



CHALMERS
UNIVERSITY OF TECHNOLOGY

**Creating a project culture which promotes
performance in the construction industry, through an
organisational perspective**

Master's thesis in Construction Management

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MASTER'S THESIS ACEX30

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Master's Thesis in the Master's Programme; Design and construction project management

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ABSTRACT

The construction industry is an industry influenced by old traditions which have characterized the culture for a long time. In recent years, this tough project culture has emerged as a reason for both shortcomings in safety and product defects in the industry and reports have been released where the project culture is highlighted as a possible solution for errors and issues regarding quality and safety management. With this in mind, the aim of this study is to investigate how to create a positive project culture in order to improve performance through an organizational perspective. This is investigated through a qualitative study where a literature review is conducted in combination with a case study. The case study is carried out in collaboration with a medium-sized construction company active in southern Sweden and consists of observations which are made by a researcher on site, as well as interviews with all employees of the company in order to get a holistic perspective. The results from the Case study are combined with the literature research and a discussion is conducted. Several areas are discussed and tensions are found in balancing hard and soft characteristics within the project culture, transactional and transformational leadership and the importance of functioning organizational routines while remaining a sense of freedom within the project. The conclusions from the study are several. Firstly a positive project culture is identified by an open climate, communicative individuals, prestigeless and honest atmosphere and is well connected to a project group's performance through, among other things, motivation and the individuals' well-being. Secondly the study shows that the company being investigated prioritizes the project culture but that there are shortcomings in routines such as feedback and knowledge transfer and that there is a lack of common understanding of how each individual in a project group should work to promote a positive project culture. Finally, the importance of top management's presence and commitment and the challenge of maintaining a positive project and organizational culture despite the desire to expand the company are emphasized.

Key words: Project culture, performance, construction management, organisational management, leadership

Att skapa en projektkultur som främjar prestanda i byggbranschen, ur ett organisatoriskt perspektiv.

Examensarbete inom mastersprogrammet Projektering- och Bygg Projektledning

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SAMMANFATTNING

Byggbranschen är en bransch som påverkas av gamla traditioner och dessa har präglat kulturen under lång tid. Under de senaste åren har den här tuffa projektkulturen framkommit som en orsak till både brister i säkerheten och produktfel i branschen och rapporter har släppts där projektkulturen lyfts fram som en möjlig lösning för fel och frågor rörande kvalitets- och säkerhetshantering. Med detta i åtanke är syftet med denna studie att undersöka hur man skapar en positiv projektkultur för att förbättra prestanda, genom ett organisatoriskt perspektiv. Detta undersöks som en kvalitativ studie där en litteraturgranskning genomförs och kombineras med en omfattande fallstudie. Fallstudien genomförs i samarbete med ett medelstort byggföretag som är verksamt i södra Sverige där observationer görs av en av författarna till studien på plats samt intervjuer med alla anställda för att få ett helhetsperspektiv. Resultaten från fallstudien kombinerades med det teoretiska ramverket och en diskussion genomfördes. Utmaningar finns i att balansera hårda och mjuka egenskaper inom projektkulturen, ledarskapsegenskaper och vikten av att upprätthålla organisatoriska rutiner, samtidigt som en känsla av frihet inom projektgruppen kan behållas. Slutsatserna från studien var flera, bland annat att en positiv projektkultur identifieras av ett öppet klimat, kommunikativa individer och prestigelös atmosfär. Projektkulturen är kopplad till en projektgrupps prestanda genom bland annat motivation och individens välbefinnande och prestationsförmåga. Studien visar också att företaget som undersöks prioriterar projektkulturen och ligger i framkant inom branschen, men att det fortfarande finns brister i rutiner som feedback, kunskapsöverföring samt brist på gemensam förståelse för hur varje individ i en projektgrupp bör arbeta för att främja en positiv projektkultur. Slutligen betonas vikten av högsta ledningens närvaro och engagemang och utmaningen att upprätthålla ett positivt projekt- och organisationskultur trots behovet att expandera företaget.

Nyckelord: Projektkultur, prestanda, byggledning, ledarskap, organisations ledning

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1. Introduction

1.1 Background

The construction industry has for a long time been characterized by a male dominant culture. The culture has been built from the image that industry is a tough, dirty and physical industry, which excludes people who do not fit that image (Powell & Sang, 2013) In recent years, this tough project culture has emerged as a reason for both shortcomings in safety and product defects in the industry and in 2019 the National Board of Housing, Building and Planning presented a report where the project culture was highlighted as a possible solution for errors and issues regarding quality and safety management. (National Board of Housing, Building and Planning report, 2019). The report that was released in 2019, consisted of a survey regarding values and culture in the construction industry. The results showed, among other things, that the Swedish construction industry overall has good and healthy values, but that these are not spread to all employees in a project and a continuous improvement and change in the culture needs to be made.

According to (Anjou, 2019) the parts of the building sectors' culture that does not propulse innovation and change is reinforced by the structures. He claims that it is difficult to learn from previous projects and that there are problems with employees not feeling responsibility and the "we-against-them"-culture is a consequence of old structures in the industry that are further reinforced by contract law, the lack of customer focus and the attitude "this is the way it has always been". Later, (Anjou, 2019) develops a change agenda for the industry and divides this into three parts, the companies, the industry organisations and the political system. When looking at the companies in the construction sector, one single company can not completely change the structures within the industry, but through changing the organisational culture they can challenge these lingering industry structures. He claims that the purpose needs to be, among other things, to eliminate risk and create a culture of responsibility. Another main purpose for change in the construction industry is performance, because many companies, not least small and medium-sized enterprises, have exceedingly small margins (Byggvärlden, 2021). This means that it is important that each activity in some way contributes to productivity or other aspects of performance leading to economic gain. (McKinsey & Co, 2017) also shows that organisations in the construction industry who have been able to reform the culture, norms and tradition have seen an increase in productivity. Organisational culture is according to Martins and Terblanche (2003) directly connected to performance due to the culture influencing the behaviour of the members of the organisation. Kotter and Heskett (1992) studied the relationship between culture and performance, and their main observation was that cultural strength may be important but that the most important success factor was cultural fit with the environment. The construction sector is primarily built up by projects with unique preconditions and the culture at one project might not be identical to another, even though they are handled by the same organisation. Therefore it is important to acknowledge not only organisational culture, but also project culture as such.

Colquitt et al. (2019) researched other important advantages with improving structure and culture. They stated that having fun at work, doing meaningful tasks, having the opportunity to grow within one's occupation and feeling pride in the organisation are factors that increased an individual's happiness. They also presented that when choosing a job, personal development is seen as superior to salary in importance. To have a successful organisation that promotes the

factors stated above the organisation must establish a well-functioning organisational culture where the company's values are conveyed both externally and internally within every project. According to literature culture is an important factor that needs improvement within the industry in order to minimize shortcomings in safety and product defects in the industry. In this study the project culture in connection to performance will be examined and since the literature has shown that organisations and their projects are interconnected in regards of culture and performance, the study will be conducted through an organisational perspective in order to get a greater understanding of what an organisation can do to improve the culture in their projects and its groups. So, is the project culture something that is prioritized in practice and what defines a positive project culture for a Swedish construction company? And how does the interplay between culture and performance play out in a project group and what can an organisation do in order to create the right prerequisites for positive project cultures?

1.2 Aim of the thesis and research questions

The aim of this study is to investigate: How to create a positive project culture in order to improve performance through an organisational perspective in the construction industry.

The aim will be achieved by answering the following research questions:

- What characteristics define a positive project culture and what are the connections to performance in practice?
- How will project culture in relation to performance be prioritized within an organisation and how can management create the right prerequisites for it?

1.3 Contribution and delimitations

Studies show, including the National Board of Housing, Building and Planning's study in 2019, that there is potential for improvement in project culture, social structures, and values in the construction industry. This study will hopefully help to increase awareness in the subject, open up for discussions within organisations and create a basis for how project groups and organisations can improve and pay attention to the culture in relation to the project's performance. The study can also contribute with inspiration for top management on how they relate to project culture from an organisational perspective within the construction industry, how they can maintain the positive characteristics in an existing culture and what factors are important to focus on when working with project culture in relation to performance. The same applies to leaders and individuals who are part of project groups, where the study can provide them with a basis of information for how they could work in terms of project groups, its culture and social values. Increasing awareness of project culture increases the chance of an improved work environment, which in turn can contribute to social sustainability.

To get an in-depth research, delimitations had to be made. This study is primarily focused on management on the production side of the construction industry as the researchers' resources were not sufficient to include the clients and the procurement phases and their impact on the project culture and the group's performance. This is a lacking factor in the study, as the client's influence factor and power within project groups and on the project's culture in relation to performance have not been considered.

1.4 Acknowledgment

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2. Theory

2.1 Performance

Kast and Rosenzweig (1985) defined the basic concept of performance as a function of ability, effort and opportunity. The performance of an organisation is the result of the performance of individuals and groups. However, performance is not the same thing to all organisations, and it even means different things to different stakeholders of the same organisation (Williams, 1998). In a broad sense, performance is an organisation's ability to maximize profit for all concerned. It can also be examined from different angles, such as financial, customer or process perspectives. It is the ability to perform and also the achievement based on this ability; in addition to actual achievements, it is one of the factors affecting the ability to perform. This reveals that performance includes practically everything that describes the success of an organisation.

The most important aspect of performance in construction is known as the Iron triangle, also called the Triple constraint, which is the representation of the most basic criteria by which project performance is measured, i.e. how a project is meeting the requirements of time, cost and quality. The concept also encompasses the interconnection between the three criterias, if one of the criterias is lagging it puts constraints to the other two vice versa. The Iron Triangle, which can be seen in figure 1, has since the 1970s become the standard for routinely assessing project performance (Pollack et al., 2018).

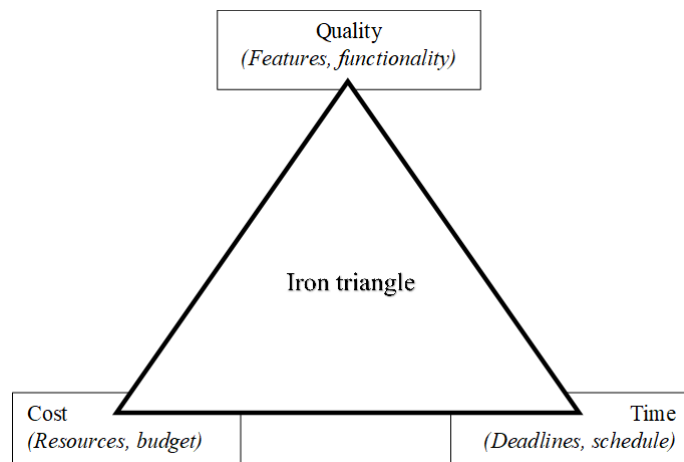


Figure 1. The Iron triangle of project management.

Research done by (Pollack et al., 2018) explores the Iron Triangle and concludes that the only persistent criteria by which the success of projects can be assessed are through client and contractor satisfaction with the outcomes and impacts of a project which are evaluated at the final stage of the projects. A study done by (Mellado et al., 2019) which compiles literature regarding performance indicators in the construction industry from 1998 to 2018 also determines that the Iron triangle is the preferred method of evaluating performance but establishes that it by itself is not sufficient and that there is a need for new approaches when assessing performance outcomes. To promote opportunities to change they propose the use of Key performance indicators (KPIs). The top-ten KPIs found in the study were the following in descending order: time; quality; cost; safety; client satisfaction; productivity; environment; innovation and learning; profitability; and people. In order to measure performance,

organisations need to sort out their priorities and set up appropriate KPIs that will give a current picture of their success levels and which can provide an idea on future trends or issues to evaluate. KPIs are an important part for improving efficiency and effectiveness in construction projects because they give support on the decision-making process and also they are helpful in achieving organisation's goals by evaluating activities performance (Haponava and Al-Jibouri, 2009).

(Rego & Cunha, 2008) shows in their studies that stress and affective well-being are linked to self-reported individual performance. According to them, performance is linked to an individual's psychological climate, their stress levels and affective well-being. Affective well-being, mainly enthusiasm, energy and a sense of calm, have a strong correlation to variation in performance. They also show in their studies that employees' stress levels increase if the leader lacks credibility and reliability and if conditions that enable a good balance between work and family roles are lacking. Workers who, on the other hand, get opportunities for learning and personal development develop more enthusiasm and energy for their work and they experience their jobs as intrinsically motivating and rewarding. The psychological well-being increases if they can use their creativity in their job and feel that their need for a personal impact on their work gives satisfaction and a sense of meaning in the work arises.(Rego & Cunha, 2008)

This is reinforced by (de Vries, 2004) who shows in a study that the following seven things are essential for authentic functions and for promoting the health of workers: purpose, self-determination, influence, competence, belonging, meaning and enjoyment. These seven factors fulfill two higher level motivational systems of the individual, the attachment/affiliation need system and the exploration/assertion need system, which are both of particular interest when evaluating the performance of individuals, but also to the development and life of an organisation. Kets de Vries also believes that personal connection and a sense of belonging to the organisation is important. A study done on people involved in construction projects shows a strong correlation between mental well-being and performance. Happiness also had a connection to performance but not quite as strongly as mental well-being, while stress had a negative impact on performance. The effect stress had on performance was not as significant if the workers and leaders had a stable and positive mentality, they could then feel stress but still be able to perform at the same level. The study showed that workers who had a good balance between work and family life had a higher mental well-being and thereby were more resistant to stress affecting their performance at work.

2.2 Project Culture

Throughout history, it has been shown that workers in the construction industry cannot be controlled by architecture, bureaucracy or scientific surveillance methods. Governance in the construction industry, mainly in connection with construction sites, is characterized by an orchestration of works rather than a control of workers. One must trust the workers that they are doing their job through their personal and collective work ethic and morals. This trust must be created by everyone feeling respected and included (Steiger & Form, 1991) . This statement was a base for (Thiel, 2007) when he examined the culture and group identity in construction production. They concluded in their studies that there is a difficulty in planning building tasks correctly and the building's very complex and diverse conditions mean that the construction work has been affected relatively little by industrial technology or scientific management

technology. Those who work in the construction industry, linked to construction production, highly value their workplace power, autonomy, independence and a pride in seeing the product of their work.

Through field studies done by (Thiel, 2007) it was shown that it was important and central for leaders in construction production companies to be "construction workers" and associated with the qualities of being practical and having a long professional background in construction. It was also shown that they saw a clear boundary between those who were inside and outside this "circle/the others" of people with some work experience. The results from the study showed that this clear self-identification within construction managers can affect the organisation's results. It also showed that if leaders managed to make subordinates feel respected for their work and part of the group, work-related injuries and general conflicts decreased, in some cases they disappeared completely. To have a good relationship with employees, both as a leader or subordinate, was to treat others with respect. Then a good project culture was created.

In the definition of culture behavioral patterns, customs, attire, religion, rituals, games, norms of laws and moral systems among other things are included. In organisations and companies, the behaviors we use become a signal of what culture prevails, i.e. what values we convey in practice. Examples of how the culture shows in organisations are leadership in practice, relationships and hierarchies, working hours, meetings, communication, social gatherings, symbols and jargon, conflict management, traditions/rituals, incentives and punishments and how one can be open about and balance private- and working- life (Hultqvist & Sällström, 2016) According to Zuo and Zillante (2005) culture is defined as the shared values, basic assumptions and beliefs that participants involved in a group hold. These values form the basis for how they act, behave towards each other and perform their tasks. If an organisation is to be successful, these components must be managed. In order to be able to push through strategies in an effective way, the culture must align, i.e. if the organisation wants to push towards a certain goal, action in the right direction from members must be encouraged. There are three different types of culture that are important when it comes to construction project culture, national culture, organisational culture and construction industry culture. National culture is an overarching pattern in which one is born and which develops and is founded in one over a lifetime. This includes above all social values, assumptions and behavioral patterns that have been developed through generations. The general culture of the construction industry is different depending on nationality, but overall there is a strong will for individualism, an acceptance of hierarchy order and a positive attitude to masculine characteristics. Culture can vary greatly from different organisations. An organisation's culture can be affected by top management if there is a true commitment to the cause, they must set guidelines, educate the workers and show through actions good examples of what the culture at the workplace should be like. The culture lives within the individuals of the organisation, so the leaders of the organisation have a great impact as role models. The organisational culture can be successfully improved by involving all members, rewarding people for adopting desired norms of behavior and actions. Changing organisational culture is a gradual process which takes time, where one should be aware that national and construction industry culture plays a role.(Hultqvist & Sällström, 2016)

In comparison to other industries, such as industry manufacturing, the building sector has quite different prerequisites due to the work being carried out in the form of projects. The working site is provisional, the time schedule often pressed, the team is always changing due to many

different actors in different phases and there is a high level of complexity. Projects are characterized by urgent situations, high demands on flexibility and dynamic approaches and collaboration amongst the different operators. An important task for the leaders in the construction industry is to get individuals in complex constellations on site to collaborate in order to reach set targets. This puts demands on a project culture where the core values are respected and in compliance with the workers own values. To create the right prerequisites for success management must act in a proactive manner when dealing with project culture (Hultqvist & Sällström, 2016) There are a number of factors that may affect the development of the project culture that requires to be taken into consideration such as project prehistory, prior working relationships, project scale, level of complexity and priority to cost, health and safety (Zuo et al., 2014).

The term “a positive project culture” can be viewed as highly subjective due to it being based on the values of the individuals inside the project. (Zuo et al., 2014) found through a interview study with workers in projects that characteristics that are commonly seen as strongly connected to a positive project culture are amongst others an outcome-oriented approach, mutual trust and respect, open and effective communication, collective responsibility and timely decisions, an atmosphere of no blame and no dispute, early problem flagging, honesty and understanding of each other and willingness to help each other. In the interview study (Zuo et al., 2014) also found that all of the interviewees believed that cultural subjects at the project level influenced the performance of a construction project significantly by nurturing a specific attitude among the individuals in the project.

In order to create and nurture a positive project culture in the Swedish building sector (Hultqvist & Sällström, 2016) claimed that the values of the organisation must be established in practice at the building site and that the most important successfactor in order to achieve this is leadership. When (Wu & Li, 2015a) examined transactional and transformational leadership and their theoretical themes they linked these themes to leadership that creates a security promoting project culture among subordinates. Through their study they highlighted several parts of leadership as important for the creation of a positive project culture, such as; influence and role modeling; caring and individual respect; motivation and coaching. By a leader being influential and a role model loyalty and trust amongst the subordinates are established and the actions of the leader will influence the behavior of the workers. According to the study a leader can influence subordinates subconsciously and cognitively to create a culture by coaching and motivating, subordinates are then more likely to take own initiatives which creates a positive performance.

2.2.1 Group development

In the 1950s, after World War 2 one could see an increasing number of research studies on groups and group dynamics but in the 1970s the focus shifted to the individual and research on individuals became the basis for social research instead of teams. Thereby many scientists have confirmed that although groups play an important part in our lives as individuals and in organisations, team research has not received enough attention (Elfverson, 2018) A professor named Susan Wheelan developed the Integrated Model of Group Development (the IMGD) in 1994 and this is a model that draws from earlier research on group development. IMGD describes a group's development in four main stages and one termination stage. All four are characterised by different behaviours and different needs within the group. Wheelan clarifies

that not all groups will develop through all stages of the model and that they can proceed or retreat in different ways, however to have a successful group development the first stages and their outcomes are of great importance for the group members future collaboration (Wheelan, 2017).

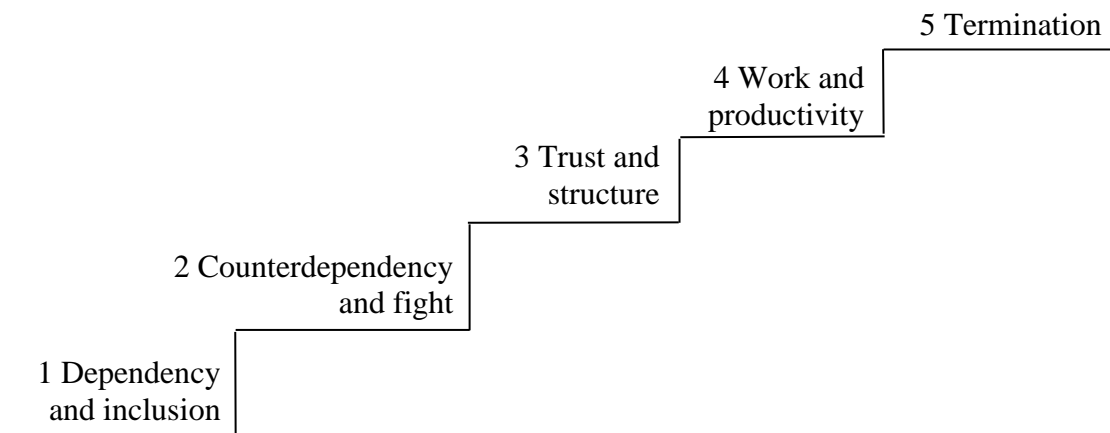


Figure 2. The stages of the IMGD model

Creating a culture takes time, in the first phases the group needs to get to know each other by socializing. One way can be through a culture-promoting activity, where it is important that the social gatherings create an opportunity to understand how the group should work together with, among other things, communication to each other, working hours and what the different people enjoy. During these "get-to-know-each-other" phases in a group development, traditions of rituals, formal and informal relationships should also be developed (Hultqvist & Sällström, 2016) In later stages of a group and its development, there are great benefits of analysis and follow-up on how the formal- and informal relationships have been established. Guidelines set up for the project group in early stages should be evaluated and if the group members think they are insufficient, there needs to be room to develop new ones as a team, to enhance the groups culture and collaboration with each other during ((Hultqvist & Sällström, 2016)

2.2.2 Project Culture and performance

According to Walker (2002) a prime objective during the project management process in construction projects is the establishment of a unified and positive project culture to enhance the project's effectiveness. Van Marrewijk (2007) also points out the impact project culture has on both project efficiency and organisational productivity. Ajmal and Koskinen (2008) emphasizes the fact that the responsibility to create a positive project culture by merging cultures of various organisations and professions lies with the project manager.

(Duryan et al., 2020) emphasizes the importance of promoting and working for a positive culture to encourage the transfer of lessons learned and failures between projects. The study focuses on culture regarding safety issues in the construction industry. They conclude in their study that a positive project culture includes an open environment where there is a 'no-blame' context and that an "almost-mistake" should not be seen as a mistake but an opportunity to learn. In an 'open' cultural environment, employees pay more attention to the final outcomes that may have been overlooked in the environment of 'blame'. Blame can instead be replaced with accountability (Shein, 2017) They also address the importance of learning-rich organisational contexts and knowledge management. A positive culture requires effective top-

down, bottom-up and horizontal communication and knowledge transfer. This is important for creating bonds between members and colleagues in a team and between teams. An 'open' and blame-free 'positive' culture that enables responsible allocation of responsibility and accountability needs to be cultivated to encourage members in a team to speak out when they found flaws (Duryan et al., 2020) According to the resource-based view of a firm, culture can be a source of sustainable competitive advantage because it is difficult for competitors to imitate, as many of its most important characteristics are tacit and highly complex (Coyne ,1986).

2.2.3 Communication

The construction industry is an industry where a lot of meetings take place in the course of the work to drive the projects forward, communicate with project members and to solve problems. In order to have effective meetings, meeting management with quality is required and that there is a solution-oriented dynamic between the meeting participants. The meetings must be fast with high energy with well-thought-out agendas. The meeting participants must dare to evaluate the work done and have a sufficiently open culture to be able to give each other continuous feedback. Feedback must be both received and given and seen as a support and tool for development for individual, project, business and group level. Feedback increases the openness of a group and an organisation and provides an opportunity to create trust in each other. It should take place between employees within the projects and their meetings, as well as between employees and managers within organisations. Feedback should be given in all project phases, both when the group is newly started and in the final phase. Feedback should be given in stages. An evaluation with feedback should take place in the following steps:

- Before evaluation is to take place, preparation is required. Where the person who is to give feedback produces practical examples.
- When feedback is given, it should be given in with an "I"-message.
- When people then receive feedback, they do this by listening and trying to understand instead of explaining and defending.
- The last part of the feedback is that each person should save their feedback in, for example, a personal logbook. In this way, each person can get a clear overview of their development areas over time.

If the project group has effective communication with, among other things, qualitative feedback, the group maintains good dynamics and lays a foundation for efficiency that the project needs (Hultqvist & Sällström, 2016). When receiving feedback, the awareness of oneself as an individual increases and when distributing feedback, the group's sense of community and connection to each other increases and this creates a sense of security in the group. However, there should be a balance between a person receiving and giving feedback. If there is no balance between the receipt and the dividend, it can affect the person's ability to work in the group and the group members' view of this person.

Feedback is best if it is given in a natural way, which can be in meetings. When a leader leads meetings through feedback, it can be done through a check-in and a check-out, where everyone can express a personal opinion. A good starting point can be "What do I think", "How do I feel" and "What do you think?". The person leading the meetings should adapt the feedback together with the agenda based on where the group is located. At the beginning of a project, the leader may need to guide the group. A newly started project group is delicate in communication among

the members when it comes to sensitive issues, which means that the leader must personally address these and actively develop the group's communication and knowledge sharing with each other. The leader is very important in guiding the project group throughout the project period to give each other feedback. If the leader notices that after a while the group has become welded together and goal-oriented, he can then observe more than actively guide them. Before the meeting ends, a final check-out should be done where the leader summarizes what everyone agrees on (Hultqvist & Sällström, 2016)

The quality of communication is crucial for a project group's performance. A successful element to a good team is energetic meetings. Where the leader of the meeting keeps a high pace with a lot of energy, where the group solves things together, where the group is praised for doing something good, where the group evaluates things that did not go well and creates learning around it. An analysis was made by (Hultqvist & Sällström, 2016) where critical success factors for project leadership are reviewed. There they came to the conclusion that for a team to have a high productivity, efficient meetings, efficient communication and efficient information flows are required. If the meetings are also held with high energy and with the daily management in focus, the culture in the team will also benefit from this. It is also important that the right people attend the meeting, as project members in the construction industry have often limited time. Another part to consider is in what form and where the meeting is held to make it as effective as possible for those involved. Resources in the form of leaders and team members in a project can be expensive and every hour per person that can be saved is good for the project.

2.2.4 Leadership

According to (Shein, 2017) organisational culture is two things. A dynamic phenomenon that surrounds us constantly created by our interactions with each other. The second part of organisational culture is structures, rules, norms, guides and behaviors created by the leader. Leadership is an important part of creating a culture.

The study by (Rego & Cunha, 2008) suggests that promoting a psychologically happy workforce can be a way to increase the individual's performance. This is done by leadership and organisational methods to encourage employees' positive perception of the functions of the work environment. Managers must then care about how employees experience the organisation and they must pay attention to a number of aspects: (a) having a respectful and reliable way of acting; (b) create opportunities for employee learning and personal development; (c) the extent to which they treat employees as people in search of meaningful work; (d) the honesty and sincerity of how they relate to subordinates; (e) strategies they develop to facilitate work-family balance. (f) ways they promote the spirit of camaraderie and teamwork; and (g) justice in their decisions involving incentives and rewards.

A project group faces many challenges that do not exist in the same way in a permanent organisation. According to (Tyssen et al., 2014) some of their challenges are limited time, changes in group constellations and hierarchies, high and more unpredictable risks, heterogeneous work teams, constant change of tasks and the pursuit of unique results. Effective leadership plays a major role in ensuring the success of the temporary project team. The study done by (Tyssen et al., 2014) examines the role of leadership in temporary projects. They focus primarily on the pros and cons of transformational and transactional leadership, their characteristics and their impact on a project team's performance.

Transactional leadership is more task-oriented where a performance is exchanged for reward between leader and follower. Transformational leadership focuses on the person and creates results by aligning the person's needs with the organisation's goals. Transformational leadership has been proven to have a positive effect on followers' commitment and motivation, as it creates a link between the person's actions and the organisation's performance. This is often done through an exchange process between leaders and followers for a long time where management is used to shape the follower so that its actions promote the organisation's long-term aims. According to the study, this process is often not possible within a project, which makes transactional leadership more useful as the reward given for the follower's performance is a direct motivating factor and an effective way to create results between leaders and followers (Tyssen et al., 2014)

Tyssen et.al. (2014) also shows in the study that there are characteristics from the two leadership styles that can be effective in a project group to solve challenges the group faces. Transformational leaders often use charisma to connect with followers. Charismatic leadership can be an effective tool in a project as it provides inspiration, changes attitudes, changes values and expectations. Strong charismatic leaders have been shown to have a positive impact on subordinates' outcomes in projects. Being a successful charismatic leader aligns with being a role model for subordinates. Another trait in leadership that is mentioned successfully in a project is intellectual stimulation, which is also more part of a transformational leadership. The study shows that solutions to changing unique tasks are solved by subordinates if they are given access to intellectual stimulation by their leaders where innovation and their own initiatives are promoted. The heterogeneous tasks that arise in a project can be facilitated with the help of inspirational motivation according to the study. Due to the changing climate in a project, (Tyssen et al., 2014) believes that it is up to the leader to decide which leadership behaviour he or she should use and that characteristics from above all transactional, but also transformational leadership can create a successful project leader in temporary organisations. Previous research referred to transactional characteristics as the core component of effective leadership behaviour in organisations. However, both transactional and transformational leadership styles are related to leader effectiveness, with the best leaders demonstrating both transactional and transformational behaviour (Judge & Piccol, 2004)

Every organisation has a culture that every person in the group feels and is influenced by, which makes it important. Those who have a great opportunity to change within organisations are leaders and this can create a subculture within their project group. Creating a subculture that is positive for the project team, and that has its base in the organisation's culture, can take time and the leader needs to constantly work to promote this subculture. An effective way for a leader to create a positive subculture within their project group is to be present, listen, actively communicate and make sure that each person in their project group feels that they agree with the leader. It is then easier for the leader to start a positive change. Another way for the group leader to create change in culture is to praise the proactive behaviours of their employees. Someone who leads with hard discipline, only creates change in the short term. To align tasks to the people is also an important part for the leader to be able to create and maintain a positive project culture. All people are good at different things and all people are driven by different types of tasks. If a leader adapts the tasks according to the strengths and wishes of his employees, he can create a working group that feels happy to go to work, which in turn creates a positive culture. This also includes the leader himself, if the leader is positive and shows joy,

humour and light-heartedness towards his employees, this also contributes to a positive project culture that has a greater chance of being preserved throughout the project (Shein, 2017).

2.3 Measurement and evaluation

Work characteristics are often measured through direct observation, but when Rego (2004) and Rego and Souto (2004, 2005) developed and validated an instrument for measuring authentic psychological climates, they instead examined employees' perceptions of these characteristics. In this way, they developed strong authentic features that allow people in an organisation to nourish their senses of purpose, self-determination, impact, competence, belonging, meaning and enjoyment.

An evaluation can best be done if you have previously agreed on clear guidelines within the project group. The evaluation is made according to what the group has agreed on before. In order to increase the quality of the evaluation and to ensure that it is carried out, it should also be decided at an early stage who is to carry out the evaluation, how often and in what way. An evaluation can be done in several ways, including through different types of measurement tools, but also through personal daily contact with team members, which in many cases is called feedback. The results of an evaluation should be documented and saved, in this way a good evaluation contributes to the return of knowledge (Hultqvist & Sällström, 2016)

It has become more and more common for employees to take different types of tests that are included in measurements and evaluations. The industry that manufactures these tests and measuring instruments for organisations has grown strongly in recent years. The first intelligence tests were conducted in the early 20th century by Alfred Binet with the aim of identifying the children who needed extra support in schooling in France (Patterson & Scudder, 2020). 100 years later, there is access to over a thousand tests, where several tests are based on philosophies and research from, among others, Freud in the 1930s and Fromm in the 1940s and 1950s. Freud started his research by examining biological drives as an explanation for behaviour; he saw that these drives were shaped in the context of relationships. Further on Freud described seven personality types. The concept of personality types and relations evolved, where Fromm focused on adults in society. These psychologists and scientists created a knowledge and a foundation for how we look at relationships, personality types and group constellations today (Scudder, 2019) These psychologists and scientists created a knowledge and a foundation for how we look at relationships, personality types and group constellations today. Having this knowledge monkey has proven successful in business, companies and organisations. Different types of tests and evaluation tools have therefore been developed, such as Strength Development Inventory (SDI), Dominant influential Steady Compliance (DiSC) profile and Belbin tests. The tests that are mainly used in organisations and companies are the tests that specialize in individuals, relationships and development.

In a measurement to create improvement and development of people within a group, it is required that the test method should be simple enough for it to be easily performed on one or more individuals. Results should be easy to remember for the participants and with a high face validity. In order to have a successful team where individuals must work together, the result

should be applicable to people's relationship and the analysis of the result should be done according to the purpose for which the test was performed, i.e. the analysis should be done according to the working environment at a Nordic construction site. the team is in. The person in charge should also ensure that training and follow-up is put in place when needed. Models and tools used may require application and the leader must make an assessment of what will be most useful and valuable to users. Models and results can be a concise guide to help leaders and employees understand themselves, provide them with a language for development conversations and can provide support for their future decision-making and project team creation. There are also many different tools available for measuring non-relational values within a group's performance, such as quality, time and economy. (Hultqvist & Sällström, 2016)

3. Methodology

When conducting an academic report there are primarily three common research approaches which are a deductive approach, inductive approach and abductive approach (Bell et al., 2019). An abductive approach is a combination of the two and is according to Dubois & Gadde (2013) an approach where the authors use systematic combining which is an iterative process going back and forwards between the theory and the empirical study and so developing the theoretical framework and the empirical analysis simultaneously. This method is especially suitable for business research applying a case study method, and the method fits into this qualitative study. It started with a basic literature review to build a theoretical understanding and later on the literature study progressed parallel to the case study in order to create a deeper understanding of the theoretical and empirical data, which correlates to the characteristics of an abductive approach.

The basis for the empirical study is found in a case study with a medium-sized construction company active in the Swedish construction industry. Observations are made from an ongoing construction project, where its project group and the organisation as a whole are observed and semi-structured interviews with 23 individuals are conducted. In order to achieve a result with a strong connection to theory, the result from the empirical study will be combined with a theoretical framework based on a literature review and collection of data and results from previous research. This creates an internal validity, where there will become a match between researchers' observations and theoretical ideas. Another reason that supports the choice of a qualitative method is the fact that the thesis is based on a study performed by Boverket (2019), which is quantitative. By making the report in a qualitative approach, the opportunity is created to gain a deeper understanding of the investigated problem as well as an in-depth discussion about areas for improvement and solutions.

This in turn means that a qualitative approach gives the opportunity to get a result that can be examined and adapted into the reality in the industry. A qualitative research method opens the possibility to give the industry realistic research results based on a process in natural settings instead of hard statistics, which can thus be applied in active organisations (Bell et al., 2019). The execution of the case study is presented in section 2.1.

A literature review was conducted early on in the study in order to build a theoretical understanding of the subject examined and use this as a basis for developing interview questions and a basis for the participant observation. However, as previously described the research approach is of an abductive nature and the literature review was ongoing parallel to the empirical study as new information arose. Material that were studied in the literature study are previous studies in the subject, books and scientific publications. Apart from literature provided by our supervisor at Chalmers and printed books search engines such as Google scholar and the Chalmers library platform were used. Keywords such as *organisational culture*, *project culture*, *construction management* and *leadership* were used in the search. To create an updated theoretical basis for the research, sources less than 15 years are not used, unless the theory the source contributes is valuable for the result and the information the source contributes is independent of time.

Findings from interviews and observations were compiled and analysed together with results from literature findings, which then lays the foundation for discussion and conclusion. The

approach in the research is based on triangulation, where findings obtained from interviews can be cross-checked via observations and scientific literature, which creates a higher credibility.

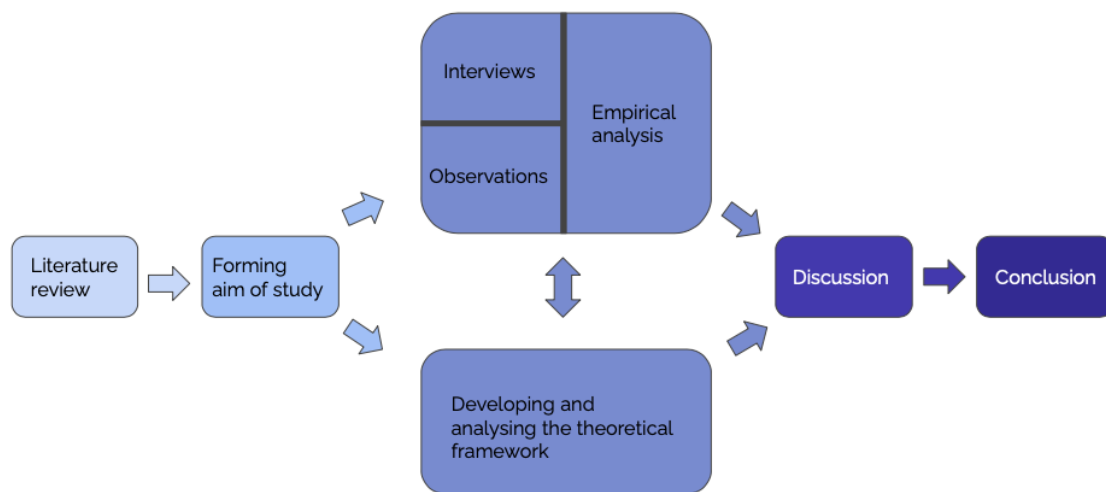


Figure 3. Method.

According to (Bell et al., 2019) reliability and validity are important criteria in establishing and analysing the quality of a research. Internal reliability is ensured by the travel being done by two people and there is a constant dialogue between them about execution and progress that is made. External reliability is more difficult to achieve because it is impossible to "freeze" a social setting (Bell et al., 2019), but the performers of this study have tried to achieve external reliability by being transparent with the approach that enables others to perform similar studies. Internal validity can be ensured by having a researcher within the social setting and they will investigate for a long time and in this way a high level of congruence is ensured. Findings from the study can be generalized over other similar social settings, i.e. the Swedish construction industry, which ensures external validity. It should be noted, however, that findings from this study are primarily aimed at medium-sized companies in the construction industry or companies that are in a phase of expenditure in terms of resources and employees. The report also follows the law regarding copyright to ensure a report with ethical quality.

There are several limitations to this study. The case study is made within one company, where observations were done on one construction project and the interviews were held with participants within one company. One thing that constitutes a limitation for the study is that it is carried out in a limited area in the world where there is a certain culture in society. The industry is also affected by the prevailing societal culture in which the companies operate, which means that the results from this study are primarily applied to local areas or organisations and companies that operate in areas with similar cultures. Another limitation is that due to lack of time, as well as limited given access from the construction company, only one member of the research group could make observations, which gives a limited perspective on the events observed. There is also a limitation in terms of diversity where 98% of the participants were males and everyone had the same ethnicity.

Due to the fact that the Covid-19 pandemic was ongoing throughout the research period, all interviews were held via video calls with digital tools to avoid the spread of infection. This

allowed the interviewees to be more flexible with the choice of time for the interview and they could conduct the interview in their home environments. Covid-19 was a limitation in the sense that the observations were made during a work period where crowds were avoided, which led to different working conditions with few meetings and site visits.

3.1 Case Study

Midroc Europe is a group that is active in the construction, investment and industrial sector with about 4,000 employees and has its roots in 1996 (*Midroc*¹, 2020). The group consists of 15 companies, one of which is the construction contractor Midroc Construction, MC. MC was founded in 2014 and is active in southern Sweden and in Stockholm, where they primarily focus on partnering and collaboration projects with Midroc's own property development company Midroc Property Development, MPD. MC aims to create long-term relationships with clients and their investment will pay off in the form of a high-quality product. (*Midroc*², 2020)

Observations are made at the construction site, where one of the researchers is placed for six months, 2 days a week on site. It is a project consisting of 73 high-quality apartments and 4 premises divided into two buildings, in an exclusive residential area in southern Sweden. The construction project is characterized by unique design for each apartment, unique solutions for the buildings, requirements for high quality and both the schedule and the economy were under pressure during the period when the observations were made. Construction began in the autumn of 2019 and will be completed in the summer of 2021 and during the autumn of 2020, one of the production managers was replaced. The project is a collaborative project built by the contractor MC and the client Midroc Properties. The observations are mainly linked to the specific project where the observer is located and its project's internal group, but also MC's organisational structure. MC's project group consists of one or several production managers depending on the scope of the project, one site manager, one project engineer and one project manager. MC is responsible for project management and site management in above all the construction phase and aftermarket, but also some planning and design before construction starts. MC provides construction managers, site management and other administrative staff, but all craftsmen and mechanics are subcontractors purchased by MC for a specific project.

3.1.1 Interviews

Interviews are conducted with 22 people who are all employed at MC and one person who is employed as the principal at Midroc Business School. The 22 people who work at MC are everything from CEO to production manager. The reason why interviews are conducted with everyone who is employed at MC is to get an objective holistic view. By having a holistic approach to research, an opportunity is created to see the whole in what is being investigated instead of concentrating on parts (Bell et.al 2019), which gives the researchers the opportunity to get an overall picture of the organisation. To get comparable results even though interviewing individuals at different positions a question frame was developed, and the interviews were conducted through a semi-structured approach. There are various formats for interviews, such as unstructured, semi-structured and structured. The choice of semi-structured method for the interviews in this research is chosen to create a framework with a high level of comparability while still being able to get further clarification and deeper insight through follow up questions. In qualitative interviewing, one can depart from the set interview guide, allowing said follow-

up questions and enabling change in order or wording of questions. As a result of this, qualitative interviewing tends to be flexible and responds to the direction in which the interviewers lead the interview while enabling the interviewee to elaborate their answers further. Another advantage of having qualitative interviews is that it enlightens issues that are undetectable to other data collecting methods (Bell et al., 2019). The questions asked during the interview were pre-determined and the framework for the questions was shaped by the literature review, where the researchers used the topics that were connected to a positive project culture, performance and organisational structures. The areas that were included in the question frame were leadership, routines, the individual's motivational and performance factors, communication, culture in the project group and evaluation and measurement. By creating a framework of questions based on a literature review, there is a result with a scientific basis and can be compared with other similar interview research studies (Bell et al., 2019). However, to encourage interviewees to develop their answers and think freely through the interview, only predetermined overall topics were given to the interviewee before the interview and not specific questions, which gave the interviewee the opportunity to intuitively and spontaneously answer the questions instead of concentrating on a specific question. It also resulted in the researchers having the opportunity to adapt the interview according to what subject the interviewee wanted to elaborate their answers around. The interview results were then presented in the section findings divided into subject areas linked to the literature and the research questions. To get a more comparable result, statistics were collected by researchers paying attention to different topics and words spoken by several individuals when talking about a particular topic. These topics and words were counted and then compiled into tables presented in the section 4. Findings.

The interviewees were also always given the opportunity to change the time of the interview according to how they felt during the day of the interview, for example if they were stressed they got the opportunity to change the time for the interview, which was used by an interviewee. Conducting the interviews on both the researcher's and the interviewee's terms, where the interviewee feels calm and secure, is a success factor when questions are asked about sensitive topics, such as how they feel at work and their feelings about their colleagues (Bell et al., 2019). This opportunity was given to each interviewee so that he or she would have the best opportunity to be present during the interview. The interviewer was also asked to conduct the interview in a way that would enable him to answer the questions undisturbed. Walle (2014) noted that interviews tend to be one-on-one conversations in which the connection between the informant and the investigator is important. In this study both researchers have been present at the interview, one had the active role as the interviewer and one had a more passive role and took notes, the roles were not fixed but alternating. In this way, the interviews were conducted, as one of them held the interview and the other was more passive and observed the conversation and wrote notes. In order for both researchers to be as present as possible at the interview, the interviews were always recorded, which meant that the notes during the interview did not have to be as extensive. The question was always asked to the interviewee if they agreed to be recorded and that the recording was only for the purpose of being used for research.

By considering and actively working for a high level of business research ethics, the researchers believe that this thesis has been made as a high ethical research and good conditions for everyone involved. This is made by a consideration for protection of privacy through confidentiality, where all interviewees are anonymous. The anonymity of the interviewees was of great importance, in order to receive the employees' true opinions and avoid bias in the

research. For this reason, participants are identified by their occupation. Interviewees were informed that their answers would be confidential and their anonymity would be kept. By informing participants in a study that their participation takes place anonymously, researchers can take part in a more realistic result (Bell et al., 2019). The privacy of the people observed in the observation study was considered by not linking data to specific individuals and in that way the person's anonymity was kept. Only 8% of the interviewees were women and to ensure their anonymity, the decision was made that when referring to people within findings, the pronoun "he" has been used to describe everyone involved. This was also informed to these women, which meant that their actions and responses during the interviews were not affected with regard to privacy and anonymity. A constant dialogue was also held with MC's top management to obtain informed consent for the research that was carried out. Describing a person's working title or tasks has also been made with care to take into account the anonymity of those involved. Before the interviews, the participants gave verbal consent for being recorded for the purposes of the study. The audio recorded was stored and erased after the analysis.

3.1.2 Participant observation

To get a deeper understanding, observations were performed by one of the members of the research group, one to three days a week at a construction site, and also attended several events and meetings within two project groups and the organisation MC as a whole. Participant observation is according to Walle (2014) a form of learning by doing, where the investigator enters a social arena to become personally involved with what is studied and gain knowledge through personal experiences and interaction. Participant observation is a beneficial method when wanting to understand complex and multifaceted matrices of response such as cultures. A key to good participant observation is to be involved long enough within a social situation in order for people acting normally during the observation phase. When making observations the concept of distortion should be considered. Researchers that are observing participants of a study in their daily work need to be aware that their presence has the ability to change others' behaviours, both consciously and unconsciously of the participants (Bell et al., 2019). Since the researcher making the observation is a part time employee at the building site and due to the observation progressing during several months the distortion that might be caused by an outsider's presence is negligible. Participant observation is done through a process of watching and listening and the primary tool for recording data is the mind of the researcher. The observations are later chronicled in field notes and written up as narrative accounts. Observations were made with participants' awareness, making them overt observations (Bell et al., 2019) However, the observations were made for a long time on several occasions each week and the observer was passive during the observations, which means that participants' actions and opinions were not significantly affected by the presence of the research.

4. Findings

4.1 Performance

MC's goal is to aim high and be "best in class" in what they develop and build, but also to create a positive difference according to the Management platform which is a document published by top management that is common to the departments of real estate and construction. In the document there are no clear guidelines documented for how to evaluate performance in a common way in the company. Due to the interview study involving the whole department of MC (Midroc Construction South) the definition of performance was alternating. When primarily asking the interviewees to describe performance many of them were unsure of the question and asked what we meant by performance. This indicates that the concept is broad and that there is no established common definition within the organisation. After being asked to describe the concept of performance with their own words it was a pervasive theme that site management focused more on the aspect of time, project engineers often mentioned the financial aspect and aftermarket prioritized that quality when evaluating performance. However all of the three aspects, time, cost and quality were mentioned from all of the positions and when interviewing top management these three aspects were the ones mentioned as well. When describing the concept of performance top management said:

“Performance is when you reach the goals that are set before a project starts. These goals can be financial, qualitative or time dependent. You can get two of the three but never all of them in a project.”

This statement is strengthened by other of the interviewees describing that a project can have high performance within the project group even though the financial result is unsuccessful and the other way around.

“The finances and economics for a project are often very predetermined in early stages, the big decisions and decisive choices are made before the production has started. The success of a project often depends on the design of the building and how well the company made a strategic investment when acquiring the property. An economically successful or unsuccessful project can therefore sometimes be separated from the project groups' performance at MC. The subcontractors who work on site also have a great impact on performance at site.”

“The quality and time are very much linked to the project group and its performance and different types of projects can be successful in different ways. A project can go well financially and still feel like a failure due to group members fighting or not feeling good at work. On the other hand, a project can be financially unsuccessful, but can still be seen as a success due to everyone's hard work, good teamwork and a high quality product.”

When making observations on site, the impression has been that people look at performance in different ways. An example of how this has been shown is if you look at what the employees in the production have chosen for priority areas to convey compared to project managers and the client. In the mandatory production safety introduction for every person who works at site, it is stated that goals for the workplace are "no errors when the customer moves in" and "no workplace accidents", i.e. focus on quality and work environment. The project manager and site manager who led the project group oscillate their focus depending on needs between time,

quality, cost and the group's well-being. This is noticeable through their questions to their employees and what they choose to spend their working hours on. According to observations, the client, who is not part of the project group, but who still influences the form of requirements, has not prioritized the group's well-being, but focuses mainly on quality and cost, but also time.

Besides the fulfilment of the clients' requirements about time, money and quality things that were brought up when asking about performance was the customer and the clients satisfaction, not only with the quality of the product but with the whole process, and the wellbeing of the employees of the project group. One of the interviewees makes it clear that he believes that performance is a mixture of delivering a product according to requirements, while everyone feels good. He emphasizes the importance of everyone's well-being in a group and that everyone's awareness, especially the leaders', is needed to create a good environment, however he also mentions that this is not always the case within the organisation.

“A high performance is when you live up to the clients' requirements and at the same time is creating a good working environment for the people in the project along the way.”

As seen in *table 3* 86% of the interviewees mentioned a belief that the project culture was strongly interconnected to the performance. It can not be excluded that the remaining 14% does not agree to this, since it was not a set question in the study, but rather something that most interviewees said while discussing project culture and performance. Even though the majority of the interviewees agreed that the project culture and the performance was connected, they at first had trouble finding concrete examples of how this connection turns out in practice which might imply that it is a somewhat untouched subject. When then describing the connection between project culture and performance many claimed that they as individuals performed better when the culture at the project was positive and the social aspect of work was rewarding. They also claimed that a positive project culture affects the communication between the members of the group, making it more open and thereby enhancing the performance. One example that was mentioned in the interview with the participant from Midroc Business School was a previous project from a different company, where the target cost was reduced by 40 million SEK mostly due to close interaction and communication between different actors within the project.

“Many knots were solved with collaboration and together solutions to things that became too expensive were found. When individuals come to their fullest, they become more efficient, prestige decreases, contact surfaces increase and more responsibility is taken.”

But also other aspects of project culture that increased profitability were mentioned.

“If the culture is prestigeless everyone can help each other, an increase in dedication and engagement makes it better for both us and subcontractors and so the profitability increases.”

“The culture is linked to profitability, a good well-being in the workplace reduces errors and injuries and increases efficiency.”

Some of the interviewees that agreed on the importance of project culture's impact on performance expressed that it was not sufficiently prioritised within the industry sector or the company.

“Overall the interconnection between culture, social relationships and profitability is underrated within the construction sector. If people are feeling good at their workplace they will create better results.”

An observation that was made by the researcher from a personal perspective was that the individual performance was increased as the personal relation to the co-workers got better, it enabled the researcher to ask for help with tasks and created a better understanding of what was required in a work manner. Social events such as ice-cream or coffee breaks during the first time as an observer may have happened by chance, but the group may also have felt that the researcher needed events to increase the personal connections in order to enhance the performance of tasks. These occasions resulted in a sense of belonging and the researcher performed better on given tasks.

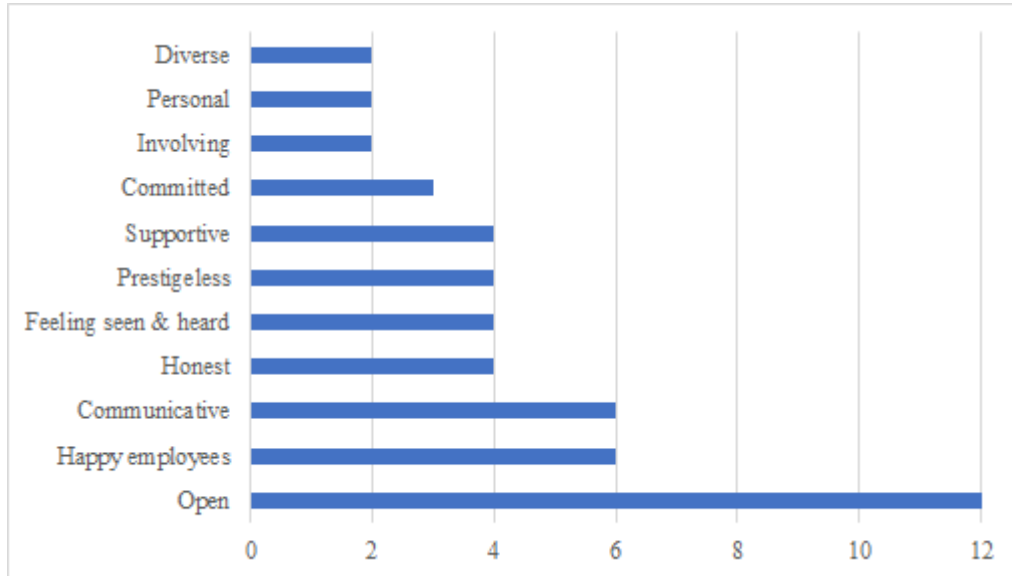
4.2 Positive project culture

When it comes to defining the term “a positive project culture” the majority of the interviewees described the wanted culture in similar ways. It was mainly described as a culture where everyone could be open towards each other and had fun together. A prestigeless culture where one could learn from mistakes instead of being blamed for them was a targeted culture.

“One must be able to say crazy things and think out loud since construction is much about solving problems on a continuous notice.”

In order to achieve the desired culture interviewees express that it is crucial that everyone feels important, seen and heard as well as implementing a functioning communication between the members of the team. It is also important that everyone has a common view when it comes to work, that the atmosphere should be characterized by everyone being committed to reach the goals. Participation and involvement amongst the employees are also aspects that are mentioned several times, that every individual strives for the same thing and that all members are being involved in the social culture as well as getting involved in time management, finance etc in order to get motivation and achieve the most. All interviewees mentioned that they get access to the right tools to increase their own motivation. However, some people said that they wanted more time to get acquainted with other areas than the ones they are currently working with, for example, production staff wanted to be more involved in cost calculation and employees in aftermarket wanted to be more involved in production- and design issues.

Table 1. Characteristics used by interviewees when describing a positive project culture.



A structured workplace and a clear division of labour and responsibilities were named as suggestions for creating a positive project culture, but many mentioned that in the wanted project culture supporting and helping one another is of greater importance. Interviewees thought division of responsibilities is important but that flexibility in this is crucial for a functioning project culture.

Observations were made regarding division of responsibilities on site. The site manager wrote lists of responsibility areas for each group member. This list functioned as a starting point for everyone's areas of responsibility and time but was reviewed together and could be updated during the process. It was rare to ask each other how each area of responsibility went, but everyone in the group seemed to have great confidence in each other and their abilities. They also seemed to imply that if a member of the group had problems with an area of responsibility, it was their responsibility to inform the others in the group and then get help with the task. However, the question that was asked on a daily basis was how the group members felt and how their day was, which not only gave the researcher the impression that everyone cared about each other but that there was confidence in their group members' ability regarding the responsibilities given and that if anyone needed help they said so. Other views on the division of responsibilities and who should perform different tasks were commented on by interviewees.

“The site manager should be able to go out and help on site with for example vacuum cleaning, if he is ahead in the administrative part of his work. It is a great culture when everyone has their function but your work can cross responsibility lines. It pays off to help everyone and it rubs off when you need assistance yourself, it contributes to a good atmosphere”.

“I believe that the culture in my current project is good and gives one opportunities to grow, a learning culture where people understand that sometimes things go wrong.”

On the subject of creating a positive project the interviewees share the opinion that it is affected by all involved. The feeling of the group is created by the individuals in it, but there is a need for the organisation and the leaders of the group to create the right conditions. This is also described in the company's management platform where they explain that their corporate

culture is created every day in continuous work together with all employees. The employee's own responsibility is explained in the management platform to be important for Midroc Properties, where 4 theses are presented that will promote the individual responsibility.

1. *We all have a "backpack" that affects how we are and how we interpret different situations and behaviours. We are all unique.*
2. *The more I know about myself, the more I can learn from myself and others.*
3. *We depend on feedback to be able to develop.*
4. *All change starts with myself.*

It is according to the interview study important for the employees own personal development and motivation to get the opportunities to find their own ways and according to *table 3* 50% of the interviewed persons mentions that a perk with MC as a company is the impact one has of their own work, that there is a culture defined by “freedom under responsibility”. The culture of MC is also described as a very open culture where terms such as “no closed doors” and “high to the ceiling” are frequently used. The majority of the interviewees feel that they can be open and personal towards their colleagues. The interviewees were all mentioning that they have been giving one or all of the parts stated above and that led to their high motivation for their work. The culture of MC is also often described as a culture of learning where failure is learned from and not blamed. However, the interviewees expressed a feeling of high responsibility and high demands on the individual performance, this was not said in a negative manner but it was mentioned that there was a fine line between it being motivating and stressful.

During the observations, the researcher noticed a remarkably high work pace. All group members had varied and many tasks, a high level of ambition and a strong will to create a good project. Expressions like *"it's fun to create something"* or *"it gets boring if nothing happens"* or *"it's a lot right now, but it's fun stuff"* were often used. Everyone seemed to enjoy their work and the pace that was kept, at the same time there were times when it was noticed that the stress and the high pace were not as appreciated. These occasions turned out when there were problems in production or with a subcontractor and the person's mood immediately became lower and the mood of the group a little worse due to the lack of energy. Another example of when the high pace of work in the group had bad consequences in my opinion as an observer is that on two occasions a similar statement was made from two different individuals with two different processions in the group. *"It's too much now, so it feels heavy and dark right now, but everyone else also has a lot too."* The perception of these situations was that the group members were reluctant to ask for help even though they had too much to do, as the others in the group also were stressed. This is also described by one of the interviewees when discussing how a new person might feel when joining a team at MC:

"It can be tough to get in as new in our project groups, because it is expected of you that you like a high pace with a lot of responsibility and an open climate. There is a lot of freedom under responsibility in this organisation, and if you do not like that, you probably will not stay."

When asked about successful teams almost all the interviewees indicated that they at some times were involved in one, many also meant that it was at MC. There were several aspects playing a part to why the teams got successful but the common denominator was the human factor. Some of the examples given even were projects where the set preconditions were unfavourable but the team was successful anyways:

“We had a project where very much went wrong, but due to all the problems the team got very tight-knit and it resulted in a successful team. If everyone holds their own corner of the table and one disappears (gets sick etc) the table will fall with that leg, so you must be able to support the team in tough situations”.

“The project was bad, but the team always had each other's backs. We had fun together, met up and had contact with each other outside of work. It became successful due to us having fun. “

In order to create a good group it is at several times mentioned that the combination of different people and characteristics/personalities is important. Efficiency is according to the interviewees based on differences and taking advantage of everyone's perspective and knowledge. For this to be possible it is important to create security and acceptance towards each other within the group. To create the most beneficial conditions for the group it is important to know each other's strengths and deficiencies and each other's motivational factors. A phrase that often is mentioned is team spirit and many interviewees describe the importance of sometimes dropping their own work to help someone else for the good of the group.

“It's all about the attitude, everyone in the group must be on the same page. The people within the team must be there for each other in order to perform and to reach goals.”

“Of course you should have differentiated groups, but what has made the team successful is that everyone supports everyone regardless of their role.”

When describing successful teams the interviewees seem to value personal relationships with their co-workers. They often mention the advantage of MC being a small company where you know the people working and mention that they can be personal and open, even if it is private issues affecting the work. Activities such as “parties” on the roof when it is done, shared coffee breaks, barbecues where everyone in the project group can join etc. where the employees get to talk to each other and build relationships is seen as important and beneficial for communication at work. These activities are restricted due to the Covid-19 pandemic, but are something that the employees want and value when the situation allows it.

“The success story for MC is that everyone knows each other, so you can joke around and have fun with everyone.”

Another thing that is repeatedly mentioned while discussing the team's build-up in order to create a successful team is the reuse of the same constellations of people. This is brought up as an effective way of getting to know each other's strengths and deficiencies in order to work together as productively as possible. Unfortunately this is hard to achieve in the building sector due to alternating subcontractors, consultants and other actors.

“Project organisations that remain intact make it easier to perform, even though the conditions for the project are different, everyone already knows each other and has a functioning teamwork. “

“At my previous workplace we had the same team for three projects and each project went better than the one before, we got to know each other and how we worked which made us save a lot of time.”

Another division that is mentioned when talking about how to create a positive project culture is Midroc Business School, which is described as an organisational carrier of culture. Midroc Business School has educational programmes regarding leadership and personal development available to the individual of MC and leaders can get assistance to create the right prerequisites for the wanted culture in new projects.

In the interview study there is an expressed willingness for this department of the organisation to have a bigger focus on the execution of culture and a way to implement the information given at the education in the daily work.

On the way to achieving a positive project culture there are obstacles. When letting the interviewees define these obstructions the human factor is commonly mentioned. Every individual in a group is important for its culture and dynamic. Since leaders have a big impact on the project culture they can also affect it negatively. The right individual in the right position is the key to success while the wrong person can be very critical for the group's dynamics and this is mentioned several times during the interview study.

“An obstacle to achieving a positive project culture is when the wrong individual becomes manager, it is very connected to personality.”

Other than the previously described obstacle of the wrong individual in a leading role, aspects that are commonly mentioned and connected to the individuals of the group are the sense of pride, a fear of failure in everyday work and the need for showing yourself to be competent.

“If the culture is prestigeless everyone can help each other and I think it results in an increase in dedication and engagement that makes it better for both us and subcontractors, and so the profitability increases.”

“The biggest obstacles to a good project culture is prestige, someone can not admit that they have done something wrong or need help and that they have a lack of knowledge.”

In an organisational perspective an obstacle that is brought up in many interviews is the desire to make money. It is crucial for a company to deliver financially, but some of the employees expressed dissatisfaction with cutting down cost playing a major role when setting conditions for projects and its members, instead they expressed that the focus should be on delivering a good product and satisfying the customers both for the project group and the organisation as a whole. Other organisational aspects that can affect the project culture in a negative way are poor communication lines, absent top management and unclear values and goals. An example stated by one interviewee was a project where there were issues with the communication and the project manager and top management did not interfere when they were needed. The fact that the leaders did not act when there was a problem resulted in a high workload and friction between group members at site which in turn resulted in a lot of errors and poor results. The interviewee stated a need for top management to be more attentive to the problem.

4.2.1 Leadership

Leadership is an important aspect to create a positive project culture, leaders act as role models as well as put the ground conditions for a functioning teamwork.

“I think that leadership is really important and that the leader is responsible for creating the culture.”

The interviewees were asked to state the characteristics that were most important in order to be a good leader. The results from this are presented in table 2. The characteristic that people thought was the most important was by a large margin responsiveness, that the leader was good at listening to the employees in order to create the best prerequisites for the specific project and group as well as being adaptive. They also thought it was important that the leaders are clear and structured in their work so that this can permeate the project group. If the leader is not structured and able to delegate the responsibility it negatively affects the whole group and the work environment becomes “messy”. It was also stated that a good leader should be communicative, thoughtful, supportive, trustworthy, open and humble.

The researcher found the experiences of leadership during the observations to be pleasant. It took a while for the researcher to realize that the leader was responsive and coaching. This was done, among other things, by the leader giving information where the researcher had to figure out how to set up the work and solve the tasks. The leader was available for guidance and answered questions that arose and asked how the researcher was feeling instead of asking how the job was done. The same leader could raise his voice and be authoritarian when needed, which showed that there were different sides of the leadership. During the observation study, the researcher was never harsh tones or the feeling of someone being run over, however, no serious frictions or mistakes arose within the project group, which might be the reason that harsh statements within the group were not needed. However, tendencies to be too humble were shown in leaders, for example where meetings did not become energetic and efficient due to the leader not wanting to control the group too much. A similar situation occurred when a subcontractor behaved badly and one leader within the group wanted to give them a harsh reprimand while another leader wanted to be humble and polite.

Even though the previously mentioned personality traits, that one might compartmentalize as softer traits, were the ones that were most appreciated when describing a good leader some of the interviewees believed that more powerful leaders were needed in the organisation. They felt a need for leaders with authority who acted more quickly in the event of problems in order to avoid errors in production and deteriorating work environment. Although some interviewees wanted a strong leader who acts, they also expressed that they preferred the leader to be of a more coaching nature than the stereotypical leader who points with the whole hand, an experienced and competent leader who is able to guide instead of steer and let the employees find their own ways to tackle problems.

“One can get 100% performance from a person who is happy and motivated in his work, but only 85% who is driven by a whip.”

“Leaders need to show that people are important. The role and function of the leader is to create security so that individuals can create together. The best leaders are those who do not have a need to be at the centre, but are genuinely interested in the development of others.”

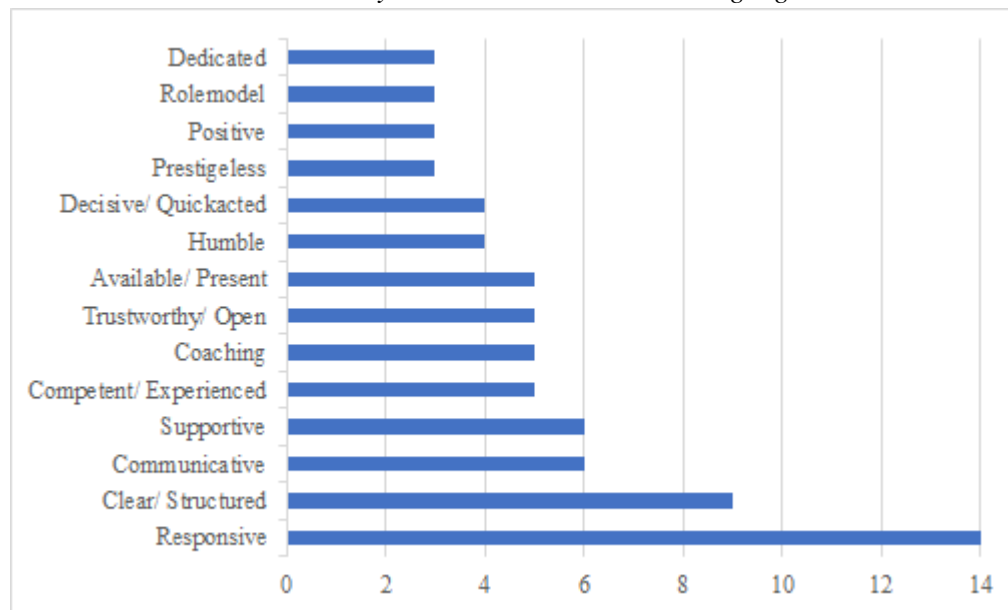
During the conversations several participants explained, whether they were leaders themselves or not, that a leader should set a good example and lead through his own good actions and behaviour.

“An important thing in my leadership is to notice the mood and if it is low I’ll try to ease it. This is done by anything from buying a cake to telling a real bad joke, it is all about unburdening, doing small corrections regarding workload, coaching and giving advice where it is needed.”

“In my own leadership I try to be precise and proficient and do a little extra to show good examples.”

In order to evolve in one's own leadership some of the interviewees mention that it is important to get support from the management of the organisation but that this support sometimes is missing. There are courses arranged by Midroc Business School, but more personal feedback on the particular individual's leadership is according to some interviewees deficient, especially amongst individuals active within the production.

Table 2. Characteristics used by interviewees when describing a good leader.



4.2.2 Communication and routines

When interviewees were asked to describe the communication within their team, there were several similarities and differences. There was a common opinion among all interviewees that communication within their project groups and within the company as a whole functioned properly, although some felt that there was room for improvement. There was an open and straightforward communication within each project group. On the other hand, there were several interviewees who had difficulty obtaining saved common information within the company in the form of documentation.

The researcher experienced during the observation an example of the ambiguity regarding company-wide information, as one of the researcher’s tasks was to write a digital information letter regarding the workplace and how the project was proceeding. The instructions were short, the letter was to be sent out about every 4 weeks and the researcher was given previous letters for inspiration. The task was performed continuously and the researcher observed that it was just their project that sent out information letters even though there were several other projects under construction. A few months later, everyone within the company received an email in which guidelines for how the monthly letter is to be executed in the future are described. After

this email, the researcher looked forward to reading more monthly letters in order to get inspiration, but these monthly letters were basically absent. It is possible that the instructions were misunderstood, but according to interviewees several employees experienced uncertainty in how documents and information routines are to be implemented. Several also said that the Covid-19 pandemic had prevented gatherings that are good for creating bonds and sharing information with each other.

“I appreciate the fact that MC is a smaller company and I believe that this results in a more cooperative organisation where there is support and openness throughout the different groups. But there is a flaw within MC when it comes to how to communicate goals and the follow-up on these goals within projects.”

“It is clear which communication should take place at MC. Obstacles are discussed continuously, it is good to have a daily basis of communication with everyone in the group. However, when it comes to indirect communication it is not as good. The documentation is poor and the structure of it is bad, you have to search for information instead of everything being collected at one place. One idea is to create a common imminent structure of the information and make it available for the whole corporation.”

“The current covid-19 pandemic is a challenge when it comes to personal contact and the ability to ask each other general questions within the organisation and that hinders learning from each other.”

An observation regarding communication within the project group was made where several group members expressed that they had good communication within the group. However, at a time when the group was exposed to high workload and stress for a few weeks in a row, a situation arose where the internal communication deteriorated. Since everyone in the group had a lot to do, two of the group members held a high work pace which affected their communication regarding planning, which decreased drastically and one did not know what the other was doing during the day and vice versa. As a result, deliveries were booked and collided and there was an atmosphere of frustration. One of the individuals raised the issue the same week and they discussed the situation and agreed to remind each other to be open in their communication to avoid misunderstandings. The communication and culture in the group was open enough for them both to resolve the situation before there were major consequences due to their temporary lack of communication.

A message that top management wants to get out to all employees is the importance of communication within project groups, to their employees within the company and to external actors who work with MC linked to the projects. This message is communicated, among other things, through their management platform, where a section is based on the statement "Communication is crucial in order to achieve goals". They also prioritize the topic during the annual safety week that MC holds within the organisation where this year's theme was communication. Part of top management for the company was then involved in various group exercises with the project groups where the importance of communication was discussed. Top management also stated:

“A good project culture is when communication is in focus and everyone understands the value of good communication. It is the key to everything in a project and optimal communication works through high transparency and accessibility, communication can take place all the time, not only on set meetings, but you can raise questions at any time.”

When the interviewees were asked what the routines looked like at a project start, several people, especially middle managers, had difficulties defining a start of a project and what happened at this stage, this due to their involvement in the design and production stage and the fact that these stages overlap. Several people agree that the start of a project is important for how the collaboration within the group proceeds and that the right resources on site at the right time are crucial to create good performance for the project from the start. The commitment to start-up meetings in projects seems to vary as the content of these meetings is explained in more or less detail by different people. Following are two different statements from the interviews from people who had different views of how a project start should be.

“Since the company is quite small everyone knows each other, so we have a nice little “kick-off” and have a drink after work.”

“The more time and energy one puts into the start-ups of a project the more positive is the impression of the project and its members.”

Some project start meetings have been held via digital platforms and some have had personal meetings. Digital start-ups are mainly used in design launches and many believe that it is difficult to get to know each other via a digital screen. At these start meetings, guidelines are set up regarding communication within the group, such as the expected time to receive answers to emails and expectations of each other and the desired culture within the project group. During these meetings, assessment tests are performed called SDI (self-development inventory) where individuals' needs, strengths and conflict management characteristics are shown. The results were used for the group members to get knowledge about themselves, each other and create a basis for discussion regarding the group's current status and development potential.

“The SDI test is good for getting an idea of oneself and others, something like that could perhaps be used more.”

Several also mention that they received support from Midroc Business School at some point during a project start. One aspect of a project start that is mentioned by many interviewees is that they appreciate doing an activity together, such as barbecuing, and that this improves the mood. Some interviewees mention leadership and management as an important element of a project start and that the quality of the start-up meetings have the potential to be better if the person holding the meeting leads it with enthusiasm and efficiency.

“I believe that it is important to get personal and open with colleagues early on in a project in order to create the best prerequisites for a successful project. This can be done by for example team building exercises, but also more informal events. On the latest project there was a barbecue hosted in one of the project members' gardens.”

“In the current project there were no clear rules at the start of the project due to the two persons already knowing each other. The team got new members and smaller introductions were held on responsibility areas and such. If it weren't for the Covid-19 pandemic there would have been an internal kick-off with the ones active in the project.”

“It is good to have workshops, you see flaws when they are not performed. “

An appreciated routine mentioned by all interviewees is the internal project meetings. The meetings are held every 4 weeks by the project manager and start with a check-in where

everyone in the project group can estimate their status and well-being on a scale between 1-10 which is encouraged to be followed with a short comment. During the project meeting, there are various topics that are discussed, such as finances, time, safety environment, quality and data collection connected to the project and its members.

“The well-being is coordinated about once a month at the project meeting, when everyone does a check-in with numbers and you can get an idea of the group members, which is good. This project meeting is a good means of reconciling well-being, finances and schedule.”

An observation was made during one of the internal project meetings, where a member of the project group asked what the numbers at check-in meant, how one rated oneself and what conclusions one should draw from them. Once the group began to discuss the meaning of the numbers, all perceptions and interpretations of the check-in were different, which in turn indicated that this routine within the meeting had not been discussed together in the beginning of the project.

The internal project meetings end with a feedback session, where the project members are encouraged to give feedback to each other, both positive and constructive. A lot of energy is put into the feedback from the management of MC, among other things because Midroc Business School has developed guidelines for how the feedback within Midroc Properties should go and they also educate staff on how to give their employees positive and constructive feedback. Some different areas that are taught are to receive and give feedback from an "I-feel" or "I-experience" perspective. Midroc Business School is mentioned in the interviews when feedback comes up.

"Midroc Business School is teaching us how to give & receive feedback."

"Maybe I should say feed-forward when I'm talking about our routines regarding feedback, as the Business School is teaching us to."

"The feedback session is a good opportunity to encourage, pep and praise the others in the group."

The interviewees believe that feedback is very important for their own development but also for the group's development, some even believe that it can improve their performance. Having feedback on the agenda at a project meeting was appreciated by several participants, but they also felt that spontaneous feedback during a working day was useful for the group. They also mentioned that the better the group members know each other the better the feedback got and it facilitates the process if there is an open climate in the group. All but two interviewees liked receiving feedback, both positive and negative feedback and several people mentioned that their leaders were good at giving praise and positive feedback. The two who did not think feedback was necessarily meant that they themselves were sufficiently aware of when they had done something good and bad, which made them consider the feedback to be overestimated. More than half of those interviewed thought that the feedback within the group could be improved. As seen in *table 3* 59% of those interviewed like to get feedback and think feedback is developing for themselves and a group, but do not give very much and want to be better at giving feedback.

During the observations, the researcher received positive feedback both for the work performance but also for the positive energy the researcher contributed with. However, something that was lacking was constructive feedback. Even at internal project meetings when feedback was planned, it was mainly positive feedback that was given, and during some meetings giving almost no feedback at all was given to each other. The times the feedback session was best was when the project manager who held the meeting came prepared and started the session by giving well-planned feedback to everyone in the group and then gave the floor to the next person. The times when the feedback sessions were worse was when the project manager did not come prepared and asked if anyone wanted to give feedback, which resulted in silence. As an observer the researcher once asked for feedback from the immediate boss, which resulted in short comments that the researcher was doing a good job, but no constructive comment was given even though it was asked for. However, the researchers' perception of the group was that they enjoyed working with each other and did not think that there was much that could be improved, but there was also a great cautiousness to give each other constructive feedback.

To measure the employees' well-being and feeling at work, an employee test is performed which everyone is encouraged to participate in. The test was done once a year voluntarily and anonymously. The results of this test usually show high results in regards to well-being, however, there are few routines regarding measuring and evaluating project culture according to the interviewees. When the topic of measurement and evaluation is addressed, few participants have anything to say about the topic, most say it is non-existent. Some explain that they think you get a sufficient idea of how the group is doing at the project meeting. One project manager described the final stage of a project since he has a routine to evaluate how the group has worked together, how it is measured and what he and others have done good and bad, and then bring the lessons to the next project. Some participants thought that even if measurement and evaluation were not done regarding project culture, their groups were probably open enough to be able to discuss and solve different problems if they arose, while others thought that this was a responsibility for managers and that it does not concern them.

"Measuring soft values can be difficult, but it would have been interesting to look at recent projects MC has had and evaluate quality, finances and the group's project culture to see if the results of the projects have been good compared to the group's well-being and ability to work together."

The routine that most participants missed was gatherings where one could discuss work-related issues together, but also just meet to have fun. Due to corona, it has not been possible to meet in large gatherings, but the interviewees who worked partly or completely from home made it clear that routines for social contact with each other within the company were now lacking.

4.3 Organisational impact factors and organisational structures

MC's top management attaches great importance to collaboration and creating an organisational culture that takes advantage of each other's strengths and knowledge, which leads to each project group being able to create the optimal conditions for being successful. This is stated in Midrocs Management Platform, where knowledge transfer and the evaluation

of a project and its group is said to be important and one of the success factors in order to achieve high performance and a positive culture. However, the interviewees had different experiences of the organisation's knowledge collection, sharing and transfer between projects. A majority of the interviewees expressed the importance of a functioning knowledge transfer and communication within the organisation in order to achieve good results and to contribute to a positive working environment. All interviewees believed that their knowledge was used and the majority of the interviewees even felt that it was used to a great extent. The few who felt that their knowledge was not used to the same extent, however, saw that it was likely to do so in the near future as their careers and areas of responsibility developed within the company. Within the subject of dispersion of knowledge within the company and feedback of experiences, the interviewees statements and opinions were more differentiated. The interviewees had different experiences regarding knowledge feedback and knowledge sharing between projects.

During the observations, the researcher experienced knowledge transfer in the form of a site manager discovering a mistake made during the design process that had a major impact on production and its schedule. The production manager immediately called the project manager to inform him that he wanted to include this event in the knowledge transfer. "This can not happen again and I am surprised that we have not learned to avoid things like this already" was said over the phone. Another observation that has been made is that on several different occasions the researcher heard comments regarding the collection of knowledge and the transfer of knowledge, for example "We found out that it could not be done from a previous project", "We must avoid procuring these subcontractors, because on a previous project they showed that they could not cope with the work required of them ". Small comments were thus made which showed that they brought knowledge from project to project, however, it seemed to happen relatively randomly and without a system where project groups could learn from each other. However, the people who work as project managers were more detailed in their answers and positive towards how the knowledge transfer process is executed within the company:

"After a project is finished there is a meeting where experiences from the projects are discussed but the knowledge is not transferred further within the organisation. This has potential for development, for example through the usage of checklists in order to work from previous experiences. There is no follow-up when it comes to project culture, the focus is more on the "harder" targets."

"Evaluation and knowledge feedback is done at the end of projects, there is a personal reflection on what you have done to improve and facilitate and what you have done wrong, so you do not just blame the subcontractors' performance."

"The organisation makes use of my experience and knowledge very well and I like that there are short decision paths."

"Some information is collected after the project in regards to what has been good and bad, but it is difficult to collect and use on new projects because we build different types of buildings. But I think it works well and there are different forums where the top management leads the process."

According to table 3 41% of all interviewees express an uncertainty regarding the flow of knowledge from the projects. They believe that there is a lacking system for knowledge transfer, that they have never been involved in the process, that it is not their responsibility or that they have no knowledge of MC's routines when it comes to knowledge transfer and knowledge collection.

“There is nothing within the organisation, you listen to them with experience and make use of their knowledge, but there is no system.”

“The knowledge transfer is not working so well, a good thing is when we meet from different projects and engage in conversation. Since we don't do standardized houses one needs to put more time and effort into reflection. Instead of starting off with a standard and then tackling problems as they come along the organisation should start by reflecting on problems in earlier projects and adapt these to the new circumstances. There should be better knowledge transfer available to everyone in the organisation.”

The interviewees also believed that the size of the organisation plays a major role when it comes to communication and knowledge sharing between projects and their groups and also regarding the collection of information. As seen in *table 3* 27% of the interviewees experienced that information was hard to find and several of the interviewees expressed a desire for a common system available for the whole organisation where all information was gathered systematically.

“In the subject of knowledge transferring the size of the organisation plays a big part. In a smaller organisation you can get a quicker response.”

“Synergies in terms of documentation, collection of knowledge and routines regarding security work (The work QEW, the employee responsible for quality-, environment and workplace safety, will do) needs to be more developed.”

Several of the interviewees expressed that the responsibility for implementing the routines regarding knowledge transfer and communication within the organisation lies on someone else than themselves.

“The middle managers must feel a responsibility when it comes to knowledge transfer.”

“The experience feedback has not been so good, but I hope it will be better. I believe that it is the responsibility of the companys' superior.”

Individuals within the organisation feel a great freedom in their work and the fact that each project group has the opportunity to create their own culture according to what suits the group and their specific preconditions. However, it appears in several interviews that communication between project groups within the organisation could be improved. Several middle and higher managers also had concerns regarding the common structure of the organisation due to a variation in routines and well-being in the different project groups. They expressed a belief that an increased awareness of the project groups dissimilarities might decrease these variations and affect the organisation in a positive manner.

“I think that the relations between projects and internal staff within MC could be better.”

“The sense of collaboration between the projects can be strengthened, we can help each other more than we do, but it might depend on the situation with the Covid-19 pandemic.”

“It would have been good to have study visits in different phases to give feedback to each other in the projects.”

A large majority of all interviewees express that they like their project groups and that they feel good together with their colleagues. They also stated that they get the right tools from their

colleagues in order to maintain a good performance at work. However, some express concern that everyone's well-being is not as good in the organisation and that everyone does not get the same opportunities.

“It probably differs how everyone feels and works, in some places it is good and in other places not.”

When asking what the interviewees believe can be improved within the organisation in order to improve the project cultures and the project groups' performance, there are different areas that are discussed. One of these areas was the importance of support, presence and commitment from top management, where according to *table 3* 46% of the interviewees experienced a lack of engagement from their top management.

“The top management of MC needs to be more present in the production, show more commitment and engagement for the projects and the people that are in production. For example, if I were responsible I would have forced everyone to make an employee interview instead of just asking if anyone wanted one, there is a big difference in those two, and this would probably give the top management a feeling for how it actually is in the whole organisation and an insight in the feelings of the employees.”

“The top management should involve themselves more in the project and its people, be more present and get a better idea of each employee's knowledge and experience as well as how they are as people. One example would be if they set up different levels and goals for each individual and strives to have a system where everyone gets credit based on their performance.”

“I think they should be more visible at the projects and have a routine where they make a phone call to each employee, in order to get a sense of how they feel and how the work is going.”

“If I was the boss I would be more present and engaged in the projects, meet more people and feel/see how it really is, because if you ask someone by email or phone how everything is going, they will always say that it's going well. It is important to see for yourself and build your own perception of both the project and the person's well-being. “

Another aspect raised by several participants regarding the impact on culture linked to performance was the size of the organisation. The interviewees said that it was a success factor to have a sense of community within the organisation and fast communication- and decision-paths. Some of them also expressed a concern in regard to the organisation developing and becoming larger.

“I hope they try to keep this size of the company, when it gets too big it becomes a completely different organisation, it becomes much more complicated if you want to change something, etc. I think it is very difficult to maintain self-governing leadership if the organisation becomes too big, then it has to be more managed.”

“I think that MC is on a good track regarding culture and hopefully they will continue on the same path. But I see a challenge in the organisation growing, it can be difficult to keep the familiar feeling when there are too many new individuals, to manage every employee and to get the right man in the right place at the right time.”

“Participation and involvement are important. The company is growing and that results in some of the departments not keeping up due to different priorities, all parts of the organisation should be equally important.”

During most days as an observer, there was a lot to do, but there were times the researcher could sit down and discuss with the people who were part of the project group and when the researcher explained the topic researched for this study, one employee said:

“Our top management has always prioritized culture, which I think is good. It is important that they continue to emphasize a sense of responsibility, openness and commitment to all employees and encourage this process even more and provide support to those who want to develop the process. They should, however, avoid pointing fingers at those who are not as happy in this work, then it may strike back at all of us.”

This is also reflected in statements from top management, as the researcher received an introduction about the company, top management values and the company's history. During this session, it emerged that the company is young and has since the beginning focused on creating an open and communicative corporate culture where the feeling is *“the small company where everyone knows everyone, but with the big muscles”*. During the observation, this was shown in various ways that have been presented in this section, but an expression that the employees often used, jokingly but with an undertone of seriousness, was *“we are working together to get there”*.

Table 3. Results from interviews.

Mentions that they themselves or production sites would need more support/presence from top management:	46%
Mentions poor functioning knowledge transfer between projects within the org:	41%
Mentions a believe that performance is interconnected to project culture:	86%
Likes to get feedback and think feedback is developing for themselves and a group, but do not give very much and wants to be better at giving feedback:	59%
Mentions trouble finding documents/information:	27%
Mentions freedom under responsibility or having high influence on own work:	50%
Expressed a strong sense of well-being with MC and their co-workers:	91%

5. Discussion

During the case study, the researchers received a very positive response, all interviewees seemed positive about the work and expressed curiosity regarding the finished report and both employees and top management wanted project culture to be prioritized and gain better knowledge regarding its connection to performance. However, most participants thought that topics such as project culture and its connection to performance were difficult to discuss. According to (Pollack et al., 2018) the most important aspect when evaluating performance is known as the Iron triangle which is the criteria of time, cost and quality and this is also found in the case study when asking the interviewees to define performance. The iron triangle exists as a basis and is reflected in definitions from both MC's management and employees in various positions, where most mention that a high performance is defined by either cost and quality or time and quality. Some argued that the client often created the conditions for which parameters would be prioritized when it came to performance. These priorities seem to be varying or be the result of a lacking early unified definition within the project groups, because several within a project prioritized different parameters when defining performance and believed the three pillars of the Iron triangle to be insufficient when evaluating the performance of a project. A study done by (Mellado et al., 2019) also established that the Iron triangle by itself is not fully adequate and that there is a need for new approaches when assessing performance outcomes, such as KPIs. During the case study most employees from all different work positions did not consider that the performance was high on a project unless the work environment was positive for them within the project group. This also shows a need for implementing more soft values than the ones included in the iron triangle when assessing performance in the construction industry and at MC.

According to (Zuo et al., 2014) characteristics that are connected to a positive project culture are amongst others, mutual trust and respect, open and effective communication, honesty and understanding of each other and willingness to help each other. The results from the case study confirms this view as the interviewees described a positive project culture to be characterized by openness in the whole group, unpretentiousness among everyone involved, honesty to each other and responsive and coaching leaders. The participants in the case study expressed that a positive project culture is created by good communication between top management, leaders and all employees and committed, energetic and responsive leaders within the project groups and within the organisation. This was also emphasized by (Hultqvist & Sällström, 2016) when they expressed the importance of leaders in order to establish the values of the organisation in practice and thereby nurturing a positive project culture. They also believe that inspiring, empathetic and structured leaders create opportunities for more effective communication, for example in the form of energetic meetings with an inclusive atmosphere. Many of these characteristics are found within MC and the leaders are very inclusive and unpretentious which is seen by them seeing everyone in the project group and that there are short and effective communication paths, however, some express that there is a lack of energy and positive force in the leaders, especially when meetings are held.

When elaborating the connection between project culture and performance the interviewees were more passive and had difficulties to concretize the correlation. There is a connection between aspects from a positive project culture also leading to an increased performance, due to good project culture and skilled leaders increasing the individual's motivation as well as misunderstandings and mistakes being avoided with the help of communication. This is

strengthened by (Rego & Cunha, 2008) who showed in their studies that stress and affective well-being are linked to self-reported individual performance. Affective well-being, mainly enthusiasm, energy and a sense of calm, have a strong correlation to variation in performance. Something that emerged through the interviews was that those who valued project culture had more concrete and clear answers when it came to goals and their own performance. This may be a sign that there is a connection where awareness and the desire to create a good project culture also results in higher performance for this specific individual. Another aspect regarding mental attitude in individuals came from (de Vries, 2004) where they in their study explain that an individual's mental attitude and general well-being in their life and inner peace can affect them by that they could feel stress but still be able to perform at a high level. It can therefore be argued that the individual's mental attitude and well-being can play a role in their personal performance, on more levels than the organisation can affect.

Workers who get opportunities for learning, flexibility in their work and personal development develop more enthusiasm and energy for their work and they experience their jobs as intrinsically motivating and rewarding (Rego & Cunha, 2008). This can provide an explanation for why the individuals at MC felt a high motivation regarding their work, as most expressed that they had a great opportunity to influence their work and that there was room for personal development within the company. Another aspect that was found to affect motivation and performance was the amount of work and the culture in the organisation regarding workload and the view of workload. Most employees at MC thought that they needed a high workload to keep their motivation up and to perform at their best. It was even mentioned in comments such as, *“if you can not cope with our high pace, you will not stay long”*. According to Zuo and Zillante (2005) culture is defined as the shared values, basic assumptions and beliefs of the participants in a group. These values form the basis for how the employees act, behave towards each other and perform their tasks and if an organisation wants to strengthen the culture actions performed by the employees that comply with the cultures direction should be encouraged. The fact that a participant in a project group can handle a high workload and stressful situations seems to be sought and encouraged within the organisation. Having employees who can handle a high workload and who express positive emotion regarding having a lot on their shoulders can provide benefits to a company in the sense that they have a high production share per employee, but in the interview study it is sometimes also shown to be counterproductive due to stress negatively affecting project culture which in turn degrades the performance as said by several individuals. Could it be that MC have a corporate culture that is defined by a high workload and that this is mirrored in the participants response regarding what motivates them or can it be that one generally performs better individually if one has a high workload?

There is a possibility that this statement applies in the construction industry as construction projects are defined by problem solving and time-constrained schedules, as mentioned by (Hultqvist & Sällström, 2016) . This aspect in itself is something that should be taken into account when examining the project culture in the construction industry. The most important success factor when establishing a project culture is as mentioned by Kotter and Heskett (1992) the cultural fit with the environment i.e., that the project culture should be adapted to the specific conditions for the particular project. As a suggestion, architects who should be creative should have a very open climate where one should not be afraid to think freely while construction contractors where there are hard goals and high stress should have a culture of structure, clarity and authoritarian and energetic leadership, which contradicts the desired project culture found through the case study. (Hultqvist & Sällström, 2016) declares that

construction projects are characterized by urgent situations, high demands on flexibility and dynamic approaches and an important task for the leaders in the construction industry is to get individuals in complex constellations on site to collaborate in order to achieve the goals. This puts demands on project culture and in order to create the right prerequisites for success, management must act in a proactive manner when dealing with it. Through the case study a challenge with balancing the softer attributes of the wanted culture and the stereotypical systemic culture of the construction industry based on plans, budgets and steering documents is found. As previously mentioned, the focus on working together, having an open culture where involvement is key and a culture where everybody is getting seen and heard seems to make people engaged and motivated according to the interview study and employee satisfaction is mainly based on MC being a flat organisation with kind leaders, freedom under responsibility and inclusion. Science also confirms that these factors which increase the impact that the employee has on one's own job as well as creating opportunities for personal development makes the work more intrinsically motivating (Rego & Cunha, 2008). However, in the case study some contradictions to this are found, the high workload that comes with the freedom under responsibility etc. in some cases makes the employees stressed as previously mentioned, which affects communication within the project group negatively.

The challenge of balancing the soft values of the culture and the harder values with the structure also mirrors the employees' wanted leader. There is an ambiguous view of leadership where the soft, responsive leader is praised at the same time as a strong, distinct leader is needed. In order to create a positive project culture, (Wu & Li, 2015b) concluded that the most essential parts of leadership were influence and role modelling, caring and individual respect, motivation and coaching, which also emerged in the interviews with the employees. (Tyssen et al., 2014) states that a transactional leadership style, which is more task oriented and performance, is exchanged for reward is the most useful when working in project form but that there are certain characteristics connected with transformational leadership that is also suitable due to the changing climate in projects. Traits that are mentioned as beneficial for the project form are charismatic leadership and intellectual stimulation where leaders use charisma to connect with the followers by for example acting as a role model and provide opportunities for intellectual stimulation for the employees by promoting their own initiatives. The results from the case study shows that characteristics wanted from a good leader are among others responsive, structured, communicative, thoughtful and coaching, reinforcing Tyssen et al.s (2014) view that a combination of the transactional leadership with its more structured and clear characteristics and the transformational leadership where the employees are more in focus is preferred. In the interviews it was also stated that one as a leader must act in the way that complies with what is expected from others, in other words acting as a role model for the employees. (Shein, 2017) explains that in order to change a culture positively or create a sub-culture from the organisational culture to the project the leader must be present, listen and actively communicate in order to make all members of the group agree. The leader should also align the tasks with the people's strengths and wishes in order to amplify the positive project culture as well as the individual's performance. In the case study it is shown that the leaders for the project possesses these characteristics, although in the observation study it was noted that in some situations there was a need for a more transactional leadership since the humble and communicative approach resulted in for example meetings becoming unenergetic or subcontractors not getting reprimands for bad behaviour. Some interviewees also mentioned that there was a shortage of acting leaders within the organisation, who took command, were energetic, authoritarian and respectful. According to some interviewees, this was desired by a leader, in addition to qualities

such as humility and empathy, which can be contradictory. Since the work in the construction industry, as mentioned earlier, is characterised by hard objectives and tasks, sometimes tougher steering from leaders is required and the characteristics that are mentioned for a preferable leader in the perspective of a positive project culture might not be the optimal characteristics for the project in a holistic view.

Aspects connected to the structure of the organisation and the project culture in need of improvement that has been brought up in the interviews are several, but one is the procedure of feedback. Many of the interviewees strongly appreciate receiving feedback and see this as an important tool for development, both in the team and individually, but many of these employees feel like they do not have any routines regarding the process and consider themselves to be bad at giving feedback. (Hultqvist & Sällström, 2016) expresses that feedback increases the openness of a group and provides an opportunity to create trust in each other and that it should be given in all project phases, both when the group is newly started and in the final phase. Concepts that are mentioned by (Hultqvist & Sällström, 2016) are also used by Midroc Business School, such as giving feedback from an "I"-perspective and the stages of feedback, and these are also mentioned by some of the interviewees. However, it does not seem to be done in practice and the interviewees also seem to be aware that it is not done according to MC's hopes and guidelines. This means that the feedback sessions are not made full use of. In order to make these sessions more effective the project managers need to lead the meeting with clarity, more energy and set a good example by for example starting the session themselves with giving feedback as mentioned by (Hultqvist & Sällström, 2016) For the structure of feedback to be developed, it places demands on the project managers, not only on their ability to give positive and constructive feedback themselves, but on their leadership ability. Guiding and encouraging the others in the group to improve their feedback requires strong leadership and energy from the leader. This is also confirmed by Ajmal and Koskinen (2008) where they emphasize the fact that the responsibility to create a positive project culture by merging cultures and creating routines with various individuals and professions lies with the project manager.

The tool of SDI is an assessment tool that is used in order to evaluate the individual and assess the group's dynamics is something that is mentioned positively throughout the case study and the majority of the interviewees thought that the tool was developing and useful, but it was used insufficiently. The tool is presented in the beginning of projects but it is not followed up during the project, which according to (Patterson & Scudder, 2020) is an important part when using evaluation tools, since the culture and the individuals in the group is a dynamic process throughout a project's lifecycle. According to the case study, there is no systematic routines when it comes to assessment and evaluation in an ongoing project, the only thing that is done is an SDI measurement and a discussion regarding the groups wanted culture at the project start as well as an evaluation at the end of the project, which both seems unstructured within the company, since several of the interviewees have different perceptions of what they have done in the project groups. In addition, several interviewees expressed positivity regarding having workshops and similar culture-promoting activities with their group more often. According to (Hultqvist & Sällström, 2016) social gatherings can help the group to create positive routines and patterns, which is especially important in a project group where the individuals do not know each other before the start. It can therefore be a great advantage for the project group to book a longer and more thorough project meeting or social activity frequently during the project, where they evaluate the culture and its connection to performance more deeply and have a discussion about this with SDI as a basis. The importance of reflecting within a group is emphasized by

(Hultqvist & Sällström, 2016) and in order to establish a lasting positive project culture and collaboration within a group there should be recurring evaluations by the members of the group. However, if there is no continuous follow-up of the group's culture linked to their performance, it was argued by interviewees that the work done in the beginning regarding culture and SDI tests is not effectively used and this process can then be removed in favor of saving time in start-up of projects. This is not preferable according to the researchers as the probability of damaging the project group's culture and the dynamics is bigger than the advantages gained from erasing start phases. It is also important that the employees are aware of the purpose of the tools used. When researching higher level motivational factors that are of particular interest for the development and the life in organisations (de Vries, 2004) shows that purpose and meaning among other factors are important. In the case study many existing routines such as SDI evaluations, check-ins in the beginning of meetings, knowledge transfer meetings in the end of projects and other things were done, but the awareness of why this was done was non-existent. The workers are very performance-focused and sometimes then miss the importance and meaning of the more formal routines that exist when starting up and along the project. When the awareness of why things are done is lacking, the motivation to do these things becomes low and the beneficial aspects of performing the routines goes missing.

Other areas at MC that are in need of an improved structure are the communication paths and indirect responsibility areas, especially between top management and the project groups. Science shows that top management must have a true commitment to the cause in order to affect an organisation's culture and to do this they need to create guidelines, educate the employees and set good examples through their own actions (Zuo et al., 2014). In the interview study many expressed dissatisfaction with the presence of top management in the projects and their involvement in problematic situations as well as top management expressed a feeling of getting notified late in case of these occurrences. Although top management expresses dissatisfaction regarding getting informed late when problems or friction occurs within a project group or with a project, they only have optional employee interviews within the company, which means that only those who express a desire to have an employee interview go and talk to their boss. At these meetings, top management also gets an opportunity to make an inventory of the knowledge that the individuals possess, which makes it easier for top management to place the right person in the right place at the right time. This was mentioned as an area for improvement by several interviewees. Making these employee interviews mandatory and letting everyone have an individual conversation could increase the probability for top management to find out such problematic occurrences in projects sooner, and vice versa. Efficient communication and information flows such as clear paths of communication and a more evident allocation of the different indirect responsibilities within the organisational structure, for example who to contact if a problematic work environment issue occurs, is according to (Hultqvist & Sällström, 2016) crucial for a teams productivity. When creating and maintaining a positive project culture (Duryan et al., 2020) emphasizes the importance of working actively with transferring lessons learned from accomplishments and failures between different projects within the organisation, which can be facilitated by clear paths of communication. In the case study it is seen that the structure and routines of knowledge transfer at MC is somewhat insufficient and that improvements can be done in terms of better communication between the different projects within the organisation and by establishing a system with clearer structure and documentation. Due to MC being a company where the employees seem to be very ambitious and forward going the employees themselves state that after a finished project the attitude is "forward, forward

and full focus on the next project”, but a better structure and clearer explanations of the advantages of knowledge transfer could be beneficial for the organisation.

6. Conclusion

This study started with an assumption that the culture within a project to some extent had an impact on the performance of said project and that organisational factors could influence culture. To examine this, a case study and a literature review was done, examining the project culture and its connection to performance, at Midroc Construction AB. Two research questions were aimed to be answered during this study;

- What characteristics define a positive project culture and what are the connections to performance in practice?
- How will project culture in relation to performance be prioritized within an organisation and how can management create the right prerequisites for it?

A positive project culture is a culture that creates a climate for the individuals in the group to perform at their best and the culture must be adapted to the purpose of the project. A positive project culture is identified by an open climate, communicative individuals, prestigeless and honest atmosphere and a climate where those involved feel seen and heard. The project culture at MC is very appreciated amongst the employees interviewed and the study showed indications of connections between the project culture and the performance, both the holistic performance of the project and the individual performance for the persons within the group, but that this connection could be difficult to define in concrete terms. Most participants had a hard time defining when they performed at their best, what characterizes a good leader and when they felt motivated. Can one then conclude that reflection and evaluation regarding soft values and its connection to performance is not common in construction organisations? The answer to this is not simple, but the results produced through this study shows that individuals and organisations as whole do consider soft values and the relation between positive project culture and performance. However, there is room for improvement and the old construction industry values from the past are still lingering.

The project culture's effect on performance was connected to the individuals well-being and motivation. Many of the interviewees claimed that they performed better when the culture was positive and one saw the social aspect of the work rewarding in regards to performance. When the individual had a high well-being at work the efficiency increased and errors decreased since the focus and ambition was improved. The interviewees also claimed that a positive project culture increased communication within the group which facilitated learning and increased efficiency. The positive project culture with an open climate and low prestige also encouraged people to help each other and ask for help, and thereby also increasing the performance.

Through the case study one can see that project culture is prioritised within MC, but that there is a challenge with balancing the softer attributes of the wanted culture and the stereotypical systemic culture of the construction industry. The fact that MC is a relatively young company might be the reason for this since it does not have a well-established structure in regards to the project culture and routines are malleable. MC seems to be in the top tier of the industry when it comes to acknowledging culture, but the routines that facilitate the maintenance of positive culture are lacking. When creating and establishing routines one must acknowledge both the hard values that are required from the fast-moving construction industry with small economic margins, but also the softer ones from a more humanitarian perspective. Systems and routines such as follow up, feedback, usage of assessment tools and knowledge transfer are lacking. The awareness of these procedures is low and if employees do not understand the purposes,

implementing routines will not have the desired effect. Suggestions for improvement are the following.

1. Routines regarding group members' well-being are being established with check-in on project meetings. However, these are not evaluated over time. A suggestion is to follow up check-in numbers during the project lifecycle and save the individual's numbers throughout the project, for the project manager to analyse them in regards to performance at the end of the project. It enables the project managers to see patterns in well-being in relation to the production and performance stages of the project.
2. Feedback is used in the company but not in a structured manner. There are clear guidelines set by Midroc Business School, but employees appreciate feedback more when it comes spontaneous and naturally. Employees express difficulties giving feedback in a constructive way, but find it very rewarding to receive. In order to develop the feedback process the awareness of why it is done and how it should be done effectively should increase. This can be done by leaders starting the session with stating good examples on project meetings.
3. If one is to value the project culture at the beginning of the project, among other things by using SDI as an assessment tool, it should be a continuous process updated during the project, especially if new members come in. It can be useful to get more support from Midroc Business' School also in this process, which can lead to the potential of SDI tests being fully utilized.
4. Knowledge transfer is a routine already established but is not made full use of. Every group member should be involved in the end meeting and be involved in the knowledge transfer process, as well as they should be involved in the lessons learned process from the previous project when establishing a new one. The knowledge that is transferred should not only be hard values and production lessons, but also softer values and lessons learned regarding culture and social settings. The aftermarket should also be more involved in the lessons learned routines. Preferably, the new QEW (employee responsible for quality-, environment and workplace safety) should assist the project managers with evolving this routine. Several interviewees also noted that it was difficult to find structured and clear information and data in common digital workspaces, this is also something that QEW could assist with.

The previously stated suggestions for improvements is for project managers a challenge, where competence, commitment, time and their leadership are put to the test. Also leaders are exposed to the challenge of balancing soft and hard values. The industry is built up by hard goals and a fluctuating process with many unexpected situations, however the employees appreciate a humanitarian responsive leader. Characteristics that are important are responsive, structured, communicative, supportive, coaching, competent and trustworthy, but it is also expressed that a leader must be decisive and quick to act in problematic situations. A leader must possess both transactional and transformational characteristics and the ability to be adaptable in their leadership is of great importance in order to create a positive project culture while still retaining the hard goals of the project.

The employees perceived absence of top management which is contradictory since many interviewees mentioned appreciation towards the flat organisation and the advantage of having such short ways to the nearest manager. The fact that it is an ongoing pandemic resulting in restricted working conditions must be acknowledged. This means that top management does

not have the opportunity for example site visits etc. and this might affect the perception of the employees. In which case the closeness to management is important to the employees and should be considered and prioritized when the pandemic is no longer an issue. Top management should also consider making an inventory of staff, its knowledge, its strengths, weaknesses and their personality types. Having the right resource in the right place at the right time is a success factor for a project, and if there are more employees within the company, it can be difficult to allocate all resources and show each person that their knowledge is appreciated. Giving confirmation of one's performance turns out to strengthen an individual, strengthen loyalty to the employer and increase their job satisfaction, which in turn leads to an increased performance.

MC wants to stand for cooperation within the organisation and to create something together. This is noticeable within the organisation as communication and community are prioritized. The employees express a desire to prioritize the softer values to create good results. A young company does not have the baggage of older values and traditions that are otherwise mentioned to still permeate the construction industry. There is an challenge within a company that wants to be flat, have close contact with the managers and maintain a family feeling while the company grows and structures are required to cope with the major technical challenges that the company faces when producing complex, high-quality construction projects.

7. References

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