care, safety culture, learning, and teamwork. This research project was ethically evaluated by the Swedish Ethical Review Authority (Ref. 2018–159-31M). In this thesis, the focus has been on teamwork in this patient transfer process.

Part II included developing, testing, and evaluating a methodology for assessing teamwork and sustainable quality culture, focusing on TMTs. This research was not ethically evaluated by the Swedish Ethical Review Authority, but it was advised by the Mid Sweden University ethical review board (D-number MIUN 2022/6). This board recommended that this research should be exempted from ethical legislation in Sweden as it does not use highly sensitive data.

## **Informant consents**

In all studies of this thesis, co-workers and managers have been informed, both verbally and in text, in accordance with the Ethical Review Act (SFS 2003:460). The information included a short description about the overall plan of the research, the purpose of the research, the data collection methods to be used, any potential consequences and risks stemming from the research, the identity of the



principal investigator, that participation in the research was voluntary, and the right of the research subject to discontinue their participation at any time without giving any reason. The consent included information stressing that data collected on individuals was only used for the purpose of research. The consent documents also included information on Mid Sweden University's responsibility for the research data, that data was reported in such a way that names or identity could not be revealed, and that the university processes personal data in accordance with GDPR 2016/679.

### **Ethics according to questionnaires**

Two different questionnaires were developed for Parts I and II of this thesis. Both questionnaires aimed at collecting data related to teamwork and sustainable quality culture. In Part I, co-workers in the ICU transitional care responded to the questionnaire (I) about teamwork and sustainable quality culture. In Part II, members of TMTs answered the questionnaire (II) about teamwork within their TMTs and about sustainable quality culture within their organisations. Data from the two questionnaires were anonymised and stored on a password-protected server at Mid Sweden University. Statistical analysis was performed using SPSS and was presented in an aggregated format, intended to render it impossible to identify an individual's opinion. Research data from the questionnaires were handled in accordance with the policy and guidelines for the management of research data at Mid Sweden University (MIUN 2020/1906; MIUN 2022/510) and were preserved and kept in an orderly fashion, as stated in the Archive Act (SFS 1990:782).

## **Ethics according to focus group discussions**

Planning for a focus group interview includes several ethical aspects that need to be considered (Barbour, 2018; Dahlin Ivanoff & Holmgren, 2017). This includes, for example, thinking of how to invite participants to the study and how participant sampling will be carried out. In Part I, focus groups comprised of multidisciplinary groups of co-workers were conducted. These focus groups consisted of assistant nurses, ICU nurses, ward nurses, physiotherapists, and physicians, all selected by their managers. Part II included focus groups with TMTs. These focus groups consisted of all members of a TMT, including the CEO. Members of the TMTs were both managers and co-workers; e.g., controllers and business developers. Research data from the focus group discussions were handled in accordance with the policy and guidelines addressing the management of research data at Mid Sweden University (MIUN 2020/1906; MIUN 2022/510) and preserved and kept in an orderly fashion, as stated in the Archives Act (SFS 1990:782).

## 4 Summary of appended papers

*This chapter presents a summary of the included papers in this thesis.*

Table 4.1 The appended papers and my contribution to each paper.

Paper	Title	Author and year	Journal/ conference	My contribution *
A	Assessing Quality Management culture in order to develop ICU transitional care	Ingelsson, P., Sten, L.-M., Bäckström, I., & Häggström, M. (2019)	ICQSS 2019 (Conference)	30% - L, R, A, W
B	Improving ICU transitional care by combining quality management and nursing science—two scientific fields meet in a systematic literature review	Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2020)	International Journal of Quality and Service Sciences	60% - L, R, A, W
C	The development of a measurement instrument focusing on team collaboration in patient transfer processes	Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2021)	International Journal of Quality and Service Sciences	60% - L, D, T, R, A, W
D	Improving Team Collaboration in Patient Transfer Processes by Co-Workers' Perceptions and Suggestions	Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2021)	Quality Innovation Prosperity	60% - L, F, R, A, W
E	Characteristics and success factors for top management teams in managing organizations towards sustainable quality culture—a scoping review	Sten, L.-M., Ingelsson, P., & Häggström, M. (2022)	M2D2022 (Conference)	80% - L, R, A, W
F	The development of a methodology for assessing teamwork and sustainable quality culture, focusing on top management teams	Sten, L.-M., Ingelsson, P., & Häggström, M. (2023)	The TQM Journal	80% - L, D, F, T, R, A, W

<b>Paper</b>	<b>Title</b>	<b>Author and year</b>	<b>Journal/ conference</b>	<b>My contribution *</b>
G	Creating a deeper understanding of real teamwork and sustainable quality culture, focusing on top management teams	Sten, L.-M., Ingelsson, P., & Häggström, M. (Submitted July 12 <sup>th</sup> , 2023)	The TQM Journal	80% - L, F, T, R, A, W
H	Success Factors for Quality and Safety of Intensive Care Unit Transitional Care— Listening to the Sharp End	Häggström, M., Ingelsson, P., Sten, L.-M., & Bäckström, I. (2023)	Quality Innovation Prosperity	30% - L, F, R, A, W
I	The relationship between teamwork and sustainable quality culture in transitional care	Sten, L.-M., Ingelsson, P., Häggström, M., & Bäckström, I. (2023)	EISIC 2023 (Conference)	50% - L, T, R, A, W

\*L (literature review), D (developing questionnaire or interview guide), F (conducting focus groups), T (testing and evaluating questionnaire), R (compiling results), A (analysis) and W (writing the paper).

## 4.1 Paper A

Ingelsson, P., Sten, L.-M., Bäckström, I., & Häggström, M. (2019). Assessing Quality Management culture in order to develop ICU transitional care. *ICQSS 2019: Proceedings of the 22<sup>nd</sup> QMOD conference: Quality and Service Sciences*. Krakow, Poland, October 2019.

### **Introduction**

In order to meet the challenges facing healthcare systems today, different quality improvements initiatives have been applied. One critical gap in care that arises is when patients are transferred from an ICU to a general ward, a process called 'ICU transitional care' (Chaboyer *et al.*, 2005). In order to ensure quality of care for these patients, the preparation and execution of safe patient transfers is crucial. The process should be seamless and transparent for all persons that are involved in the patient's care journey (Häggström & Bäckström, 2014). Organisational culture is a contextual factor that supports learning in quality and safety improvements (Singer *et al.*, 2015). Working with quality management in this process gives rise to the need to assess quality management values in the organisation.

### **Purpose**

The purpose of this paper was to present and analyse the results from using a questionnaire measuring the presence of a number of quality management values, as well as the use of appreciative inquiry (AI) and the feeling of pride in a healthcare setting focusing on transitional care.

## **Methodology**

The study involved two middle-sized hospitals located in rural areas in the middle of Sweden. The participants worked at two intensive care units, and were nurses, physicians, and assistant nurses. They responded to a questionnaire called “Assessing Quality Culture Health Care Edition”. This was a newly developed questionnaire (see Paper C). In total, the questionnaire consisted of 50 statements that addressed 16 factors.

## **Main findings**

Findings from the analysis included that the questionnaire can be used to create an understanding of the existing culture in an organisation, and could be useful when prioritising quality improvement work. The results showed a common culture in the two ICUs, even though they were located in different hospitals and cities. The results also presented some differences between professions, but overall, the results pointed at a relatively high agreement regarding the quality management core values in the organisation. This indicated a presence of a quality culture.

## **Practical implications and value**

This paper contributes to how quality culture can be measured in a healthcare context, which can be valuable when developing care. This could help shift the focus from individuals to teams and systems.

## 4.2 Paper B

Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2020). Improving ICU transitional care by combining quality management and nursing science—two scientific fields meet in a systematic literature review. *International Journal of Quality and Service Sciences*, 12(3), 385–403.

### **Introduction**

Healthcare systems face major challenges today in providing adequate person-centred care with limited resources, while at the same time ensuring care quality and patient safety. One example of such a challenge is when a patient is being transferred from an intensive care unit (ICU) to a general ward, a healthcare process called ‘ICU transitional care’ (Chaboyer *et al.*, 2005).

Quality management can be seen as a set of quality core values, methodologies and tools (Bergman & Klefsjö, 2020). These values are mutually dependent and together form a system that promotes customer satisfaction, continuous improvements, and quality culture.

In order to improve the ICU transitional care process and to ensure care quality and patient safety, it is important to investigate how quality management and nursing science can combine to provide additional value to the ICU transitional care process.

## **Purpose**

The purpose of this literature review was to explore to what extent quality management and nursing science offered complementary perspectives to provide better care quality, by studying quality management core concepts and tools.

## **Methodology**

A systematic literature review was undertaken to present the recent research, focusing on quality management applied in patient transfers from ICUs to general wards. This review followed the stages proposed by Tranfield *et al.* (2003). Papers written in English and published in scientific journals between January 2013 and December 2019 were included in the review. Other inclusion criteria were articles focusing on patient transfers from the ICU to the general ward, and on improving quality of care and/or patient safety. Data bases used for searches were: PubMed, Cinahl, Business Source, Scopus and Web of Science. After excluding articles in accordance with the inclusion and exclusion criteria, 27 articles remained.

Analysis of the included articles followed the process for deductive content analysis inspired by Elo and Kyngäs (2008), including three steps: preparation, organising and reporting. Quality management core values were used as an analytical framework.

## **Main findings**

There were several main findings from the review. Core competencies in nursing science share similarities with the core values in quality management. However, it was challenging in some of the articles to extract data from the included articles into the predetermined



categories (quality management core values), as the data could be placed within one or more of the quality core value categories. This can indicate that the quality management core values seemed to be dependent of one another and that they, therefore, should be seen as a whole. Regarding an organisation's effectiveness and efficiency to achieve the goals of the organisation, it is fundamental to have a systems approach to quality management (Dale *et al.*, 2007).

Another finding from this study was that the most common core values found in the reviewed articles were related to 'focusing on customers' and 'focusing on processes'. The core value 'committed leadership' was the least-often found core value. This was interesting, as 'committed leadership' is a foundation for quality management and for the other quality core values. According to Leotsakos *et al.* (2014), leadership is necessary for improving and managing quality and safety in healthcare. To improve the ICU discharge process, more attention is needed from management (van Sluisveld *et al.*, 2017) and a deeper understanding is needed of the conditions in the wards (Kauppi *et al.*, 2018). Considering the importance of management for achieving quality of care and patient safety, it was surprising that so few articles addressed the quality core value 'committed leadership'.

A third finding and conclusion was that quality management and nursing science can offer complementary perspectives and contribute to a deeper understanding of how to improve the ICU transitional care process, by taking advantage of the strengths of both research fields. The review also contributed to raising awareness as to how quality management core values and tools are used in ICU transitional care to ensure quality of care and patient safety.

## **Practical implications and value**

This paper enhanced the understanding of how quality management and nursing science can bring complementary perspectives in improving ICU transitional care; and how quality management core values, methodologies, and tools can be used within the ICU transitional care process.

### **4.3 Paper C**

Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2021). The development of a measurement instrument focusing on team collaboration in patient transfer processes. *International Journal of Quality and Service Sciences*, 13(1), 45-62.

An earlier version of the paper was published in *the ICQSS 2019: Proceedings of the 22<sup>nd</sup> QMOD conference: Quality and Service Sciences*. Kraków, Poland, October 2019.

## **Introduction**

Healthcare professionals play a crucial role in providing high-quality and safe care in order to meet the needs of a complex and constantly changing environment. One way to accommodate these needs, is to bring healthcare professionals together in interprofessional teams (Vyt, 2008). Boughzala and de Vreede (2015), argued that the quality of teamwork has a direct impact on the quality of an organisation's outcomes and performance. Healthcare professionals need to work together to ensure safe and continuous care when critically ill patients are transferred from the ICU to a general ward, including teamwork both within and between hospital units. Gaps in continuity of care, as

a result of a lack of teamwork, are threats to care quality and patient safety.

Measuring teamwork is an important way for organisations to benchmark their performance, both inside the organisation and in comparison, to other organisations. Manser (2009) deems that a challenge for future healthcare research is to further develop and validate instruments for team performance assessment.

## **Purpose**

The purpose of this paper was to describe the development and testing of a questionnaire aiming to measure perceived teamwork in the patient transfer process from an ICU to a general ward. The purpose was also to analyse the results to see how the survey could help improve teamwork within ICU transitional care.

To address the purpose, following research questions were formulated:

RQ1: How can an instrument that aims to measure perceived teamwork in patient transfers from the ICU to the general ward be developed?

RQ2: How can a survey help improve teamwork within ICU transitional care?

## **Methodology**

A questionnaire was developed in three stages; literature review, statement developing and statement grouping in factors. This new version was named: "Assessing Quality Culture Health Care Edition" and included 50 statements and 16 different factors. The questionnaire

was distributed to two ICUs in two middle-sized hospitals located in the middle of Sweden during January and March 2019. Totally, 152 ICU co-workers received the questionnaire, and 84 of the ICU co-workers responded.

## **Main findings**

The results showed that the questionnaire could be used to measure perceived teamwork in the ICU transitional care process. The results also offered insights into how teamwork in this process could be improved, e.g., focusing on improving teamwork between hospital units. New perspectives were also given on how cultural and systemic differences and opportunities could help improve teamwork in ICU transitional care.

## **Practical implications and value**

This developed questionnaire can be used to measure perceptions on teamwork in the ICU transitional care process, and the results can help identify areas for improvement, e.g., regarding improving teamwork between hospital units. This study also contributed to filling the research gaps in measuring teamwork in ICU transitional care.

## **4.4 Paper D**

Sten, L.-M., Ingelsson, P., Bäckström, I., & Häggström, M. (2021). Improving Team Collaboration in Patient Transfer Processes by Co-Workers' Perceptions and Suggestions. *Quality Innovation Prosperity*, 25(2), 1–18.

## **Introduction**

Healthcare organisations face multiple challenges when providing care with quality and safety, while at the same time reducing waiting times and increasing efficiency (Fine *et al.*, 2009). Applying quality management can be one way to address these challenges. Coordinating and delivering safe and high-quality care demands teamwork within, as well as across, organisational, disciplinary, technical, and cultural boundaries (Rosen *et al.*, 2018). How members of teams within ICU transitional care perceive teamwork and suggest improvements for teamwork can be important in how quality of care in ICU transitional care can be improved.

## **Purpose**

The purpose was twofold; first, to describe how co-workers within a team perceived teamwork in patient transfers from an ICU to general wards and, second, to describe co-workers' suggestions for an improved future state of teamwork.

## **Methodology**

To address the study's purpose, multiprofessional focus group discussions were conducted between November 2018 and February 2020. Participants were physicians, ICU nurses, ward nurses, assistant nurses, and physiotherapists at two ICUs and two general wards. A total of 9 focus groups with 47 co-workers were conducted. An interview guide was developed and used to structure the focus groups. Texts from the recorded interviews were transcribed verbatim. A qualitative content analysis inspired by Elo and Kyngäs (2008) was performed to further analyse the texts. This analysis consisted of three phases: preparation, organising and interpreting. Transcribed texts

were read and data were extracted and sorted into content categories characterising teamwork. These characteristics, were identified in quality management and healthcare literature concerning teamwork. Codes were further divided into subcategories under each category.

## **Main findings**

Results from the analysis indicated a need to improve common objectives for the team, as well as for the whole patient transfer process. Thus, the need for a more defined and well-designed ICU transitional care process with a systemic view of how to create care quality was perceived. The results also pointed to the need to clarify team memberships, roles, tasks, responsibilities, and also gave insights into how team members depend on each other's work efforts to succeed. Suggestions for improving teamwork and increasing care quality were made to develop teamwork, especially between hospital units, and to create a learning environment.

## **Practical implications and value**

This paper contributes to insights and perceptions on how teamwork in ICU transitional care can be improved. The focus groups stressed the importance of a seamless process, where co-workers collaborate within and between hospital units, often with different organisational cultures. This is crucial for care quality and patient safety.

## **4.5 Paper E**

Sten, L.-M., Ingelsson, P., & Häggström, M. (2022). Characteristics and success factors for top management teams in managing organizations towards sustainable quality culture—a scoping review. *I M2D2022: Proceedings in 9<sup>th</sup> International Conference on Mechanics and Materials in*

*Design*. Funchal/Portugal, 26-30 June 2022, Editors J. F. Silva Gomes and S. A. Meguid, 961–976.

## **Introduction**

Today, sustainable development and the UN's Sustainable Development Goals are a major concern for society and for organisations. Organisations need to develop their ways of working on improving and maintaining quality and toward becoming more sustainable. Sustainable quality development (SQD) can be seen as including both sustainable quality management (SQM) and sustainable quality culture (SQC). Maletic *et al.* (2011) define SQM as a “set of determinants that support systematic integration of environmental issues as well as broader sustainability issues into processes/product quality characteristics aimed at achieving higher overall organizational performance” (p. 3724). Working with SQM within an organisation, is seen as a set of values, principles and tools that should include focusing on sustainable development and social, societal, and environmental needs (Åslund *et al.*, 2019).

Previous research shows that leadership is crucial for team effectiveness and performance (e.g., Cohen & Bailey, 1997; Hambrick *et al.*, 2015) and Xu *et al.* (2019) argue that the top management of an organisation is a key resource for an enterprise's sustainability. The upper echelons theory is a theory put forth by Hambrick and Mason (1984), and also later updated by Hambrick (2007), that builds on the assumption that top managers view their situations through their own personalised lenses. Such psychological attributes are difficult to measure, and therefore demographic characteristics like age, gender or level of education can serve as reasonable proxies. These

characteristics will ultimately manifest in an organisation's strategic choices, outcomes, and performance (Hambrick & Mason, 1984). Such characteristics can therefore be a success factor in encouraging organisations to move toward SQD and SQC.

## **Purpose**

The purpose of this scoping review was to explore research on how top management teams (TMTs) manage organisations towards SQD, focusing on success factors.

## **Methodology**

This study was inspired of the framework for scoping reviews by Peters *et al.* (2015), originated from Arksey and O'Malley (2005) and updated by Peters *et al.* (2020). This scoping review was comprised of seven stages: purpose and research question(s), inclusion criteria, search strategy, evidence screening and selection, data extraction, data analysis, and presentation of results. Inclusion criteria were original research studies (peer-reviewed studies) describing characteristics and success factors for TMTs managing organisations toward SQD, and literature published in English between January 2010 and August 2021. Databases used for searches were: Scopus, Web of Science, and Business Source. The process of excluding articles according to criteria resulted in a total of 29 included articles.

The included articles were then divided equally between two of the researchers and read individually several times. After this, the researchers extracted data into a developed matrix, including columns for: author, year, title, aim of the study, success factors, characteristics,



connections to sustainability and culture, theories used, country of the study, general findings, and comments.

A deeper analysis was made of success factors on how TMTs manage organisations toward SQD. An affinity diagram inspired by Bergman and Klefsjö (2020) was used to identify clusters of success factors. Two researchers individually clustered success factors using the digital workspace Mural. This clustering process resulted in five main categories, containing of two or more subcategories each.

## **Main findings**

Main categories for success factors found in the clustering process were: external factors, leadership and management, vision and goals, individual and team characteristics and abilities, and stability and dynamics.

Most articles originated from Asia and had generally a quantitative approach. Another finding was that the meaning of SQD needs to be further elaborated regarding what it contains, in the form of economic, social, and ecologic sustainability, and in relation to time, since sustainability can be seen in both the short and long term. A conceptual discussion on SQD, SQM, and SQC from a quality management perspective was a suggestion for further research.

## **Practical implications and value**

This scoping review offers insights into previous research within the area of characteristics and success factors for TMTs managing organisations towards SQC and SQD, and research gaps are identified. There seems to be a lack of qualitative research within the area and

there is a need for research in other geographical contexts and countries outside Asia.

The identified success factors can be considered when TMTs are managing organisation towards SQD and SQC.

## 4.6 Paper F

Sten, L.-M., Ingelsson, P., & Häggström, M. (2023). The development of a methodology for assessing teamwork and sustainable quality culture, focusing on top management teams. *The TQM Journal*, 35(9), 152–172.

### **Introduction**

How to adapt to a continuously changing environment is a challenge facing organisations today (Fundin *et al.*, 2018). Due to the demanding and complex nature of today's organisations, working in teams has become more relevant than ever (Kozlowski & Ilgen, 2006; Richardson, 2011). Work on quality in an organisation is often guided and led by the TMT, and through interactions between individuals within the organisation; both leaders and co-workers. Schein (2009) deem that culture and leadership are intertwined—"two sides of the same coin" (p. 3). Interplay between individuals in the organisation creates the organisational culture and Bergman and Klefsjö (2020) argue that quality management should be based on a culture grounded in a number of quality core values. In this paper, a quality culture was seen as one that promotes sustainability from a long-term perspective, a sustainable quality culture.

This paper focuses on teamwork in top management teams (TMTs) in relation to sustainable quality culture of an organisation. As the researchers could not find any research related to assessing teamwork in TMTs and sustainable quality culture, there seems to be a gap in existing research.

## **Purpose**

The purpose was to present a developed, tested, and evaluated methodology for assessing teamwork and sustainable quality culture, focusing on TMTs.

## **Methodology**

A methodology assessing teamwork and sustainable quality culture focusing on TMTs was developed. This new methodology was based on a convergent mixed methods design, including two data collection methods: a questionnaire and focus group discussion. The purpose of the developed methodology was not to provide a tool for comparison between TMTs. Instead, the results were intended to help TMTs improve and develop their own ability and understanding of how to work as a real team alongside with sustainable quality culture in their organisations.

The convergent mixed methods design included nine steps.

(1) The first step was a literature review, which served as basis for developing a questionnaire and an interview guide.

(2) The questionnaire included 57 statements, and was divided into two parts; one part about teamwork (18 statements), and one part about sustainable quality culture (39 statements). The second part was

compiled from existing questionnaires used for assessing sustainable quality culture (see, for instance, Bäckström & Ingelsson, 2015, 2016; Ingelsson & Bäckström, 2017; Ingelsson *et al.*, 2018; Ingelsson & Mårtensson, 2014; Mårtensson & Ingelsson, 2018; Sten *et al.*, 2021). This new version of the questionnaire was named “Assessing Teamwork in Top Management Teams and Sustainable Quality Culture”. Survey data were collected in April 2022 and the response rate was 100%. A total of 14 members from two TMTs responded, 7 members for each TMT.

(3) The qualitative research approach included focus group discussions as a complement to the questionnaire, providing a deeper knowledge and understanding of the perceived teamwork and sustainable quality culture. An interview guide was developed from the same research as the questionnaire.

(4-5) Results from the quantitative and qualitative approach were first analysed separately by theme (teamwork and sustainable quality culture).

(6-7) The results for each theme were then merged and interpreted.

(8) After this, a meta interpretation of both themes was conducted.

(9) Finally, results and suggestions for improvements were presented and discussed during a follow-up meeting with each TMT.

## **Main findings**

This developed methodology was used to assess teamwork and sustainable quality culture. Results showed the strength of using two data collection methods to provide a broader perspective of teamwork and sustainable quality culture, focusing on TMTs. The follow-up meeting was an important opportunity to present, discuss and validate results and suggestions for improvement on teamwork and sustainable quality culture.

## **Practical implications and value**

This methodology can be used to assess and evaluate teamwork within TMTs and sustainable quality culture. Therefore, practicing this methodology adds value to both TMTs and their organisations by suggestions on how to improve teamwork in TMTs, as well as sustainable quality culture. The development and practicing of said methodology also provide theoretical and methodological contributions to research on real teamwork and sustainable quality culture.

## **4.7 Paper G**

Sten, L.-M., Ingelsson, P., & Häggström, M. (2023). Creating a deeper understanding of real teamwork and sustainable quality culture, focusing on top management teams. Submitted to *The TQM Journal* July 12<sup>th</sup>, 2023.

## **Introduction**

Co-workers often work in teams to become more effective, flexible, and adaptable in solving complex problems (e.g., Kozlowski & Ilgen, 2006; Thompson, 2004). According to Edmondson (2013), the fast-moving

work environments need people that know how to 'team'. Such team members require the skills and flexibility to act when and where potential collaborations appears.

Quality core values within Total Quality Management (TQM) form the sustainable quality culture of an organisation (Bergman *et al.*, 2022; Bergman & Klefsjö, 2020), and culture affects practically all aspects of organisational interactions, as well as activities at the top managerial level (Henri, 2006). The support of an organisation's TMT plays a crucial role in creating the motivation, values, and behaviours for implementing TQM (Dale *et al.*, 2007).

To summarise, since an organisation with a deep-rooted quality culture is assumed to be more successful and sustainable, a TMT has a critical role in influencing, encouraging, and implementing values, beliefs and behaviours; thus, forming a sustainable quality culture within their organisation.

## **Purpose**

The purpose was to describe the perception of real teamwork and sustainable quality culture as well as success factors for achieving a sustainable quality culture within an organisation, focusing on TMTs. An additional purpose was to explore the relationship between real teamwork and sustainable quality culture.

## **Methodology**

The methodology used in this paper was described in a previous paper (Sten *et al.*, 2023) and is a newly developed methodology for assessing teamwork and sustainable quality culture, focusing on TMTs. The

main purpose of the methodology was to support TMTs in improving their ability to work as a real team alongside sustainable quality culture in their organisations. The methodology includes two data collection methods; a questionnaire and focus group discussions, and consists of five steps; introduce participants, conduct questionnaire and focus group discussions, analyse quantitative and qualitative data, merge and interpret the merged results, and finally, hold a follow-up meeting and evaluation.

Four TMTs were open-sampled and located in different parts of Sweden and from different organisational contexts. Two TMTs were selected by the researchers as good examples of organisations working on quality in their organisations. The other two TMTs stated a desire to participate in the study to improve their ability to work as a team and with sustainable quality culture in their organisation. All of the participating TMTs therefore had an interest in and knowledge about teamwork, quality improvements, and quality culture.

Data were collected through questionnaires and focus group discussions between April 2022 and December 2022. The questionnaire was an electronic survey and was to be answered within two weeks. A reminder was sent out to each member of the four TMTs. Focus group discussions followed an interview guide and lasted for about 45–60 minutes. Two researchers attended the focus group discussions; one asking questions and one taking notes and observing. The focus group sessions were digitally recorded and transcribed.

Results from the questionnaires were analysed using SPSS. Minimum, maximum, mean and standard deviation were calculated for statements and factors, per respondent group.

When analysing transcribed texts from the focus group discussions, deductive content analysis was conducted using the prerequisites for real teamwork and quality core values for sustainable quality culture found in previous research, as an analytical framework. Quantitative and qualitative results were then presented side by side for each TMT and theme. Qualitative data were presented as quotes for each theme and category. Similarities and differences in the results were discussed. From this interpretation of the results, the researchers agreed on suggestions for each TMT as to how they could improve their ability to work as a real team and on sustainable quality culture within their organisation.

Lastly, a follow-up meeting for each TMT was held to present and discuss the results and suggestions for improvement. The aim was also to validate the results and to create learning. These meetings lasted for about an hour, and two of the researchers attended.

A meta-analysis was performed by merging the results from the four TMT studies. This meta-analysis was made in four steps including reading all results, scanning and coding texts and analysing results. The analysis was first performed for research question 1. Coded texts were written on notes and put into a Mural template (a digital workplace). Notes were clustered into categories and given headings describing the content. Categories were gathered into bigger clusters of categories and given headings describing the total content of the



included categories. As the process for extracting coded text was now clear to the researchers, one of the researchers continued to extract codes and clustered them into the Mural template. The statistical analysis was also performed by one researcher. The fourth step included a physical meeting where two of the researchers went through all codes, categories, and headings on the Mural template and discussed the statistical results. The aim was to validate the results from the analysis. Last, all authors researcher read through the documented analysis.

## **Main Findings**

Three overarching results were identified. Firstly, similarities were found according to the identified categories for real teamwork and sustainable quality culture. One common category heading was a systems view. Another was the importance of a common and clear mission, purpose, objectives, and behaviours and that purpose and objectives should 'touch the hearts' of the members of the TMT, as well as of everyone in the organisation ('create emotional commitment'). A third result was that a common denominator for real teamwork and sustainable quality culture was to improve continuously, both individually, as a team, and across the entire organisation.

## **Practical implications and value**

The study resulted in practical suggestions on how participating TMTs could increase their ability to engage in real teamwork alongside with sustainable quality culture. Results also deepened the understanding of real teamwork and sustainable quality culture on a theoretical level.

## 4.8 Paper H

Häggström, M., Ingelsson, P., Sten, L.-M., & Bäckström, I. (2023). Success Factors for Quality and Safety of Intensive Care Unit Transitional Care—Listening to the Sharp End. *Quality Innovation Prosperity*, 27(1), 1–20.

### **Introduction**

Quality Management (QM) initiatives within healthcare have been applied to meet increasing challenges in healthcare (Seidl & Newhouse, 2012). But several barriers have been identified when applying these improvement initiatives. Examples of such barriers include hierarchy and management roles, as well as professional and functional silos (de Souza & Pidd, 2011). Healthcare is often perceived as fragmented and interrupted as it can cross many hospital units in complex healthcare organisations. One such complex process is intensive care unit (ICU) transitional care (Häggström *et al.*, 2009). Persons in direct contact with patients in complex care processes are often referred to as healthcare professionals ‘at the sharp end’ (Hollnagel, 2014). When improving quality of care and patient safety in ICU transitional care it is important to listen to the individuals who are directly involved with the process; i.e., healthcare professionals from both ICUs and general wards.

Both research in nursing science and quality management are focusing on improving quality in organisations, and safety culture properties in nursing science can be seen as similar to the quality core values in Total Quality Management (TQM). Previous research has shown that patient safety culture impacts how transitional care processes are handled, and there exists evidence of relationships between patient safety culture and patient outcomes (DiCuccio, 2015).

## **Purpose**

The purpose of this paper was to present success factors in increasing the quality and safety of ICU transitional care as described by co-workers 'at the sharp end', using the core values of TQM as a theoretical lens.

## **Methodology**

Nine interdisciplinary focus group discussions were conducted, including 47 co-workers from the ICU and general wards at two medium-sized hospitals located in rural areas of Sweden. A semi-structured interview guide inspired by appreciative inquiry (AI) was developed and used. Focus groups were recorded and transcribed verbatim into written text.

A qualitative content analysis addressing the purpose of the study was performed in accordance with the approach developed by Elo and Kyngäs (2008). This approach consists of three phases: preparation, organising, and resulting. The preparation phase included reading the transcribed texts several times to obtain an understanding of the content, and looking for success factors and suggestions for improvement. The organising consisted of mapping data according to the study's aim into six content areas, using the TQM core values (Bergman *et al.*, 2022) as an analytical framework. In the last resulting phase, data were divided into categories and sub-categories with similar incidents and were named using content-characteristic words that were relevant the study's overall aim (Elo & Kyngäs, 2008).

## **Main Findings**

Findings indicated that ICU transitional care can be improved by using quality improvement initiatives at a system level with more collaborative actions.

Lifelong learning and competence development for staff were seen as crucial for patient safety. Quality initiatives required a shared discussion between co-workers within the ICU transitional process on improvements and the implementation of new routines and strategies.

Patients' and relatives' experiences of transfers were seen as important aspects for quality improvement initiatives and research. Moreover, there was an expressed need for an evidence-based ICU transfer tool.

## **Practical implications and value**

Insights from the study included that quality and safety in patient transfer processes requires adopting a systems view, avoiding silos, and including shared arenas for collaboration, in addition to evidence-based methodologies and tools for safe patient transfers.

## **4.9 Paper I**

Sten, L.-M., Ingelsson, P., Häggström, M., & Bäckström, I. (2023). The relationship between teamwork and sustainable quality culture in transitional care. *I EISIC 2023: Proceedings in the 26<sup>th</sup> Excellence in Services International Conference*. University of West Scotland, Paisley Campus, Scotland, Great Britain, 31 August—1 September 2023.

## **Introduction**

Due to the increasingly unstable and competitive environment in organisations today, it has been critical to achieve successful

collaboration within and among organisational teams, as well as with external partners, in order to reach organisational performance and achieve a competitive advantage (Boughzala & de Vreede, 2015). This collaboration and teamwork can be of special importance for healthcare, as patients often are fragile and have needs that require high quality of care and patient safety. Working as a 'real' team means having a higher performance impact and team effectiveness than a potential team or working group (Katzenbach & Smith, 1993).

Henri (2006) argues that almost all parts of an organisation's interactions are affected by the culture of the organisation. Understanding and developing this culture is challenging. Important values when creating a sustainable quality management culture are, according to Ingelsson *et al.* (2018): having a committed leadership; giving all co-workers the opportunity to contribute and participate; having a focus on our customers; adopting a more holistic view of organisations and society; and continuously working on improvements.

How multiprofessional teamwork is performed in transitional care along with sustainable quality culture, is likely to affect quality of care and patient safety. Therefore, it is interesting to study the relationship between real teamwork and sustainable quality culture.

## **Purpose**

The purpose of the paper was to explore how teamwork and sustainable quality culture relate to each other in transitional care from the perspective of intensive care personnel.

## **Methodology**

Two middle-sized hospitals located in rural areas of Sweden were included in the study and participants were nurses, physicians, and assistant nurses working at two intensive care units (ICUs).

A previously developed and tested questionnaire named “Assessing Quality Culture Health Care Edition” (Sten *et al.*, 2021) was used to measure teamwork and sustainable quality culture in an ICU setting. This questionnaire consisted of 50 statements and 16 factors. Six factors measured perceived teamwork within and between hospital units, and ten measured sustainable quality culture. A total of 84 ICU co-workers answered the questionnaire, a response rate of about 55%. Results were statistically analysed using SPSS and conducted in four steps. The first step, an independent sample *t*-test was performed, in order to assess whether the mean values from the two ICUs differed significantly. As no significant differences in scores were found, results were treated as one set of data. The second step was to calculate means and standard deviations for all factors. The third step was to test internal consistency reliability by calculating Cronbach’s alpha. The fourth step was to investigate correlations between all factors. This was done by calculating Pearson’s product–moment correlation. Correlations with an *R*-value above 0.50 (significance level of 0.01) were considered ‘high’ and treated as a correlation.

## **Main findings**

Findings from the analysis showed that the mean values for the three factors measuring teamwork within hospital units were higher than the factors measuring teamwork between hospital units. This could

indicate a lack of a systems view. Working in silos within hospital units does not benefit patients and their relatives, or the co-workers inside the process. To increase adoption of a systems view, more focus should be placed on building team abilities on how to learn and communicate between hospital units, as well as how to coordinate, structure, and base decisions on facts.

Another main finding was that only team collaboration within a hospital unit correlated with some of the factors related to sustainable quality culture. These factors were: 'AI', 'pride', 'system view' and 'continuous improvement'. A final main finding was that factors measuring 'leadership commitment' did not correlate with teamwork within or between hospital units. It was also interesting that two factors measuring 'participation of everybody' did not reach an acceptable value for Cronbach's alpha. This could suggest that these factors might need to be adjusted to fit within the healthcare context.

## **Practical implications and value**

Insights from this study can have practical implications for the improvement of teamwork and sustainable quality culture aiming to increase care quality and patient safety. Further research could investigate the relationship between teamwork and sustainable quality culture, and then specifically the relationship between teamwork and core values such as 'leadership commitment' and 'participation of everybody'.





## 5 Main findings

*In this chapter, main findings are linked back to the purpose of this thesis by answering the research questions.*

### 5.1 Reconnecting to the research questions

The purpose of this thesis was to contribute to a deeper understanding of real teamwork and how real teamwork relates to sustainable quality culture. The purpose was also to describe perceived success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation's performance.

The main findings of my research, presented in this thesis, are reconnected to the three research questions, and formulated to fulfil the purpose of this thesis.

#### **RQ1: How can perceived real teamwork and sustainable quality culture in an organisation be measured and explored?**

The research in this thesis show that real teamwork and sustainable quality culture in an organisation can be measured and explored in different ways. The development of the two questionnaires (I and II) described in the appended Papers C and F of this thesis, and further developed, tested, and used in the current research, were designed to fit the specific contexts (here ICU transitional care and TMTs). Combining the concepts of teamwork and sustainable quality culture, as is the case in the two questionnaires and the developed methodology described in Paper F, have not been found in previous

research and seems to be unique. Suggestions for improvements have been identified by testing and using these questionnaires and the methodology. These suggestions will form a basis for further fine-tuning of the measurement instrument developed in part I, and the methodology developed in part II of this thesis, and thus a path for future research (see, Future research, 7.2).

The research presented in Papers A, C, D, F, G, and I mainly contribute to answering this first research question. Teamwork and sustainable quality culture were measured and assessed by the two questionnaires, but assessments were also discussed during the focus group discussions. The results presented below are described from the perspectives of a co-worker in the ICU transitional care process and a member of a TMT, beginning with the first perspective and describing results in accordance with research question 1.

Findings from testing the developed questionnaire I, presented in Paper C, showed that the questionnaire could be used to measure perceived levels of teamwork in the ICU transitional care process. However, this study also gave insights that could be valuable when improving teamwork in ICU transitional care. The results from questionnaire I were further analysed from different purposes and described in Papers A and I. Findings described in Paper A, indicated that the results from the two ICUs of study, were not statistically different, and therefore could be analysed as one data unit and viewed as having a common quality culture. However, results also highlighted a few differences between professions, e.g., assistant nurses perceived a significantly higher degree of teamwork between hospital units than nurses. Overall, there was relatively high agreement on the QM values

in the organisation, indicating the presence of a quality culture. However, the process of applying quality management to improve the transitional care process is unique for every hospital and needs to involve all co-workers and hospital units. In the study described in Paper I, results from questionnaire I were analysed in order to explore how teamwork and sustainable quality culture relate to each other in transitional care from the perspective of intensive care personnel. Findings from this research indicated that there seems to be a lack of a systems view, as none of the factors concerning teamwork between hospital units correlated with the factors related to sustainable quality culture. The focus seems to be on teamwork within one's own hospital unit, which risks favouring suboptimisation, and in a consequence, decreasing care quality and patient safety.

Moving to the perspective of a TMT, results will now be described using questionnaire II and the newly developed methodology. In the study described in Paper F, teamwork and sustainable quality culture from a TMT perspective were investigated. All members of two TMTs responded to a newly developed questionnaire (questionnaire II). The aim of the study was to test the newly developed methodology, although the results also aimed to help members of the TMTs to improve their real teamworking abilities, as well as to create a sustainable quality culture, in order to improve the performance of the organisation overall. Results from testing questionnaire II on two TMTs, generally resulted in high values on perceived teamwork and sustainable quality culture. This might be a consequence of sampling, as the two participating TMTs were already familiar with improvements in quality and teamwork. The results from the questionnaire II, were also discussed at the follow-up meetings with

the two TMTs. During these follow-up meetings, suggestions on improvements of the questionnaire were proposed by members of the TMTs. Because of this, one statement was formulated in a clearer way. The researchers also complemented the questionnaire with two factors concerning internal and external systems view, as these perspectives were not clearly addressed in the first version of the questionnaire.

The study presented in Paper G included, in addition to the two previous TMTs, two more TMTs. The aim of these two additional tests of the updated first version of the questionnaire were to further test and validate the new developed methodology. In the follow-up meeting with TMT 3, the members expressed that the results were very valuable to them and that they would work on the identified strengths and weaknesses that were identified.

Perceived real teamwork and sustainable quality culture were also explored with help of focus group discussions. These discussions with healthcare professionals and members of TMTs gave the possibility of deepening the understanding of real teamwork and sustainable quality culture. Results from the analysed focus groups presented in Paper D, addressed the participants' perceptions of the current state of teamwork in the ICU transitional care process and how teamwork could be improved. Two examples of suggested improvements were: communicating in an easier way and establishing multiprofessional and multidisciplinary care conferences. In the focus groups, presented in Papers F and G, participants discussed to what extent they were a team or not. Some of the members of the participating TMTs perceived that they were working as a team and had different aspects of the

quality culture within their organisations. Others thought they just have started to become a team. Thus, conducting focus group discussions was a way of assessing current state of perceived teamwork and sustainable quality culture. These discussions on teamwork and sustainable quality culture was experienced, by the participating groups and to the researchers, as deepening and nuancing the understanding.

## **RQ2: How does real teamwork relate to sustainable quality culture?**

The appended papers that address this research question are mainly Papers A, G, and I. Thus, both quantitative (statistical) and qualitative (respondents' perceptions and descriptions) were studied, starting with statistical analysis in the form of correlations between teamwork and sustainable quality culture. Calculating correlations is a way of identifying relationships between variables, although this relationship needs to be further studied in order to identify casual relationships (Olsson & Sörensen, 2021). Correlations between factors measuring teamwork and sustainable quality culture were calculated in the studies presented in Papers A and I. Results presented in Paper A (studying two ICUs) showed that the results did not correlate on a high or significant level<sup>5</sup> regarding the factors "person-centred care *between* units" and the factors for sustainable quality culture. The factor "person-centred care *within* a hospital unit" correlated to a high degree with "pride", "system view" and "continuous improvement". "Person-centred care *within* a hospital unit" was also correlating with

<sup>5</sup> Correlations with an R-value above 0.50 (significant level 0.01) were considered high.

“person-centred care *between* hospital units” ( $R$ -value 0.594, at the 0.01 level (2-tailed). However, the factors “leadership commitment” and “participation of everybody” did not correlate on a high or significant level with the factors “person-centred care *between* units” and “person-centred care *within* a hospital unit”. This was interesting, as leadership and everybody’s participation are fundamental in creating valuable person-centred care.

In paper I, the relationship between teamwork and sustainable quality culture in ICU transitional care was studied. Results from the analysis showed that the factors; “AI”, “pride”, “system view” and “continuous improvement” correlated with all factors concerning “team collaboration *within* a hospital unit”, but not with the factors concerning “team collaboration *between* hospital units”.

Analysed results from the focus groups presented in Paper G described identified categories regarding the relationship between real teamwork and sustainable quality culture. There were several such categories. One example, was the importance of having ‘a clear mission and goals’ that ‘touched the hearts’ of those in the team and the organisation. Another aspect was related to structure in the form of complementing competencies, no hierarchy, shared responsibility of working tasks, the role of leadership in creating prerequisites for teamwork, and sustainable quality culture and consensus in decision-making. A third aspect was related to culture and included enacting agreed-upon values and behaviours and the importance of constant collaboration and learning. A fourth aspect was a systems view. This perspective empathised the understanding of interdependency among team members’ performance according to different working processes.

A fifth aspect was the importance of a constant dialogue with customers. Meeting customers' needs were identified as important both regarding teamwork and when creating a sustainable quality culture. Co-workers were seen as internal customers and patients and relatives as external customers. Lastly, a sixth aspect that could be identified, was systematics in follow-ups and the need to continuously improve. Working on improving working processes was seen as important, both for teamwork and in creating a sustainable quality culture.

### **RQ3: What are perceived success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation's performance?**

The papers that contribute to answering this research question were mainly Paper D, F, G, and H. Suggestions for improving teamwork in ICU transitional care (presented in Paper D), perceived success factors for quality and safety of ICU transitional care (presented in Paper H) and perceived success factors for TMTs working to create a sustainable quality culture (presented in Papers F and G) were analysed together using inductive content analysis. (see section 3.7 and step 3 of the meta-analysis.). The analysis resulted in ten main categories of success factors with sub-categories, see Table 5.1.

Table 5.1 Success factors for real teamwork and sustainable quality culture, identified in this research, divided into main categories and sub-categories.

Main categories	Sub-categories
<i>Communication</i>	<i>Communicate effectively</i> ; e.g., documentation should be done by the whole care team and being transparent
<i>Competence and learning</i>	<p><i>Create a learning environment</i>; e.g., creating a learning environment in the team or between teams, collaborative patient care rounds, and shared responsibility for the process</p> <p><i>Ensure and share resources</i>; e.g., ensuring competence for continuity and sharing resources between hospital units</p> <p><i>Learn about quality</i>; e.g., learning about quality in the organisation</p>
<i>Composition and membership</i>	<i>Create multiprofessional and multidisciplinary team formations</i> ; e.g., multiprofessional and multidisciplinary care conferences
<i>Culture</i>	<p><i>Actively working with common values and behaviours</i></p> <p><i>Be a role model</i>; e.g., the TMT is a role model for building the culture in the organisation</p> <p><i>Be persistent</i>; e.g., building culture takes time, persistence, and continuity</p> <p><i>Strive for equality</i>; e.g., no hierarchy in teamwork and a just and supportive work environment based on mutual respect and a positive atmosphere</p> <p><i>Long-term thinking</i>; e.g., members of the TMTs perceived that long-term thinking was important when building a sustainable quality culture</p>
<i>Customer perspective</i>	<p><i>Involve the customer</i> (both internal and external); e.g., involve patients and relatives in improving teamwork and involving co-workers in quality improvements</p> <p><i>Customise; focusing on creating value for the customers</i>; e.g., plan the care (care teams together) before and after transferring due to patient's needs and wishes</p> <p><i>Ensuring good quality for the customer</i>, both external and internal</p>
<i>Emotional commitment</i>	<i>Develop emotional commitment</i> , e.g., formulating a clear mission and purpose—"touching the hearts" of team members and individuals in the organisation
<i>Leadership and decision-making</i>	<p><i>Be a committed leader</i>; e.g., committed leaders at ICU and at general wards working on safety and culture and committed TMT members</p> <p><i>Make decisions together</i>; e.g., care teams should work together when making decisions about transferring the right patient at the right time and TMT members should make decisions together</p> <p><i>Make decisions at the right organisational level</i>; e.g., decisions on team improvements applying to several hospital units should be moved to the managerial level</p>



Main categories	Sub-categories
<i>Purpose and objectives</i>	<i>Formulate clear and common short- and long-term objectives; e.g., getting everyone “in the same boat”, having a clear mission, purpose, and objectives</i>
<i>Reflexivity and continuous improvement</i>	<i>Create specific quality improvement teams; e.g., post-intensive care groups that follow up with the patient</i> <i>Reflect on and develop teamwork and the organisation; e.g., reflection together after patient transfers and accidents and working on improving processes, both operationally and strategically and reflections by TMT members on their working processes</i>
<i>Structure—Process, tasks, roles, responsibilities and tools</i>	<i>Everybody’s participation and shared responsibility; e.g., applicable both for teams in the ICU transitional care process and TMT teams</i> <i>Define the process and structure it simple; e.g., applicable both for teams in the ICU transitional care process and TMT teams</i> <i>Develop practical tools for teamwork; e.g., a joint multidisciplinary report and a guidelines/tool for patient transfers</i> <i>Develop routines and plans; e.g., well-planned ICU discharge activities and routines for transfer planning</i>
<i>Systems view (including flexibility, adaptability and context)</i>	<i>Be flexible and adaptable; e.g., breaking up old traditions concerning transfer processes and teamwork as well as how TMT members interact</i> <i>Adopt a systems view and a holistic perspective; e.g., view the whole process, not only its parts and see how these are interacting and are dependent on each other</i> <i>Work together over organisational boundaries for the customer; e.g., staff from the ward should visit the ICU before transfer and connect to patients/relatives with complex needs and TMT members from different departments working together in a TMT</i>

At first glance, the identified main categories seemed to be similar regarding the previously described prerequisites for real teamwork and the core values for sustainable quality culture (in the theoretical frame of reference). However, to identify similarities, differences and deficiencies, the identified success factors were compared to previous research about real teamwork and sustainable quality culture (see Table 5.2). This comparison aimed to show new contributions from the research presented in this thesis.

Table 5.2 Success factors identified in this research, mapped and compared to prerequisites for real teamwork and quality core values for sustainable quality culture derived from previous research.

<b>Success factors - Main categories (results from this research)</b>	<b>Prerequisites for real teamwork</b>	<b>Core values for a sustainable quality culture</b>
<i>Communication</i>	<i>Team communication</i>	<i>Develop committed leadership— Presence and communication Let everyone take an active part—Being informed</i>
<i>Competence and learning</i>	<i>Team competences and learning</i>	<i>The accumulated shared learning of a group forms beliefs, values and behavioural norms Let everyone take an active part Appreciative inquiry (AI)</i>
<i>Composition and membership</i>	<i>Team composition, structure and membership</i>	<i>Beliefs, values and behaviours of Individuals in a group or a team</i>
<i>Culture</i>	<i>Team culture</i>	<i>Organisational culture</i>
<i>Customer perspective</i>	-	<i>Focus on customers</i>
<i>Emotional commitment</i>	-	<b>(Pride)</b>
<i>Leadership and decision-making</i>	<i>Team leadership and team decision making</i>	<i>Develop committed leadership</i>
<i>Purpose and objectives</i>	<i>Team purpose and objective(s)</i>	<i>Long-term and sustainable thinking</i>
<i>Reflexivity and continuous improvement</i>	<i>Team reflexivity and continuous improvement</i>	<i>Improve continuously</i>
<i>Structure—Process, task, roles, responsibilities and tools</i>	<i>Team roles and responsibilities Team tasks and coordination</i>	<i>Base decisions on facts Focus on processes</i>
<i>A systems view (including flexibility, adaptability and context)</i>	<i>Team context Team flexibility and adaptability</i>	<i>Internal systems view External systems view</i>
<b>(Culture: Long-term and sustainable thinking is important when creating a quality culture)</b>	-	<i>Long-term and sustainable thinking</i>

In table 5.2, there are some darker grey cells representing aspects not explicit found in the previous research. For example, the column for “prerequisites for real teamwork” lack a ‘customer perspective’ and a perspective on ‘emotional commitment’. ‘Emotional commitment’ is also missing as a factor describing core values for sustainable quality culture. Long-term and sustainable thinking was a factor measuring sustainable quality culture, however long-term and sustainable thinking was not identified as a unique success factor and as a prerequisite for real teamwork. However, long-term and sustainable thinking was mentioned as important by members of the TMTs, when talking about creating a sustainable quality culture and when formulating short- and long-term objectives. These insights are important contributions to existing theory and are discussed more in detail in the following chapters.



## 6 Discussion

*In this chapter, findings are discussed and reflected upon in connection to theory. Thereafter is a methodological discussion.*

This thesis focuses on real teamwork and sustainable quality culture, and how real teamwork relates to sustainable quality culture, as well as on success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation's performance. Additionally, the purpose has been to contribute to the development of quality management, focusing on real teamwork and sustainable quality culture as parts of quality management.

This discussion therefore highlights findings from this research regarding real teamwork and sustainable quality culture, and in relation to the different parts of the research purpose.

### 6.1 A deeper understanding of real teamwork

Throughout this research, I have identified that real teamwork and sustainable quality culture have a lot in common. I summarise these findings into five aspects: embrace the heart ('emotional commitment'); a balance between structure and culture; a systems view; continuous improvement; and a customer perspective. See Figure 6.1. These aspects will now be elaborated upon in more detail.

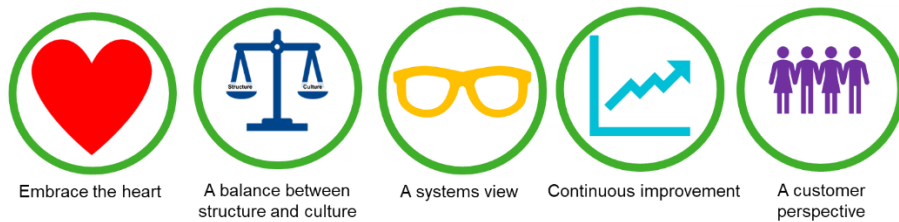


Figure 6.1 Five aspects that were identified as being similar between real teamwork and sustainable quality culture: embrace the heart ('emotional commitment'), a balance between structure and culture, a systems view, continuous improvement, and a customer perspective.

## Embrace the heart—'Emotional commitment'

Results from the focus group discussions in different studies in this research brought up the importance of 'emotional commitment'. This was described by participants as 'touching the hearts' of those in the organisation; for example, when a TMT formulates a mission and objectives for the organisation. From a co-worker's perspective, this mean feeling an emotional commitment to why a task should be done and the importance of said task. 'Emotional commitment' can also involve feelings like pride in one's individual work, the work performance of the team, and the work performance of the entire organisation. One factor measured within sustainable quality culture was 'pride' and results showed that the perceived values for this factor were consistently high, both for co-workers within ICU transitional care and for members of the TMTs. The factor 'pride' also correlated with factors concerning teamwork within a hospital unit<sup>6</sup>, but not with the factors concerning teamwork between hospital units. Bäckström and Ingelsson (2015) argue; "what a co-worker can do to create value

<sup>6</sup> Person-centred care, Continuous learning and Prerequisites for successful patient transfers within a hospital unit.

for the customer could affect the sense of pride and job satisfaction” (p. 132). Thus, if there is an ‘emotional commitment’ to the work task, a ‘why’, this might affect the team member’s motivation to full-fill the work task and thus the perceived feeling of pride and job satisfaction. Developing ‘emotional commitment’ between teams from different organisational units might increase the ‘why’, which in turn could increase the feeling of pride of together have completed the ‘why’.

‘Emotional commitment’ can be seen as being related to the core value “develop committed leadership”, a core value within the cornerstone model by Bergman *et al.* (2022). This means, that leaders at all levels of an organisation need to be committed to the values of the organisation and also live by them, acting as ‘role models’ (*ibid.*). Leaders have to be aware of how their behaviours affect their ability to build a sustainable quality culture (Ingelsson, 2013). In that way, committed leadership will likely be a foundation for creating ‘emotional commitment’. Leaders need to inspire co-workers emotionally, inspiring them to work ‘from the heart’ with the clear purpose of doing something good. Real teamwork should derive its powers from the hearts of the team members. Therefore, working on creating ‘emotional commitment’ might be an aspect of creating real teamwork as well as sustainable quality culture, aiming to achieve performance. In that meaning, ‘emotional commitment’ may be recognised as one key driver for both real teamwork and in creating a sustainable quality culture.

## **A balance between structure and culture**

Another common denominator for real teamwork and sustainable quality culture, identified in this research is the aspect of balancing structure and culture. Structure can be described as how to perform working tasks and who is responsible for what task. Culture can be seen as beliefs and values forming behaviours and attitudes in the organisation. Both, structure and culture are needed when applying real teamwork and working on creating a sustainable quality culture. Structure and culture are interdependent. As one respondent expressed: "structure and culture should go hand-in-hand."

This research indicate that members of teams can be seen as having different structural and cultural prerequisites and abilities. This awareness raises the importance of deepening the focus on real teamwork prerequisites and abilities. Structural prerequisites can for example, include guidelines for how to identify and formulate common goals, instructions for working tasks, and specifications for roles and responsibilities or for how to systematically work on continuous improvements. A structural ability can be described as how to act in accordance with these guidelines, instructions, and specifications.

Edmondson (2013) wrote that teamwork is not determined by the design and structures of effective teams, but mainly by the mindset and practices of teamwork. As a member of a real team, you need to have a good working environment, you need to be listened to, gain respect, feel trust, and you have to have fun. Results from the performed studies (both with hospital units and TMTs) described that more focus today, is placed on behaviour, and talking more about



behaviour was also seen as a success factor for TMTs working as a real team alongside creating a sustainable quality culture. This might indicate a shift in mindset; likewise, Cronemyr *et al.* (2017) state that earlier emphases were most often on quality management methodologies and tools, and not on behaviours or actions. Cultural prerequisites for teamwork can, for example include values and beliefs that drive attitudes and behaviours. A cultural ability is to behave in accordance with these values and beliefs. To actually show respect, or listening to a colleague. However, there needs to be a balance between structure and culture.

According to Schein (2009), the culture of an organisation can be understood through the perspective of; artefacts (visible and feelable organisational structures and processes); espoused beliefs and values (values, ideals, ideologies, strategies, goals, and philosophies) creating an image of the organisation; and basic underlying assumptions (grounded in the history of the organisation, common learned values and beliefs that have become taken-for-granted). A sustainable quality culture of an organisation is formed by common core values or cornerstones (Bergman & Klefsjö, 2020). Quality core values relates to the second level in Schein's model. The creation of a sustainable quality culture is dependent on structure and is systematic. For example, structures pertaining to decision-making should be based on facts and be systematic in performing quality improvements. However, creating a sustainable quality culture also involve values like showing each other respect, supporting each other, and experiencing trust, etc.

A fundamental aspect for real teamwork that has not been clearly stated in the results, but was described indirectly in the focus groups

was that *real teamwork is about acting– teaming*. Teamwork is a dynamic activity; not a bounded, static entity (Edmondson, 2013). There is no need for team prerequisites and abilities if there is no acting. For example, no common goals are needed, if the team and its members are not working towards achieving these goals. Or if the members of the team are not practicing behaviours they have agreed upon. Therefore, there is an important link between prerequisites, abilities and acting. The definition of real teamwork in this thesis, is supposed to reflect this link between prerequisites, abilities and acting.

“a dynamic system of interactions between a team’s members, possessing the prerequisites and actively utilising the abilities required for a ‘real’ team.” (see section 2.2).

## **A systems view**

In 1993, Deming proposed a knowledge system, which he called “Profound knowledge”. This knowledge system included systems thinking as a central part. Deming defined a ‘system’ as a network including components working together to achieve the purpose and objectives of the system. All components of a system need to be clearly defined and documented and the system must also address future (ibid). Thus, to manage a system, knowledge of the relationships between all components within the system and of the people that work in it is needed. If one part of the system fails, this will affect the success of other parts of the system. Furthermore, Deming argued that systems exist in a larger context, and are managed by cooperation between components toward the aims of the organisation or system. Hackman and Wageman (2005) reasoned in a similar way; suggesting that work teams operate in a social system context.

A real team can be seen as part of a larger system. This was something that was discussed by the participants of focus groups in the studies of this thesis. The importance of thinking outside one's own team in ICU transitional care was obvious for those working inside the process. But working in teams between organisational boundaries required increased focus to create a coherent system. Members of the TMTs studied in this thesis stressed that as a member of a TMT you should work in the TMT with the whole organisation in mind. Thus, the prerequisites and abilities forming real teamwork need to be viewed upon in relation to the larger context (e.g., organisation or society) in which the team exists (team context).

Two examples from this research pertaining to apply a systems view in real teamwork are from ICU transitional care and TMTs. In the ICU transitional care, different multiprofessional and interprofessional teams often collaborate within and between functional boundaries. Each team relates to another team in the patient transfer process. Working processes and quality cultures within the teams are often different, or their parts are different. To succeed in ensuring care quality and patient safety, these care teams need working processes and behaviours that meet the needs of the overall patient transfer process, from the view of the patients, patients' relatives and co-workers.

A second example is that of a TMT working as a real team and the team members acting as role models within the larger system (the organisation). Their structural prerequisites and abilities, along with their values, beliefs, behaviours, and attitudes will influence the rest of the organisation. Not only that, the fact that the TMT works as a real

team will also affect how they work on implementing the sustainable quality culture they want the whole organisation to have.

## **Continuous improvement**

Previous research shows that continuous improvements in working processes are important for teams to develop (see, for instance, Gremyr *et al.*, 2020; Lyubovnikova *et al.*, 2015; West, 2013). To continuously improve is also seen as a core value in creating a sustainable quality culture (Bergman *et al.*, 2022; Bergman & Klefsjö, 2020). In this research, continuous improvement was identified as a common denominator by members of TMTs when they described real teamwork and sustainable quality culture. Results from the research showed that one important category in real teamwork was to continuously develop as a team, and an identified category in sustainable quality culture was to continuously improve and learn. Success factors in creating real teamwork and a sustainable quality culture, described by the members of the participating TMTs included continuous improvement by everybody in the organisation; and working on processes, both operationally and strategically, in order to improve. Learning about quality in the organisation was also seen as important to improve as a real team and as a sustainable organisation. One conclusion from the results in paper D was an expressed need for a standardised process for continuous improvement when improving teamwork within ICU transitional care.

## **A customer perspective on value creation**

An important aspect found in this research relating to both real teamwork and sustainable quality culture, was to focus on creating value for customers, having a customer perspective, when working

together. This involved both ICU transitional care and work within the studied TMTs. In the case of ICU transitional care, participants in the focus groups expressed the importance of involving patients and their relatives (seen as external customers), as well as co-workers (internal customers) from different professions and hospital units, in the process in order to improve teamwork aiming to create value for both external and internal customers. This value could refer to care quality, patient safety, and a good working environment. How to best involve patients and relatives in engaging in quality improvement has been discussed in previous research (e.g., Elg *et al.*, 2012), and in a study by Elg and Gremyr (2023), the researchers investigated reflective and naturalistic approaches to patient involvement in quality improvement as a way to meet new patient needs and improve patient flows.

Results from this research also showed the importance of care teams in planning and customising patient transfers in accordance with the patients' needs and wishes. This shows the importance of value creation for both external and internal customers, a necessary focus in real teamwork.

Another aspect related to the customer perspective that came up during the research with TMTs, was the identified success factor 'ensure good quality for the customer'. Ensuring good quality includes both value creation and being both persistent and flexible in said value creation. This can involve, for example, maintaining equal quality for customers and following-up and visualising customer feedback.

## 6.2 The relationship between real teamwork and sustainable quality culture

The second part of the purpose of this thesis was to explore how real teamwork relates to sustainable quality culture. In addition to what was discussed regarding the first part of the research purpose, the analysis of the results showed that the descriptions of real teamwork often appeared to be similar to the core values of sustainable quality culture (e.g., base decisions on facts, focus on the customer), and descriptions of sustainable quality culture were often similar to prerequisites for real teamwork (e.g., common and clear vision and objectives). Statistical analysis of the results regarding questionnaire I, responded by the two ICUs, showed statistically significant correlations between factors influencing teamwork in ICU transitional care and some factors influencing sustainable quality culture. This indicates a relationship between teamwork within hospital units and sustainable quality culture.

Another way real teamwork relates to sustainable quality culture is that performing real teamwork can be seen as one aspect of creating a sustainable quality culture. For example, how co-workers within the ICU transitional care process behave and act when working together will form the culture within the process and within their respective hospital units. Another view might be that sustainable quality culture fosters real teamwork. The results in this research indicate that real teamwork relates to sustainable quality culture. However, these findings only tell us that real teamwork and sustainable quality culture are interdependent, but not whether one must exist before the other.

In a study by Salas *et al.* (2015), culture was presented as one influencing condition for teamwork and collaboration. In a healthcare study by Körner *et al.* (2015), results showed that the effect of organisational culture is completely mediated by interprofessional teamwork. The researchers used the IPO-model for team performance (Input–Process–Output) originally proposed by McGrath (1964), to study organisational culture, teamwork, and job satisfaction.

### 6.3 Success factors in real teamwork and sustainable quality culture

The third part of the purpose of this thesis was to describe perceived success factors in creating real teamwork and sustainable quality culture, aiming at increasing an organisation's performance. This was investigated by asking participants of focus group discussions about suggestions for improvements and about success factors. Table 5.1 shows the results of the analysis. These results were then compared to previous research (see Table 5.2), and from this comparison, as a starting point, I will now delve deeper into the theoretical contributions discovered in this research and highlighting three results; 'emotional commitment', 'a customer perspective' and 'long-term and sustainable thinking'. These contributions can be aspects in the development of the theoretical understanding of real teamwork and sustainable quality culture. I will start with 'emotional commitment'.

#### **Emotional commitment – Embrace the heart**

As mentioned earlier in this chapter, 'emotional commitment' was described by participants as 'touching the hearts' of those in the organisation, regarding mission and objectives. Emotional commitment seems to have a crucial role in engaging and motivating

co-workers in sustainable development and performance of an organisation, both when working together and in forming the quality culture of an organisation. Thus, I suggest that the previous framework for prerequisites for real teamwork and core values for a sustainable quality culture, should be complemented with 'emotional commitment'. However, the concept of 'emotional commitment' needs to be further investigated in the light of real teamwork (see Figure 6.3, green circle) and core values for a sustainable quality culture (see Figure 6.4, 'develop emotional commitment').

## **A customer perspective**

'A customer perspective' was identified as a success factor for real teamwork and sustainable quality culture. In theory about sustainable quality culture (the corner stone model), customer focus is a central core value (Bergman & Klefsjö, 2020; Bergman *et al.*, 2022). However, I argue that it should have the same emphasises in real teamwork and thus, be a prerequisite for real teamwork; 'team customer perspective' (see Figure 6.3, green circle). Like for, 'emotional commitment', I suggest that a customer perspective as a prerequisite for real teamwork, need to be further investigated concerning its content and definition.

## **Long-term and sustainable thinking**

Deming (1993) addressed that future need to be built into the system. In this thesis, a sustainable quality culture was defined as a culture "formed by collectively agreed quality core values. These values are interconnected and are considered as a whole, adapting to environmental changes to ensure long-term and sustainable thinking" (see section 2.3). Further, real teamwork is defined as "a dynamic



system of interactions between a team's members, possessing the prerequisites and actively utilising the abilities required for a 'real' team." (see section 2.2). Both these definitions include a long-term and sustainable perspective referring to ensuring long-term and sustainable thinking, as well as to have a dynamic system (where future is built into the system).

However, long-term and sustainable thinking has also been a part of and constitute findings from this research. 'Long-term and sustainable thinking' was one factor in Questionnaire II, measuring a sustainable quality culture from a TMT perspective. During the analysis of the TMT focus groups, 'sustainable thinking' was identified as one category in real teamwork and 'being persistent' as a category influencing sustainable quality culture. Long-term and sustainable thinking were also identified in sub-categories of two success factors for sustainable quality culture. These sub-categories involved long-term thinking perceived by the members of the TMTs, as important to build a sustainable quality culture in the organisation. Having both short- and long-term goals were seen as other success factors. However, long-term and sustainable thinking might be seen as integrated or embedded in the common denominators for real teamwork and sustainable quality culture and in the team prerequisites (see Figures 6.2 and 6.3).

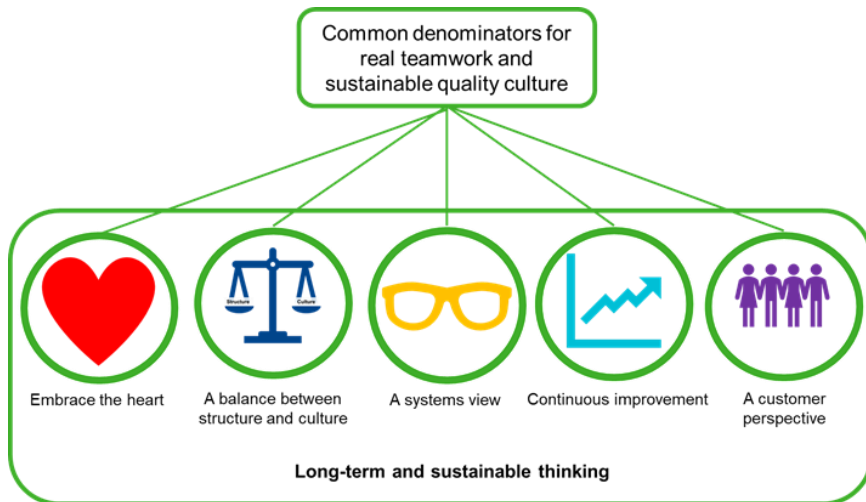


Figure 6.2 Long-term and sustainable thinking as an integrated part of the common denominators for real teamwork, and sustainable quality culture.

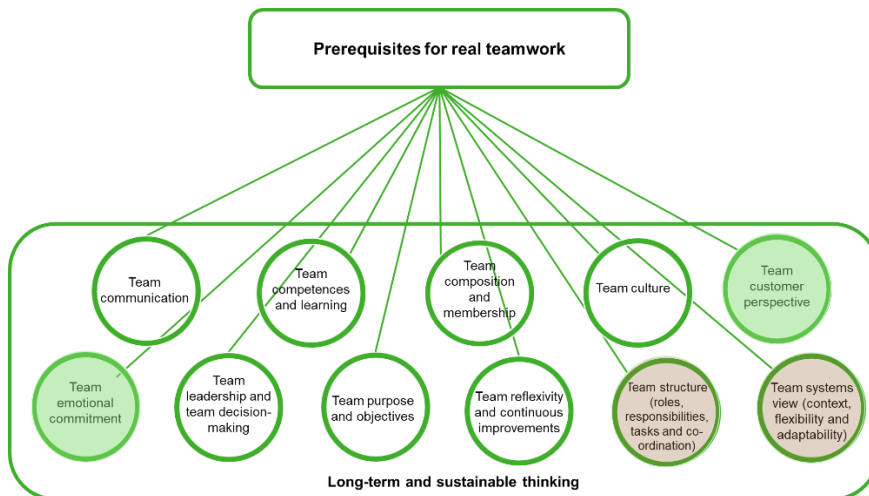


Figure 6.3 Long-term and sustainable thinking as an integrated part of the identified prerequisites for real teamwork.

The green circles in Figure 6.3 empathise the new prerequisites found in this research. The brown circles are new formations and names on prerequisites found in previous research.

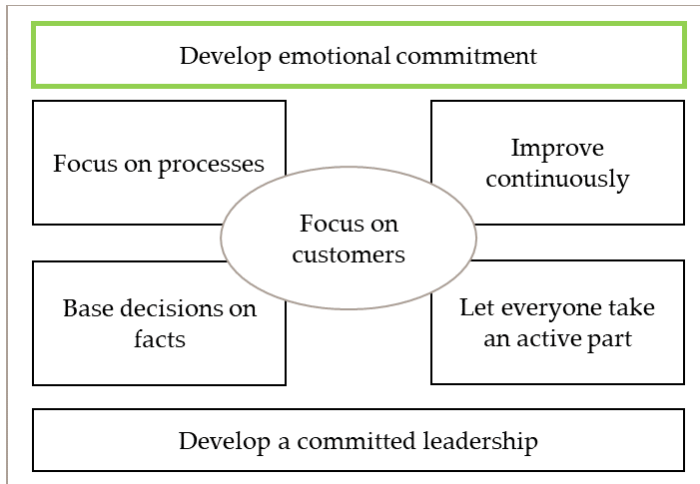


Figure 6.4 A suggestion to add a new core value to the cornerstone model by Bergman *et al.* 2022. This new core value is 'develop emotional commitment'.

## 6.4 Discussion of methodology

The methodology used to address the purpose and research questions for this thesis, in Parts I and II, was a multi-method design, mainly qualitative, and, to some extent, quantitative. The qualitative approach and design were appropriate as the purpose was to contribute to a deeper understanding of teamwork and sustainable quality culture. However, a more complete understanding of the research purpose and questions was achieved by adding quantitative elements, such as statistical analyses of the data collected from questionnaires. Besides surveys and focus groups, observational studies were also planned in

Part I of this thesis, but due to COVID-19 pandemic, this was not possible.

This thesis has a pragmatic approach. This means that research has adapted to new knowledge from the conducted studies. This has been a research journey when it comes to knowledge development and extended understanding of the phenomena under study; namely, real teamwork and sustainable quality culture. For example, the use of different terms has developed and changed over time. In this thesis, the terms 'teamwork' and 'sustainable quality culture' have been used, but in some of the earlier papers 'team collaboration' and 'quality culture' can be found. Also, the terms 'measuring' and 'assessing' have both been used when it comes to measuring perceived teamwork and assessing teamwork and sustainable quality culture. The same can be said for the use of 'quality core values', 'QM values', 'TQM core values' and 'core values'. However, these different terms are seen as synonyms, and the meanings, interpreted as the same.

Another example of the pragmatic approach in this thesis is the focus on leadership in Part II, which is derived from the results in Part I. A new methodology for assessing teamwork and sustainable quality culture, focusing on TMTs was developed in part II. Furthermore, the development and testing of questionnaires and interview guides in this thesis have resulted in statements and questions being changed, based on user feedback and a deeper understanding of the phenomena under study. This is described in more detail in the appended papers.

Gustafson and Brunger (2014) argue that critical reflective activities can be a way to illuminate power relation in research. I will now reflect

on some power relations in this research. In Part I, managers acted as gatekeepers and asked healthcare professionals if they wanted to participate in the research. This might have led to participants feeling forced to do so, because his and her manager asked them. Therefore, it has been important, that both written and oral information were clear about that participation in the focus groups was voluntary. This may have reduced the risk of healthcare professionals accepting to participate based on loyalty to their managers. Another ethical reflection in relation to these focus groups were the power relations between the multiprofessional participants. In healthcare, a hierarchy between, assistant nurses, nurses and physicians can be obvious. Thus, in a discussion, assistant nurses and nurses can feel hindered to say their opinions, if they do not agree with a physician. Therefore, it has been important, to talk about confidentiality and to emphasise that what was said during the focus group should stay in the room. A third example of potential power relations is according to the TMT studies in Part II, where focus group discussions were conducted with TMTs including the CEO. The CEO is the most powerful member of an organisation, and thus, other team members can feel compelled to agree with the CEO. However, data were also collected by questionnaires offering an anonymous way to express the respondents' perceptions. Data from focus groups and questionnaires have been compared in order to identify such power conditions. However, there were no identified indications of such conditions.

The participants in the studies of Part I of this thesis are chosen by gatekeepers (managers to co-workers in the ICU; regarding focus group discussions), and in Part II by convenience and the participants' declared interest to attain (regarding the studies with TMTs). The

performed studies have also been few in number. This makes it impossible to generalise the results. Accordingly, the results should be seen in the light of their contexts. According to Pettigrew and Whipp (1993) context, content, and process are important dimensions to consider when understanding strategic change. Pettigrew and Whipp argue that strategic change should be viewed as a continuous process, which occurs in given contexts and cannot be separated from the historical, organisational, and economic circumstances from which they emerge. This is similar to how Hernes (2014), sees the formation of organisational culture as a set of history, learning, and shared experiences derived from its past and from memories, and is also affected by new impressions from outside the world. Thus, relating to this research, teamwork and sustainable quality culture can be seen as products of a continuous interaction between context, history, and organisational and economic conditions. The context, content, and process in the performed studies can have importance for the results, and in other circumstances the results could have been different.

## 7 Overall conclusions, implications and future research

*This chapter presents the overall conclusions of the research, alongside some suggestions regarding implications and future research.*

### 7.1 Overall conclusions

From the results of the studies within this thesis, seven main conclusions or proposals could be recognised on how to increase the abilities for real teamwork alongside with creating a sustainable quality culture.

- Embrace the heart and develop 'emotional commitment': this involves 'touching the hearts' of individuals in the organisation; both when it comes to real teamwork and when creating a sustainable quality culture.
- Balance between structure and culture: structure and culture should go 'hand-in-hand' and harmoniously complement each other.
- Apply a systems view: this entails considering real teamwork within a broader context and viewing core values as a system.
- Foster a culture of continuous improvement: improvements are achieved through reflexivity and the adoption of novel perspectives. Continuous improvement is fundamental both in real teamwork and in the development of a sustainable quality culture.

- Apply a customer perspective on value creation: this is critical in practicing real teamwork, as well as in developing a sustainable quality culture, that aims to increase organisational performance.
- Apply long-term and sustainable thinking as a part of practicing real teamwork and when creating a sustainable quality culture: both the present and the future should be built into the system.
- Measuring and assessing real teamwork and sustainable quality culture is valuable in establishing the prerequisites and abilities necessary for real work, as well as in advancing the development of a sustainable quality culture within an organisation.

The contributions from the research within this thesis can be summarised into practical and theoretical contributions. Practical contributions include that participants in this research discussed and learned how to improve their teamwork and develop the sustainable quality culture within their organisations. Practical contributions have also been made in the form of the development and testing of two new questionnaires focusing on measuring teamwork and sustainable quality culture in ICU transitional care and within TMTs. Further, a new methodology aimed to assess teamwork and sustainable quality culture, focusing on TMTs was developed and tested. Theoretical contributions have included the deepening of knowledge around real teamwork and sustainable quality culture and how real teamwork relates to sustainable quality culture. How these theoretical contributions can add further understanding to existing theory is described in the next section.



## 7.2 Implications and future research

One basic standpoint of this thesis was that performed research should offer participating organisations additional value in the form of suggestions for improvements regarding how to work as real teams and how to strengthen sustainable quality culture. But, should also offer them a way to continue to make these suggestions reality by themselves. This will also be an important aspect of future research.

Benishek and Lazzara (2019) address that the well-established theories and methodologies regarding teams and teamwork require some modernising, as the landscape of teams looks very differently in today's society. Thus, this research has contributed to various theoretical aspects according to real team prerequisites that can be added to previous research. This involve prerequisites for 'team emotional commitment' and 'team customer perspective', as well as the discussion on long-term and sustainable thinking as an integrated part of the identified prerequisites for real teamwork and the common denominators for real teamwork and sustainable quality culture (see Figures 6.2, 6.3 and 6.4).

Another suggestion for theoretical development is to add 'develop emotional commitment' as a new core value in sustainable quality culture, originally described in the cornerstone model authored by Bergman *et al.* 2022. This new core value is about creating emotional commitment and inspiring individuals in the organisation to strive to achieving working tasks and shared goals. This is about 'touching the hearts' of the involved actors, developing a deeper emotional commitment. See figure 6.4.

The first step for further research might be delve into the concept of 'emotional commitment' in relation to real teamwork and sustainable quality culture, as well as to investigate 'team customer perspective'. This will be a base for developing and testing the questionnaires and the methodology developed in this research. The goal is therefore to continue to help organisations improve their abilities to engage in real teamwork and work toward a sustainable quality culture aiming to improve organisational and collaborative performance and value creation.

Another suggestion for future research is to link performance and value creation to real teamwork and sustainable quality culture. Previous research indicates that culture is directly related to organisational performance, as culture influences behaviour within organisations (Naranjo-Valencia *et al.*, 2016), and that organisational culture that emphasises teamwork is more successful in achieving organisational effectiveness, than one that does not foster cooperative behaviours like teamwork (Petty *et al.*, 1995). Based on this, future research could include the development of a conceptual model containing real teamwork, sustainable quality culture, and organisational performance (as a dependent variable). Performance is often seen only as financial performance, but could, in this case, include indicators for sustainable performance. Measuring sustainable performance involves indicators for social, environmental, and economic performance and involves defining sustainable performance depending on the context and organisation under study. Sustainable performance measures can be defined by both the organisation and its customers. For example, in healthcare, sustainable performance in form of measuring care quality and patient safety can be defined more

in detail by co-workers, patients, and relatives. Performance indicators should be understandable to all groups of employees and at all levels of management (Babel'ová & Vaňová, 2014). By understanding the organisational system, and then change it, long-term and effective improvements can be established (Elg, 2022). This reasoning could be further developed by viewing performance from different organisational levels; from a real team, from a process level, or from a society level. A more systemic perspective on sustainable performance can be offered by thinking of performance on different levels and in relation to real teamwork and sustainable quality culture.

A final suggestion for future research according to Part II of this thesis (studying TMTs) is to expand the target group to include both TMTs and co-workers. This means that both a questionnaire and an interview guide need to be created for TMT members and for co-workers in an organisation. Studying perceptions and experiences of both leaders and co-workers can offer a broader perspective on real teamwork and sustainable quality culture within an organisation. Over a longer perspective, as the methodology, described in Papers F and G, will be further developed and used to a larger extent and used more frequently, more data will be collected, and it may be possible to conduct deeper statistical analysis.



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*QMOD-ICQSS 2019: Proceedings of the 22<sup>nd</sup> QMOD-ICQSS  
International Conference. Krakow, Poland, October 13-15, 2019.*