EINDHOVEN UNIVERSITY OF TECHNOLOGY

Department of the Built Environment

Managing cultural and perceptual distance to enhance project success

A case study and business tool development at Royal HaskoningDHV

Master's Thesis
In partial fulfillment of the requirements for the degree of Master of Science in Construction Management & Engineering (CME) at the TU/e

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Colophon

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CULTURE: from the Latin *cultus*, which means *care*

Preface

You have before you the thesis 'Managing cultural and perceptual distance to enhance project success'. This master thesis is the final product of my graduation project for the master Construction Management and Engineering (CME) at the Eindhoven University of Technology. It is the result of a six-month research on organizational culture and perceptual distance during an internship at Royal HaskoningDHV.

During my study period I have been on several internships and international experiences. Insights gained during those periods inspired to focus on research related to culture, performance and success of (project) groups working together. For the past 6 months I have been working on my graduation project and I can say that despite the bumps along the way I am satisfied with the result. Therefore, I would like to thank some people.

First of all, I would like to thank my thesis committee, Qi Han, Josette Gevers and Bauke de Vries for their guidance, feedback and knowledge during the past months. Furthermore, I would like to thank my colleagues at Royal HaskoningDHV and in particular Dorien de Ridder for their guidance and business insights during my graduation internship. Without your help I could not have delivered the same level of quality. Furthermore, I would like to thank my friends and roommates of ‘t Slotje for all the great memories of the past years at TU/e and in Eindhoven. Finally, I would like to thank my parents, brothers, family, and friends for all the support, motivation, and needed distraction during my studies.

I look back on my student days at Eindhoven University of Technology as a great time full of memories with in particular the exchange period at the National Taiwan University of Science and Technology in Taipei. I look forward to all the new events and opportunities my future career will bring.

Stijn van den Nouweland

Eindhoven, July 2020

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Summary

Organizational culture plays a vital role in relationships during (inter-)organizational project collaborations. Historically, construction companies put more emphasis on tangible assets over the intangible assets, which can be traced back to the culture within the industry. Focusing on intangible assets contributes to project's success in which the human capital side is of utter importance. Project success is the entirety of 'value' that is realized in a project and project management success relates to managing those elements along which value is created with tangible aspects (e.g. budget, schedule, scope, quality, resource, and activity) and intangible aspects (e.g. relationships, trust, and future prospects). Without the effective collaboration of individuals, it is difficult to achieve the project team's objectives. A project's success is achievable with sufficient project management and the most important aspect of this is to create an environment in which people work together to achieve a common goal, which is intertwined with the culture of an organization. Culture is still a highly untapped competitive advantage experiencing constant changes in environment in which organizations operate. Companies develop, learn, and adapt themselves over time to withstand competition, which creates an organizational culture consisting of patterns of assumptions and behavioral patterns, such as habits and routines. Cultural and perceptual differences could be beneficial because they allow for different perspectives on a project. However, more often they result in confusion, conflict and frustration that hinder project performance and success. Eventually this results in misaligned expectations and perceptions of business partners and the collaborative projects worked on, which is referred to as perceptual distance.

Aim

Within the project management literature, many studies can be found that address different aspects of organizational culture and perceptual distance, however, a total overarching approach on both topics is lacking. Therefore, the research question states: *How can perceptual distance and differences in organizational culture be managed to boost the project performance, and thereby improve collaboration-based project success?* In an answer to the research question, the aim was to develop a business case tool, which is focused 1) on cultural differences – which are characteristics of organizations at large, and 2) on perceptual distance – which pertains to different views between collaborating parties in a project. The combined focus allows organizations to (periodically) assess both topics for further optimalization of the relationship during (inter-)organizational project collaborations.

Results

The current research indicates that differences in organizational culture and perceptual distance pose both challenges and opportunities for the collaborative relationship. The organizations within the case study projects all show different organizational cultures which can additionally be traced to the perceptual distance that occurs between partners in the collaborative relationship. The most common clashes in culture and perceptual distance can be related to the extent of being organized, vision of project managers and the difference in perception regarding results, communication, flexibility, and information provision. A business tool was constructed which offers project managers comprehensive and combined instrument for assessing cultural and perceptual distance, which was previously unavailable and will benefit collaborative project outcomes. Open discussion between both parties within the collaboration leads to pre-empting organizational cultural differences and changing practices with respect to the perceptual distance dimensions. The business tool has the most

added value and should be used during the initial phase of the project to highlight not only the tangible but also the intangible effects that are becoming increasingly important in modern projects. Further optimization of the business tool softer, intangible, people-related factors can lead to even better deployment of the tool for future case study projects, which eventually benefits the collaboration-based project success.

Limitations & Recommendations

The current research also has some limitations. First, the research is not conducted inter-organizationally, but internally within RHDHV. Therefore, results within this thesis show only one side of the dyad for both the survey and interviews, which makes it difficult to generalize the results. Consequently, to (cross-)validate the findings in this research, case study projects need to be used with organizations on both sides of the dyad. Therefore, it is recommended for RHDHV to use the business tool during inter-organizational collaborations with clients to (periodically) assess differences in organizational culture and perceptual distance. The results generated from the tool should be discussed by both parties through open discussions which can lead to pre-empting negative consequences based on organizational cultural differences and changing practices with respect to the perceptual distance dimensions. Furthermore, additional research is needed on implementing soft factors (e.g. team viability) of a project collaboration in the tool and further optimization of the follow-up actions, which need more practical value to get deeply embedded in the project organization. Projects have less chance of success without the human factor being equally important as the generic success factors (e.g. time, quality, budget, and results). Therefore, additional attention must be paid by RHDHV and other construction industry participants to intangible results such as team building and customer satisfaction. Besides, a larger sample size and a different rating scale is proposed for the OCAI based on literature. Next, an important limitation is that the tool was not found to be fully reliable on all perceptual distance factors, resulting in low perceptual distance scores even when parties were potentially found to disagree. This requires extra attention from the user and therefore this action is visually enhanced in the business tool. In addition, the organization should invest in cross-organizational learning between various project teams to gain new insights that could lead to valuable new approaches and possible innovations. Finally, future academic research is needed to establish the interrelationship of organizational culture and perceptual distance during project collaborations and its combined effect on project performance and success. In addition, research should further intensify its focus on the softer (human) factors of project collaboration to contribute to the needed change in the construction sector.

Conclusion

To conclude, organizations and their employees have long been condemned by COVID-19 to work from home, leaving contact between collaborating parties only online. The return of employees to offices and the recurring physical contact with customers provides excellent opportunity for the implementation of the business tool to intensify the attention to the collaborative relationship. By using the tool, project managers in the construction industry, on both sides of the collaboration, can encourage teams to take the collaborative relationship to new heights by generating a positive contribution to each other's expectations of project performance and satisfaction. Greater emphasis on the importance of the relationship will ultimately lead to a successful, long-term, and sustainable collaborative strategy that provides the necessary transformation in the construction industry.

Samenvatting

Organisatiecultuur speelt een vitale rol in relaties tijdens (inter-)organisatorische project-samenwerkingen. Historisch gezien leggen bouwbedrijven meer nadruk op materiële activa dan op immateriële activa, wat kan worden teruggevoerd op de cultuur binnen de sector. Focussen op immateriële activa draagt bij tot het succes van projecten, waarbij het menselijk kapitaal van het grootste belang is. Projectsucces is het geheel van "waarde" die in een project wordt gerealiseerd en projectmanagementsucces heeft betrekking op het managen van die elementen waarlangs waarde wordt gecreëerd met tastbare aspecten (b.v. budget, planning, scope, kwaliteit, middelen en activiteit) en ontastbare aspecten (b.v. relaties, vertrouwen en toekomstperspectieven). Het succes van een project is haalbaar met voldoende project-management en het belangrijkste aspect daarvan is het creëren van een omgeving waarin mensen samenwerken om een gemeenschappelijk doel te bereiken, wat verweven is met de cultuur van een organisatie. Cultuur is nog steeds een zeer onbenut concurrentievoordeel dat te maken heeft met voortdurende veranderingen in de omgeving waarin organisaties opereren. Bedrijven ontwikkelen, leren en passen zich in de loop van de tijd aan om de concurrentie het hoofd te bieden, waardoor een organisatiecultuur ontstaat die bestaat uit patronen van aannames en gedragspatronen, zoals gewoonten en routines. Culturele en perceptuele verschillen kunnen gunstig zijn omdat zij verschillende perspectieven op een project mogelijk maken. Echter resulteren zij vaker in verwarring, conflicten en frustratie die de prestaties en het succes van een project belemmeren. Uiteindelijk resulteert dit in verkeerd afgestemde verwachtingen en percepties van partners en de samenwerkingsprojecten waaraan wordt gewerkt, wat wordt aangeduid als perceptuele afstand.

Binnen de projectmanagement literatuur zijn veel studies te vinden die verschillende aspecten van organisatiecultuur en perceptuele afstand behandelen, echter een totale overkoepelende benadering van beide onderwerpen ontbreekt nog. Daarom luidt de onderzoeksvraag als volgt: Hoe kunnen perceptuele afstand en verschillen in organisatiecultuur worden gemanaged om de projectprestaties te verbeteren, en daarmee het op samenwerking gebaseerde projectsucces? Als antwoord op de onderzoeksvraag is gestreefd naar de ontwikkeling van een business case tool, die zich richt op 1) cultuurverschillen - kenmerken van organisaties in het algemeen - en 2) perceptuele afstand - verschillende opvattingen tussen samenwerkende partijen in een project. De gecombineerde focus stelt organisaties in staat om (periodiek) beide onderwerpen te beoordelen voor verdere optimalisatie van de relatie tijdens (inter-)organisatorische projectsamenwerkingen.

Het huidige onderzoek geeft aan dat verschillen in organisatiecultuur en perceptuele afstand zowel uitdagingen als kansen vormen voor de samenwerkingsrelatie. De organisaties binnen de casestudy projecten laten allemaal verschillende organisatieculturen zien die bovendien terug te voeren zijn op de perceptuele afstand die ontstaat tussen partners in de samenwerkingsrelatie. De meest voorkomende botsingen in cultuur en perceptuele afstand zijn te relateren aan de mate van georganiseerd zijn, visie van projectmanagers en het verschil in perceptie ten aanzien van resultaten, communicatie, flexibiliteit, en informatievoorziening. Er is een bedrijfsinstrument geconstrueerd dat projectmanagers een uitgebreid en gecombineerd instrument biedt voor het beoordelen van culturele en perceptuele afstand, dat voorheen niet beschikbaar was. Open discussie tussen beide partijen binnen de samenwerking leidt tot het voorkomen van culturele verschillen binnen de organisatie en het veranderen van werkwijzen met betrekking tot de perceptuele afstandsdimensies. Het

bedrijfsinstrument heeft de meeste toegevoegde waarde en moet in de beginfase van het project worden gebruikt om niet alleen de tastbare, maar ook de niet-tastbare effecten te belichten, die in moderne projecten steeds belangrijker worden. Verdere optimalisatie van het bedrijfsinstrument zachtere, immateriële, mens-gerelateerde factoren kan leiden tot een nog betere inzet van het instrument bij toekomstige casestudie projecten.

Het huidige onderzoek heeft echter enkele beperkingen. Een belangrijke beperking is dat het onderzoek uiteindelijk niet interorganisationeel is uitgevoerd, maar intern binnen RHDHV. Daarom tonen de resultaten binnen deze thesis slechts één kant van de samenwerking voor zowel de enquête als de interviews, wat het moeilijk maakt om de resultaten te generaliseren. Bovendien om de bevindingen in dit onderzoek te (cross-)valideren, moeten casestudie projecten worden gebruikt met organisaties aan beide zijden van de samenwerking. Er wordt aanbeveelt dat RHDHV het bedrijfsinstrument gebruikt tijdens interorganisatorische samenwerkingen met cliënten om (periodiek) verschillen in organisatiecultuur en perceptuele afstand in kaart te brengen. De resultaten van het instrument dienen door beide partijen te worden besproken in een open discussie, wat kan leiden tot het voorkomen van negatieve gevolgen op basis van verschillen in organisatiecultuur en het veranderen van praktijken met betrekking tot de perceptuele afstandsdimensies. Bovendien is bijkomend onderzoek nodig naar de implementatie van zachte factoren (bv. teamlevensvatbaarheid) van een project-samenwerking in het instrument en de verdere optimalisering van de vervolgacties, die meer praktische waarde moeten hebben om diep in de projectorganisatie te worden verankerd. Projecten hebben minder kans op slagen als de menselijke factor niet even belangrijk is als de generieke succesfactoren (bv. tijd, kwaliteit, budget en resultaten). Daarom moet door RHDHV en andere deelnemers uit de bouwsector extra aandacht worden besteed aan immateriële resultaten zoals teambuilding en klanttevredenheid. Bovendien wordt op basis van de literatuur een grotere steekproefgrootte en een andere beoordelingsschaal voorgesteld voor de OCAI. Vervolgens is een belangrijke beperking dat het instrument niet volledig betrouwbaar bleek te zijn op alle perceptuele afstandsfactoren, wat resulteerde in lage perceptuele afstandsscores, zelfs wanneer partijen het mogelijk oneens bleken te zijn. Bovendien moet het investeren in het uitwisselen van ideeën van verschillende projectteams om inzichten te verwerven die mogelijk leiden tot waardevolle nieuwe benaderingen en innovaties. Ten slotte is toekomstig academisch onderzoek nodig om de onderlinge relatie tussen organisatiecultuur en perceptuele afstand tijdens project-samenwerkingen en het gecombineerde effect daarvan op projectprestaties en -succes vast te stellen. Daarnaast moet het onderzoek zich nog meer richten op de zachtere factoren van projectsamenwerking om bij te dragen aan de noodzakelijke verandering in de bouwsector.

Concluderend kunnen we stellen dat organisaties en hun werknemers door COVID-19 al lang veroordeeld zijn tot thuiswerken, waardoor het contact tussen de samenwerkende partijen alleen nog maar online plaatsvindt. De terugkeer van medewerkers naar kantoren en het terugkerende fysieke contact met klanten biedt een uitstekende gelegenheid voor de implementatie van het bedrijfsinstrument om de aandacht voor de samenwerkingsrelatie te intensiveren. Door gebruik te maken van de tool kunnen projectmanagers in de bouw, aan beide zijden van de samenwerking, teams stimuleren om de samenwerkingsrelatie naar nieuwe hoogten te brengen door een positieve bijdrage te leveren aan elkaars verwachtingen van projectprestaties en -tevredenheid. Meer nadruk op het belang van de relatie zal uiteindelijk leiden tot een succesvolle, langdurige en duurzame samenwerkingsstrategie.

Abstract

Organizational culture plays a vital role in relationships during (inter-)organizational project collaborations. Historically, construction companies put more emphasis on tangible assets (e.g. budget, schedule, and quality) over the intangible assets during project collaborations (e.g. relationships, trust, and future prospects). Focusing on these intangible assets contributes to project's success in which the human capital side is of utter importance. Cultural and perceptual differences could be beneficial because they allow for different perspectives on a project. However, more often they result in confusion, conflict and frustration that hinder project performance and success.

To give insights in these aspects, this study aims to develop a business tool which is focused on the combined effect of organizational culture perceptual distance during inter-organizational project collaborations. The tool focused on 1) cultural differences – which are characteristics of organizations at large, and 2) on perceptual distance – which pertains to different views between collaborating parties in a project.

By means of a literature review, organizational culture, perceptual distance, project performance and project success are analyzed. Two case study projects are used to answer the surveys based on the questions from the Organizational Culture Assessment Instrument (OCAI) and Perceptual Distance Monitor (PDM). In addition, in-depth interviews are used to validate the survey results and the usability of the developed business tool.

The results show that the most common clashes in culture and perceptual distance can be related to the extent of being organized, vision of project managers and the difference in perception regarding results, communication, flexibility, and information provision. The constructed business tool offers project managers a comprehensive and combined instrument for assessing cultural and perceptual distance, which was previously unavailable and will benefit collaborative project outcomes. By using the tool, project managers in the construction industry, on both sides of the collaboration, can encourage teams to take the collaborative relationship to new heights by generating a positive contribution to each other's expectations of project performance and satisfaction. Greater emphasis on the importance of the relationship will ultimately lead to a successful, long-term, and sustainable collaborative strategy that provides the necessary transformation in the construction industry.

Referral lists

List of abbreviations

RHDHV:	*Royal HaskoningDHV*
FTE:	*Full-Time Employee*
PTE:	*Part-Time Employee*
OC:	*Organizational Culture*
PD:	*Perceptual distance*
PP:	*Project Performance*
CVF:	*Competing Values Framework*
OCAI:	*Organizational Culture Assessment Instrument*
PDM:	*Perceptual Distance Monitor*

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Text box 16 *Success of tool (1)*
Text box 17 *Success of tool (2)*
Text box 18 *Additional comments*

1. Introduction

In this chapter, a brief elaboration of the problem definition is presented, followed by the problem outline containing the research questions this study aims to answer, research design and expected results are presented.

1.1. Problem definition

The construction sector is one of the largest in the world economy, with about $10 trillion spent on the buildings, infrastructure, and industrial installations every year. The sector is the backbone of the global economy, and the demand is rising. By 2025, the amount spend on construction-related goods and services is projected to total $14 trillion. However, in comparison to the global economy, the sector is lacking in terms of increasing project complexity, extensive regulation, high fragmentation, misaligned contractual structures, and underinvestment's in digitization, innovation, and capital, which are all specific for this market. By boosting this, the industry could produce more for this investment, leading to a fundamental improvement in the world's infrastructure and the quality of life of citizens. Construction-sector participants should rethink their operating approaches to avoid being caught out in what could be the world's next great productivity story (McKinsey & Company, 2017a). The industry focuses mostly on the tangible aspects of the business, such as technologies and types of contracts. The tangible aspects are given priority over intangible aspects such as human resources and culture, which can be explained by the educational background of people in the technical-oriented construction industry (Pries et al., 2004).

Every construction project starts with project management and the most important aspect of it is to create an environment in which people can work together to achieve a common goal, to deliver successful projects on time and within budget (Seymour & Hussein, 2014). Without the successful and effective collaboration of individuals, it is difficult to achieve the project team's objectives. Given that the human-capital side of construction projects is so important in the project's success, it is necessary for companies to focus on intangible assets to make this transition possible. People are (at every stage of the project) at the core of a business operation and managing them is not just a matter of applying established methodologies, which compromise flexibility (Smits, 2017). While the circumstances in the construction sector changed, the culture has not evolved simultaneously. Vissers et al., (2020) state that culture is a highly unexploited competitive advantage in the technical-oriented construction sector, where the long cycle times add a factor to the slow development rate. This leaves construction companies with an obsolete culture, which is unable to adapt to the complexities of today's construction industry. Goran et al., (2017) state that shortcomings in organizational culture are one of the main barriers to company success. Cultural changes within companies will always be slower and more complex than the technological changes that necessitate them. Therefore, it is even more critical for executives to take a proactive stance on culture. Leaders will not accomplish the speed and agility they need unless they build organizational cultures that perform well across functions and business units, embrace risk, and focus obsessively on their customers.

Next to organizational culture, there is an increased interest in inter-organizational collaborations taking place in an industrial era in which markets are dynamic and subject to great change (Borgatti & Foster, 2003). Markets are evolving and organizations are periodically confronted with fundamental changes in their environment, such as Covid-19,

which can make innovations excel and drastically change corporate institutions' working environment (Timmers, 2006). Inter-organizational collaboration can be even more demanding when the stakeholder organizations operate in different fields and therefore have other ways of achieving certain results. While working on a project, organizations should strive for the highest degree of interaction between independent entities and coordination of actions to achieve the highest level of integration (Nicholas & Steyn, 2017). Van der Krift and collegues (2016) state that companies develop, learn, and adapt themselves over time to withstand competition, which creates an organizational culture consisting of patterns of assumptions. Due to their specific institutional contexts and background, employees are likely to have different attitudes, values, and beliefs. These aspects can result in differences in views, expectations, and perceptions between business partners and the collaborative projects worked on. Throughout the study of Van der Krift (2016) these dissimilarities are referred to as "perceptual distance" which is defined as *"the difference between collaborating partners' perceptions of key issues in their relationship".* When perceptual distance is present in the relationship between companies, it might cause a misalignment of activities and goals which may lead to an increase in costs, conflict, and a decrease of commitment and trust. The research has shown that these issues have detrimental effects on project performance (Van der Krift, 2016).

Recent studies show that there is a great deal of interest in research related to project management linked to organizational culture, perceptual distance, project performance, and inter-organizational collaboration. Based on these topics, the goal is to write a challenging study that has an impact on Royal HaskoningDHV's (RHDHV) business operations and processes and makes a positive contribution to the scientific research of the TU/e. The aim of the current research is to study the combined effect of organizational culture differences and perceptual distance on project performance, which contributes to a better collaboration-based project success, during an inter-organizational project collaboration.

1.2. Research question(s)

In this research, the combined effects of organizational culture differences and perceptual distance on project performance in relation to collaboration-based project success are studied. The differences in the organizational culture within an inter-organizational project collaboration could create an obstacle to processes and therefore hampers project performance but could also create opportunities that contribute positively to project performance. Organizational culture is a highly unexploited competitive advantage where human assets are increasingly important for organizations to make changes and support productivity. People are -at least in part- defined by their culture and are at the core of every business operation. Therefore, organizational culture currently receives significant attention from organizations within the construction sector and among other sectors. Besides, when perceptual distance is present in the relationship between companies it can have detrimental effects on project performance during an inter-organizational project collaboration. Also, the project success factors related to collaboration are essential to consider when managing projects and therefore necessary to include in this research study. The theoretical findings in the initial phase of the research are tested utilizing two case study projects, which are project collaborations between RHDHV and international client organizations Amazon and Janssen Pharmaceuticals. The aim of this study is not to change but provide insights in organizational culture differences and perceptual distance to boost project performance and thereby

improve collaboration-based project success. Correspondingly, this research will provide answers to the following research question:

How can perceptual distance and differences in organizational culture be managed to boost the project performance, and thereby improve collaboration-based project success?

1.2.1. Sub-questions

In order to answer the problem statement, four research (sub-)questions are formatted.

SQ 1: *What are the dimensions and elements of organizational culture, perceptual distance, project performance, collaboration-based project success, and inter-organizational project collaboration?*

- *What is organizational culture, and what dimensions define organizational culture?*
- *What types of organizational culture exist, and what does it mean for an organization to have a certain type of culture?*
- *What defines an international inter-organizational project collaboration?*
- *How to assess perceptual distance?*
- *How to assess project performance?*
- *What are the main project success factors related to inter-organizational collaboration, and what defines them?*

SQ 2: *What are the main aspects and/or dimensions to measure similarities and differences between the two project teams' organizational cultures that can cause friction or have a positive impact during the project using the Organizational Culture Assessment Instrument (OCAI)?*

- *What is the organizational culture of RHDHV and what defines it?*
- *What are the differences and/or similarities between the two internal project teams?*

SQ 3: *What are the main aspects and/or dimensions to measure perceptual distance on the project using the Perceptual Distance Monitor (PDM)?*

- *How to assess the differences and/or similarities within each of the project teams and how this relates to the collaborative relationship with the client?*

SQ 4: *What organizational culture differences and perceptual distance aspects are recognized as having the most influence on project performance and collaboration-based project success from a project practitioner's and business expert's perspective?*

1.2.2. Research model

The aim of this research is to develop a business case tool presenting the differences in organizational culture and perceptual distance during inter-organizational project collaborations. The combined focus on both organizational culture on organizational level and perceptual distance on project level will give insights in opportunities and challenges a project may bring. Furthermore, it allows organizations to (periodically) assess both topics for further optimalization of the collaborative relationship and eventually project success. Figure 1 shows the research model schematically.

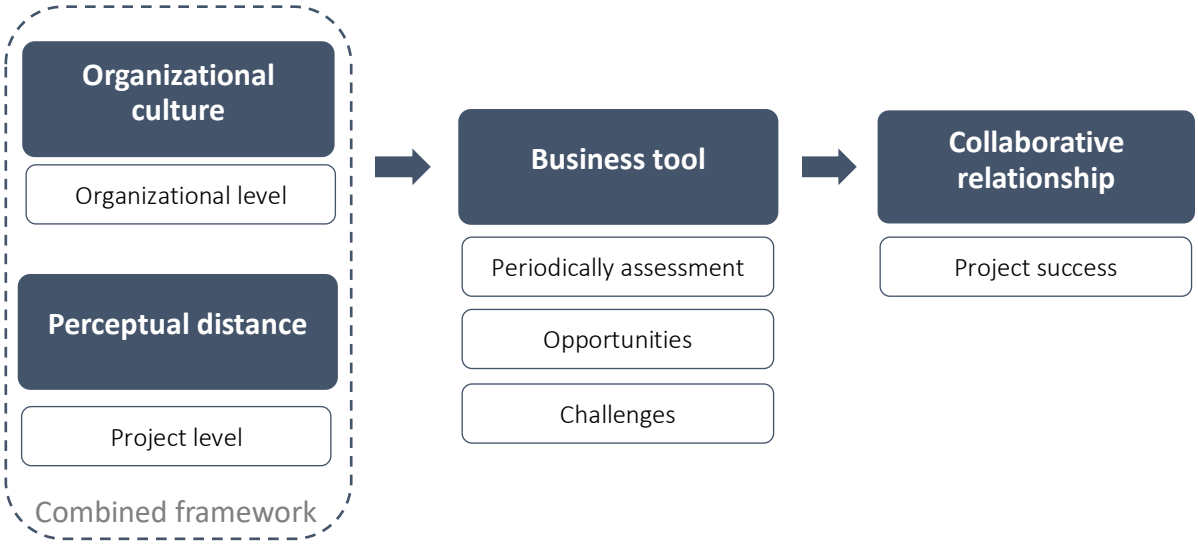

Figure 1 – Research model

1.3. Research design

First, the introduction provides the problem definition, problem outline containing the research questions this study aims to answer, research design and expected results as can be seen in Figure 2. Next, qualitative research in the form of a literature study will be conducted to build a theoretical foundation for the conceptual model and subsequent questions of the study. Relevant factors and dimensions regarding organizational culture, perceptual distance, project performance, project success, and inter-organizational project collaboration will be researched. Then, the case study starts by doing quantitative research in the form of an online questionnaire based on the theoretical frameworks OCAI and PDM, as presented by Cameron & Quinn (2011) and Van der Krift et al. (2020), which will be validated by qualitative in-depth interviews afterwards. The validation interviews will be held with project practitioners and business experts of both RHDHV to validate the result of the case study. The survey will give the input needed for the instrument that is designed during this research study. The designed instrument will focus on the combined effect of the theoretical frameworks (OCAI and PDM), on project performance, which will aim to contribute to the collaboration-based project success. As a result, the results generated by the instrument, which will be made in Excel, will have a reliable and validated academic basis. The results will be analyzed and processed in order to provide practical advice for project practitioners and RHDHV. The tool can be used on current and future projects of RHDHV to provide insight in the organizational culture differences and perceptual distance dimension with the aim to boost project performance and the collaborative relationship between client and RHDHV.

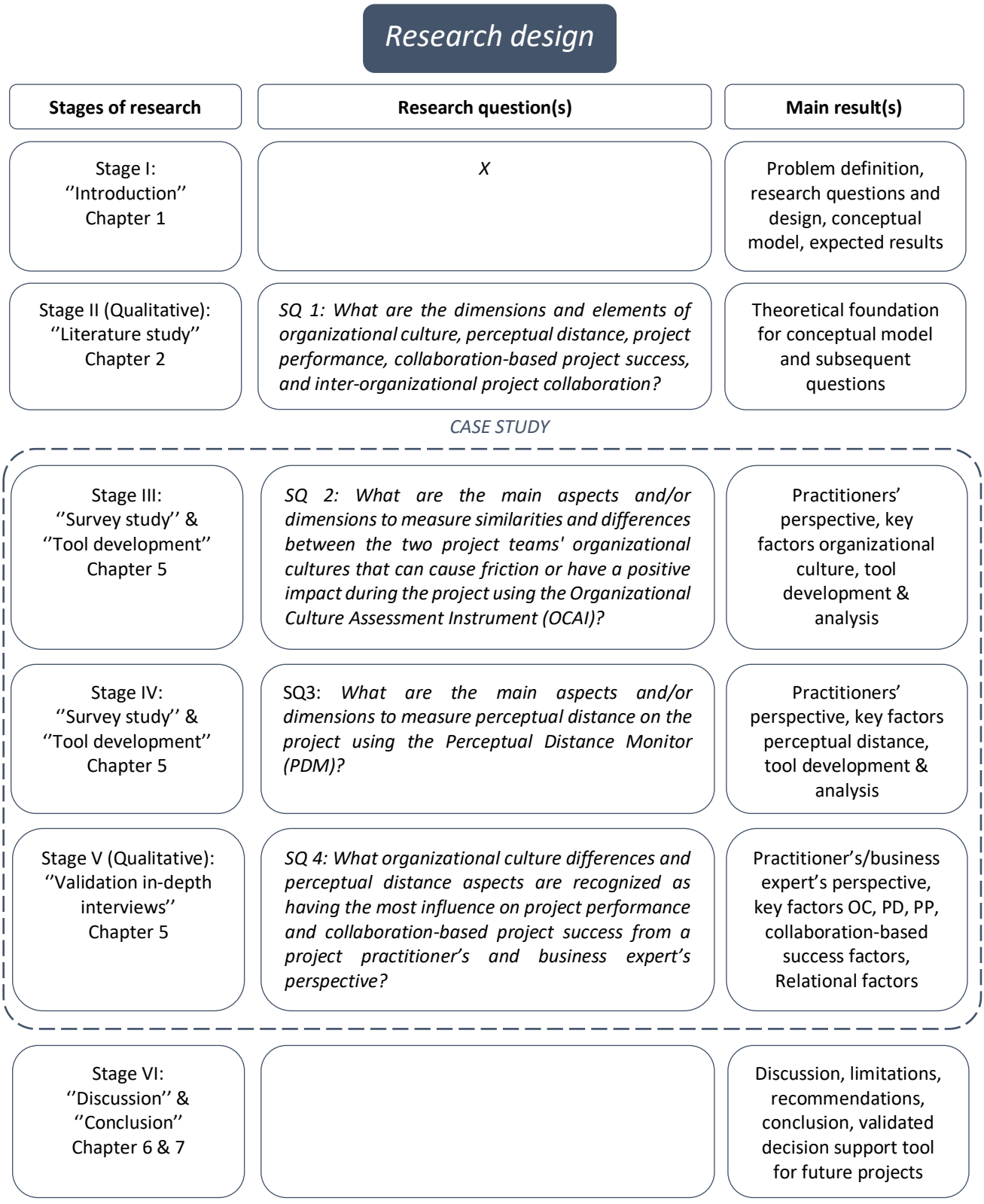

Figure 2 – Research design

1.4. Deliverables

The deliverables consist of several components, beginning with the scientific report. The main component is an instrument, which includes the combined validated theoretical frameworks OCAI and PDM that will provide insights into the challenges related to perceptual distance and organizational culture differences. The instrument or business tool will enable project managers to identify organizational culture differences and periodically assess perceptual

distance present during inter-organizational collaborations and thereby prevent or mitigate its negative effects on project outcomes. Also, the combined tool will provide insights in possible opportunities and follow-up actions to improve the collaborative relationship.

1.4.1. Originality

There is very little research concerning organizational culture differences and perceptual distance during an inter-organizational project collaboration in the construction industry. This research will go beyond improving project performance to offer insights in the collaboration-based project success by examining both organizational culture differences and perceptual distance. In addition, the research is conducted through a case study where RHDHV and two client organizations operating in different sectors enter a long-term collaborative relationship.

1.5. Outline

This paragraph explains the outline of the thesis, which is visualized in Figure 3. At first, the introduction is presented in the current chapter, which provides the problem definition, problem outline containing the research questions this study aims to answer, research design and expected results. After which the literature review is presented, which gives insight into the current academic literature regarding organizational culture, perceptual distance, project performance, project success factors, and inter-organizational project collaboration. Also, it will provide the definitions and link between the given subjects used during this graduation research. Next, the case study literature is presented, which will present both projects and the organizations present within these projects. Furthermore, the methodology chapter will elaborate on the methods and type of analysis used during this research. Furthermore, the results are presented of the survey study, in-depth interview, and business tool development. During this stage the business case tool will be built. Moreover, the discussion addresses the implications for theory practice and the limitations and recommendations of the research. Finally, the conclusion provides an answer to the research question.

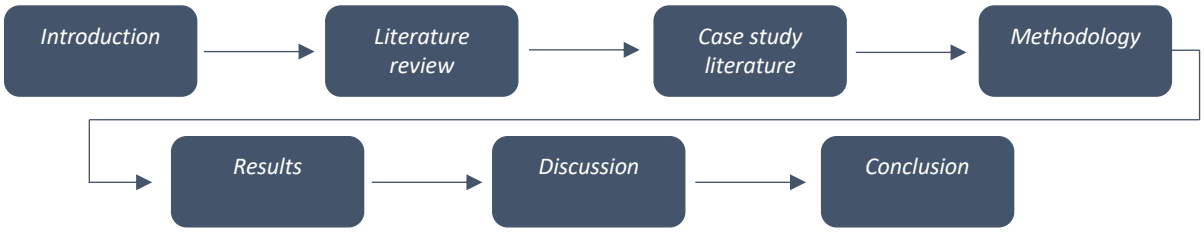

Figure 13 – Visualization of thesis outline

Literature review

This chapter presents the literature review which is performed to build theoretical knowledge and address current gaps in the literature. First, an introduction of the today's construction industry is sketched, and a project is defined, followed by observed trends in project management research. Based on these trends and identified gaps, the focus areas for the current research are further elaborated: organizational culture, perceptual distance, project performance, inter-organizational collaboration, and project success. The structure of the literature review is shown in Figure 4. With this information, this chapter will answer the first sub-question of the study, namely:

SQ 1: *What are the dimensions and elements of organizational culture, perceptual distance, project performance, collaboration-based project success, and inter-organizational project collaboration?*

- *What is organizational culture, and what dimensions define organizational culture?*
- *What types of organizational culture exist, and what does it mean for an organization to have a certain type of culture?*
- *What defines an international inter-organizational project collaboration?*
- *How to assess perceptual distance?*
- *How to assess project performance?*
- *What are the main project success factors related to inter-organizational collaboration, and what defines them?*

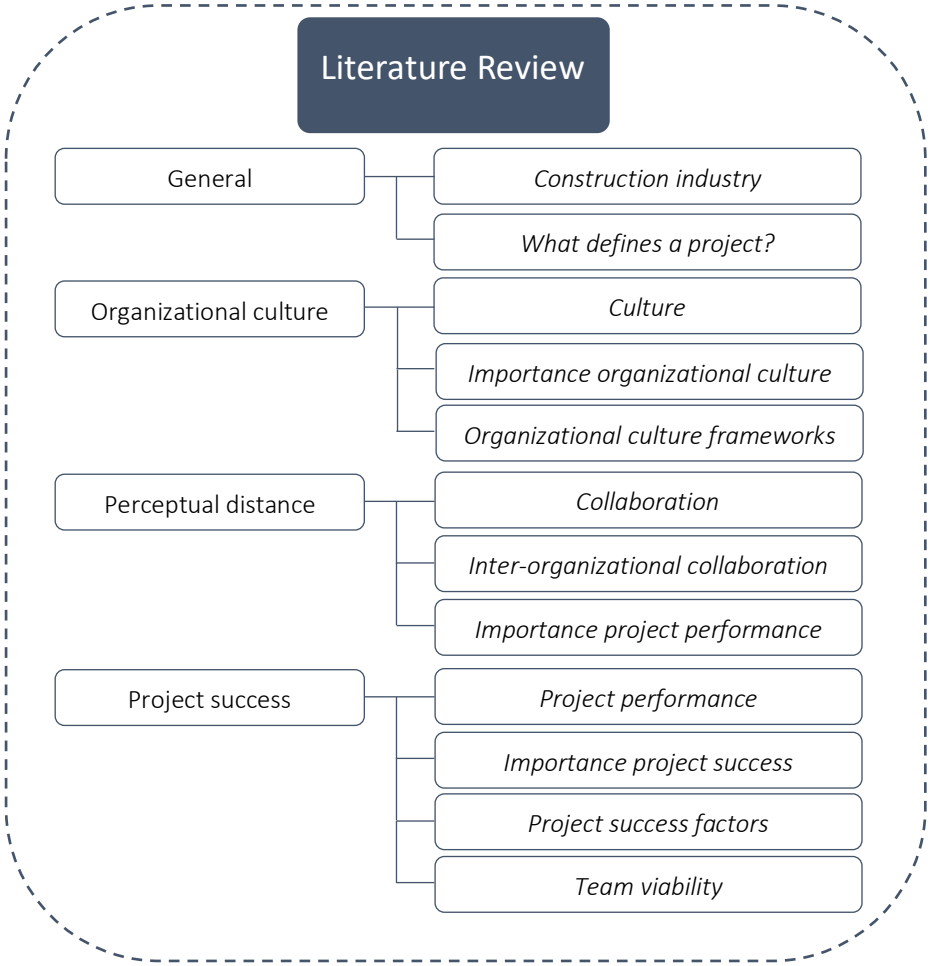

Figure 4 – Literature study overview

2.1. The construction industry

Complex and large construction projects have been carried out since ancient history, but from the 1950s on, organizations within the sector started to systematically apply tools and techniques to complex projects. A study conducted by McKinsey & Company (2017b) states that the construction sector is one of the largest in the world economy, with about $10 trillion spent on the buildings, infrastructure, and industrial installations every year. The sector is the backbone of the global economy and the demand is rising. By 2025, the amount spend on construction-related goods and services is projected to total $14 trillion. However, in comparison to the global economy, the sector is lacking in terms of increasing project complexity, extensive regulation, high fragmentation, misaligned contractual structures, and underinvestment's in digitization, innovation, and capital, which are all specific for this market. By boosting this, the industry could produce more for this investment, leading to a fundamental improvement in the world's infrastructure and the quality of life of citizens. Construction-sector participants should rethink their operating approaches to avoid being caught out in what could be the world's next great productivity story (McKinsey & Company, 2017b).

Research shows that multiple factors are the profound problem of this productivity issue Vissers et al. (2020), states that in the past, the construction industry featured mature and well-understood technologies, which made it easy to cooperate and to maintain cohesion within organizations and construction projects. Focus on projects and low costs were rewarded by clients since tenders were awarded based on the lowest price. However, over the past years, these circumstances have changed. The shift towards quality and innovation led to fragmentation and specialization across the construction supply chain, as has long been the case in other industries (Thomas et al., 2002). Next, Dubois & Gadde (2001), characterized the construction industry as a loosely coupled system. It is a complex industry because of interdependence and uncertainties in construction projects, which is deeply embedded in their organizational culture. The culture possesses 'tight' intra-project couplings (within individual projects) and 'loose' inter-project couplings (between and across projects). As a result, the project focus takes precedence over the process focus, which restrains innovation and learning across projects (Dubois & Gadde, 2001). The temporary nature of work and variety of disciplines needed in construction projects mostly implies that the team consists of people from different educational and cultural backgrounds partnering for a single project (Kotoudi, 2019). Next to that, the industry focuses mostly on the tangible aspects of the business, such as technologies and types of contracts. The tangible aspects are given priority over intangible aspects such as human resources and culture, which can be explained by the educational background of people in the sector (Pries et al., 2004). Thomas et al. (2002) state that while circumstances within the construction industry have changed, the culture has not evolved simultaneously. The focus of construction projects still lies on cost and attainment of short-term goals which still overshadows essential elements, such as openness, trust, respect and the development of long-term goals. The construction companies are characterized with an obsolete culture that is unable to adapt to the complexities of a needed modern construction industry (Vissers et al., 2020).

Ribeirinho et al. (2020) conducted a study for McKinsey & Company and state that today's project-based construction process looks set to shift radically to a product-based approach. The full transformation of processes within the construction industry could take decades, but

the process has already begun. Research conducted by them shows that industry leaders largely agree that the shifts are likely to occur at scale within the next five to ten years, and that the COVID-19 crisis will accelerate these shifts. This research study will provide insights on how two independent parties operate related to intangible assets, such as organizational culture, trust and collaboration, which will allow them to rethink their operational processes and could thereby contribute to the world's next great productivity story.

2.2. What defines a project?

During this study, research will be conducted on two inter-organizational project collaborations between RHDHV and two client organizations. A multitude of definitions can be found for the term ''project'' and even the project management institutes and organizations maintain various definitions. There is no general consensus on the definition of a project and project management for that matter (Bakker, 2008). As discussed in the previous chapter, the construction industry is a specific sector where work is almost always on a project basis. This section will therefore provide a detailed explanation of the definition of a project.

Beginning with the second edition of the handbook of project-based management provides the following definition of a project (Turner, 1999): *"A project is an endeavor in which human, financial and material resources are organized in a novel way to undertake a unique scope of work, of given specification, within constraints of cost and time, so as to achieve beneficial change defined by quantitative and qualitative objectives".* In the third edition of this handbook, the definition of a project is limited to the key features (Turner, 2008): *"A project is a temporary organization to which resources are assigned to do work to deliver beneficial change".* A similar definition of a project is given by a well-known, structured project management method, PRINCE2 (Murray, 2009): *"A project is a temporary organization that is created for the purpose of delivering one or more business products according to an agreed business case.".*

Bosch-Rekveldt (2011) state that all definitions indicate that a project is characterized by its temporary character, in which a (unique) scope of work is undertaken, within certain constraints and for a particular reason. In addition, Van der Krift et al. (2020) makes a similar statement, such as a project is temporary by nature, which means that the organization (e.g. team) is composed for the specific purpose and needs of the project and is disbanded when the project is finished.

All projects, whatever their uniqueness, will have a number of distinct phases regarding the project life-cycle. During a typical project life-cycle, the following project phases or stages are distinguished according to (Turner, 2008):

- Proposal & initiation
- Design & appraisal
- Execution & control
- Finalization & close out

Bosch-Rekveldt (2011) state that similar distinction of these general project phases is presented by others in project management literature with some small changes in their names. In spite of the unique character of projects, elements of these phases are present in all projects. The "proposal & initiation" and "design & appraisal" phases of the typical project life cycle are often called the front-end development phase of a project. Project management

literature indicates the importance of sufficient front-end development for ultimate project success. The activities undertaken in the early stages of project development have the greatest influence on the final outcome. Through the front-end development phase money is well spent, since changes later on in the project lifecycle can potentially be very costly (Bakker, 2008).

The ultimate goal of a project is the creation of value for all the project stakeholders, with the content of the term "value" being different for the various stakeholders (Achterkamp & Vos, 2008). According to Van der Krift (2020), projects require sufficient management, which is a challenging and dynamic task, that involves an increasing number of parties. In recent years, many projects have been recognized for going over budget, not meeting the planning and/or not delivering according to the requirements. For all stakeholders involved, this has been a major concern. Numerous problems that occur in projects are related to the interfaces of different actors and the nature of the relationships between the different actors (Van der Krift, 2020). To examine the nature of the relationships between the various actors, organizational culture and perceptual distance are examined.

2.3. Organizational culture

No matter how big of a project, every construction project starts with project management, and initially, the development of this emphasized the hard (technically focused) side. Nevertheless, the shift from the traditional or technical side of project management to one that encompasses a broader organizational perspective, which is referred to as the soft (behavioral) side, has been observed in project management research (Andersen et al., 2006; Pollack & Adler, 2016). The most important aspect of project management is to create an environment in which people can work together to achieve a common goal, to deliver successful projects on time and within budget (Seymour & Hussein, 2014). Without the successful and effective collaboration of individuals, it is difficult to achieve the project team's objectives. Given that the human-capital side of construction projects is so important in the project's success, it is necessary for companies to focus on intangible assets to make this transition possible. An intangible asset essential to the success of a project is according to Vissers et al. (2020) culture, which is a highly unexploited competitive advantage in the technical-oriented construction sector, where the long cycle times add a factor to the slow development rate.

2.3.1. Culture

To study the importance of organizational culture with respect to project management, we first look at just culture and the various designations surrounding the term, which vary over time. One of the most cited researchers on culture, Hofstede (1984) describes the definition of culture as: *"The collective programming of the mind which distinguishes the members of one human group from another"*. According to Schein (1985), culture is: *"A pattern of basic assumptions – invented, discovered or developed by a given group as it learns to cope with its problems of external adaptation and internal integration – that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems"*. Another definition of culture is given by Kotter & Heskett (1992), which means fairly established set of beliefs, behaviors and values of society contain generally. Shahzad et al. (2012) describes culture in simple words as gained knowledge, explanations, values, beliefs, communication and behaviors of large group of

people, at the same time and same place. Coyle (2018) describes culture as a set of living relationship working to a shared goal. The above descriptions of culture show that it involves the collective set of beliefs, behaviors, communication and values of a given group of people.

However, according to Karahanna et al. (2005) cultural groups vary between large (e.g. supranational or national culture) or small groups (e.g. project teams) as can be seen in Figure 5. The figure describes the different levels of culture from the most general level (supranational) to the least general level (individual). As can be seen in Figure 5, the smallest group, individual culture, is the product of all levels of culture. The levels as presented in the model of Karahanna et al. (2005) will be described in the next sections by describing the underlying theories and the interaction between them.

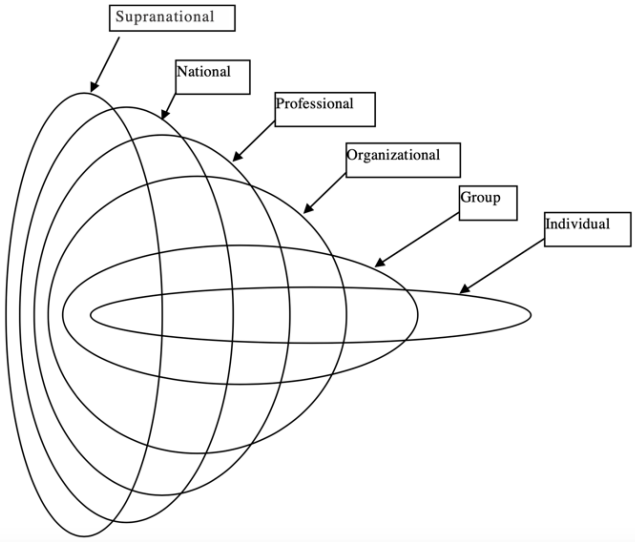

Figure 5 – Interrelated levels of culture (Karahanna et al., 2005)

The first and most general level is the supranational level as described before. The level consists, as described by Karahanna et al. (2005) of regional (group of people living in the same geographical area), ethic (group of people sharing common and distinctive characteristics), Religious (group of people relating to religion), and linguistic (group of people speaking the same tongue). The model of Leung et al. (2005) is somewhat similar and describes this level as global culture.

Next, national culture is described by Leung et al. (2005) as *''values, beliefs, norms and behavioral patterns of a national group''*. Hofstede (1984) describes it as *''collective properties that are ascribed to citizens of countries''.* Hofstede (2011) measures national culture through six dimensions: power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, long term versus short term orientation, and indulgence versus restraint. More details regarding The Hofstede Model will be elaborated in the organizational culture frameworks chapter.

Professional culture focusses on the culture of the industry where an organization is present (Karahanna et al., 2005). Organizational culture on the other hand is of influence on employees of a particular organization (Adler, 2008). Karahanna et al. (2005) describes organizational culture as the direction of employees their actions towards the same purpose. Professional culture is the only level that is not incorporated in the model presented by Leung et al. (2005), in comparison to Karahanna et al. (2005).

Then, group culture represents the second to last level which stands for the cultural differences that are contained within a single group, workgroup, or other collection of individuals at a level less than that of the organization (Karahanna et al., 2005). As described, the group culture can be seen as a sub-culture which influences individuals their behavior (Karahanna et al., 2005). When a stable social unit is present, sub-cultures emerge (Schein,

1993), and shared beliefs are at the core of these groups, which can thrive when mutual understanding and cohesion are at play. Multiple factors are dependent for a stable social unit, such as group size, stability of membership, and the length of time the group exists (Schein, 1993).

The final level represents the individual culture which is present in all other levels of culture. The actions and behavior of a particular individual are characterized by the other culture types surrounding the individual's culture (Karahanna et al., 2005). The individual culture depends on the behavior of a certain individual, which emerges from values and practices within. The values are more important on the higher levels of culture, such as the supranational and national cultures, whereas practices are dominant in the lower levels of culture, like professional and organizational cultures, which can be seen in Figure 6 (Karahanna et al., 2005; Leung et al., 2005). Values are beliefs or principles, which are acquired through lifestyle altering experiences, such as childhood and education. The early-life fundamentals are learned and acquired in this period. Practices, on the other hand, are influenced and learned when values are already in place. They are always evolving and are more depending on external conditions, which requires adaptation from a certain individual. Values and practices are in all levels present and could counteract with one another (Karahanna et al., 2005). The culture level determines the behavior of an individual and is therefore dependent on practices or values.

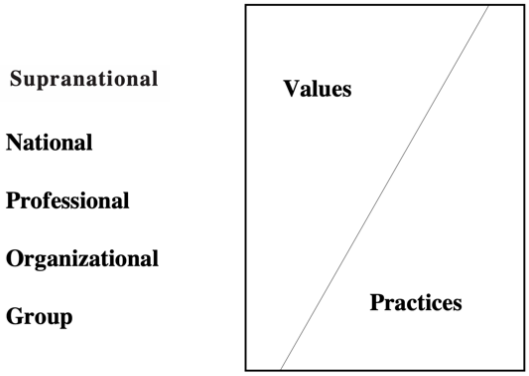

Figure 6 – Values and practices (Karahanna et al., 2005)

Based on the differences of values and practices, Hofstede (2011), describes that value differences are present in national cultures and differences in practices are present in organizational culture. By means of the theoretical basis with regard to culture in this chapter, we will now further elaborate on organizational culture, focusing on its importance and the supporting frameworks of different project managements theories. During this study we will use the definition of culture given by Hofstede (1984): *"The collective programming of the mind which distinguishes the members of one human group from another"*.

2.3.2. Importance organizational culture

This study focuses on the influence of organizational culture on project performance and eventually on collaboration-based project success. The importance of organizational culture is reflected by different research studies in the aspects, such as strategy, productivity, efficiency, performance and success. Cheung et al. (2012) and Yazici (2011) both indicate the importance and nature of relationship of organizational culture on a company's performance deserves further and a more elaborate investigation. Behind every successful company lies an organizational culture that is strongly intertwined to the overall strategy (Kotler et al., 1990). Using multiple references, Cheung et al. (2012) state that organizational culture has been identified as one of the essential factors that affect the efficiency and productivity of a firm (Alas et al., 2009). Besides, through cultivating and maintaining a culture that is conducive to stimulating performance improvement, the efficiency of firms and ultimately the construction industry can be improved (Gordon & DiTomaso, 1992). Successful project delivery relies on

the concerted effort of all stakeholders and construction organizations are responsible for the design and construction regarding physical objects. The impact of their performance on projects is particularly evident because of their front-line positions. McKinsey & Company (2017b) states that shortcomings in organizational culture are one of the main barriers to company success. Sector leaders will not accomplish the speed and agility they need unless they build organizational cultures that perform well across functions and business units, embrace risk, and focus obsessively on their customers. Furthermore, Castagnino et al. (2017) indicate in a research conducted for World Economic Forum and Boston Consulting Group (BSG) that culture is a talent magnet, and construction companies need to implement an organizational culture that challenges the status quo and embraces innovation genuinely.

Organizational culture is a major theme in management studies since the mid-1980s, with multiple definitions and frameworks, which address the focusses of researchers, such as Hofstede, Schein, Goffee & Jones and Cameron and Quinn. One of the most cited researchers in the field is Geert Hofstede. Hofstede (1980) was responsible for a large-scale investigation of national cultures within the American company IBM in the 1960s. Next to national culture, Hofstede did multiple research studies in the mid 1980's on organizational culture and developed a framework on organizational dimensions (Hofstede, 2001). Next to Hofstede, Quinn and Rohrbaugh proposed a framework in 1983, which is called the Competing Values Framework (CVF). The CVF is a well-known theory in project management research and is found to have a high degree of consistency with well-known and well-accepted theories on the way people think, their values and assumptions, and the ways in which they process information (Cameron & Quinn, 2006). Also, Schein (1985) developed an influential work called the Organizational Culture and Leadership model. The next chapter elaborate more on these frameworks, among others.

Hofstede (2011) defines organizational culture as *''the way people in organizations relate to each other, to their work and to the outside world compared to other organizations''*. The study of Shahzad et al. (2012) presents multiple descriptions for the term, beginning with, *''culture is arrangement of different attributes that express an organization and differentiate the firm from other one''* (Forehand and von Gilmer, 1964). Cheung et al. (2012) define organizational culture, based on Schein (1985), as *''A pattern of basic assumptions – invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration – that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems''.* The definition reveals, by focusing on assumptions, that when considering culture, we are dealing with implicit assumptions as much as explicit or overt behavior. A "strong" culture is one in which the implicit and explicit assumptions are in harmony and that is deeply embedded and change resistant. Similarly, Cole (1997) considered culture as a bipartisan of *"shared values, norms and beliefs within an organization"*. On the surface, or visible, it is the explicit culture, which manifests itself in the 'official' organizational structure and communications. On the other hand, or under the surface, it is the implicit culture that management and staff consider really important. Next, Smircich (1983) defined organizational culture as the social glue that holds members in an organization together. The definition expresses the social ideals, values and beliefs that members of an organization share. The various definitions show that organizational culture revolves around shared values,

norms and beliefs both within the organization and how they profile themselves to the outside world, which distinguishes themselves from other organizations.

Based on multiple studies used by Cheung et al. (2012) in this research, there are several important functions in relation to organizational culture. First, it expresses a sense of identity for organization members. Second, it facilitates the generation of commitment to something larger than their own interests. Third, it enhances system stability. And fourth, organizational culture serves as a sensemaking device, which guides and shapes members' behavior. A positive and enduring organizational culture can therefore have a positive effect on both individual and organizational performance. Recent studies have identified that performance improvement in an organization is a result of successfully translating values and beliefs into policies and practices. Findings of the organizational culture assessment tools used in the studies indicate a close relationship between organizational culture and performance (Cheung et al., 2012). As mentioned before, there are several frameworks used in project management literature related to organizational culture, which will be discussed in the next section.

2.3.1. Organizational culture frameworks

As mentioned earlier, organizational culture can be analyzed through several frameworks. This chapter contains an elaborate frameworks description of Hofstede (1998), Goffee & Jones (1996), Schein (2004) and Cameron & Quinn (2006),which have all been used in multiple scientific researches. In addition, it will be explored whether these different tools can be used further in the research for analyses during the case study.

Hofstede's Organizational Dimensions

As described before, Hofstede conducted research on both national and organizational culture. The framework developed to measure national culture in 1984 consists of four dimensions, which is elaborated with a fifth (1991) and a sixth dimension (2010). The dimensions to measure national culture are power distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, long-term vs. short-term orientation and indulgence vs. restraint (Hofstede, 2011). Based on the first five dimensions on national culture, Hofstede developed in 1998 a framework on organizational culture. The cross-organizational study conducted by Hofstede to describe organizational culture resulted in six bipolar value dimensions, using statistical analyses and in-depth interviews, which are presented below (Hofstede, 1998; Hofstede, 2001; Hofstede, 2011).

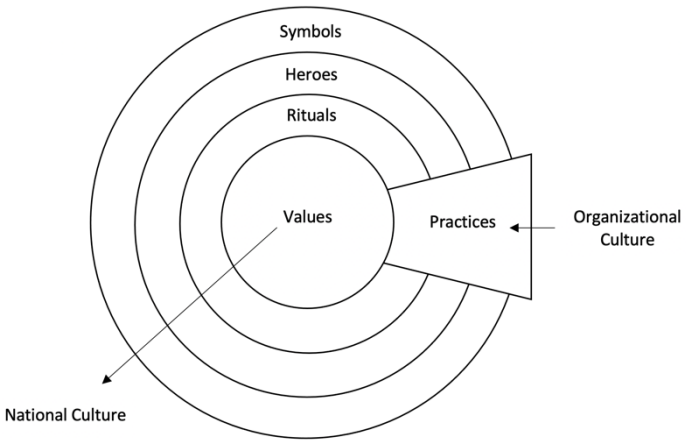

Figure 7 – Union Model (Adapted from Hofstede, 2001)

Process oriented versus results oriented focuses on whether employees are more concerned with means, or with goals. Process-oriented cultures are dominated by technical and

bureaucratic routines and the importance is placed on avoiding risks and time-efficiency. On the other hand, result-oriented are dominated by a common concern for outcomes where the focus is on optimal performance, stress resistance and exploring new challenges. A study by Peters & Waterman (1982) indicate that strong cultures are more result-oriented than weak ones, and vice versa.

Job oriented versus employee oriented differentiates the responsibility for the employee's job performance only, and nothing more, whereas the later focusses on a broad responsibility for their members' well-being. Job-oriented cultures have only interest in the performance of its employees. In contrast, employee-oriented cultures take into account a broader perspective on group dynamics, individual problems and the welfare of its employees.

Professional versus parochial focuses on the identity of its employees. Professional cultures put emphases solely on job competences, which indicate the separation between personal and work life. The culture poses a long-term oriented and employees are responsible for their own career path. In contrast, parochial cultures are short-term oriented and focus on more than only job competences, such as social background and behavior. Therefore, employees of a parochial culture feel connected to the organization by means of mutual norms.

Open system versus closed system refers to the culture style regarding internal and external communication, and to the ease with which outsiders and newcomers are admitted. Obviously, in an open system culture, employees and the company are open to newcomers and outsiders and the time employees take to feel included in the organization does not take more than a few days. In a closed system, employees and the organization are seen as secretive by both outsiders and insiders. People who are selected take more than a year to feel included in the organization.

Tight control versus loose control focusses on the internal structure of the organization based on the degree of formality and punctuality. In a tight culture, the company is cost-conscious, punctuality is high and therefore are consequences for not meeting deadlines (e.g. banks and pharmaceuticals). On the other hand, in a loose culture (e.g. advertising agencies), deadlines are flexible and cost is less important.

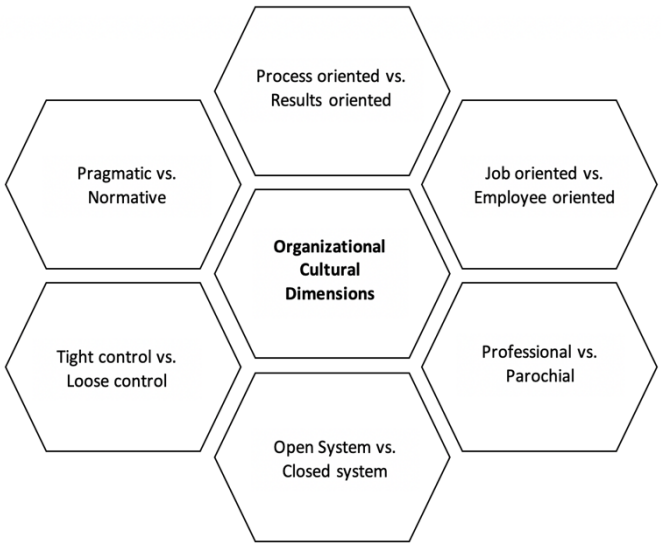

Figure 8 – Organizational Culture Dimensions (Adapted from Hofstede, 2001)

Pragmatic versus normative focusses on dealing with environments, in particular with customers, where a difference is made between a flexible or rigid style of working. A pragmatic culture is market-driven and there is emphasis on meeting the customer's needs. The result is of higher importance than the procedures that necessitates them. In contrast, in normative cultures procedures must be followed and there is a high emphasis on business ethics and high working standards.

Hofstede's framework on organizational culture is derived from its framework on national culture. Several academic studies have used Hofstede's framework and indicate that it is most

beneficial in cross-cultural research, such as international companies with subsidiaries in different cultural environments, continents or countries (Hofstede, 2011; Shi & Wang, 2011).

Goffee & Jones Matrix

Another method to analyze organizational culture was developed by Goffee & Jones (1996). Whereas Hofstede predominantly focuses on country's culture, Goffee and Jones focus on sociology. As they state themselves, there are two types of distinct human relations visible, namely sociability and solidarity. Their definition on these two human relations is given as: *"Briefly, sociability is a measure of sincere friendliness among members of a community. Solidarity is a measure of a community's ability to pursue shared objectives quickly and effectively, regardless of personal ties"* (Goffee & Jones, 1996). Four types of organizational cultures are the result when the two dimensions are presented in a matrix, consisting of networked, communal, fragmented, and mercenary cultures.

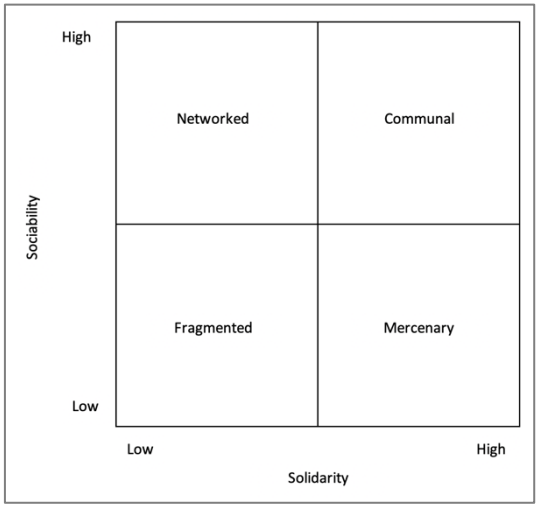

Figure 9 – Two Dimensions, Four Cultures (Adapted from Goffee & Jones, 1996)

Networked organization (High Sociability – Low Solidarity):

This organizational culture type presents itself like a family. Connections made both formal (during office hours) and informal (private life) are the way to climb the ladder within the organization. The organization is characterized by a lack of hierarchy, which enables flexibility. The key competencies of this organization type are the ability to collect and selectively disseminate soft information, and the ability to acquire sponsors or allies who will speak on behalf of others both formal and informal.

Communal organization (High Sociability – High Solidarity):

This culture type is characterized as a typical small, fast-growing, entrepreneurial start-up. Employees are close and mix their work and private life. Both the high sociability and solidarity develops mutual beneficial objectives, where risks and reward are equally shared between employees, and high value of fairness and justice. Besides these sides, a winning organization is of equally importance.

Fragmented organization (Low Sociability – Low Solidarity):

This organizational culture type is characterized by a low consciousness of organizational membership. Employees are secretive toward each other, which results in failing to reach agreement when it comes to organizational goals. Virtual companies or organizations with highly trained (e.g. law firms) individuals can have this type of culture.

Mercenary organization (Low Sociability – High Solidarity):

On the other end of the spectrum from the networked organization, the mercenary organization keeps private and work life separated from each other. This organization is competence and result-driven, which makes the organization highly productive. Different business units work only together when their mutual goals are fulfilled.

None of these organizational culture types are considered to be better than the other. Instead, they serve as a way for management to determine where their culture fits relatively to other

types of cultures (Sadri & Lees, 2001). The study of Malagas et al. (2017) indicates that it is desirable for an organization to have both a high sociability and solidarity regarding organizational culture. Similarly, the study of Goffee & Jones (1996) indicate that is often not preferred for an organization to have a fragmented culture (depending on the sector), which has a both low sociability and solidarity, and thus in line with Malagas et al. (2017). The framework of Goffee and Jones is beneficial to provide areas of improvement when focusing strictly on human relations.

Schein's Levels of Culture

Schein (2004) uses different levels to analyze organization culture. The three levels are artifacts (visible organizational structures and processes), espoused beliefs and values or shared values (strategies, goals and philosophies), and underlying assumptions (unconscious, taken-for granted beliefs, perceptions, thoughts and feeling). The framework of Schein (2004) focusses on the values by conducting in-depth interviews and observations within a group. Figure 10 shows the levels of culture presented by Schein (2004), which indicates that espoused beliefs and values give employees operating principles and guide the behavior of top management. The framework is used to analyze the organizational culture of one particular organization though multiple in-depth interviews and observations. During this study, there are not sufficient resources to do multiple in-depth interviews and group observations. Also, the case study project consists of two organizations and need a clear comparison between them, which the framework of Schein does not offer (Schein, 2015).

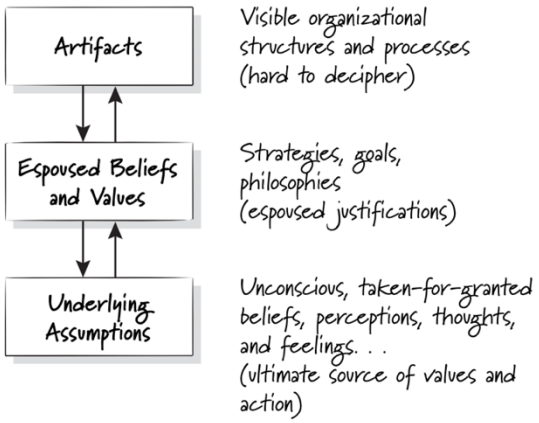

Figure 10 – Levels of Culture (Schein, 2004)

Camaron & Quinn's Competing Values Framework

Quinn and Rohrbaugh (1983) proposed a framework, which is called the Competing Values Framework (CVF), which is further elaborated in the study of Cameron & Quinn (2006). The focus of the framework is placed organizational effectiveness, which is analyzed by six key factors, namely dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphasis and criteria of success (Cameron & Quinn, 2006). The matrix proposed by Cameron & Quinn (2006) shows opposite or competing assumptions regarding organizational culture, as can be seen in Figure 11. Two basic assumptions are at the heart of this framework, namely organizational focus and preference for structure (Holloway et al., 2011). The organizational focus dimension differentiates effectiveness criteria that emphasize an internal focus and integration against an external focus and differentiation. Some

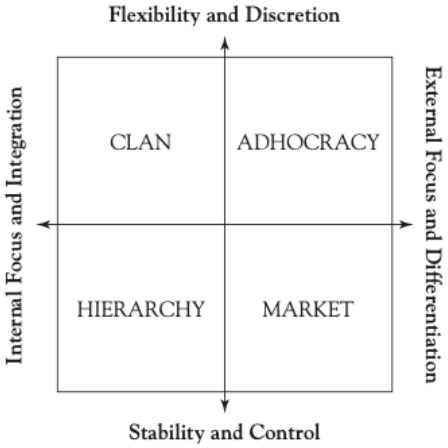

Figure 11 – Competing Values Framework (Cameron & Quinn, 2006)

organizations are seen as effective based on balanced internal characteristics, whereas others are seen as effective regarding interaction and competition. The preference for structure dimension differentiates effectiveness criteria that emphasize flexibility and discretion from criteria that focus on stability, and control. Some organizations are seen as effective if they can adapt to a constantly changing environment, whereas others are seen as effective based on stability and predictably in their operations (Cameron & Quinn, 2006). As a result, these dimensions form the four culture types, namely clan, adhocracy, hierarchy, and market culture, which will be discussed in the next section.

Clan culture (Flexible – Internal):
Clan culture is like a family where organizational members are open to each other and team performance is more important than individual performance. The long-term vision of the organization focusses on education and growth of its members and values like commitment, empowerment, participation, and loyalty are highly important. Employees stimulate each other in their growth potentials and customer are seen as partners of the organization.
Adhocracy culture (Flexible – External):
Adhocracy culture is an innovative environment, which creates a dynamic, flexible, and creative organization. Organization members are encouraged to take risks, which stimulates innovative behavior and experiments. The long-term vision of this culture put emphasis on rapid growth and acquiring new resources needed for succeeding. Values like risk taking, individuality and future anticipation are important, and success is measured through producing unique and original products.
Hierarchy culture (Stable – Internal):
Hierarchy culture can be described as a formalized and structured work environment. The organization is led by procedures, formal rules and policies for smooth running of operations. Long-term goals of this culture type are stability, predictability and efficiency. Leadership is characterized by coordinating their employees and organize operation of the organization.
Market culture (Stable – External):
Market culture can be described as a goal- or result-oriented workplace and external partners are of utter importance. The organization members strive to win, which implicates their core values of competitiveness and productivity. The organization focusses on profitability, return on investment and an established customer base. Staying ahead of the competition is of great importance, in doing so, the leaders of the organization are demanding of their employees.

The competing values of leadership, effectiveness and organizational theory are given of all four quadrants in Figure 12. The competing values framework as displayed in the figure gives a summary of the dominant values of each quadrant related to the organizational theory.

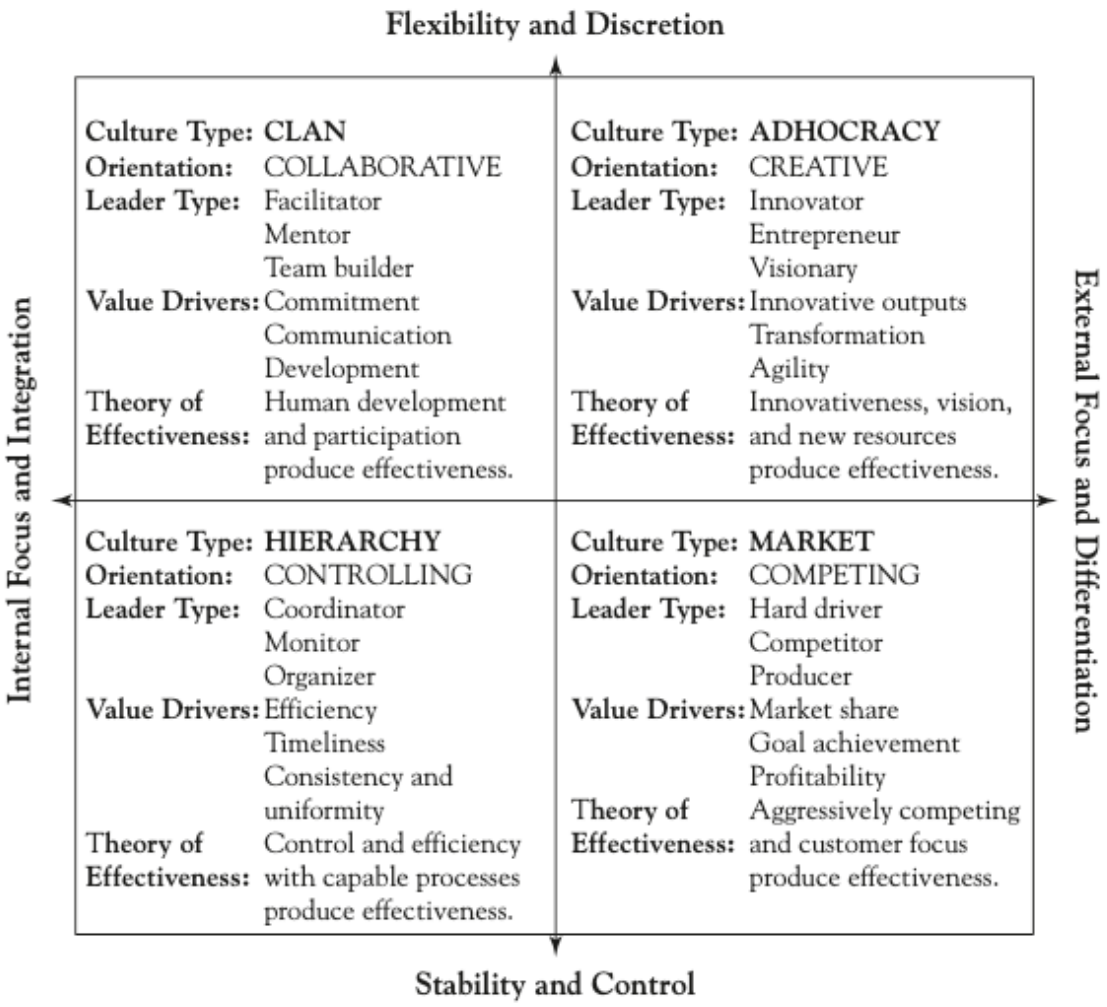

Figure 12 – The competing values of leadership, effectiveness and organizational theory (Cameron & Quinn, 2006)

The competing values framework of Cameron & Quinn (2006) is a well-known and validated method in project management research. Multiple research articles indicated the usefulness of studying organizational culture with this method in both applied and scientific research studies (Arditi et al., 2017; Simamora et al., 2016; Wiewiora et al., 2013; Yazici, 2011). The competing values framework presents only positive culture styles, which is in contrast to the matrix presented by Goffee & Jones (1996), which indicates both positive and negative styles, presented earlier in this study. Arditi et al. (2017) indicate that the framework on organization culture styles has been used in multiple studies within the construction industry. Based on the competing values framework, Cameron & Quinn (2006) designed a measurement tool named "Organizational Culture Assessment Instrument" (OCAI), an established, validated, and well recognized measure of organizational culture that has been used extensively across many different settings (Arditi et al., 2017). The method is designed to assess organization's culture based on organizational effectiveness and success (Cameron & Quinn, 2006). This instrument will be used for the analysis in this study and will be further elaborated in the methodology section of this report.

Multiple research methods and frameworks related to organizational culture have been addressed in this sub-chapter, to review which of the frameworks is the best suited for the case study. As indicated before, Hofstede's model is the most cited in organizational culture

research. However, the framework is most beneficial in cross-cultural research and focusses on the entire company, not on project groups or individuals. The matrix presented by Goffee & Jones (1996) is focused on providing areas of improvement based on human relations, whereas this study focusses on more than just human relations in project context. The case study project encompasses two different organizations, which will be compared based on their organizational cultures. The three levels of culture presented by Schein does not offer a clear comparison between the two organizations and there are not sufficient resources to conduct multiple in-depth interviews within the timeframe. Based on the frameworks reviewed in this sub-chapter it can be concluded that the Competing Values Framework of Camaron & Quinn (2006) is indeed the best suited for this research and enables therefore the usage of the OCAI. The framework, which allows an easy comparison between two companies, has been validated by multiple research studies on organizational culture within in the construction industry.

Not only differences in organizational culture affect the relationship during an inter-organizational collaboration. These differences mainly play a role in organizational context, where perceptual distance focuses more on project context. Hence, in the next chapter the relationship of parties in an inter-organizational project collaboration will be discussed with an extensive explanation of the term perceptual distance.

2.4. Inter-organizational collaboration & perceptual distance

Besides organizational culture, there is an increased interest in inter-organizational collaborations taking place in an industrial era in which markets are dynamic and subject to great change (Borgatti & Foster, 2003). Markets are evolving and organizations are periodically confronted with fundamental changes in their environment, such as Covid-19, which can make innovations excel and drastically change corporate institutions' working environment. During these periods, for example, consumer preferences change, industrial boundaries fade, social standards change, regulations are adapted, or new technologies emerge. As markets and environments change, organizational changes and influences on organizational settings emerge (Timmers, 2006). Inter-organizational collaboration can be even more demanding when the stakeholder organizations work in different fields and therefore have other ways of achieving certain results. While working on a project, organizations should strive for the highest degree of interaction between independent entities and coordination of actions to achieve the highest level of integration (Nicholas & Steyn, 2017). Within this sub-chapter we will zoom in on the definition of collaboration, what defines an inter-organizational project collaboration and how to assess perceptual distance.

Collaboration

According to Perrault et al. (2011), collaboration is defined as *''A durable relationship that brings previously separate organizations into a new structure with commitment to a commonly defined mission, structure, or planning effort''*. Collaboration denotes a form of collective behavior and are arrangements that have an effect on the overall project performance (Polenske, 2004). Suprapto et al. (2015) indicated that positive correlation has been observed between teamwork quality and project performance and successful collaboration strongly enhances the success rate of projects. Collaboration facilitates organizations to deliver services with more effectivity (Leung, 2013).

Construction projects often involve intensive collaboration of different organizations working in various sectors. Nicholas & Steyn (2017) indicates that collaborative relationships in project teams consists of two structures, namely formal and informal structure. Formal structure is related to normative relationships based on contractual terms. Whereas informal structure focuses on relationships based on interaction of people. Similarly, Mankin et al. (2004) provides interpretation on collaboration based on elements. The 'structure side' which consist of team formation, processes and the infrastructure of the collaboration next to the 'soft side', which is based on people and relationships. Both sides are intertwined, the soft side is supported by the structure side, which establishes relationships that create structure. Besides, Kotoudi (2019), sheds light on the relationship development during the front-end phase of the project. Given the fact that collaboration is based on developing relationships between the different project parties, this characteristic poses an additional difficulty to the project. The development of a relationship requires time and resources during the front-end phase that are usually hard to find in large projects, which is an aspect that is overlooked in favor of more tangible results. As a result, issues often related to bad collaboration arise in later stages of the project, which could have been prevented if more attention had been given to appropriate team building at the beginning of the project (Kotoudi, 2019). Several studies indicate the important aspects regarding collaboration and its positive outcomes. Beach et al. (2005) indicate that organizations which put emphasis on mutual reward, building trust and achieve mutual learning will improve project outcomes. Teambuilding is an essential in early project stages to align project goals and objectives, which will contribute later to positive project outcomes (Bresnen & Marshall, 2000). Cardoso dos Santos Durão et al. (2017) elaborate in their study on the subject that collaborative teams facilitate accelerated integration of distinct work activities, improve communication, increase knowledge sharing and provide the flexibility of work assignments. Also, successful projects are the product of well-integrated teams (Izam Ibrahim et al., 2013), which makes collaboration a constituent and critical element of project success. Integral parts of collaboration are presented by Verdecho et al. (2012) as trust, commitment, joint vision and decision, convergence of management styles, process alignment, top management support and information sharing. Based on the reviewed studies, trust is the most predominant and important factor for a collaborative relationship. Buvik & Rolfsen (2015) show that building trust in early stages of the project are essential for the formation of integrative work practices, open communication, development of common group philosophy and providing explicit role expectations.

The study of Van der Krift et al., (2020) uses the definition for trust given by Ganesan (1994): *"The willingness to rely on an exchange partner in whom one has confidence [resulting] from the partner's expertize, reliability and intentionality".* Similarly, Pitsis et al. (2004) describe trust as: *''To have confidence or faith in someone that is based on a probabilistic expectation that they will act in certain ways, and that these ways will be in conformance with a mutually shared interest, rather than be self-interested in a way that does not take account of the expectations, needs and desires of these others''*. To trust is to have confidence in how one will be dealt with by the other, which can be established over time, through experience. Trust can determine the choices and decisions made by a partner and the continuation of the partnership. Trust is therefore an integral to synthesis. Trust is a strong affective component based on the expectation of the relationship, which requires the establishment of detailed expectations early in the project. On the other hand, too much trust could lead non-questioning of partners and members actions and behaviors, which can lead people to accept

things because of implied trust. Some level of suspicion is necessary in relationships, especially in first time relationships. Studies show that once a psychological contract is broken, re-building the relationship is extremely difficult. Therefore, trust is essential for an effective and synthetic inter-organizational culture. Clever legal contracts will never establish trust between two or more fundamentally non-trusting partners; hence a relationship can only be created with the presence of trust (Pitsis et al., 2004).

Inter-organizational collaboration

Successful and modern project management requires effective inter-organizational, collaborative relationships. Multiple references used by Van der Krift et al., (2020), show that inter-organizational projects, in which multiple organizations work jointly on a shared activity for a limited time period, are increasingly used across industries, including construction. Successful completion of these complex and often long-lasting projects requires a collaborative relationship in which both parties have mutual goals, are able to trust each other, and exchange relevant knowledge and information in a timely manner. Nevertheless, these relationships prove to be a challenging and time-consuming task. Pre-project negotiations between partners often have a highly distributive character, which can potentially result in a mismatch of perceptions, such as incompatible goals, separate identities, unrealistic expectations and limited mutual introduction and information sharing. These perceptions need to be managed carefully, so that they will not lead to disputes and conflicts or even litigation. Therefore, when the level of trust between partners decreases, it poses a threat to project' performance. A cooperative and trusting client-contractor relationship is therefore the backbone of superior project performance (Van der Krift, 2020; Van der Krift et al., 2020).

Inter-organizational collaboration is described by Schruijer (2020) as relational processes that emerge when two or more legally independent organizations work together to deal with their interdependencies regarding a certain problem domain. Also, they (ideally) jointly define the problem, which will help them to define joint goals that serve the interests of all participating organizations. Hardy et al. (2003) define it as *"a cooperative, inter-organizational relationship that is negotiated in an ongoing communicative process, and which relies on neither market nor hierarchical mechanisms of control"*. The study of Kożuch & Sienkiewicz-Małyjurek (2016) defines inter-organizational collaboration, based on the study of O'Leary & Vij (2012) as *''any joint activity by two or more agencies working together that is intended to increase public value by their working together rather than separately''*. The definitions constitute benefits for all parties and well-defined relationships between two or more organizations which aim to attain common goals. The collaboration is open-ended in its character, results from evolution of inter-organizational relations, and becomes widely applicable in the private, public as well as non-governmental sectors. Growing significance of inter-organizational collaboration in operations of enterprises and institutions mostly results from uncertainty of the environment and the quest for competitive or cooperative advantage (Kożuch & Sienkiewicz-Małyjurek, 2016).

Inter-organizational collaboration is essential, yet working across organizational boundaries is challenging and takes time and effort. It involves multiple organizations, each having its own interests, perspectives, and identities while also varying in power and size (Schruijer, 2020). Also, by definition, projects have a specific timeframe in which the relationship is started as

well as disbanded. Based on this timeframe one could argue that relationships within projects generally have a short-term orientation (Van der Krift, 2020). Furthermore, opportunistic behavior may rise due to conflicting objectives within the relationship. Both the short-term orientation and conflicting objectives could cause collaborating parties to focus on their own objectives while investing limited time and resources in the joint project (Van der Krift, 2020). Next to the difficulties inter-organizational collaboration brings, Lavie et al. (2012) indicates that differences in organizational cultures may actually become appreciated in collaborative project settings and therefore could benefit to positive project outcomes. The characteristics of successfully collaborating across organizational boundaries are difficult to realize, let alone managing them, and therefore of utter importance. To examine which dimensions, contribute the most to successful interorganizational collaboration, we will use Van der Krift's (2020) study of the influence of perceptual distance on project performance.

Perceptual distance

To give insight into the characteristics for successfully collaborating across organizational boundaries, perceptual distance will be used. The term perceptual distance refers to ''*disparity in collaborating partners' perceptions of important aspects regarding the input, process and output of the interorganizational collaboration*'', which has been compiled by Van der Krift et al. (2020), using multiple references. These important aspects relate to project input (i.e. the resources in the project), process (i.e. the work that is done and how it is done), as well as output (i.e. the performance and value being delivered). When perceptual distance is present in the relationship between companies, it might cause a misalignment of activities and goals which may lead to an increase in costs, conflict, and a decrease of commitment and trust. These issues can have detrimental effects on project performance (Van der Krift, 2016) and prior research indicates that perceptual distance constitutes a severe obstacle for inter-organizational project success (Van der Krift, 2020). Inter-organizational collaborations are prone to suffer from perceptual distance related to input, process, and output of their collaborative project for two reasons (Van der Krift, 2020). At first, perceptions likely differ due to information asymmetry, which happens when client and contractor have different information, as discussed in the previous section on inter-organizational collaboration. Second, perceptions likely differ because of separate social identities, which occurs when both parties strongly identify with their own organizational background, objectives and interests (Van der Krift et al., 2020).

Based on the term presented earlier by Van der Krift et al., (2020), perceptual distance refers to the extent to which two individuals or groups perceive the same issue differently. Therefore, it is important to distinguish perceptual distance from asymmetry. They describe asymmetry as the extent to which two individuals or groups differ in their characteristics. Whereas, perceptual distance does not focus on actual power distribution, but how this issue is perceived by collaborating partners (Van der Krift et al., 2020). Other management studies have examined perceptual distance in different settings. The focus in this research study will be the perceptual distance between a client and contractor team during an inter-organizational collaborative project, similar as Van der Krift et al., (2020). The literature reviewed by them shows that clients and contractors may have different perceptions about various aspects of their collaborative project. Using the literature reviewed by Van der Krift et al., (2020), the aspects include: project objectives, overall performance and value obtained, the way parties deal with conflict, the contractor's decision-making autonomy, competences

of the team on both the client and contractor side, the role of formal regulations in the collaboration and the partner's trustworthiness (complying with agreements), relational norms such as solidarity, flexibility, trust and information exchange, the organizational responsiveness and internal task routines at the contractor and the management style in the respective organizations (also referred to as formalization or hierarchy). These aspects can be explained from an informational (information asymmetry) and social perspective (social identification). The aspects are categorized into input, process and output variables to create an Input-Process-Output model, as seen in Figure 13, which has been compiled using the seminal works of Steiner (1972), McGrath (1984) and Hackmann (1987), by Van der Krift et al., (2020).

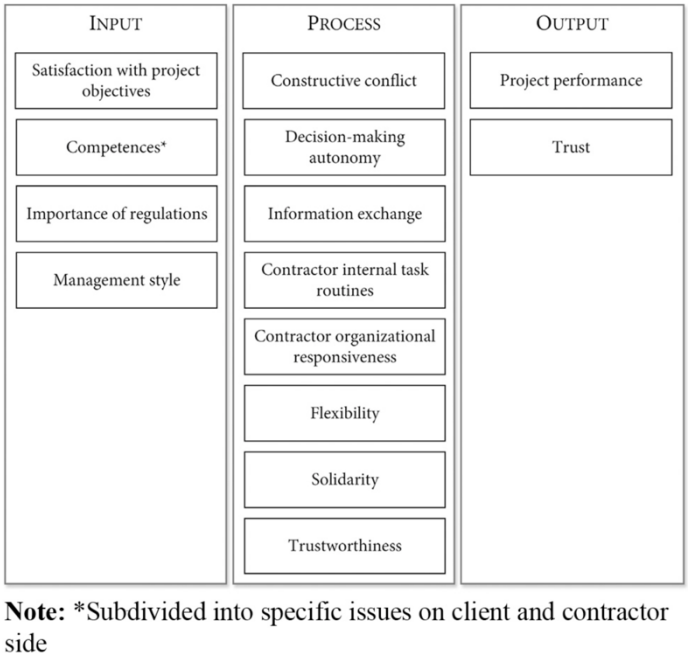

Figure 13 – An input-process-output model listing where perceptual distance can occur in client-contractor relationships (Van der Krift et al., 2020)

The input factors represent characteristics of the team members, the teams, the project and the context of the project's execution. Next, the process factors refer to the activities, interactions and interpersonal behavior between client and contractor representatives in which they may perceive process matters differently and have different views on certain aspects. Output factors concern both task-oriented and relationship-oriented outcomes. Task-oriented outcomes refer to project performance, whereas relationship-oriented outcomes refer to "softer" project outcomes such as group cohesiveness and satisfaction. Due to both social identification and information asymmetry, collaborating parties may arrive at different perceptions of these output factors. Especially, client and contractor may have different perceptions regarding trust. A detailed and further elaborated explanation of these factors related to input, process and output will follow in the methodology chapter (Van der Krift et al., 2020).

Prior research established that perceptual distance present in the project poses a threat to project performance as well as opportunities. Using multiple references, Van der Krift et al. (2020), indicate that these threats are partly the case because of its negative effect on quality of the relationship between collaborating partners, which is seen as an important determinant of project performance. As described before, perceptual distance is believed to increase misunderstanding and to hamper the alignment of partners' interests, goals and activities. However, perceptual distance present on certain aspects (e.g. management style) within an inter-organizational collaboration can also pose opportunities and thereby contribute to project performance. Accordingly, the likelihood of disputes and conflicts increases, which lead to a decrease of the trust. Research conducted in the section on inter-organizational collaboration, as well as Van der Krift et al. (2020), consider trust as one of the major indicators

of the quality of the relationship. To investigate and measure perceptual distance within the case study project, the Perceptual Distance Monitor (PDM) will be used, which is designed by (Van der Krift et al., 2020). A detailed and further elaborated explanation of the PDM will follow in the methodology chapter. The relationship of organizational cultural differences and perceptual distance to project performance has been addressed several times in this literature review. Hence, the following sub-chapter is dedicated to project performance and project success.

2.5. Project performance & success

As indicated before in this research study, both perceptual distance and differences in organizational culture have effect on project performance. To deliver a project, stakeholders could refer to project outcome, or the project result. Whether this project result or outcome is considered successful cannot be stated unambiguously. Different stakeholders may have a different view on the project and its success (Bosch-Rekveldt, 2011). Therefore, attention is given to both project performance and project success factors related to collaboration in this research study. In addition, the relationship between the collaborating parties is also often seen in the literature as an important outcome of a project, which is included as team viability.

Project performance

Multiple research studies have different thoughts on performance. The study of Shahzad et al. (2012), indicates that these different viewpoint on performance show ambiguously character of the term. Several research studies used the term performance to express the range of measurements of transactional efficiency and input & output efficiency. Organizational performance does not only mean to define problems but also pose a solution for the problem and thereby the organization's capability to accomplish its goals effectively and efficiently using resources. Achieving these organizational goals and objectives is known as organizational performance (Shahzad et al., 2012). Based on the previous statements about (organizational) performance, we zoom further in on project performance, which is clearly defined by Van der Krift et al. (2020). They refer to the term project performance as ''*the outcomes of the project as compared to the objectives that have been defined, i.e. the extent to which the objectives have been accomplished (representing costs, planning, quality, sustainability, innovativeness and safety)'',* which will be used for this research study.

Using multiple references Unterhitzenberger & Bryde (2019) indicate that project performance is a multi-dimensional construct with dimensions representing cost, time and quality objectives. These dimensions provide valuable and vital information about project performance, particularly concerning task related aspects. Although, other dimensions are even as important as different stakeholders might have different interests in the project and therefore different performance criteria. A narrow focus on only the iron triangle (cost, time and quality objectives) has the potential to limit project performance as it impacts actions and decisions and no other dimensions. Additional dimensions such as to quantify the client's satisfaction or expand it even to the participants' satisfaction are important intangible criteria to incorporate. These focus on perceptions and attitudes are regarded as a valuable enhancement of project performance measurement, although they are still at an initial stage of development (Unterhitzenberger & Bryde, 2019). Similarly, the study conducted by Molaei et al. (2019) identifies different viewpoints on which factors might increase the chance of a successful project outcome. Both hard (technically focused) and soft (behavioral) factors are

examined. Overall, the findings show that the perspectives of success factors place more emphasis on soft factors to improve project performance. The most dominant are the competencies of the people who actually perform the project and the interactions between them (Molaei et al., 2019). Therefore, to execute a project successfully is more than making only accurate budget estimations and planning schemes accompanied by detailed designs on design software applications. People are (at every stage of the project) at the core of a business operation and managing them is not just a matter of applying established methodologies, which compromise flexibility (Smits, 2017). In addition to this, the results of the Global Construction Survey of KPMG International (2019) show that despite the acknowledged influence of robotics and automation, humans remain the heart and soul of projects. The respondents say that people are the most important factor in delivering successful projects (46 percent) – against 28 percent for technology and 26 percent for process and governance (KPMG International, 2019).

Multiple studies in project management research, as seen above, intertwine project performance with a project' success. (Bosch-Rekveldt, 2011; Molaei et al., 2019; Shahzad et al., 2012; Yazici, 2011). To study the project' success, research shows the use of project success criteria and project success factors. Also, several research studies show that there is a strong interest into the soft factors of project management, which play an important role in delivering a successful project result. As a result, this research study will focus on the project success factors related to collaboration.

Project Success

Project success is among the most researched topics within the project management literature to date (Molaei et al., 2019). Howsawi et al. (2014) state that the word ''success'' is maybe the most beloved word of any project practitioner. There are two main success concepts when talking about projects: project success and project management success. For both, there are similarities, as well as differences. The main difference concerns linking project success with the result of evaluation and overall project goals achievement, while project management success relates to traditional measurements of time, cost, and quality performance. However, due to their mutual relationships, it is hard to make a strong differentiation between the two models (Radujković & Sjekavica, 2017). Project management success factors have long been established via the golden triangle or so-called triple constraint, as earlier presented in the previous section on project performance, which itself was the very first model of project management success. The triangle focused on the quality of work that is constrained by the project's budget, deadlines, and scope, which has later proven to be only a part of project success (Radujković & Sjekavica, 2017). As indicated before, people are the soul of every project and it is people who deliver projects, not processes and systems. People perform every process related to project success factors and ultimately determine the adequacy (Cooke-Davies, 2002). However, the project success factors are important to take into account when managing a project on every scale. It is generally accepted that the major goals in a construction project are budget, schedule, scope, quality, resource, and activity and a variety of factors determine the success or failure of projects in terms of these objectives (Chua et al., 1999; Radujković & Sjekavica, 2017). Nevertheless, besides these objectives, multiple other approaches also take into account integration, scope, human resource, communication, risk, and procurement management. For some projects, it may be possible to succeed without successful project management, but successful project

management can improve its success. Therefore, a significant positive relationship between project management practices and project success can be observed. With this in mind, it is sure that project management success is one of the elements of project success because the latter is hardly achievable without it (Radujković & Sjekavica, 2017). Project success is therefore the entirety of 'value' that is realized in a project and project management success relates to managing those elements along which value is created with tangible aspects (e.g. budget, schedule, scope, quality, resource, and activity) and intangible aspects (e.g. relationships, trust, connection between parties, future prospects).

The study conducted by Bosch-Rekveldt (2011) indicates that already in the late eighties, Morris and Hough distinguished three dimensions of project success, which express different perspectives on the project; the client, the project team and the contractors, respectively (Morris & Hough, 1987):

1. Project functionality: to what extent does the project perform financially and or technically in the way expected by the project's sponsors?
2. Project management: implementation of the project to budget, schedule and technical specification?
3. Contractor's commercial performance: did the contractors have a commercial benefit in either short or long term?

Also, Bosch-Rekveldt (2011) presents the more recent study of Shenhar et al. (2001), which has expanded this into four dimensions of project success:

1. Project efficiency: meeting time and budget,
2. Impact on the customer: meeting requirements and customer satisfaction,
3. Business and direct success: impact of the project on an organization,
4. Preparing for the future: organizational and technological infrastructure.

By comparing both views on project success, several similarities can be found. The first dimension of Morris and Hough ''Project functionality'' corresponds with the second dimension of Shenhar et al. ''Impact on the customer''. The first dimension of Shenhar er al. ''Project efficiency'', corresponds with the second dimension of Morris and Hough ''Project management'', except for meeting the technical specifications or requirements, which is grouped into the second dimension, "Impact on the customer". The third dimension, "Business and direct success", corresponds to the third dimension of Morris and Hough ''Contractor's commercial performance'', although the view of Shenhar et al. is not limited to the contractor's performance. Shenhar et al. incorporate an additional fourth dimension "Preparing for the future" to their view on project success compared to Morris and Hough, although some long-term implications are included in their third dimension ''Contractor's commercial performance''. The study of Shenhar et al. state that with the increasing success dimensions, the character of the project success becomes more long-term. Further, the relative importance of the different project success dimensions could vary for different types of projects. In particular, the relative contribution of the first and the fourth dimension would change with increasing technological uncertainty. However, the project efficiency is of utter importance, because when failure in this dimension happens it could have disastrous consequences for an organization (Bosch-Rekveldt, 2011).

Bosch-Rekveldt (2011) indicates that it is still commonly accepted to limit the measures of project success towards the traditional three that can be objectively measured: meeting time, budget and (technical) specifications. However, when assessing project success using these

traditional measures, potential strategic intentions of the actors involved should be remembered. The measures of project success are also called success factors. Several studies in project management research indicate the importance of critical success factors that enable project success. Most of the critical success factors presented in the study of Bosch-Rekveldt (2011) are closely related to the front-end development phase of a project. As mentioned earlier, this confirms the importance of the front-end development phase for project performance and project success. For this research study, success factors closely related to the collaboration between two organizations will be examined. This will involve an examination of softer factors of project management during an inter-organizational collaboration which will be discussed in more detail in the next section.

Project success factors

The article of Alias et al. (2014) describes that seen form a project management perspective there are multiple critical success factors (CSFs), which are described as the characteristics, conditions, or variables that can have a significant impact on the success of the project when properly sustained, maintained, or managed (Milosevic & Patanakul, 2005). Multiple studies identify these CSFs differently, which contributes to the lack of consensus of opinion among researchers on the criteria that determines project success and the factors that influence that success (Fortune & White, 2006). There is still a variety of perception among researchers to which factors influence the outcome of the project (Alias et al., 2014; Radujković & Sjekavica, 2017).

As indicated earlier, this study will focus on the success factors related to the collaboration within the project. Sebestyen (2017) indicates the importance of stakeholder, perception and the people who actually perform the project. Success is a function of communication, teamwork and leadership. Sebestyen (2017) refers to perception and satisfaction as essential to include when mentioning project success factors. Many have realized that the human factor in projects needs to be included in success factors, in addition to the easily measurable technical parameters. The study indicates the importance of factors like flexibility, adaptability, leadership styles, teamwork and teambuilding affecting success.

The results of the study conducted by Van der Krift et al. (2020) show that the most important factors, which have an influence on a collaborative project are satisfaction with project objectives, competence project manager (both client and contractor), management style, project performance and trust. All these factors are related to either input or output factors. The PDM developed by Van der Krift et al. (2020), however, takes into account more factors that other research studies have found to be very important as well, such as decision-making autonomy (Radujković & Sjekavica, 2017), information exchange (Alias et al., 2014; Andersen et al., 2006; Radujković & Sjekavica, 2017), contractor internal task routines (Molaei et al., 2019), contractor organizational responsiveness (Molaei et al., 2019), flexibility (Andersen et al., 2006; Sebestyen, 2017), and solidarity (Radujković & Sjekavica, 2017), which could contribute to project success. Further, C.H.J. van der Krift is currently using the tool including all factors for commercial purposes in various sectors and organizations, which shows that the tool is practically useful to investigate these factors during inter-organizational collaborations. The factors used in the study by Van der Krift et al. (2020) are tested using the PDM. In addition, the results of the OCAI could shed light on differences in organizational culture that may have additional influence on factors, such as management style. Thus, both tools will be

used to explore the factors described above that provide insight into the challenges and opportunities in the inter-organizational project collaboration. In doing so, the tool and its accompanying report for project participants will be able to contribute to a more successful project collaboration.

Team Viability

Next to performance and satisfaction outcomes of projects there is another important dimension, namely team viability. As described earlier in this chapter, the soft factors of the collaborative relationship will be addressed during this study. So far, the hard performance outcomes and the satisfaction of both parties with respect to these outcomes are taken into account. To dive deeper into the relationship factors between the two parties, team viability is considered as an important outcome in the collaborative relationship between parties.

Cao et al. (2021) state that even high-performance teams can be miserable and if the team succeeds at their goals, still the team environment can be joyless, toxic, or even downright malicious. Multiple studies that take into account team effectiveness focus on performance, satisfaction and viability. However, research and meta-analyses primarily focused on the outcomes of team performance and team satisfaction (Bell & Marentette, 2011). Similar to what Bell & Marentette (2011) described in their study, the previously presented framework (PDM) primarily addresses the performance and satisfaction outcomes of projects. Hence the team viability aspect is involved in the study. According to Cao et al. (2021), team viability is less studied in academic literature but equally important component of a sustainable, successful team. They describe team viability as the capacity of a team for sustainable growth and future success, which is similarly defined by Bell & Marentette (2011) a team's capacity for the sustainability and growth required for success in future performance episodes. Balkundi & Harrison (2006) refer to the term team viability as a team's potential to retain its members through their attachment to the team, and their willingness to stay together as a team. These definitions of the term team viability, describe that it is about a team's capacity for sustainable growth and future success, where attachment to the team, and their willingness to stay together as a team is important.

Within organizational context, work teams have to manage with continually changing conditions notably in terms of membership, technology, and operating conditions. Team viability on a high-level means that team members are able to adapt to internal and external change by keeping their team intact over time. Within and between collaborating organizations, this dimension of team effectiveness is of specific interest because it reflects the ability to sustain effective levels of performance over a longer period of time (Rousseau & Aubé, 2010). Cao et al. (2021) describe that when a team suffers a loss of viability, it can be so disastrous that the members resist to work together again. Therefore, it is critical for teams to evaluate and sustain their viability in order to promote continued engagement and future success both internally as well as externally. In today's organizations, teams have long-term visions, manages bundles of activities rather than one specific task, and are dynamic systems which experience change over time. This makes team viability or its capacity for sustainability and growth required for future success an important consideration when managing organizational teams (Bell & Marentette, 2011). Besides the long-term effect, there is another aspect which is important to consider, namely remote teams. Cao et al. (2021) describe that remote teams are more susceptible to antisocial behavior and developing conflicts. As remote

collaboration becomes increasingly prevalent and necessary, such as the current Covid-19 situation, it is crucial to study team viability. This reflects both the members' satisfaction with their teammates and the members' behavioral intent to remain in the team. It is important to evaluate viability in remote teams in terms of lacking shared context, more likely to have difficulty developing mutual understanding, less cohesive than face-to-face groups, and exhibit more competitive behavior. This could make them more susceptible to developing conflicts. Team viability should be considered and studied as a distinct feature from team performance because the two tend to have a weaker relationship when the team encounters dynamic situations that require different strategies and skills. Furthermore, both are correlated with a strong and positive relationship for teams completing routine activities, teams that perform well can still have disastrously low viability. This is exemplified by the eventual fracture, which occurs when team viability is absent or lost to such an extent that the team chooses not to work together in the future.

The studies reviewed show that team viability is not necessarily skill-based or task-specific, and therefore not only remote teams but any team can strive to improve their viability. As described by Bell & Marentette (2011), team viability is most useful for: (a) teams that engage in multiple performance episodes, (b) teams that are likely to undergo and respond to changes such as membership change, and (c) long-term organizational teams such as project or design teams. Consequently, it is important to study team viability, which contributes to the effectiveness of long-term and ongoing (inter-)organizational teams. Signs of low viability or dropping in viability, offers project managers to intervene before team failure, or so-called fracture. As a result, it is chosen to add this dimension to the study and explore the possibility of applying it in measurements.

2.6. Discussion

During the literature review, several studies were scrutinized in order to build a theoretical foundation for the remainder of the study. The current gaps in the literature are discussed here along with the substantiation of contemporary academic literature.

Various research studies analyzed indicate that future research related to the topics addressed in this literature study is very important. Goffee & Jones (1996) indicate in their study that one of the great errors of the recent literature on organizational culture has been to assume that organizations are homogeneous. The question is raised whether this is good or bad news, which depends on the situation and managerial judgement. Radically different cultures could explain conflicts and suggest that intervention is necessary. However, it could pose opportunities for both parties to learn from each other and improve project performance. Yazici (2011) presents multiple studies that strengthen the argument in which organizational culture is linked to individual or team performance. The study indicates that this link needs to be further studied to understand how organizational culture contributes to meeting project deliverables and to making an organization grow and compete. Also, Cheung et al. (2012) refer to a further investigation into the nature of relationship between organizational culture and project performance in the construction industry. The study collectively identifies that performance improvement in an organization is a result of successfully translating values and beliefs into policies and practices. The more recent study of Kotoudi (2019) recommends investigating which success factors have an influence on soft aspects of project management. Monitoring the hard (tangible) aspects of project

management are given more importance than the soft (intangible) aspects, which poses a threat to the necessary relational aspects of a project collaboration. Therefore, additional research in processes for evaluating the implementation and progress of relational aspects is of utter importance. Further, Van der Krift et al. (2020) indicate in their study on the importance of certain mitigating or deteriorating factors impacting the likelihood and consequences of perceptual distance for the collaborative relationship and project outcomes. Prior research conducted by them indicates that the similarity of the cultures and organizational routines of the partners will facilitate the emergence of relational mechanisms. On the other hand, the inability or unwillingness to recognize and accept the differences in the partners' expectations regarding their joint action hinders the interoperability and performance of their inter-organizational collaboration.

This study will put emphasis on the relational factors of an inter-organizational project collaboration between independent parties, using two theoretical frameworks related to two different perspectives. Specifically, the influence of differences in organizational culture and perceptual distance on project performance and success will be investigated. The tool compiled during this study will give project practitioners insight into the challenges and opportunities, related to collaboration, that may occur during the case study projects and future projects. Thereby, this study will contribute to build stronger and long-term collaborative relationships.

2.7. Summary

This chapter presents the summary of the literature review and the answers to the first sub-question with the associated subsidiary questions. The first sub-question of this research study consists of: *What are the dimensions and elements of organizational culture, perceptual distance, project performance, collaboration-based project success, and inter-organizational project collaboration?*

Today's construction industry look set to shift from a project-based construction process looks to a product-based approach, which will be accelerated by COVID-19. The focus of this research will be on the influence of intangible assets of project management, such as organizational culture, trust and collaboration aspects during an inter-organizational project collaboration. The ultimate goal of a project is the creation of value for all the project stakeholders, with the content of the term "value" being different for the various stakeholders. Numerous of challenges and opportunities that occur in projects are related to the interfaces of different actors and the nature of the relationships between the different actors. As a result, this research study will focus on the influence of both differences in organizational culture and perceptual distance on project performance and success.

The first question of the literature research resolved around organizational culture and what dimensions define organizational culture. Every company or organization has its own culture by which the company distinguishes and identifies itself from the competition. The various definitions given in the literature study show that organizational culture revolves around shared values, norms and beliefs both within the organization and how they profile themselves to the outside world, which distinguishes themselves from other organizations. Organizational culture that is strongly intertwined to the overall strategy and is identified as one of the essential factors that affect the efficiency and productivity of a firm. Shortcomings

in organization culture are one of the main barriers to company success, which indicates a close relationship between organizational culture and performance.

Next, the literature review explored the different types of organizational cultures and what it means for a company to have a particular type of organizational culture. Multiple research methods and frameworks related to organizational culture have been addressed in the literature review, which shows that the Organizational Culture Assessment Instrument (OCAI) is the best fit for the case study project to analyze the organizational culture differences between the two organizations. The focus of the framework is placed organizational effectiveness, which is analyzed by six key factors, namely dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphasis and criteria of success. Two basic assumptions are at the heart of this framework, namely organizational focus and preference for structure. As a result, these dimensions form the four culture types, namely clan, adhocracy, hierarch and market culture. 1) Clan culture presents itself like an extended family where team performance is more important than individual performance and values like commitment, empowerment, participation, and loyalty are highly important. 2) An adhocracy culture is an innovative environment that creates a dynamic, flexible and creative organization, where organization members are encouraged to take risks, which stimulates innovative behavior and experiments. 3) Hierarchy culture can be described as a formalized and structured work environment, which is led by procedures, formal rules and policies for smooth running of operations. 4) Market culture can be described as a goal- or result-oriented workplace where external partners are of utter importance and organization members strive to win, which implicates their core values of competitiveness and productivity.

The third question elaborates on what defines an inter-organizational collaboration. Collaboration denotes a form of collective behavior and are arrangements that have an effect on the overall project performance in which trust is found as one of the most important aspects of a successful collaboration. Inter-organizational collaboration are relational processes that emerge when two or more legally independent organizations work together to deal with their interdependencies regarding a certain problem domain. They can be even more demanding when the stakeholder organizations work in different fields and therefore have other ways of achieving certain results, which is the case during this research study. A cooperative and trusting client-contractor relationship is therefore the backbone of superior project performance. The characteristics of successfully collaborating across organizational boundaries are difficult to realize, let alone managing them, and therefore of utter importance.

Besides, the fourth questions take into account how to assess perceptual distance present during an inter-organizational collaboration. Perceptual distance refers to the disparity in collaborating partner's perceptions of important aspect in their relationship. Perceptual distance might cause a misalignment of activities and goals, which may lead to an increase in costs, conflict, and a decrease of commitment and trust. These issues can have detrimental effects on project performance and prior research indicates that perceptual distance constitutes a severe obstacle for inter-organizational project performance and success. To measure and assess perceptual distance present in the case study project, the Perceptual Distance Monitor (PDM) will be used.

As indicated in the literature review, both differences in organizational culture and perceptual have an influence on project performance. The fourth question elaborates on how to assess project performance during an inter-organizational collaboration. Project performance refers to the outcomes of the project compared to the objectives that have been defined, i.e. the extent to which the objectives have been accomplished. Research shows the importance of the traditional measurements for project performance with dimensions representing cost, time and quality objectives. However, multiple research studies show the importance of additional dimensions as different stakeholders might have different interests in the project and therefore different performance criteria. Dimensions such as perception and satisfaction of the client and project participants are important intangible criteria to incorporate, which are regarded as a valuable enhancement of project performance measurement. Multiple project management studies intertwine project performance with project success, thus the project success factors in relation to collaboration have been included in the study.

The final and fifth question of the literature review explored the project success factors related to inter-organizational collaboration. Project success is among the most researched topics within the project management literature to date and the word ''success'' is maybe the most beloved word of any project practitioner. Besides the traditional measures of project success (e.g. meeting time, budget and technical specifications), there is the importance of stakeholder, perception and the people who actually perform the project. Success is a function of communication, teamwork and leadership. Recently, many have realized that the human factor in projects needs to be included in success factors, in addition to the easily measurable technical parameters. During the case study, both the OCAI and PDM will be used to explore the factors that will give insights into the challenges and opportunities in the inter-organizational project collaboration. In doing so, the tool and its accompanying report for project participants will be able show the influence of certain factors on project performance and success, and thereby contribute to a more successful project collaboration. Additionally, team viability is incorporated into the study, which contributes to the effectiveness of long-term and ongoing inter-organizational teams. This dimension is added to explore the possibility of applying it in the tool that will be established during this research.

3. Case study literature

In this chapter the general setting of the case study is introduced and described. At first, the organizations present in the case study project will be introduced, beginning with RHDHV where the research is conducted, then describing Amazon and Janssen as clients. Next, the case study projects are presented which elaborates on how these projects relate to the construction industry of today and shift that will occur in the coming years. The information presented on both companies can be found in existing academic studies, internet research, and internal documents and is used compare with the results of the survey and interviews.

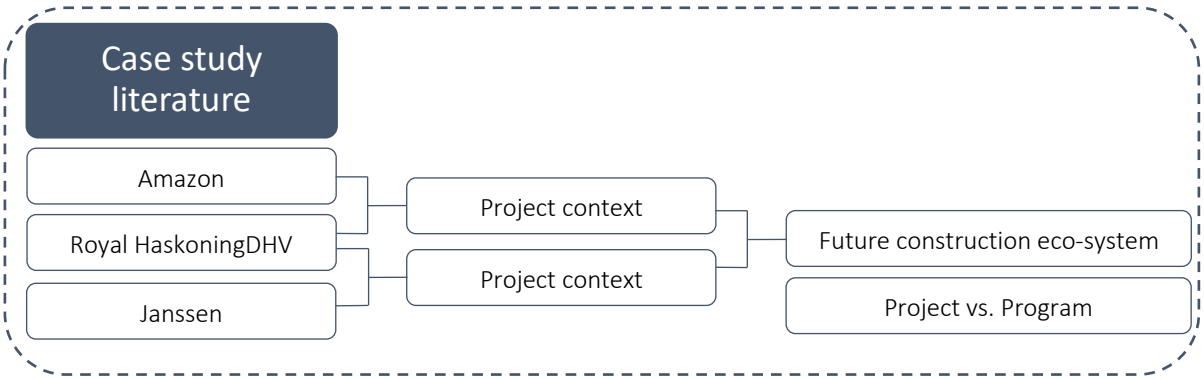

Figure 14 – Case study literature overview

Change of research approach

Initially, the case study was conducted within RHDHV's Amazon Standardized Building Program. This would involve asking both employees of the RHDHV team and that of the Amazon team to participate in a survey study and part of it in the interview study. Due to circumstances, it was not possible to receive the necessary data from Amazon to make the inter-organizational comparison with RHDHV regarding both the OCAI and the PDM. Unfortunately, therefore, a new approach had to be made related to the survey and interviews.

However, in order not to depend on a third party again, it was decided to continue the research internally within RHDHV. The internal Amazon team as well as the internal Janssen Pharmaceuticals team was asked to fill out the survey and to participate in the interviews later on. Thus, the survey study will be completed by two somewhat similar teams within RHDHV whose client operates in completely different industries. Hereby, interesting differences and similarities can still occur between both teams. The approach of the interviews has also changed. First, these were intended to validate the results of both the literature and the survey study and additionally focused on the relationship factors between Amazon and RHDHV. Now, in addition, they are used to validate the usability and user-friendliness of the tool and validate the findings of the survey study. More information can be found in the methodology chapter.

3.1. Royal HaskoningDHV

The graduation thesis will be conducted in cooperation with RHDHV on two of its international projects. RHDHV is an independent international engineering and project management consultancy firm leading the way in sustainable development and innovation. RHDHV's 140-year existence begins in 1881 when two enterprising engineers, Johan van Hasselt and Jacobus

de Koning, start an independent engineering firm in Nijmegen, the Netherlands. Today the company is ranked globally in the top of the independently owned, non-listed engineering companies and top 40 overall. With their head office in the Netherlands and other offices in more than 30 countries, over 6.000 professionals work on projects in more than 140 countries. Worldwide, the company develops future-proof solutions for cities, water, transport, and industry together with clients, project partners, knowledge institutes, government agencies, and Non-Governmental Organizations (NGO). Professionals of the organization deliver services in the fields of aviation, buildings, energy, industry, infrastructure, maritime, mining, transport, urban and rural development and water. The projects assigned to the organization are divided into four different departments, namely industry and buildings, transportation and land use planning, maritime and aviation, and water.

This thesis will be conducted on behalf of the industry and buildings department (1700+ employees), which is subdivided into four business units, namely public buildings (Netherlands), multinationals, resources & energy, and industry and buildings. The case study takes place within the business unit multinationals with clients in multiple sectors such as FMCG (Fast Moving Consumer Goods), food & beverage, breweries, pharma, tech, financial, oil & gas, data centers and corporate real estate. RHDHV works on behalf of the client organization to convey its expertise related to engineering and project management consultancy services.

Through their 140 years expertise and passion, they contribute to a better society and improve people's lives with work underpinned by their sustainable values and goals. The focus is on delivering added value for clients while at the same time addressing the challenges that societies are facing. The company handles its operations according to a clear mission, vision, values and strategy which are listed below (RHDHV, 2021b).

Mission
The purpose of RHDHV is to enhance society together through expertise, partnerships and innovations. The combination of in-house knowledge and expertise with clients' strengths leads to co-creative solutions that are designed to enhance the lives of communities around the world. The experimentation with new ideas and investments made in new technologies have the aim to make even more impact for clients and for society as a whole.

Vision
The company's ambition is to be a strong international and independent engineering and consultancy firm, leading in innovation and sustainability.

Values
The values are key to the existence of the company, which form the basis of internal and external appearance. The values are explained by RHDHV according to the following five points, which create the acronym BRITE:

1. Brightness: an open mind to ideas that lead to the best solutions for clients in which the company innovates and is eager to lead by inspiration.
2. Result driven: aiming at getting the best possible results for clients and the company itself with respect to sustainable financial performance.

3. Integrity: caring about clients, staff and society as a whole to create integrated and pragmatic solutions for sustainable interaction with a high respect for people and their environment. Also, there is a zero tolerance for non-compliance with the integrity code of the company.
4. Team spirit: the way of working is pro-active, open and inclusive.
5. Excellence: to deliver on their promises and strive to continuously improve the added value of their services.

The BRITE values underpin the mission and vision of RHDHV in which stakeholders can expect to find solutions that are in line with these values and reflect to their promise, Enhancing Society Together. The company describes its behavior according to several statement such as driven to make positive impact, co-creative with clients and society, embracing renewal, being inquisitive, going beyond to make things happen, applying a no-nonsense approach, and act with integrity in all their activities.

Strategy

RHDHV applies the 'Strong22 program' for its strategy towards 2022. Seven main priorities have been identified which are: people and culture, commercial ways of working, project excellence, digitals ways of working, innovation and digital services, enhancing society together and financial performance. The strategy means that RHDHV, as they describe themselves focusses on these main priorities. *''The Strong 22 program aims to build a common base of knowledge, values and ways of working within the company, create efficiency in our project delivery process, build lasting partnerships and global alignment to better serve our clients, and apply digital ways of working to keep up our front-running market positions and to be able to have a solid offering of digital tooling worldwide'' (RHDHV, 2021a).*

Organizational culture

RHDHV is currently actively focusing on its employees and culture through the 'People & Culture Program'. As the company states '*People and culture it is about you. About me. And about all of us. As together, we are Royal HaskoningDHV' (RHDHV, 2021a).*

The markets in which RHDHV operates, change constantly and significantly. Complex challenges arise in economies, environments and societies at large. Thereby, businesses and governments have a crucial role to play in creating secure, inclusive and sustainable societies and economies. RHDHV is also influenced by these complex challenges of climate change, business resilience and acceleration of digital technologies – as these influence the needs and desires of society and both RHDHV clients and colleagues. For the organization, digital technology, data use, predictive qualities, and successful implementation are vital. In parallel, competition increases, which implies that the organization needs to differentiate themselves in the way they work and approach clients, partners and colleagues.

The people aspect of the program is focusing on learning, development conversations and continuous feedback. RHDHV describes it as all the employees are at the center of the organization because they are the biggest attribute to the success of the company. Every person is a source of inspiration, is valued and can make a difference.

The company is transforming from an engineering, consultancy and project management company into a company that combines client focus, domain knowledge and digital

transformation. Therefore, the focus on continuous development is now more critical than ever before. The ambition of the organization is to enable leaders to lead their teams to high performance, in unpredictable situations and engage the workforce through any change. It is the role of the line managers to lead their teams and individual colleagues in these topics, which implies the focus on leadership development as well.

The culture aspect of the program describes the current and future culture of the organization. As stated by RHDHV, the culture resembles a family-like culture to be proud of contributing to the legacy that they have built over the past 140 years. However, by wanting to enhance society together for another 140 years, there is a need to get ready for the future. Therefore, the company established the program to unlock the full potential as a company, as a team and as individuals by further building on projects worldwide.

It can be concluded that RHDHV presents itself clearly in the market using the ideal 'Enhancing Society Together' which is reflected in its mission, values and strategy. In addition, the company emphasizes its ambition to be a strong international and independent engineering and consulting firm, leading in innovation and sustainability, which is again reflected in its mission, values and strategy. In regard to culture, the company puts a strong emphasis on its employees and the continuous learning and development of all individuals in the company, which will benefit both internal and external appearances. Investing in its family-like culture, the company invests in the full potential as a company, as a team and as individuals.

3.2. Amazon

The first project where the case study takes place was initiated by Amazon and is therefore the customer of RHDHV. Amazon is one of today's most powerful companies in the world and is specialized in electronic commerce and cloud computing. It is founded in 1994 by Jeff Bezos with their headquarters based in Seattle, Washington, USA. The company is the biggest internet-based retailer in the world. Amazon started as an online bookstore and later diversified to an increasing field of products like music, toys, electronics, furniture, and food among others. Nevertheless, considering itself more of a technology company than a retailer, Amazon quickly diversified to a larger variety of associated products and services (e.g. Amazon Prime). Less than two years after opening and without ever having made a profit, Amazon became a public company in May 1997, raising $54 million on the NASDAQ market. The revenues of the organization evolved from $15.7 million in 1996 to $148 million in 1997, to $610 million in 1998. This early success of Amazon made Jeff Bezos become Time magazine's 1999 Person of the Year (Harracá, 2017). By 2020 Amazon delivered a record performance with annual revenue of $386 billion, a yearly increase of over $100 billion. The net profit of the company was up 84% for the year 2020 as compared to 2019 (Kohan, 2021). The convenience and product creation has skyrocketed Amazon to the top of the list of successful and innovative companies (Rivet, 2017). The company handles its operations according to a clear mission, vision and leadership principles which are listed below.

Mission

Amazon define their mission as ''*We strive to offer our customers the lowest possible prices, the best available selection, and the utmost convenience''.* The first aspect Amazon delivers its customers are the lowest possible prices. The selling point which makes the company's e-commerce services attractive are low prices and correspondingly the reduction of operation

costs to enable the business to minimize the prices offered to the customer. Next, to give its customers the best available selection, Amazon offers a wide array of products. Moreover, the emphasis on convenience, which is an important criterion when evaluating the quality and attractiveness of online retail services. This criterion can be seen as accessing the company's products through the internet wherever and whenever the customer desires (Gregory, 2019).

Vision

The corporate vision is defined as *''To be Earth's most customer-centric company, where customers can find and discover anything they might want to buy online''.* The vision statement is stating the ''Earth'' as market, which reveals the aim of continuously expanding globally with international leadership in the e-commerce market. Next, the customer-centric approach indicates that the company is considering customers among the most important stakeholders in the online retail business. Moreover, the corporate vision reveals at last the continuing efforts to broaden and diversify its products, which contributes to business growth and to making the company's services more attractive to target consumers (Gregory, 2019).

Leadership principles

Leadership principles are used every day by Amazon, whether they are discussing ideas for new projects or deciding on the best approach for a customer's solving a problem, which is according to them, just one of the things that makes Amazon peculiar. The leadership principles empower employees to be owners and innovators while maintaining customer centricity. Amazonians are challenged to take risks because innovation often goes hand in hand with failures in the process. Amazonians can be described as a term for cohesion. They come from all sorts of backgrounds, experiences and expertises that build new systems, challenge the status quo, and work relentlessly to design products and innovations that make life easier for millions of customers and sellers all over the world. The name reveals already that Amazon indicates that all of its employees are leaders and therefore exude this during their work. The leadership principles are explained by Amazon according to the following fourteen points (Amazon, 2021; Cowles, 2015):

1. Customer Obsession: although leaders pay attention to competitors, they are obsessed over customers. Leaders start with the customer and work backwards in which they work vigorously to earn and keep customer trust. Customer obsession is the first and possibly most important of the fourteen leadership principles that accounts for a big part of Amazon's DNA. This leadership principle supports dimensions, such as innovativeness and proactiveness by pushing employees to continuously think of ways to make their customers happy. Emphasis on this powerful external force allows Amazon to innovate, which has led to product innovation, such as increased product offerings, Kindle, and Amazon Web Services.
2. Ownership: leaders are owners and think long term in which they do not sacrifice long-term value for short-term results. Acting on behalf of the entire company, beyond just their own team is important to the organization and leaders will never mention that a particular action to take on is not their job to fulfil. Ownership is directly related to autonomy and Amazon's culture includes both autocratic and democratic autonomy. Jeff Bezos essentially has unlimited autonomy as the founder and CEO (currently ex-CEO). However, managers all the way down to entry-level employees are encouraged to take ownership of their own roles, projects, and ideas.

3. Invent and Simplify: leaders expect and require innovation and invention from their teams and always find ways to simplify, which enables them to be externally aware, look for new ideas from everywhere, and they are not limited by “not invented here." Amazonians do new things and accept that we may be misunderstood for long periods of time. This two-part dimension has two meanings where invent refers directly to product innovation, while simplify refers directly to process or technological innovation. Both new products and ideas are highly valued at Amazon and employees feel encouraged and incentivized to invent and simplify.
4. Are Right, A Lot: leaders are right a lot and have strong judgment and good instincts, which enables them to seek diverse perspectives and work to disconfirm their beliefs.
5. Learn and Be Curious: leaders are never done learning and always seek to improve themselves. Next to learning, they are curious about new possibilities and act to explore them.
6. Hire and Develop the Best: leaders raise the performance bar with every hire and promotion by recognizing exceptional talent, and willingly move them throughout the organization. Leaders develop leaders and seriously take on their role in coaching others. Therefore, Amazonians work on behalf of their people to invent mechanisms for development, such as career choice.
7. Insist on the Highest Standards: leaders have relentlessly high standards and many people may think these standards are unreasonably high. Leaders raise the bar and drive their teams to deliver high quality products, services, and processes. In doing so, leaders ensure that defects do not get sent down the line and that problems are fixed so they stay fixed.
8. Think Big: leaders think big because thinking small is a self-fulfilling prophecy. Leaders create and communicate a bold direction that inspires results, think differently and look around corners for ways to serve customers. While think big is not a specific directive, the idea heavily encourages innovativeness, proactiveness, competitive aggression, and perhaps most heavily, risk-taking, which is a very big aspect of Amazon’s culture.
9. Bias for Action: speed matters in business. Many decisions and actions are reversible, which not need extensive study. Therefore, Amazonians value calculated risk taking. Therefore, Amazon employees are encouraged to refrain from asking too many questions or soliciting too many opinions on ideas. Rather, they are encouraged to act as soon as they come up with ideas and are expected to deliver results on the ideas they formulate, which corresponds with the last leadership principle.
10. Frugality: leaders accomplish more with less because constraints breed resourcefulness, self-sufficiency, and invention. Amazon beliefs that there are no extra points for growing headcount, budget size, or fixed expense. While others see this as a culture that does not provide enough resources to pursue ideas, Amazon sees frugality as a way to force employees to be even more creative and innovative. One-click purchasing is one example of a such an innovation that was a product of restricted resources. The adaptation to the customer experience did not cost a large amount of money, but it has made it easier for customers to buy more products and services of Amazon.
11. Earn Trust: leaders listen attentively, speak candidly, and treat others respectfully. By doing so, they are vocally self-critical, even when doing so is awkward or embarrassing. Besides, they benchmark themselves and their teams against the best.

12. Dive Deep: leaders operate at all levels, stay connected to the details, audit frequently, and are skeptical when the numbers differ from the anecdote. Therefore, no task is beneath them.
13. Have Backbone: leaders are obligated to respectfully challenge decisions when they disagree, even though this can be uncomfortable or exhausting. Leaders have conviction, are tenacious and do not compromise for the sake of social cohesion. They commit wholly once a decision is determined.
14. Deliver Results: leaders focus on the most important inputs to their business and deliver them with the right quality and in a timely fashion. Despite setbacks, they rise to the challenge and never settle. When a company is obsessed over customer needs, inventing and creating projects to meet those needs, and constantly raising the bar to make those products better, it will always lead to results that are passed onto and made for the consumer (Rivet, 2017).

Organizational culture

The leadership principles can be seen as the roots of the organizational culture or the guidelines of the culture at Amazon. The company undergoes constant reinvention and optimization of its organizational culture. Amazon founder and CEO Jeff Bezos emphasizes the importance of constantly assessing and adjusting Amazon's culture, so it never loses the agility, nimbleness, and hunger for experimentation (Dudovskiy, 2020). Research studies related to the organizational forms and cultural practices of Amazon highlight two elements that appear almost invariably and stand out above all else. At first, the role of its founder and CEO, Jeff Bezos. Secondly, a highly demanding and competitive internal culture, based on frugality and a permanent drive to 'be the best' and 'customer-centric'. This culture enabled the company to apply the 'Get Big Fast' and 'Winner takes it all' mentality, which made them the superpower they are today (Harracá, 2017).

The unique and constantly optimized culture of Amazon is an important part of the daily operations and innovativeness. Any research or analysis on the company is serenely lacking without thoughtful analysis of its prominent culture, most of which can be attributed to Jeff Bezos. As the visionary, entrepreneur, founder, and CEO of Amazon, Bezos has influence that cannot be overstated, which applies to everything from high-level corporate strategy to everyday operations. In addition to its influence on the company, Bezos makes a philanthropic contribution by donating money to charities to combat climate change, where he also actively advocates implementation within Amazon (CBS, 2021). Research shows that the Amazonian culture is highly representative of Bezos's personality. As a leader, he perfectly embodies all leadership principles and demands the same of all other Amazonians. Bezos's influence is certainly a major antecedent to the successes accomplished by Amazon (Cowles, 2015). Important note to be mentioned is that Jeff Bezos will step down as CEO and will take the role of executive chair of the board in the third quarter of 2021. In the role of executive chair, Bezos plans to focus on developing new initiatives and products.

The research conducted by Cowles (2015) provides clear examples on the culture and structure of Amazon with Jeff Bezos himself describing Amazon's culture through interviews conducted in the past. The structure of Amazon, as most large, innovative companies, is open to invention and ideas. Jeff Bezos likes to explain the environment of Amazon as ''hospitable to experimentation'' because it leads to innovative behavior and new inventions. To be able

to experiment, people have to know how to fail, or how to accept failure. Experiments are crucial and key to innovation because they rarely turn out as you expect, which enhances the learning process (Rivet, 2017). In addition, the study of Harracá (2017) indicates that the structure of the organization can be perceived by others as start-up environment and semi-chaotic.

In an interview with the Harvard Business Review, Bezos mentioned, *"The truth is that corporate cultures are incredibly stable over time. They are self-perpetuating, because they attract new people who like that kind of culture, while the people who don't like it eject themselves"*. This quote illustrates the intensity and all-or-nothing attitude of the culture Bezos created at Amazon, which is later enhanced by the one-word description of Amazon's culture. If the culture of Amazon could be described in one word, it would be "Intense." Jeff Bezos said, *"Intensity is important. I always tell people that our culture is friendly and intense, but if push comes to shove, we'll settle for intense".* Both statements about the company's culture can be seen as self-reinforcing loops (Cowles, 2015).

The Bloomberg article "The Secrets of Bezos" states that *"Amazon's culture is notoriously confrontational, and it begins with Bezos, who believes that truth shakes out when ideas and perspectives are banged against each other"*. The statement indicates a somewhat predisposition for intense conflict, which could be seen by many as threatening to a healthy culture. Such an atmosphere can easily intimidate employees that makes them afraid to make any kind of mistake. That fear can make people uncomfortable, and it could decrease employee propensity for risk, which could thereby stifle innovation. Even though this intensity at the company it is impossible to deny, Bezos explains that the environment is not one of tyranny, but one where people can voice their opinions. As stated by himself, ''*We have an informal atmosphere, which I think helps people tell me no, and not just me. It's also really important that they be able to say what they think to their senior vice president or vice president and so on. An informal atmosphere, I think, is a huge benefit'' (Cowles, 2015).*

It can be concluded that the mission, vision and leadership principles are closely intertwined with the organizational culture at Amazon. Based on articles and research documents reviewed, three major contributors to the success of Amazon can be highlighted. First, a strong vision and core values are both crucial for a fast-growing company, like Amazon. The vision of Amazon is not focused on one product segment, market, or industry but is rather focused on an ideal, such as 'Earth's most customer-centric company'. This vision is used as a goal for everyone in the organization, which guides both the strategy and everyday tasks. When the company's vision is seen as the goal, core values are the guideline to accomplish that goal. Core values guide employee's decisions and should be heavily advertised and discussed within the company, which refer to the leadership principles. Next, a healthy creative tension and balance is crucial for the company. Employees need to be encouraged to be creative and produce new and rigorous ideas, while maintaining high standards and demanding positive results. The company's creativity is tied to risk so that employees do not shirk responsibilities and never lose sight of the existing business. It is difficult for a company to achieve healthy balance, but this is what sets the top innovative companies apart from others. Finally, the influence of the successful entrepreneur Jeff Bezos is vital who exerts tremendous influence not only on Amazon's business, but also on its culture. Bezos has played a very important role in developing Amazon's vision and values. In addition, the leadership

principles reflect his individual leadership style that he applies while leading the organization and its employees on a daily basis. Bezos's influence is undoubtedly an important antecedent to Amazon's successes.

3.3. Janssen Pharmaceuticals

The second project where the case study takes place was initiated by Janssen and is therefore the customer of RHDHV. Janssen Pharmaceuticals is a pharmaceutical company, founded in 1953 by Paul Janssen and has its headquarters in Beerse, Belgium. Janssen is since 1961 part of Johnson & Johnson (J&J), which is the largest healthcare company in the world. Johnson & Johnson is an American multinational corporation, founded in 1886 and has its headquarters in New Brunswick, New Jersey, USA. Besides pharmaceuticals, the company produces also medical devices and consumer packaging goods (Janssen, 2021).

Janssen focuses on six important therapeutic areas of healthcare where the need is high, the science is compelling, and the opportunity to make a difference is great. These six areas consist of cardiovascular & metabolism, immunology, infectious diseases & vaccines, neuroscience, oncology, and pulmonary hypertension. Interesting to note is that Janssen currently has a working vaccine that is being used worldwide to combat Covid-19. Around the world there are working over 40.000 people to prevent, treat, cure and stop some of the most devastating and complex diseases that are currently present in the world.

Mission

Janssen define their as: *''Our mission is to transform individual lives and fundamentally change the way diseases are managed, interpreted, and prevented''*. Moreover, challenging something is the best way to change it. Therefore, the company brings cutting-edge science and the most creative minds in the industry together to think differently about diseases and the way to cure them. Every day in more than 150 countries, employees aim to not only innovate, but empower people with the tools they need to make informed decisions and achieve the best possible results for their health. As the mission describes, the company constantly expresses that they serve the challenges, needs and well-being of the people first. More on this is presented further on by their vision and the credo, which describes the values that guide the decision of the company.

Vision

The company's vision is described as a future where the world of healthcare will be challenged by informed and empowered patients. The company will put its effort into change that will improve access to medicines, which will be the best available treatment at an affordable price. The company strives to provide access to effective and affordable medicines and related healthcare services to everyone who needs them.

Strategy

The strategy of the company is to discover and develop innovative medicines and solutions that transform individuals' lives and solve the most important unmet medical needs of our time, which will be matched with the best science, internal or external. In doing so, the company works together by partnering with academic researchers, governments, patient groups, healthcare professionals, and others, to find answers to some of the most devastating diseases in the world. The approach of the company to collaboration helps drive their

worldwide success. Working with these partners at every stage, from early discovery to market access and patient education, the company seeks medical breakthroughs wherever they occur. The common goal of all partners needs to be working toward a healthy outcome for each patient.

To deliver on the company's strategy, the company employs three guiding principles that drive pricing decisions. The aim is to offer local value by accessible and affordable medicines, which will contribute to sustainable innovation.

1. Local value: the value of the medicines produced by the company will contribute to improving the lives of patients and transforming their health for the future.
2. Accessible and affordable: through active collaboration, the company makes medicines readily accessible and affordable for patients and health systems. This is in accordance with specific reimbursement systems and legal guidelines of local communities.
3. Sustainable innovation: to improve lives for current and future patients in need, it is necessary to sustain the discovery, development, and delivery of transformational medicines.

Figure 15 – Guiding principles Janssen (Janssen, 2021)

Credo: More than a moral compass

The values that guide the decision-making of Janssen are spelled out in the Credo of J&J since they are part of the Johnson & Johnson Family of Companies. The Credo challenges the company and its employees to put the needs and well-being of the people we serve first. The Credo is crafted by Robert Wood Johnson in 1943 and is the moral compass that guides the company's responsibilities as a citizen of the world. The document is used in decisions made every day at every level of the company and is reviewed to make sure that it meets the needs of patients, the public, employees, communities, and stockholders. Although the document is reviewed, the spirit of the document remains the same today as it was when it was first written in 1943. The Credo is divided into four main sections representing the responsibility to 1) patients (users of their products and services), 2) employees, 3) communities and the world, 4) stakeholders.

To achieve their first responsibility to the users of their products, the company strives to have products of the highest quality, provide value, reduce company costs, and maintain reasonable prices. Consequently, customer's orders must be serviced promptly and accurately, in which business partners must have an opportunity to make a fair profit.

The second responsibility is to the employees of the company working throughout the world. The company strives to provide an inclusive work environment, in which each person must be considered as an individual and respect their diversity and dignity and recognize their merit. Furthermore, employees need to have a sense of security, fulfilment, and purpose in their

jobs. The compensation employees will receive for their work needs to be fair and adequate. Also, the working conditions need to be clean, orderly, and safe. The company feels the need to support the health and well-being of its employees and help them fulfill their family and other personal responsibilities. Employees must feel free to make suggestions and complaints and there needs to be an equal opportunity for employment, development, and advancement for those qualified. At last, the company must provide highly capable leaders and their actions must be just and ethical.

To fulfil their third responsibility to the communities where people live and work, the company strives to help people be healthier by supporting better access and care in more places around the world. To be a good citizen, the company supports good works and charities, better health, and education, and bear our fair share of taxes. Lastly, the company focusses on maintaining the property they are privileged to use, protecting the environment and natural resources.

To achieve their fourth and last responsibility to its stakeholders, the company must make a sound profit. There must be experiments with new ideas, innovative programs, developed, investments made for the future and mistakes need to be paid for. For their own use, new equipment must be purchased, new products launched, and new facilities provided. Next to these strict measures, reserves must be created at all times to provide for adverse times. If the company operates according to these principles, the stakeholders should realize a fair return.

Organizational culture

Janssen describes its culture as an international and innovative culture, where employees have plenty of opportunities to get the best out of themselves and to contribute to the success of the extraordinary company. The culture is characterized by a strong ambition with a personal approach and openness, commitment and honesty are highly important to the company. Employees of the company need to have a goal-oriented approach with the emphasis on equal cooperation and respect for each other and each other's contribution. Naturally, the company takes into account diversity, health and flexibility.

Janssen offers, as stated by themselves, an inspiring environment for its employees and describes it through three main pillars, namely collaboration, diversity, and well-being. At first, a culture of collaboration is described by a team collaboration culture, where top breakthroughs are achieved by working together towards shared goals. Collaboration is in the DNA of the company and only top breakthroughs happen because of people working together towards shared goals. Second, diversity leads to breakthroughs by the unique view of every employees that can make a difference. Diverse backgrounds and thinking drive innovation and success. Third and finally, the aim is to be the healthiest workforce. With industry-leading employee benefits the company helps its employees to reach their full potential, both inside and outside the office.

It can be concluded that the mission, vision, strategy, and Credo are closely intertwined with the organizational culture at Janssen. Where the organizational culture focuses heavily on the well-being of the company's employees, the company also demonstrates this but directed to society as a whole by repeating it over and over in its vision and mission statements. The company constantly expresses that they serve the challenges, needs and well-being of the

people first by providing access to effective and affordable medicines and related healthcare services to everyone who needs them. To accomplish this, the company collaborates with academic researchers, governments, patient groups, healthcare professionals, and others, to find answers to some of the most devastating diseases in the world.

3.4. Project context

As described in the previous sections, the organizations present within the case study operate in entirely different fields and work closely together with RHDHV. An explanation of both projects is given in this section. It also addresses the value of the Amazon project in relation to RHDHV's current strategy. Besides, the future of the construction industry and its projects is compared with the Amazon Standardized Building Program. Lastly, the project context of the Janssen Master Service Agreement is presented.

3.4.1. Amazon Standardized Building Program

In 2017 Amazon initiated a standardized building program to enhance standardization in the Customer Fulfilment building network in Europe. Meanwhile, also the Sortation and Delivery Station building networks are included in the standardized building program. The program is owned by the Worldwide Design Europe team and supported by their Program Architect. In the second quartile of 2019, RHDHV was appointed as Program Architect for this standardized building program. By the end of 2020, about forty to fifty FTEs from RHDHV were working on the project for Amazon. Over the course of the study, the project activities have grown rapidly and so the number of employees on the project have exceeded 200 (PTE/FTE) RHDHV employees. The scope of the Program Architect related to the standardized building program can be divided into three streams: (1) Design scope, (2) Compliance scope, and (3) Consultancy scope.

The design scope covers the development of Template Performance Packages. A Template Performance Package is a pan-European design for a logistic center that can be localized for a project location in one of the identified countries by the Amazon business. These Template Performance Packages are delivered to the Real Estate and Design & Construction teams within the Amazon Europe organization. These teams use the Template Performance Packages to purchase land, to develop permit documentation, to appoint a contractor and developer, and to construct a building that fits within the Standardized Building Program. The tender design location of each new logistic center is independent, which means that a local party always has to modify the template design of RHDHV. To ensure compliance with the Template Performance Packages after handover to Real Estate and Design & Construction, design reviews are performed by RHDHV. The compliance scope covers design reviews at three milestones: (1) test-fit design ready, (2) permit design ready, and (3) tender design ready. At these milestones, RHDHV performs reviews to check compliance of the localized design with the Template Performance Package. Last but definitely not least, within the consultancy scope RHDHV explores multiple innovations. Topics that have been researched over the past year are amongst others: WELL Building Standard, parametric design, and net-zero carbon.

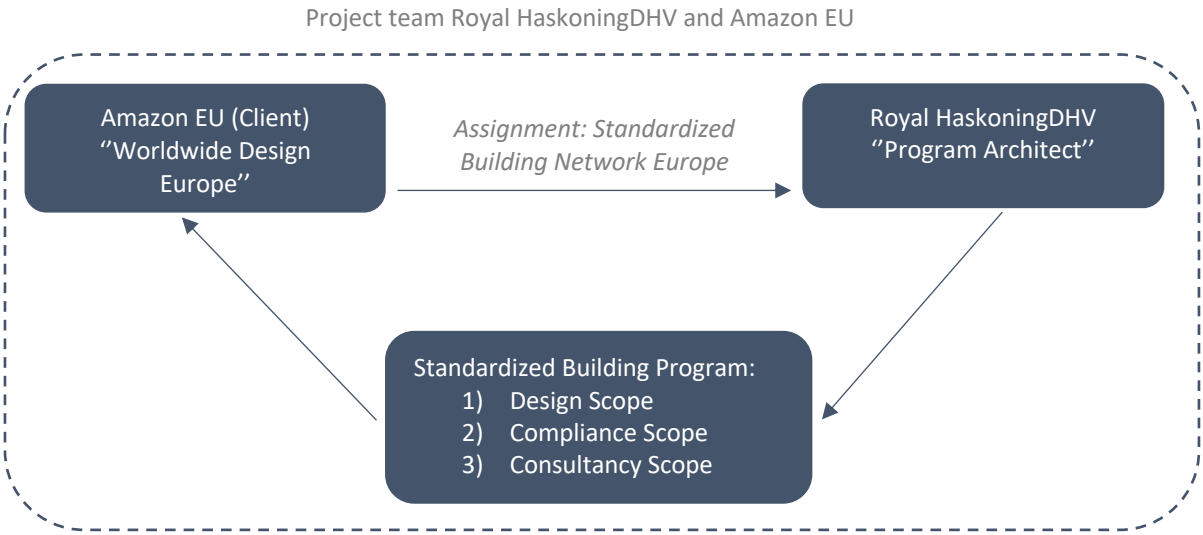

Figure 16 – Amazon Program Outline

The Amazon Standardized Program contributes to the fact that Amazon is able to expand rapidly in Europe where demand for its products and services is high. This is in line with the company's vision to continuously expand globally with international leadership in the e-commerce market.

Strategic contribution

The Amazon project brings RHDHV more than just a new client and a standard project. The project has many similarities to RHDHV's current strategy and values and is eager to capitalize on them. An example of this is that RHDHV describes in its BRITE values *''We innovate and are eager to lead by inspiration''*. Within the Amazon project, innovations are proposed through the consultancy scope. In addition, the Amazon project enables RHDHV to put its Strong22 principles into action. Five out of seven guiding priorities are considered in which the Amazon project makes or can make a positive contribution. As described below, the five priorities established by RHDHV and the possible contribution of the Amazon project to them.

- Win more work: diversifying services and clients within the amazon project to win more and diverse work.
- Innovate through digital: growth of capabilities as RHDHV, where Amazon can be a nursery for innovation, such as developing digital services, logistic simulations and Digital Twin.
- Accelerate digital ways of working: improve digital ways of working, such as parametric design, automated engineering, data automation, PM-dashboarding, BIM cost loading, and energy modelling.
- Operate efficiently: standardization and workload sharing, which will be beneficial in terms of efficiency for both parties.
- Strengthen market position: more sales create more capital for investments, which ultimately benefits the whole company.

In addition to contributing to the company's strategy and values, a project strategy and vision for 2021 have also been prepared, both of which consist of 3 aspects. The project strategy for the year 2021 consists of:

- *Long term partnership*

- *Adding value and proving added value*
- *Joint ambitions: growth, innovation and sustainability*

The project vision for the year 2021 consists of:

- *Essential, intelligent, and innovative partner for Amazon*
- *Basis of rest: rest and structure when possible, act quickly when needed*
- *Impulse on innovation*

It can be concluded that the project makes a positive contribution to the mission, vision, and strategy of both Amazon and RHDHV. Therefore, a good collaborative relationship will be beneficial for both parties in order to achieve their individual and joint goals together. Thus, for both parties, the project has a great deal of influence on their future way of operating. The strategy is to use the project to enter a long-term cooperation relationship in which growth, innovation and sustainability are central. This value addition to both the project and the company ensures that the ambitions of the company can be achieved. In addition, the project assists Amazon to expand rapidly in Europe where the customer demand for its products and services is high. Besides, it considers the company's innovation and sustainability requirements.

3.4.2. Master Service Agreement Janssen Pharmaceutical

Johnson & Johnson and RHDHV Nederland BV signed a Master Service Agreement (MSA) for the “delivery of services such as but not limited to engineering services concerning projects”. The MSA became effective as from January 1st, 2017, and offers RHDHV the opportunity to partner not only with “Janssen Pharmaceutical Companies of Johnson & Johnson” in Belgium (as has been the case for the last 30 years) but also with the two other Business Lines within Johnson & Johnson (“Medical Devices” and “Consumer Health”). Furthermore, the geographical area in which we can be active under this MSA has been enlarged from Belgium to Europe, Middle East and Africa (EMEA).

At the same time a so-called Work Order (WO) was signed between the two companies under this MSA to cover the existing services that RHDHV has delivered since 2014 within the capital project delivery program across Janssen Pharmaceuticals on all their Belgium sites. Janssen has clearly valued RHDHV’s site-based approach and very well appreciated her strategy to set up a site based embedded team on their “make site” in Beerse ensuring client intimacy to the maximum extent.

At the moment RHDHV works with a multi-disciplinary team of 25 to 35 professionals full time to handle and manage about 50 to 80 small and medium sized capital projects from start of scoping till project hand over and close out. All these projects are delivered following the Johnson & Johnson project roadmap and fitting the Johnson & Johnson governance model.

Future of construction

Interesting to note that McKinsey & Company (2020) released a report of the new normal in the construction industry that presents similarities with the Amazon Standardized Building Program. The research shows that the future construction ecosystem will be radically different than the current, which will boost the productivity of the sector. The ecosystem of the future construction industry will be a more standardized, consolidated and integrated construction

process (Figure 18). As opposed to the current ecosystem of a highly complex, fragmented, and project-based construction process (Figure 17).

Figure 17 – Current construction ecosystem (McKinsey & Company, 2020)

The study describes the current construction processes as highly project-based – developed from unique customer specifications, using designs planned from scratch, and with limited degree of repetition. Therefore, the value chain and player landscape are local and highly fragmented vertically and horizontally, resulting in a multitude of players involved at each step and major interface frictions. In doing so, much of the work is manual and much of the workforce consists of temporary workers for one project. Limited use of end-to-end digital tools and processes, as well as a misguided approach to on-site delivery.

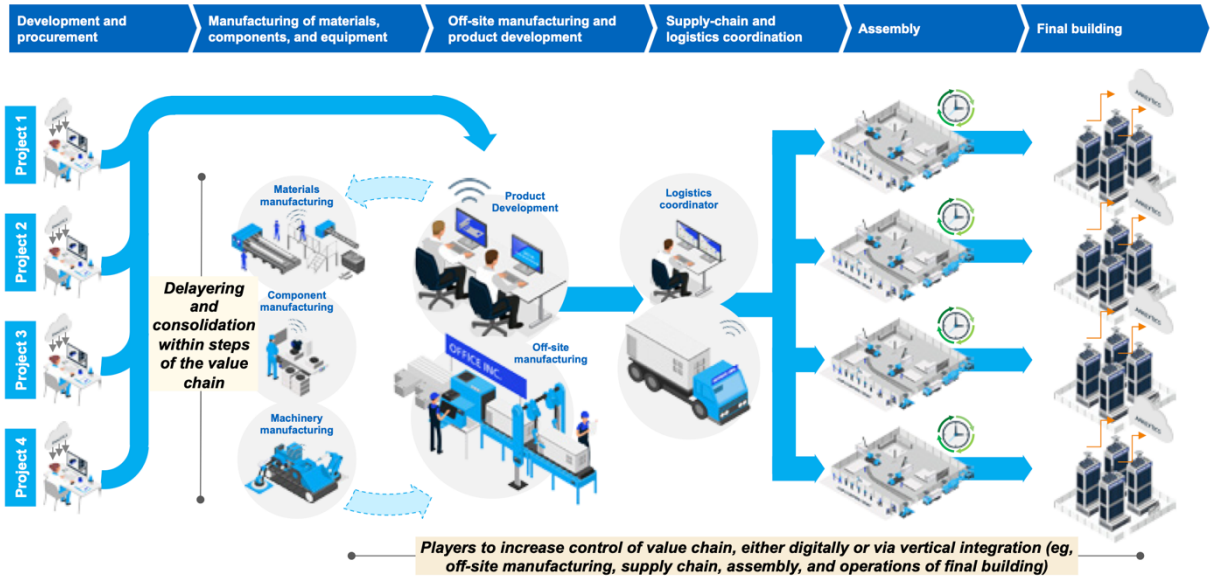

Figure 18 – Future construction ecosystem (McKinsey & Company, 2020)

Furthermore, the study describes the construction ecosystem of the future, where construction process is increasingly product based, meaning structures will be products and manufactured off site by branded product houses specializing in certain end-user segments. Thereby, developers choose entire designs or specific components from a library of options developed in-house or offered externally on the market. Consequently, the value chain is more consolidated, both vertically (delayering) and horizontally, with increased degree of

internationalization. A reduction of intermediaries takes place through digital marketplaces and direct channels. In addition, contractors focus on lean, on-site execution, and assembly of products. Finally, data and analytics on customer behavior is generated after completion to optimize total cost of ownership and future designs.

With the Amazon Standardized Building Program, RHDHV and Amazon are embarking on a new path of approaching multiple construction projects at the same time. As the McKinsey & Company (2020) study describes, the construction process will be based on products where developers can choose from complete designs or specific components from a library of options. The Worldwide Design Team of Amazon together with RHDHV as Program Architect are embarking this new way of construction by compiling a library of multiple template designs that can be used across Europe. The Template Performance Packages enable Amazon to purchase land, to develop permit documentation, to appoint a contractor and developer, and to construct the new logistic centers that fits within the Amazon Standardized Building Program, which is described by the study as a reduction of intermediaries. Both modifications related to the specific needs, local conditions and regulations of a country or region where the new building is to be located have still to be made by the contractor or developer. This makes the value chain more consolidated, both vertically and horizontally, with a greater degree of internationalization. In addition, changes and optimizations in the template designs are made cross-program (project), which ensures that these template designs are always the very latest and most innovative to be used by Amazon. Thus, the long-term program will be a framework of related projects implemented in a specific order and containing predictable and repeatable elements to minimize or even eliminate risk. The Janssen program has more in common with the current construction ecosystem and therefore could learn a lot from the Amazon program and its team.

Project vs. Program

In the literature study, project related aspects such as project performance and project success are widely discussed. However, both the collaborations of RHDHV with Amazon and Janssen are rather a program than a project. As even the name of the Amazon Standardized Building Program reveals this. Many believe that a program is simple a larger and longer version of a project. Despite the similarities between both, they are rather different. In short, a project is a specific and single task that delivers a tangible output, whereas a program is a collection of related projects (PRINCE2, 2021). As used in the literature review, PRINCE2, a well-known project management method describes a project as “a temporary organization that is created for the purpose of delivering one or more business products according to a specified business case”. Projects have a short-term orientation, and the project manager ensures the project delivers the intended goal, within a defined timeframe and budget. A program, on the other hand, is defined as “a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually”. Usually, programs are long-term, sometimes spanning over years, and are not fixed to a certain time period or deadline. Besides, a program is a framework of related projects aligned in a specific sequence and has predictable and repeatable elements to minimize or even eliminate risks. Therefore, based on the above-described information, the similarities and differences between the two different collaboration modes will be briefly discussed here (PRINCE2, 2021). Since a program is a series of projects and a long-term relationship, building a good collaborative relationship based on shared perspectives is even

more important than in a single project partnership. Both the Amazon and Janssen program benefit from optimizing the collaborative relationship for future project outcomes.

Based on the similarities, it is good for both project and program managers to understand the challenges each has to deal with, as both projects and programs:

- Are temporary
- Use business cases
- Require a team
- Are aligned to strategic objectives
- Deliver change

The key differences between a project and program are described below (Table 1).

Table 1 – Key differences project and program

Comparison	***Project***	***Program***
Focus	Content	Context
Scope	Well-defined limited to an output	Broad and adjustable
Timeframe	Short term	Long term
Components	Small tasks	Projects
Functional units	Single	Multiple
Tasks	Technical	Strategic
Produces	Output	Outcome
Deadlines	Strict	Flexible
Designers	Mid-level staff	Top-level staff
Success	Product quality, timeliness, cost effectiveness, compliance and customer satisfaction	Long-term benefits to the organization, Return on investments of new capabilities

3.5. Conclusion

This case study literature is presented to give an insight into the history, current operations and ambitions for the future of all three companies and both projects. As mentioned earlier, all companies operate in completely different industries, which provides both opportunities and challenges. There are both similarities and differences between the two customer companies and RHDHV when looking at the information presented in this chapter. When looking at the history of the companies it can be seen that RHDHV is an established international company with a unique 140-year history. Amazon, on the other hand, has been around for less than 30 years, but in that short time has developed into a superpower in its sector of operation. Janssen Pharmaceuticals is a pharmaceutical company, founded almost 70 years ago and is already 60 years part of J&J. Similar to Amazon, J&J is the leading superpower in its sector by being the largest healthcare company in the world. The history of these companies could be an explanation of the differences in corporate culture. Nevertheless, both customer companies have partnered with each other which shows the confidence in completing such a challenging project and the collaborative relationship.

Regarding the current way of operating there are both differences and similarities between the companies and projects. Interesting to observe is that both RHDHV and Amazon focus on an ideal that is acquired with the mission, strategy, vision and ambitions of the company. Where Amazon positions itself as 'Earth's most customer-centric company', RHDHV positions itself with the ambition of 'Enhancing Society Together'. Literature shows that focusing on an ideal as a company has a positive contribution to the performance of the company, internal

teams and its employees. Whereas Amazon's current culture focuses on a very demanding and competitive culture, based on frugality and a permanent drive to "be the best" and "customer-centric", RHDHV focuses on a family culture where they invest in the full potential as a company, as a team and as individuals. On the other hand, based on literature research, Janssen has an organizational culture which is somewhat similar to the one of RHDHV. At both companies, the 'clan' culture is strongly reflected in the information see they themselves share on its websites and documents. This shows that both companies in both projects have different cultures that can create both opportunities and challenges in the project. For this purpose, the hypotheses have been drawn up, which will be tested through the results of both the survey and the interviews. Besides the differences in culture of both customer companies, it is interesting to note that both companies are obsessed with their own customers but both with different motivations. Where Amazon does this to attract customers to their products and services, Janssen does this to protect their customers as best they can from diseases and other life-threatening issues.

Based on the first project presented in this chapter, it can be concluded that the Amazon Standardized Building Program gives a positive contribution to the mission, vision, strategy, and ambition of both companies. Therefore, a good collaborative relationship will be beneficial for both parties in order to achieve their individual and joint goals together, which has an influence on their future way of operating. RHDHV emphasizes in its ambition to be a strong international and independent engineering and consultancy firm, leading in the field of innovation and sustainability. Innovation and sustainability are aspects that are high on the agenda for both companies and are therefore clearly reflected in the project strategy. In addition, both companies are strongly focused on growth through the execution of this project. For RHDHV Amazon serves as an important, demanding client for whom a long-term collaborative relationship is desirable, as they have with several other multinationals. For Amazon, the project serves as a steppingstone for its rapid expansion in Europe to meet the demands of its ever-growing customer base worldwide. With the Amazon Standardized Building Program, Royal HaskoningDHV and Amazon are embarking on a new path of approaching multiple construction projects at the same time that is in line with the future construction ecosystem, which will boost the productivity of the sector. The standardized, consolidated and integrated construction process will positively influence both the companies its growth potential, innovation aspirations and sustainability requirements.

The Janssen Master Service Agreement on the other hand presents a totally different program. Hereby is the customer already a partner for over 30 years, whereas Amazon is still a relatively new customer. RHDHV strives for long-term partnerships with her customers and a company like Janssen is a perfect example of that. In doing so, RHDHV's site-based approach and its strategy of establishing a site-based embedded team to ensure maximum customer intimacy is highly valued by Janssen.

4. Methodology

In this chapter the methodology of the research study is discussed. This paragraph explains the outline of the methodology chapter, which is visualized in Figure 19. In the introduction (Chapter 1) the aim of this thesis has been defined, which is to develop a business case tool presenting the differences in organizational culture and perceptual distance during (inter-)organizational project collaborations. The current chapter elaborates on the methodologies currently applied in literature on organizational culture and perceptual distance and which methods are found most suitable to use during this thesis. Furthermore, the case selection, measurement procedure, sample, analysis and accompanied development of the business tool are explained. In general, this chapter describes how organizational culture and perceptual distance, as derived from the literature in Chapter 2, are measured and thereby aims to answer the last three sub-questions.

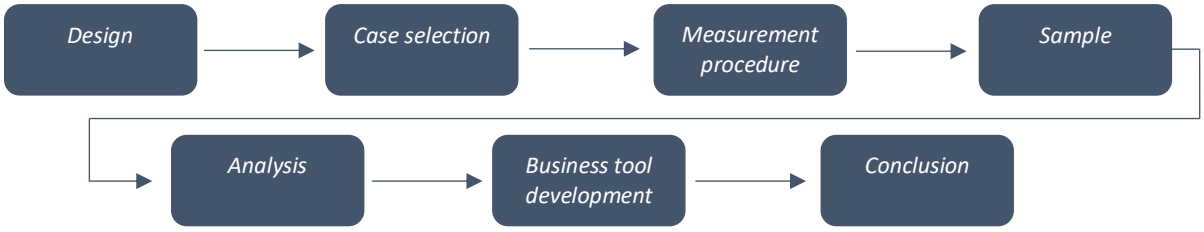

Figure 19 – Visualization of methodology outline

4.1. Design

The design of the research study is twofold consisting first of a case study examining two programs within RHDHV followed by the development of a business tool to improve the collaborative relationship during project collaborations. The case study research cycle is used in which the research strategy is a study that examines a phenomenon within its real-world context. Therefore, it is based on an in-depth examination of a single individual, group, project, or event to investigate the causes of underlying principles and may include both qualitative and quantitative research methods. Case study research also follows a clear methodological path. It is a linear, but an iterative process and often includes six steps as described in the CME graduation guide on how to perform case study research (University of Technology Eindhoven, 2020):

1. Plan to identify research question
2. Design case studies
3. Prepare to collect case study evidence
4. Collect case study evidence
5. Analyze case study evidence
6. Report and reflect

Further elaboration on each of these steps is presented in Appendix I. In doing so, this process is used to answer the final three sub-questions of the research, namely:

SQ 2: *What are the main aspects and/or dimensions to measure similarities and differences between the two project teams' organizational cultures that can cause friction or have a positive impact during the project using the Organizational Culture Assessment Instrument (OCAI)?*

SQ 3: *What are the main aspects and/or dimensions to measure perceptual distance on the project using the Perceptual Distance Monitor (PDM)?*

SQ 4: *What organizational culture differences and perceptual distance aspects are recognized as having the most influence on project performance and collaboration-based project success from a project practitioner's and business expert's perspective?*

Besides, the case study is used to test the tool for use at RHDHV. In doing so, the case study serves as a descriptive study for the development of the business tool. Therefore, the methodology differs from other studies by first conducting a case study research that is simultaneously used to develop a business tool. A further elaboration on the development of the tool is presented in Section 4.7.

4.2. Case selection

Within RHDHV, the initial research approach was to measure the organizational cultural differences and perceptual distance regarding Amazon Standardization Building Program between the internal Amazon team (RHDHV) and the external Worldwide Design Team (Amazon). Research on the cultural differences between the two companies had been initiated prior by two project managers within RHDHV. However, due to unforeseen circumstances, it was not possible to obtain the data from Amazon after which a solution was sought within RHDHV. A similar program was looked at with respect to (1) inter-organizational collaboration, (2) team size (both internal and external), (3) program in progress. In consultation with the thesis company supervisor and two program/project managers, it was decided to include the internal Janssen team in the study. The schematic representation is shown in Figure 20.

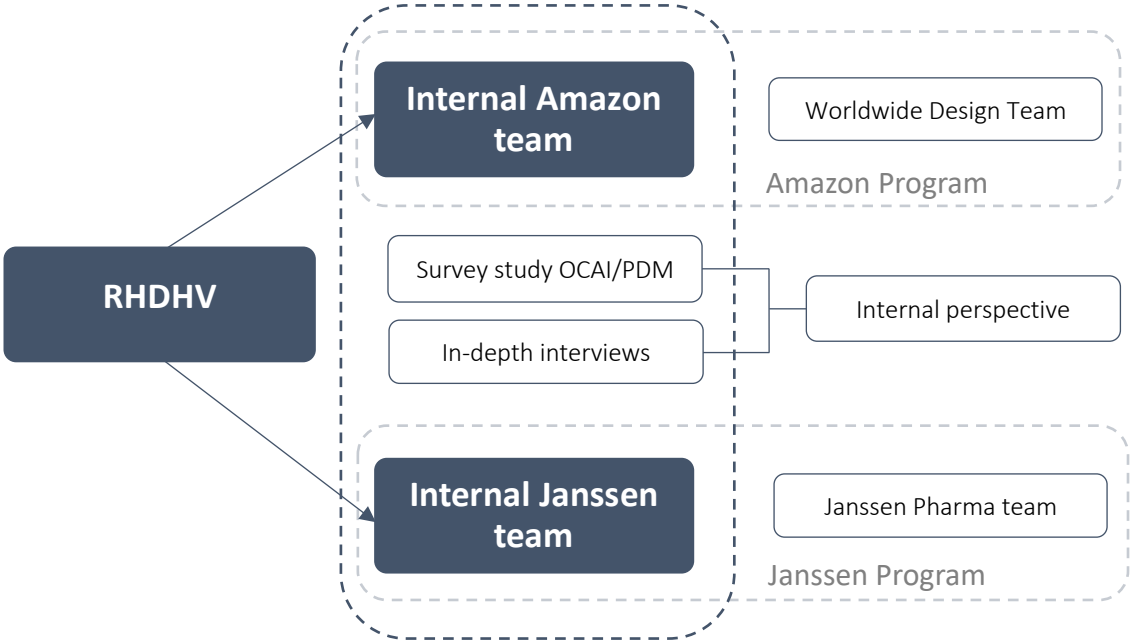

Figure 20 – Schematic representation case selection

In both programs, between 10-20 RHDHV employees work closely with the client on a regular basis with weekly client contact. Per program, both questionnaires and interviews were envisioned with project and design managers working with good overview of the performance

and activities of both parties within the inter-organizational collaboration. In addition, it was chosen to interview two project/program managers outside the projects but within RHDHV to validate the usability of the developed tool. This resulted in a sample consisting of 33 surveys and 4 interviews within RHDHV. As a result, this research was only conducted on one side of the dyad instead of the previously intended two-sided of the collaboration.

4.3. Measurement procedure

In this thesis, both questionnaires and interviews are used to obtain both quantitative support based on the existence of organizational culture and perceptual distance and a more qualitative understanding of the reasons underlying it. Within the literature review, two frameworks emerged that were found most appropriate for examining (inter-)organizational project collaborations based on organizational culture and perceptual distance. Both frameworks are academically tested and combinedly used during the survey study. Besides, the first part of the interviews is used to validate the findings with respect to organizational culture, perceptual distance dimensions, and other topics from the literature review. Furthermore, the second part of the interviews is used to validate the usability and user-friendliness of the developed business tool. A schematic representation is given in Figure 21.

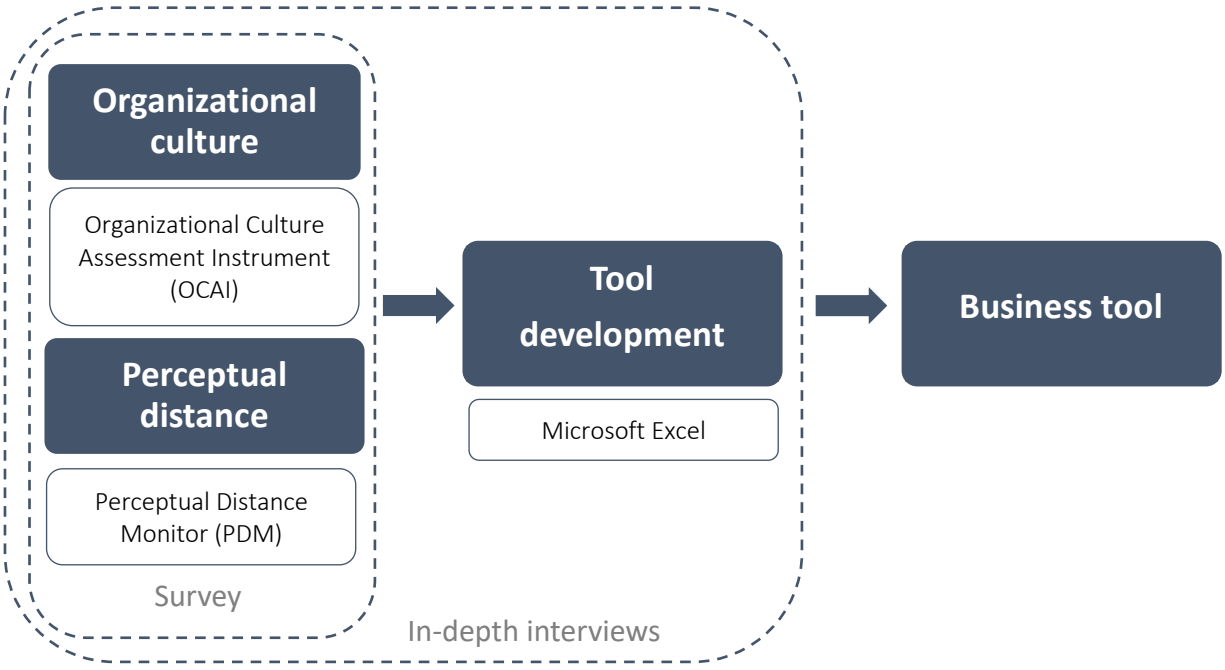

Figure 21 – Schematic representation case study

4.3.1. Surveys

As described before, the survey study is composed of two different theoretical frameworks. First, to identify the organizational culture of companies, the OCAI is used. According to Cameron & Quinn (2006), the framework assessed organizational culture based on six different dimensions (also shown in Table 2):

1. *The dominant characteristics of the organization, or what the overall organization is like*
2. *The leadership style and approach that permeate the organization*
3. *The management of employees or the style that characterizes how employees are treated and what the working environment is like*

4. *The organizational glue or bonding mechanisms that hold the organization together*
5. *The strategic emphases that define what areas of emphasis drive the organization's strategy*
6. *The criteria of success that determine how victory is defined and what gets rewarded and celebrated*

The first part of the survey (OCAI) consists of statements that could be agreed with on a five-point Likert-type scale, ranging from 1 (Strongly disagree) to 5 (strongly agree) as can be seen in Table 2. Additional information on the importance, issues, reliability, validity and rating scale regarding the PDM can be found in Appendix II.

Table 2 – Operationalization OCAI

Organizational Culture Assessment Instrument (OCAI)			
Questions	***Dimension***	***Level of measurement***	***Items***
1	Dominant characteristics	Ordinal	Likert scale (5): 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree
2	Organizational leadership	Ordinal	
3	Management of employees	Ordinal	
4	Organizational glue	Ordinal	
5	Strategic emphases	Ordinal	
6	Criteria of success	Ordinal	

Although according to the research of Van der Krift et al. (2020), all dimensions used are beneficial to measure the perceptual distance between two (inter-)organizational project teams. However, some of these dimensions are dropped during this study due to sensitivity of questions and duration of the survey. After meeting with several project managers, the following dimensions are chosen to be applied during the study, namely satisfaction with project objectives (overall value obtained), competences of team on both client and RHDHV's side, management style in the respective organizations, internal tasks routines and organizational responsiveness on RHDHV's side, relational norms such as flexibility, solidarity, trust and information exchange, project performance, and importance of performance criteria. The first part of the survey (PDM) consists of statements that could be agreed with on a five-point Likert-type scale, ranging from 1 (Strongly disagree) to 5 (strongly agree) with three questions deviating from this scale (16, 18 and 19) as can be seen in Table 3. Question 16 consists of statements that could be agreed on a five-point Likert-type scale, ranging from 1 (much shorter/lower) to 5 (much higher/longer). Questions 18 and 19 are designed to require the respondent to indicate what they consider to be the most important dimensions for both their employer and customer. Additional information on the importance, issues, reliability, validity and rating scale regarding the PDM can be found in Appendix III.

Table 3 – Operationalization PDM

Perceptual Distance Monitor (PDM)			
Questions	***Dimension***	***Level of measurement***	***Items***
7	Satisfaction with project objectives	Ordinal	Likert scale (5): 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree
8	Competence client project team	Ordinal	
9	Competence contractor project team	Ordinal	
10	Management style	Ordinal	
11	Information exchange	Ordinal	
12	RHDHV internal task routines	Ordinal	
13	RHDHV organizational responsiveness	Ordinal	
14	Flexibility	Ordinal	

15	Solidarity	Ordinal	
16	Project performance	Ordinal	Likert scale (5): 1 = Much lower/shorter 2 = Lower/shorter 3 = Neutral 4 = Higher/longer 5 = Much higher/longer
17	Trust	Ordinal	Likert scale (5): 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree
18	Weighting for criteria “project performance” and “satisfaction with project objectives” (Client)	Ordinal	Grade (5): 1 = Most important 5 = Least important
19	Weighting for criteria “project performance” and “satisfaction with project objectives” (RHDHV)	Ordinal	

4.3.1. In-depth interviews

During this study, qualitative semi-structured interviews are used to discover detailed and in-depth information from the respondents, which are often used during case studies. The semi-structured interviews are designed to last 45 minutes to acquire the information needed, which will validate the findings of both the literature review and survey study, and the usability and user-friendliness of the business tool. Additional information on the interviews is presented in Appendix IV. The format of the interview contains a combination of primary questions and possible follow-up questions, depending on the willingness to share information. The primary questions are designed to ensure that the required information is extracted from the respondent. Next the follow-up questions are designed for achieving the right degree of depth, detail, vividness, richness, and nuance that is required (Rubin et al., 2005). The complete interview protocol with all questions is given in Appendix VI.

During the interviews, notes are taken and important comments highlighted which are immediately submitted to the interviewee for approval via email with the opportunity for modification. This prevents the interviewer from having misinterpretations of statements made by the interviewee. The information is then used to point out the differences and similarities based on the interviewee's findings. Finally, the results, as incorporated into the thesis, are mailed to the interviewee for information and final approval.

4.4. Sample

The intended sample of the surveys consists of 33 respondents divided over two separate project teams. The PDM requires employees who work closely with the customer, so a small sample size is sufficient when the framework is used. For both the internal Amazon team and the Janssen team, participants are selected based on their collaborative actions with the customer. These include project managers, design managers, (cross-)program managers and account managers, who are in weekly or daily contact with employees on the customer side.

For the sampling of the survey, the program SurveyMonkey is used with. a RHDHV corporate license. The survey is distributed by means of an email message containing the relevant link

to the survey. The online survey tool ensures that respondents are able to fill out the survey via any browser. When finished filling out the survey, it is no longer visible who the respondent is and therefore anonymous. Due to the small sample size, simple aspects such as position, age, level of education, period at the company, period on the project were omitted because they can be traced back to a specific person. Therefore, in consultation with the university, it was decided to make the survey completely anonymous. The communication plans are listed below in Table 4 for the internal Amazon team and Table 5 for the internal Janssen team.

Table 4 – Communication plan Amazon team

Date	***Type of Action***	***Action taken by***
15-03-2021	Introduction presentation – Graduation Research + survey	Student
08-04-2021	Online survey opened	RHDHV
08-04-2021	Send e-mail containing link to survey	Student
23-04-2021	Send reminder e-mail containing link to survey	Student
30-04-2021	Closed survey	RHDHV

Table 5 – Communication plan Janssen team

Date	***Type of Action***	***Action taken by***
11-05-2021	Online survey opened	RHDHV
20-05-2021	Introduction presentation – Graduation Research + survey	Student
20-05-2021	Send e-mail containing link to survey	Student
31-05-2021	Closed survey	RHDHV

The total sample consists of 16 respondents divided over both projects as depicted in Table 6. As can be seen, the sample contains 17 surveys less than planned due to the low response rates of 43% and 53%. The full survey including intro text and email is presented in Appendix VI for the internal Amazon team as well as in Appendix VII for the internal Janssen team.

Table 6 – Respondents of project teams

RHDHV team	***Potential respondents***	***Respondents***	***Respondent rate***	***Average time to complete survey***
Amazon	14	6	43%	20 min 01 sec.
Janssen	19	10	53%	16 min 58 sec.

Similar to the surveys, an online procedure is used for the interviews. This is partly because of the Covid-19 situation and in addition, RHDHV employees often work in different locations throughout the country making an online appointment the best option. The interviews are conducted via Microsoft Teams which are recorded and later transcribed. The recordings are made via Microsoft Teams. The participants of the interviews are selected based on their project management role within the company, which is discussed with the company supervisor. The total sample consists of 4 interviewees as planned, which is presented in Table 7. The identity of the interviewees is not disclosed in the thesis which ensures anonymity. The interview protocol can be found in Appendix VIII.

Table 7 – Interviewees RHDHV

Role	*Date*	*Duration*
Project Manager (RHDHV – Amazon)	Thursday 3rd of June	45 min
Project/Program Manager (RHDHV – other projects)	Monday 7th of June	45 min
Project Manager (RHDHV – Janssen)	Tuesday 8th of June	45 min
Project/Program Manager (RHDHV – other projects)	Wednesday 9th of June	45 min

4.5. Analysis

The survey study requires a quantitative method of data analysis. The questions derived from the theoretical frameworks OCAI and PDM provide the required results of the study. The survey could only be completed when all questions had been completed by the respondents and because of this, it was not necessary to prepare the data prior (e.g. checking for missing data, removing outliers, transforming variables).

To ensure reliability, both methods were applied consistently where all respondents had the opportunity to answer the questions under the same conditions. Both the OCAI and the PDM are reliable instruments where the scales have been tested by both the authors themselves and academic research. Based on the reliability analyses of the scales, the scales were created by averaging the items included per dimension. In addition, the Cronbach's Alpha is included in the tool to check the internal consistency of the different dimensions related to the PDM.

To ensure validity, both measurement techniques used are of high quality and focused on measuring differences in organizational culture and perceptual distance during project collaborations. In addition, both are based on established theories or findings from previous studies, and the questions used are carefully and precisely formulated according to the theory prescribed. Further, the population studied and used for the results were selected based on role within the company and collaborative relationship with the client as prescribed by the authors of the PDM.

Regarding the interviews (qualitative results), content analysis is used which looks for patterns in respondents' answers. First, the recordings of all four interviews are transcribed after which the responses are broken down by question. This allows for examination of patterns based on word usage of the interviewee, which clearly differentiates with respect to the similarities and differences in answers of the interviewee. Colors are used to identify words and phrases of the interviewee to reveal patterns. An example of this is the use of words related to "team" and "low threshold" which corresponds to a clan culture as described by Cameron & Quinn (2006). Important statements acknowledged by multiple interviewees indicate similarities and are therefore explicitly mentioned as cohesiveness with respect to a particular topic or dimension.

4.6. Business tool development

To analyze the results a business tool is developed to provide insights into the organizational culture differences and perceptual distance of two project teams. Microsoft Excel is used to construct to tool, as this program is easy to use for and enables RHDHV employees to carry out a similar research as this themselves on other projects. This program is used to analyze the data because many employees are familiar with Excel and have easy access to the program by working in a Microsoft Office environment. The quantitative results from both project

groups are used in the thesis and tool for indicating differences and similarities between both project teams. The tool was developed during this research study and based entirely on the OCAI and PDM. During this research the two case study projects are used as input and thereby tested for future use. The generic business tool is capable of (periodically) identifying the organizational culture and perceptual distance of project teams, which contributes to the collaborative relationship between both patties.

4.7. Conclusion

This chapter formulated the methodology of the study. Most importantly, both qualitative and quantitative methods of data collection are used. A case study research method is used to answer the latter which sub-questions. In addition, a tool is designed to contribute to the collaborative relationship of project teams.

The case study is dichotomous consisting of surveys and interviews. The survey consisting of two frameworks (OCAI and PDM) is used for the quantitative approach of organizational culture and perceptual distance of both project teams. The organizational culture is tested using 6 dimensions after which the perceptual distance is tested based on 13 dimensions. The survey consists largely of items on a Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Within the two project teams, 16 surveys were ultimately conducted, using 'SurveyMonkey' that surveyed only those individuals who work closely with the customer.

The interviews are used for the qualitative approach of organizational culture and perceptual distance of both project teams. In addition, the interviews are used for testing the usability and user-friendliness of the developed business tool. According to a semi-structured interview, four project managers working inside and outside the projects (within RHDHV) are interviewed to validate the results and the use of the tool.

The business tool is developed to provide insight into the differences in organizational culture and perceptual distance between two project teams. The easy-to-use tool is developed in for many familiar program Excel so that it can be easily used by RHDHV staff. The generic business tool is capable of (periodically) identifying the organizational culture and perceptual distance of project teams, which contributes to the collaborative relationship between the two parties.

5. Results

In the previous chapter, the research approach was presented including the variables and analysis methods that will be used during this study were discussed. In this chapter, the data that is collected in this study will be described and analyzed. The first sub-section (5.1) of this chapter presents the analysis of the results related to the survey and interview study. First, the results of the OCAI are presented where each of the six dimensions are presented related to both project teams. Following that, the results of the PDM are addressed where the perceptual distance is measured between the two internal teams focused on their own projects. The final part of the analysis presents the results of the interviews, which are intended to test the results of the survey and literature study as well as the usability of the tool. The second sub-section (5.2) presents the usage of the tool and its underlying functions, which RHDHV could use on projects and programs in the future. The final sub-subsection (5.3) consists of the discussion where the results are interpreted, qualified, and inferences and conclusions are drawn from them.

5.1. Analysis

As previously described, this section consists of the results of the (quantitative) survey study of both the OCAI and the PDM and, in addition, the results of the (qualitative) in-depth interview. First up are the results of the OCAI which reflects the organizational culture differences between the two internal teams of RHDHV. Furthermore, the results of the PDM are presented where the view of both project teams focused on the different dimensions are discussed. Finally, the results of the interviews are presented.

5.1.1. Organizational Culture Assessment Instrument (OCAI)

As mentioned earlier in the previous chapter (section 4.1.1), the OCAI tests the organizational culture against six dimensions. This chapter first presents the results per dimension after which the total organizational culture profile is described. Normally, this tool is used to examine the organizational culture of two different companies. During this research it has been used for two internal teams within the organization of RHDHV. The results for each dimension are depicted using radar charts in Figure 22.

1. Dominant Characteristics (DC)

First, respondents were asked to rate their organization on the dominant characteristics, or what the overall organization is like. As seen in Table 8, the Amazon team indicates that the dominant characteristics of the organization lean toward a market culture. Accordingly, the organization is very results-oriented, and the main concern is getting the job done. The employees are highly competitive and performance oriented. The low standard deviation (0,55) shows that the respondents also largely agree here which in addition can be seen in the minimum (3) and maximum (4) answers the respondents have given. The Janssen team indicates that the organization most closely resembles an adhocracy culture. The organization is very dynamic and entrepreneurial, and the employees are willing to stick their necks out and take risks. The standard deviation is higher (0,95), which shows that there is more division among the respondents. Besides the adhocracy culture, the clan culture also scored high which means that the Janssen team sees the organization as a family where the team performance is above that of individuals.

Table 8 – Dominant Characteristics Amazon/Janssen

Dominant characteristics (A)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,17**	0,98	2	4
Adhocracy	**3,00**	0,89	2	4
Market	**3,50**	0,55	3	4
Hierarchy	**3,00**	0,63	2	4

Dominant characteristics (J)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,60**	0,84	2	5
Adhocracy	**3,70**	0,95	2	5
Market	**3,10**	0,99	1	4
Hierarchy	**3,30**	1,16	1	5

2. Organizational Leadership (OL)

Second, respondents were asked to rate their organization based on leadership style and approach. As seen in Table 9, the Amazon team indicates that the organizational leadership leans toward a hierarchy culture. In other words, the leadership within the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency. The standard deviation (0,84) shows that there is some division among the respondents. Also, the adhocracy culture scores high here which shows that the leadership focuses on innovation and risk taking in addition to efficiency and coordinating. The Janssen team shows that they prefer the clan culture which shows that leadership in the organization is seen as an example of mentoring, facilitating or nurturing. The high standard deviation (1.08) shows that there is a lot of division among the respondents related to this aspect. Both teams indicate that they least experience the presence of the a market culture, which represents a model of no-nonsense, aggressive, results-oriented focus.

Table 9 – Organizational Leadership Amazon/Janssen

Organizational Leadership (A)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,00**	0,89	2	4
Adhocracy	**3,33**	0,82	2	4
Market	**2,00**	0,89	1	3
Hierarchy	**3,50**	0,84	2	4

Organizational Leadership (J)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,50**	1,08	1	4
Adhocracy	**2,90**	0,74	2	4
Market	**2,60**	1,07	1	5
Hierarchy	**3,20**	0,79	2	4

3. Management of Employees (MoE)

Third, respondents were asked to judge based on managing employees or the style that characterizes how employees are treated (work environment). As can be seen in Table 10, the results from both project teams were largely consistent and indicated that the organization acts as if it were a clan culture. In other words, the management style in the organization is characterized by teamwork, consensus, and participation. For the Amazon team, all respondents indicated that they agreed with this (SD=0,00). In addition, the hierarchical culture ranks second on both teams which shows that the organization is also characterized by job security, conformity, predictability, and stability in relationships. Both teams indicate that they do not agree with both adhocracy and market cultures based on employee management.

Table 10 – Management of Employees Amazon/Janssen

Management of Employees (A)				
	Mean	*SD*	*Min*	*Max*
Clan	**4,00**	0,00	4	4
Adhocracy	**2,50**	1,05	1	4
Market	**2,83**	0,98	1	4
Hierarchy	**3,33**	1,21	1	4

Management of Employees (J)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,80**	0,92	2	5
Adhocracy	**2,90**	0,88	2	4
Market	**2,70**	0,67	2	4
Hierarchy	**3,30**	0,82	2	4

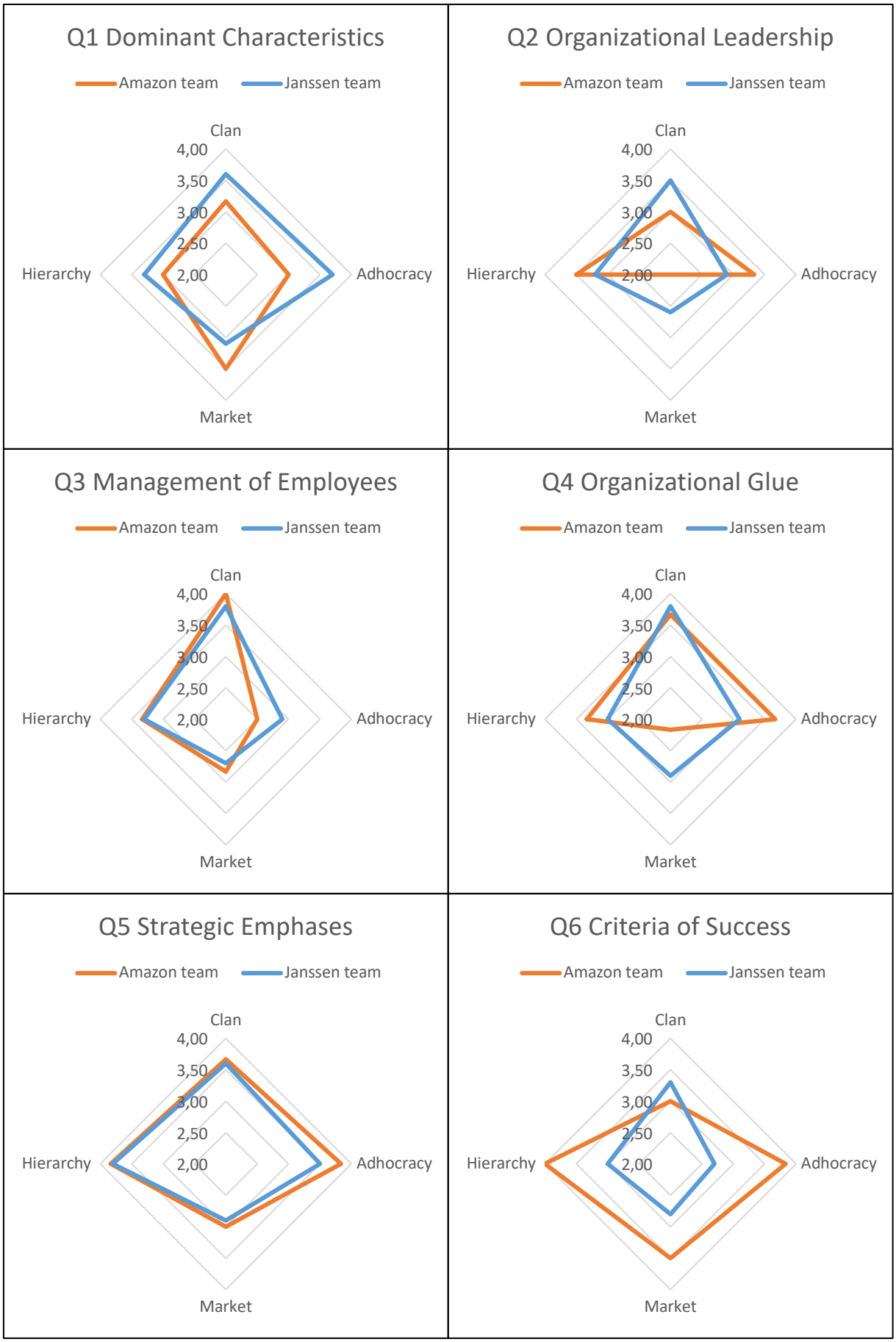

Figure 22 – OCAI Results per dimension

4. Organizational Glue (OG)

Fourth, respondents indicated how they consider organizational glue or bonding mechanisms that hold the organization together. As can be seen in Table 11, the Amazon team experiences both a clan and adhocracy culture type related to this dimension. The clan culture represents an organizational glue of loyalty and mutual trust, and where the commitment to the organization is high. The adhocracy culture stands for commitment to innovation, development and an emphasis on being cutting edge. The adhocracy culture type does have a lower standard deviation which shows that the respondents were more in agreement. The Janssen team also experiences a clan culture with a low standard deviation. Again, both the project teams indicate that the market culture is the least corresponding to RHDHV.

Table 11 – Organizational Glue Amazon/Janssen

Organizational Glue (A)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,67**	0,82	2	4
Adhocracy	**3,67**	0,52	3	4
Market	**2,17**	0,98	1	3
Hierarchy	**3,33**	0,52	3	4

Organizational Glue (J)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,80**	0,63	3	5
Adhocracy	**3,10**	1,20	1	4
Market	**2,90**	0,88	1	4
Hierarchy	**3,00**	0,82	2	4

5. Strategic Emphases (SE)

Fifth, respondents indicated the strategic emphases that determine which focus areas drive the organization's strategy. As shown in Table 12 and Figure 22, like the dimension ‘Management of Employees’, the project teams indicate somewhat similar results as per strategic emphases. The Amazon team indicates that the organization is most consistent with both hierarchical and adhocracy cultures. With a hierarchical culture, the organization emphasizes permanence and stability. Efficiency, control, and smooth operation are of utter importance within this culture type. With an adhocracy culture, the emphasis is on acquiring new resources and creating new challenges. Trying new things and looking for opportunities are valued. There is a low standard deviation for both culture types which shows that respondents largely agree with each other. The Janssen team indicates that the organization is most consistent with the hierarchical culture. Although, the clan and adhocracy culture types also score high (as with the Amazon team). Similar to the dimensions of 'organizational leadership' and 'organizational glue', both the project teams indicate that the market culture is the least corresponding to RHDHV.

Table 12 – Strategic Emphases Amazon/Janssen

Strategic Emphases (A)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,67**	0,52	3	4
Adhocracy	**3,83**	0,41	3	4
Market	**3,00**	0,63	2	4
Hierarchy	**3,83**	0,41	3	4

Strategic Emphases (J)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,60**	0,52	3	4
Adhocracy	**3,50**	0,71	2	4
Market	**2,90**	0,57	2	4
Hierarchy	**3,80**	0,79	2	5

6. Criteria of Success (CoS)

Lastly, respondents indicate how they consider the criteria for success that determine how victory is defined and what is rewarded and celebrated. As can be seen in Table 13 and Figure 22, the results of both project teams differ. The Amazon team places high values on many culture types. The hierarchical culture is the most dominant here and shows that the organization defines success based on efficiency. Reliable delivery, smooth planning and production at low cost are crucial here. Besides hierarchy, high values are also assigned to

adhocracy and market cultures. However, the answers of respondents there are much further apart than those of hierarchy as can be seen from the standard deviation. The Janssen team, on the other hand, shows that the most dominant culture is the clan culture. This shows that the organization defines its success based on the development of human resources, teamwork, employee engagement and care for people.

Table 13 – Criteria of Success Amazon/Janssen

Criteria of Success (A)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,00**	0,63	2	4
Adhocracy	**3,83**	1,17	2	5
Market	**3,50**	1,05	2	5
Hierarchy	**4,00**	0,63	3	5

Criteria of Success (J)				
	Mean	*SD*	*Min*	*Max*
Clan	**3,30**	0,95	2	4
Adhocracy	**2,70**	0,82	2	4
Market	**2,80**	0,92	1	4
Hierarchy	**3,00**	1,05	1	4

Organizational Culture Profile

The results of the OCAI show that although both project teams fall within the same organization there are differences in how they experience the organization's way of working and culture. Thus, the respondents experience organizational culture differences between the two project teams. When looking at the overall organizational culture profile as depicted in Figure 23, it can be seen that the organization is broadly similar. Yet, the differences per dimension are greater as indicated earlier in this chapter.

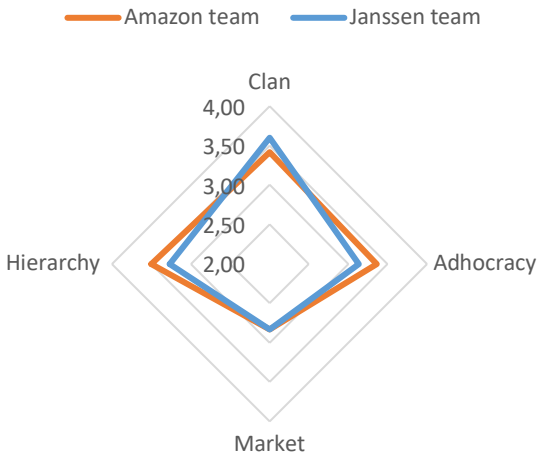

Figure 23 – Organizational Culture Profile RHDHV

The overall organizational culture profile of the Amazon team shows that they most closely match the organization to a hierarchical culture (3.50). However, Table 14 shows that there are still some differences with respect to the different dimensions. Both the clan culture (3.42) and adhocracy culture (3.36) score high which shows that aspects of these culture types have their place in the organizational culture of RHDHV as well as the project team. When combining these three culture types, RHDHV can be described as an organization where team performance is more important than individual performance, where an innovative environment prevails with a long-term vision based on growth of both the organization and its employees, and where the focus is on efficiency and predictability.

Table 14 – Organizational Culture Profile – Amazon team

Organizational Culture Profile – Amazon team					
Item	***Question***	***Clan***	***Adhocracy***	***Market***	***Hierarchy***
1	DC	3,17	3,00	3,50	3,00
2	OL	3,00	3,33	2,00	3,50
3	MoE	4,00	2,50	2,83	3,33
4	OG	3,67	3,67	2,17	3,33
5	SE	3,67	3,83	3,00	3,83
6	CoS	3,00	3,83	3,50	4,00
	Total	3,42	3,36	2,83	3,50

The overall organizational culture profile of the Janssen team shows that they most closely resemble a clan culture (3,60). Table 15 shows that on four of the six dimensions, the clan culture is most similar to the culture of RHDHV. Also, the results show that the remaining two dimensions (Dominant Characteristics and Strategic Emphases) have only a small (0,10) difference with those values of clan culture. This clearly shows that the Janssen team sees RHDHV as an organization where organization members are open to each other, and team performance is more important than individual performance. The long-term vision of the organization is focused on education and growth of its members and values such as involvement, empowerment, participation and loyalty are very important. Employees encourage each other in their growth potential and customers are seen as partners of the organization.

Table 15 – Organizational Culture Profile – Janssen team

Organizational Culture Profile – Janssen team					
Item	***Question***	***Clan***	***Adhocracy***	***Market***	***Hierarchy***
1	DC	3,60	3,70	3,10	3,30
2	OL	3,50	2,90	2,60	3,20
3	MoE	3,80	2,90	2,70	3,30
4	OG	3,80	3,10	2,90	3,00
5	SE	3,60	3,50	2,90	3,80
6	CoS	3,30	2,70	2,80	3,00
	Total	3,60	3,13	2,83	3,27

Comparison of project teams

Based on the results of the OCAI, the second sub-question can be answered. The sub-question was designed to identify key aspects and or dimensions for measuring organizational culture and their impact. The question states as follows: *What are the main aspects and/or dimensions to measure similarities and differences between the two project teams' organizational cultures that can cause friction or have a positive impact during the project using the Organizational Culture Assessment Instrument (OCAI)?*

- *What is the organizational culture of Royal HaskoningDHV and what defines it?*
- *What are the differences and/or similarities between the two internal project teams?*

The first part of the sub-question begins by examining the key dimensions to identify the differences and similarities of organizational culture. As described in the research proposal, several academic studies prefer the OCAI model for comparing inter-organizational project teams. Later, this was reaffirmed by the literature review where several models were compared and actually the OCAI was also identified as the favorite for this type of research. The OCAI measures organizational culture according to six main dimensions, namely dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphases, and criteria of success. Based on these dimensions, differences and similarities between project teams can be identified, which could cause friction or have a positive impact during the project.

When both internal teams are compared, it is clear to see the two most common culture profiles consist of the hierarchical and clan culture, which implies an internal focus and integration of the organization. The results from both internal teams show that the most prevalent culture type is the clan culture, which represents an organization with members who are open to each other and team performance is more important than individual performance. The long-term vision of the organization focusses on education and growth of its members and values like commitment, empowerment, participation and loyalty are highly important. Employees stimulate each other in their growth potentials and customer are seen as partners of the organization. For both the Amazon and Janssen team, the market culture is

the least similar to RHDHV's culture. A market culture is described as a goal- or result-oriented workplace and external partners are of utter importance. In addition, employees strive to win, implying their core values of competitiveness and productivity. The organization focuses on profitability, return on investment and an established customer base. Staying ahead of the competition is of utmost importance, in doing so, the organization's leaders place high demands on their employees. Respondents from both the Amazon and Janssen teams indicated that they least recognize RHDHV in this culture type, which could make sense due to its location on the OCAI quadrant. The market culture is at odds with that of the clan culture.

There are small differences between the two internal project teams based on the three culture types of clan, adhocracy and hierarchy. Whereas the Amazon team leans most toward a hierarchical culture which is followed by the clan culture, the Janssen team is the other way around. However, both are as mentioned earlier the two most common culture type for both project teams. The adhocracy culture type has more in common with the Amazon team as it does with the Janssen team. This culture type is described as an innovative environment, which creates a dynamic, flexible, and creative organization. Organization members are encouraged to take risks, which encourages innovative behavior and experimentation. This could be a possible indication that the project team is adapting to the client's way of working.

In the discussion, the results of the OCAI are compared to those of the literature review and case study chapter to identify underlying connections. In addition, through the interviews it is investigated whether the results of the OCAI correspond to the experiences of project managers on both projects and outside the project. The results of the interviews are presented in chapter 5.1.3.

5.1.2. Perceptual Distance Monitor (PDM)

As mentioned earlier in the previous chapter (section 4.1.2), the PDM tests the amount of perceptual distance regarding several dimensions. Normally, this tool is used to examine the perceptual distance of two companies during an inter-organizational collaboration in regard to several dimensions. During this research it has been used for two internal teams within the RHDHV. The number indicating perceptual distance has less meaning now than it normally would because the internal Amazon team answers the questions related to the Amazon project and those of the Janssen team on the Janssen project. Because of this, it is chosen to focus more on individual results of the two internal teams. The results are listed below in the tables for the input, process and output criteria. An example of the results as depicted in the tool are given in Table 31.

Input criteria

Input factors represent characteristics of the team members, the teams, the project and the context of the project's execution (Van der Krift et al., 2020). The dimensions incorporated in this study are satisfaction with project objectives, competence RHDHV/client project teams, and management style.

Table 16 – Satisfaction with project objectives

7. Satisfaction with project objectives	
Amazon team	***Janssen team***
The results from the internal Amazon team imply that the team is generally satisfied with agreements made with Amazon regarding the project objectives. The	The results of the internal Janssen team show that, in general, the team is reasonably satisfied with agreements made with Janssen regarding the project

use of innovative techniques, processes and products scores a high mean (4,17), which shows that the project team is very satisfied (SD=0,41). Following that, scoring of the other items result in sustainability (3,67), quality standards (3,33), budget (3,00) and planning (2,83). Thus, the project team is less satisfied with the agreements made regarding the planning of the project. In addition, budget and sustainability have a standard deviation above 1, which shows that there is division among the respondents.	objectives. There is moderate satisfaction regarding the agreements made in the areas of budget (3,50), planning (3,30), quality standards (3,40) and sustainability (3,50). The use of innovative techniques, processes and products score a low average (2,70), which shows that the project team is less satisfied and that there is also division among the respondents in this area (SD=1,34). In addition to the use of innovative techniques, there is also division regarding the quality standards (SD=1,17).

Table 17 – Competence client project team

8. Competence client project team	
Amazon team	***Janssen team***
The second dimension of the PDM refers to the internal Amazon team's judgments regarding the competencies of the external Amazon team are diverse with respect to the various questions asked. The team generally agrees with each other reasonably well regarding the standard deviation values (SD<0,90). They rate the external WWD-team as convincing and assertive (4,00) where all respondents chose 'agree' (SD=0,00). Then the following items scored from high to low: handling complexity (3,67), technical expertise (3,33), (multidisciplinary) teamwork and empathic ability (3,17) and communicate clearly (2,83). The low score in communication shows that there is room for improvement in this area.	The internal Janssen team judges the competencies of the external Janssen team very differently with respect to the different questions asked. They consider the external Janssen team reasonably competent regarding the various items: technical expertise and (multidisciplinary) teamwork (3,60), handling complexity (3,40), empathic ability (3,30), convincing and assertive and communicate clearly (3,10). However, the results show that there is a lot of difference in the respondent's answers because four of the six have a high standard deviation value (SD>1,10). Respondents indicated 'strongly agree' and 'strongly disagree' which shows that there is a lot of difference within the internal project team.

Table 18 – Competence RHDHV project team

9. Competence RHDHV project team	
Amazon team	***Janssen team***
The third dimension tested with the use of the PDM addresses the competencies of the internal Amazon team. Again, the team generally agrees with each other reasonably well base on the standard deviation values (SD<0,90). They rate their own project team with high values to somewhat lower on items like technical expertise (4,17), (multidisciplinary) teamwork, handling complexity and effectively translate the principal's requirements into technological solutions (4,00), convincing and assertive (3,67), and communicate clearly (3,33).	The internal Janssen team refers to its own competencies somewhat lower than the internal Amazon team, but still the direction to 'agree'. They consider their own project team with values like (multidisciplinary) teamwork (3,80), convincing and assertive, handling complexity (3,70), technical expertise, translate the principal's requirements into technological solutions (3,60), and communicate clearly (3,50). However, again, the results show that there is a difference in the respondent's answers because four of the six have a high standard deviation value (SD>1,00).

Table 19 – Management style

10. Management style	
Amazon team	***Janssen team***
The fourth dimension of the PDM refers to the management style of RHDHV. These results could be compared to those of the OCAI because there are similarities. Again, the team generally agrees with each other reasonably well regarding the standard	The same counts for the Janssen team which generally agrees with each other well by the standard deviation values (SD<0,70). They rate their own organization with values on items like informal organization (3,70), concrete decisions made (3,60),

deviation values (SD<1,00). They rate their own organization (RHDHV) with high values to somewhat lower on items like concrete decisions made (4,00), informal vs. formol communication (3,83), consensus vs. authoritarian decision-making (3,50) and informal organization (3,17).	consensus vs. authoritarian decision-making (3,40), and informal vs. formol communication (3,30).

Process criteria

Process factors refer to the activities, interactions and interpersonal behavior between client and contractor representatives (Van der Krift et al., 2020). The dimensions incorporated in this study are information exchange, RHDHV's internal task routines, RHDHV's organizational responsiveness, flexibility, and solidarity.

Table 20 – Information exchange

11. Information exchange	
Amazon team	***Janssen team***
The fifth dimension tested with the use of the PDM addresses information exchange on both projects. Again, the team generally agrees with each other reasonably well as for the standard deviation values (SD<0,90). The respondents indicated that they fairly agree with all items like willingness to share information (4,00), both and each party provide proprietary information (3,83) and informed on events and changes (3,50).	The same counts for the Janssen team which generally agrees with each other well by the standard deviation values (SD<=0,70). The respondents indicated that they fairly agree with all items like both or each party provide proprietary information, informed on events and changes (3,70), willingness to share information (3,60).

Table 21 – RHDHV internal task routines

12. RHDHV internal task routines	
Amazon team	***Janssen team***
The sixth dimension of the PDM refers to the internal task routines of RHDHV. Once more, the team generally agrees with each other reasonably well with regard to the standard deviation values (SD<0,90) and all respondents agree with each other on the focus of employees item (SD=0,00). The respondents indicated that they agree to fairly agree with all items like teamwork and cooperation (4,17), focus of employees (4,00), individual decision-making (3,67), and work ethic (3,50).	Almost the same counts for the Janssen team which generally agrees with each other well by the standard deviation values except for work ethic, which has a standard deviation value above 1. The respondents indicated that they fairly agree with all items like teamwork and cooperation (4,17), individual decision-making (3,67), work ethic (3,50), and focus of employees (4,00).

Table 22 – RHDHV organizational responsiveness

13. RHDHV organizational responsiveness	
Amazon team	***Janssen team***
The seventh dimension tested with the use of the PDM addresses RHDHV's organizational responsiveness based on three items. Again, the team generally agrees with each other reasonably well regarding the standard deviation values (SD<0,80) and all respondents agree with each other on the problem-solving attitude item (SD=0,00). The respondents indicated that they agree to fairly agree with all items like problem-solving attitude (4,00), responding to changes and opportunities (3,83), and being open-minded and creative (3,50).	The same counts for the Janssen team which generally agrees with each other well by the standard deviation values (SD<=1,00). The respondents indicated that they agree to fairly agree with all items like problem-solving attitude (4,10), being open-minded and creative (3,90), and responding to changes and opportunities (3,70).

Table 23 – Flexibility

14. Flexibility	
Amazon team	***Janssen team***
The eigth dimension of the PDM refers the flexibility of both organizations in both projects. The team generally agrees with each other reasonably well regarding the standard deviation values (SD<0,80), except for the occurring of unexpected events (SD=1,21). The respondents indicated that they agree to fairly agree with all items like adjustment of relationship (4,17), the arising of unexpected situations (4,00), flexibility requests (3,83), and the occurring of unexpected events (3,33).	The respondents indicated that they fairly agree with all items like flexibility requests (3,70), the arising of unexpected situations (3,60), adjustment of relationship (3,50), and the occurring of unexpected events (3,50). However, again, the results show that there is a difference in the respondent's answers because two out of four have a high standard deviation value (SD>1,00).

Table 24 – Solidarity

15. Solidarity	
Amazon team	***Janssen team***
The nineth dimension which is tested with the use of the PDM is the solidarity of both parties on both projects. The Amazon team generally agrees with each other reasonably well regarding the standard deviation values (SD<0,90), except for problems joint responsibility (SD=1,21). The respondents indicated that they agree to fairly agree with all items like improvements shard jointly (4,17), problems joint responsibility (3,00), and relationship shared jointly (3,00). Except, problems pushed solely on one party shows disagreement (2,50), which is easy to explain because the questions here are reversed in scale. The item reads as follows: *''Problems are pushed solely onto one party instead of being solved jointly''*. When respondents disagree, this is actually beneficial for solidarity.	The results from the Janssen team show that the difference in respondents' answers is large indicating two of the four have high standard deviations (SD>1,00), which could also be seen in the minimum and maximum answers given by respondents (full figures shown in Appendix XI). The respondents indicated that they fairly agree with all items like improvements shard jointly (3,60), problems joint responsibility (3,20), and relationship shared jointly (3,10). As with described in the Amazon section the low value of problems pushed solely on one party (2,80) is beneficial for solidarity.

Output criteria

Output factors involve both task-oriented and relationship- oriented outcomes (Van der Krift et al., 2020). The dimensions incorporated in this study are project performance, trust, and weighting criteria for project performance and satisfaction with project objectives.

Table 25 – Project performance

16. Project performance	
Amazon team	***Janssen team***
The tenth dimension of the PDM refers to the project performance of the project related to five items. This question is in relation with question 7, 18 and 19. The first two items of this question are reversed in scale (cost/budget and duration/planning). The respondents show that they fairly agree to neutral with respect to items like cost/budget (3,50), duration/planning (3,50), quality/expectations (3,50), sustainability/ expectations (3,00), and quality/expectations (3,00). The team generally agrees with each other regarding the standard deviation values (SD<0,70).	The respondents of the Janssen team show that they fairly agree to neutral with respect to items like duration/planning (3,70), cost/budget (3,00), and quality/expectations (3,00). With respect to the other two dimensions (sustainability/expectations and quality/expectations), the numbers show respondents leaning from neutral to disagree (2.80). The team generally agrees with each other regarding the standard deviation values (SD<0,90).

Table 26 – Trust

17. Trust	
Amazon team	***Janssen team***
The eleventh dimension tested with the use of the PDM addresses trust based on four items. The Amazon team generally agrees with each other reasonably well regarding the standard deviation values (SD<0,80). The respondents indicated that they fairly agree to neutral with all items like partner's welfare (3,83), promises made with partner (3,67), partner's support (3,50) and partner's advice (3,00).	The results from the Janssen team show that there is some difference in respondents' answers regarding the minimum and maximum answers given by the respondents and one out of four standard deviations (SD>1,00). The respondents indicated that they fairly agree with all items like partner's welfare (3,60), partner's support (3,40), promises made with partner (3,30), and partner's advice (3,30).

Table 27 – Importance performance criteria client

18. Importance performance criteria client	
Amazon team	***Janssen team***
The second-to-last dimension of the PDM addresses the importance of customer performance criteria. Respondents were asked to rank the five items from 1 (most important) to 5 (least important). The results show that based on the experiences of the internal Amazon team, Amazon's focus is most on planning (1,50), followed by quality (2,00), cost (3,17), and then in a shared fourth place sustainability and innovation (4,17). The results also show that all respondents put planning on the 1st or 2nd place and sustainability and innovation on spots 3 to 5 (all SD<1,00). Regarding the items cost and quality, there is more division among the respondents (SD>1,10).	The results show that based on the experiences of the internal Janssen team, Janssen's focus is most on quality (1,80), followed by cost (2,40), planning (2,50), sustainability (4,00), and innovation (4,30). With respect to the most important three items (quality, cost, planning), there is a large division among the respondents (SD>1,00), which can additionally be seen in the minimum and maximum values that are between 1 and 5. Similar to the Amazon project, the results show that all respondents put sustainability and innovation on spots 3 to 5 (SD<1,00).

Table 28 – Importance performance criteria RHDHV

19. Importance performance criteria RHDHV	
Amazon team	***Janssen team***
The final dimension of the PDM addresses the importance of RHDHV's performance criteria. The same ranking scale was applied as per question 18. The results show that based on the experiences of the internal Amazon team, RHDHV's focus is most on costs (2,17), followed by quality (2,33), planning (2,50), innovation (3,50), and sustainability (4,50). The results show that there is great division regarding 4 of the 5 items like costs, planning, quality, and innovation (SD>1,00). Only sustainability is ranked on spots 3 to 5 by all respondents (SD<0,90).	The results show that based on the experiences of the internal Janssen team, RHDHV's focus is most on costs (2,00), followed by quality (2,10), planning (2,90), sustainability (3,90), and innovation (4,10). These results largely correspond to the results of the previous question, which shows the same importance given by both Janssen and RHDHV based on the experiences of the respondents. With respect to the items planning, quality and sustainability, there is a large division among the respondents (SD>1,20). Only items like cost and sustainability have a lower standard deviation (SD<1,00).

Perceptual distance

In the tool, the output page of the PDM presents tables with the results for each project group for each dimension and, in addition, the perceptual distance for each item. Examples of this can be seen in the tables below that relate to satisfaction with project objectives (Question 7). Table 29 shows the results of the Amazon team. Table 30 shows the results of the Janssen team. For further explanation of these results, reference is made back to Table 17.

Table 29 – Satisfaction with project objectives (Amazon)

7. Amazon team: Satisfaction with project objectives						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
25	Budget	3,00	1,26	1,60	2	5
26	Planning	2,83	0,98	0,97	2	4
27	Quality standards	3,33	0,82	0,67	2	4
28	Sustainability	3,67	1,03	1,07	2	5
29	The use of innovative techniques, processes and products	4,17	0,41	0,17	4	5

Table 30 – Satisfaction with project objectives (Janssen)

7. Janssen team: Satisfaction with project objectives						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
25	Budget	3,50	0,97	0,94	1	4
26	Planning	3,30	0,82	0,68	2	4
27	Quality standards	3,40	1,17	1,38	1	5
28	Sustainability	3,50	0,85	0,72	2	5
29	The use of innovative techniques, processes and products	2,70	1,34	1,79	1	5

The final component of the PDM results is the perceptual distance per dimension. The average perceptual distance per dimension is calculated by means of summing the perceptual distance value per item and dividing the number of items per dimension, which can be seen in Table 31. The results show that 5 of the 13 dimensions have a perceptual distance above or equal to 0,20. The results show that both teams differ in their satisfaction with the agreements made in relation to various project objectives. However, it should of course be mentioned that these are two different projects which can cause different results. The results also show that both project teams differ in perception based on the management style and internal task routines of RHDHV. The differences that occur with respect to the dimensions project performance and importance performance criteria client are logical because these two address the different project which causes different results. The item count within the table begins with 7 due to the seventh question of the survey. The first 6 questions are based on the OCAI framework, after which 13 are based on the PDM.

Table 31 – Perceptual distance per dimension

Results Perceptual Distance Monitor PDM							
Item	***Dimension***	***PD***	***SD***	***Min***	***Max***	***CA***	***IC***
7	Satisfaction with project objectives	**0,26**	0,26	0,03	0,70	0,50	Unacceptable
8	Competence client project team	**0,19**	0,16	0,07	0,50	0,84	Good
9	Competence RHDHV project team	**0,14**	0,09	0,02	0,28	0,91	Excellent
10	Management style	**0,23**	0,12	0,06	0,31	0,38	Unacceptable
11	Information exchange	**0,13**	0,07	0,08	0,24	0,76	Acceptable
12	RHDHV internal task routines	**0,20**	0,20	0,00	0,46	0,59	Poor
13	RHDHV organizational responsiveness	**0,14**	0,10	0,07	0,26	0,70	Acceptable
14	Flexibility	**0,18**	0,14	0,07	0,37	0,89	Good
15	Solidarity	**0,16**	0,12	0,05	0,31	0,68	Questionable
16	Project performance	**0,20**	0,10	0,12	0,33	0,67	Questionable
17	Trust	**0,14**	0,06	0,06	0,19	0,80	Acceptable
18	Importance performance criteria client	**0,22**	0,19	0,07	0,48		
19	Importance performance criteria RHDHV	**0,19**	0,10	0,08	0,31		

**NOTE: The five highest PD numbers are indicated in red and deserve the most attention.*

In addition to the perceptual distance, Table 31 also shows the minimum and maximum values of the items and the standard deviation within each dimension. Finally, the Cronbach Alpha value was added. Cronbach Alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items. The internal consistency presents how closely related a set of items are as a group. The results show that internal consistency of the items in the dimensions "satisfaction with project objectives" and "management style" are unacceptable. A low internal consistency means that the items within one dimension are not closely related as a group. More information on the use of both the OCAI and the (periodic) use of the PDM is provided in Section 5.2.

Comparison of project teams

Based on the results of the PDM, the third sub-question could be answered. The sub-question was designed to identify key aspects and or dimensions for measuring perceptual distance between RHDHV and the client organization. The question states as follows: *What are the main aspects and/or dimensions to measure perceptual distance on the project using the Perceptual Distance Monitor (PDM)?*

- *How to assess the differences and/or similarities within each of the project teams and how this relates to the collaborative relationship with the client?*

The first part of the sub-question starts with examining the key dimensions to identify the differences and similarities of perceptual distance. As described in the literature review, the perceptual distance monitor uses several dimensions related to input, process and output. Although, the research of Van der Krift et al. (2020) states that all dimensions are useful to measure the perceptual distance between two inter-organizational project teams. However, some of these dimensions were dropped during this study due to sensitivity of questions and duration of the survey. After meetings with several project/program manager(s), the following dimensions were chosen to be applied during the study, namely satisfaction with project objectives (overall value obtained), competences of team on both client and RHDHV's side, management style in the respective organizations, internal tasks routines and organizational responsiveness on RHDHV's side, relational norms such as flexibility, solidarity, trust and information exchange, project performance, and importance of performance criteria.

The change in research approach resulted in both internal project teams completing the questionnaire on possible perceptual distance with the client in relation to two different projects. As a result, it is logical that perceptual distance occurs due to those questions address two completely different projects. Nevertheless, the differences and similarities were still included in this section. The overall dimensions were the highest perceptual distance occurred are satisfaction with project objectives, management style, importance performance criteria client, RHDHV internal task routines, and project performance. Again, as for project objectives, performance criteria and project performance this is logical to explain because of the two totally different projects. Regarding the management style and internal tasks routines both project groups of RHDHV experience these differently. When examined at the item level, much perceptual distance occurs with respect to the use of innovation techniques and processes, convincingness and assertiveness of client team, informal vs. formal communications, goal-focused and achievement-oriented RHDHV employees, and adjustment of relationships. Based on the performance criteria, respondents indicated that the client teams differ based on the importance of planning and budget. Furthermore, the two internal teams differ based on the importance of sustainability and innovation.

5.1.3. In-depth interviews

After obtaining the (quantitative) survey results, (qualitative) in-depth interviews were used to go into more detail on both the survey results and testing the usability of the tool. The first five minutes of the interviews were arranged so that the interviewee and the interviewer could get to know each other better and get the conversation started. This information will not be shared in the thesis due to anonymity of the interviewees. This leaves two phases whose results do apply to the thesis. First, questions were asked to validate the results of the literature review and survey research. Furthermore, questions were asked that address RHDHV's usability and user-friendliness of the tool. The transcriptions of the interviews can be found in Appendix IX.

Phase 1 – Results literature review and surveys

Organizational culture RHDHV

The first part of Phase 1 delves into RHDHV's organizational culture and its key character traits. The interviewees were additionally asked if they have experienced any changes in recent years with respect to this aspect. It is interesting to observe that project managers came up with diversified answers focusing on different aspects of RHDHV's organizational culture and its relation to the project team.

The organization is described as a modern project management and engineering with eye for the client. To satisfy the client, RHDHV works in multidisciplinary teams to achieve, transfer knowledge, and produce qualitative and sufficient designs as can be seen in Text Box 1. The focus of the company is to work on large and complex projects, which enables the company to come up with creative solutions for problems clients face. Although on paper the organization looks like a very hierarchical structure, this is not noticeable in the culture and work environment (Text Box 1). An approachable way of communicating and the open-mindedness of colleagues creates an optimal cooperation and company culture. While the company is strongly committed to making profits and occupancy rates on projects (excel organization), it also focuses on growing and changing the organization that takes care of its people, becomes more social towards customers and its own employees in the collaboration with them. Employees strive to find opportunities when they are both obvious to implement based on experience and hard to find, which requires additional and new knowledge. To acquire this, innovation and company-wide improvements in all sectors are strongly emphasized. Empowering its own workforce to excel optimally. The company may not be the frontrunner in the industry, but they are tagging along with the trends the sector faces (Text Box 1). The organization is investing heavily in the future by focusing on the digital transition. While the structure of

Text Box 1 – Organizational culture RHDHV

''RHDHV is a modern engineering firm with an eye for the client.''
Project Manager – RHDHV (1)

''We are an organization who works in multidisciplinary teams to produce qualitative designs and improvements.''
Project Manager – Amazon team

''Despite the fact that on paper we have a very hierarchical structure, you do not notice this in the culture and way of working.''
Project Manager – Janssen team

'We may not be the front-runners, but we do go along with the trends in the sector.''
Project Manager – Amazon team

RHDHV has undergone changes in recent years, the culture has remained largely the same. New business lines, acquisitions and mergers have changed the structure of the company. However, the culture and the way of working have largely remained the same.

Organizational culture Amazon

Amazon is described as a young and dynamic company where they actively focus with an enormous drive for fast worldwide expansion. In doing so, they are a fast-pace organization, which wants to see results quickly, which is clearly reflected at RHDHV in the creation of the templates. The company has still a start-up atmosphere as it was 25 years ago when Jeff Bezos established his company, and the 'can do' mentality is emphatically used. This is where they are very successful. Propositions and suggestions for new ideas are taken seriously within the company and examined to see if there is a chance of success. Failure is acceptable and employees are encouraged to seize opportunities, show initiatives and innovate as can be seen Text Box 2. The organization prefers to have more initiatives and actions explored in which nine out of ten actions do not turn out to be what was expected and actually one does. In doing so, thinking big is a major principle for the company and its employees. No project is too big for the company since they have an enormous budget, so mistakes and correction can be afforded and corrected afterwards (Text Box 2). Within the project, Amazon requires RHDHV to stop overanalyzing and surge for the best solution. Employees drive RHDHV to provide fast and proactive solutions in which they learn by doing. For RHDHV, stakeholder contact is essential on the project and therefore it is necessary for a client like Amazon to pick a wish too much rather than too little, so they feel that they are being served.

Text Box 2 – Organizational culture Amazon

> *''Amazon prefers to have more initiatives and actions explored, where nine out of ten do not turn out to be what they want, and one actually does.''*
> Project Manager – Amazon team
>
> *For Amazon Black Friday, for example, is critical! Many logistics centers must be ready and operational by then. The extremely wealthiness of the company allows them to make mistakes that can be afforded and corrected afterwards.*
> Project Manager – RHDHV (1)
>
> *''It is essential for RHDHV that we have good stakeholder contact and sometimes prefer to work out a wish too much rather than too little, so they feel that they are being served.''*
> Project Manager – Amazon team

Clashes in organizational culture (Amazon-RHDHV)

RHDHV is the program architect and has the mission to create solid designs for Amazon's distribution centers. As indicated before, Amazon is a fast-pace organization and wants results fast and sometimes to quickly for RHDHV (Text Box 3). Not taking in consideration certain aspects in advance, such as design requirements, cause frequent changes and implementing these causes friction between RHDHV and Amazon. Where RHDHV is looking for parts that lead to the big picture,

Text Box 3 – Clashes organizational culture Amazon-RHDHV (1)

> *''The most important thing according to Amazon is making progress.''*
> Project Manager – Amazon team

Amazon asks that in the meantime we research new aspects that may not lead to that bigger picture. Amazon is a lot less organized in this regard, and making progress is the most important thing there is, according to the organization. The lessons learned from the start of the project until now are deployed by working through a different approach based on standardization. Where the first draft took six or more months (also to get a feel for Amazon's needs) this is now happening a much more efficient using standardization principles. First, clear agreements at the start, which reduce the further consequences. Second, allowing changes up to a certain level and phasing them out, so that we can pick it up at a later stage after a specific project and apply it again for the next project. Another aspect of standardization is the vision of project managers on Amazon's side. Each project manager has their own vision, which compromises working programmatically and an area of tension arises (Text Box 4). Customization is still requested and therefore RHDHV needs to find a good balance that works for both parties.

Text Box 4 – Clashes organizational culture Amazon-RHDHV (2)

> *''What you now notice strongly is standardization. First, clear agreements at the start, which reduce the further consequences. Second, allowing changes up to a certain level and phasing them out.''*
>
> Project Manager – Amazon team
>
> *''Each project manager on Amazon's side has their own vision. We as RHDHV want to standardize this more, which provides more clarity within the project and its actions.''*
>
> Project Manager – Amazon team

<u>Perceptual distance dimensions (Amazon project)</u>

According to the interviewees, the main dimensions where differences occur on the Amazon project are flexibility and information provision. There are different perceptions based on the designed templates and constantly design change request from the client as can be seen in Text Box 5. This requires RHDHV to be flexible in changing their designs. Based on information provision, the client asks RHDHV to start without a clear program of requirements, which causes a project start with a lot of assumptions. Therefore, the assumptions need to be refined constantly which causes a lot of loss in time and pressure on deadlines. This aspect requires a lot of flexibility from the internal team because Amazon puts a lot of pressure on meeting deadlines. Besides, communication is another dimension that is getting attention of the project team. Different project managers within the WWD-team differ in directions of certain project, as mentioned before. This creates different solutions and deviations, which need to be accepted by the client every time within the different programs. The constant changes are against the programmatic approach of RHDHV, and Amazon is a changing customer in this respect.

Text Box 5 – Perceptual distance Amazon project

> *''With respect to information supply, we are often asked to start without a clear program of requirements, which means we go into the project with a lot of assumptions. Amazon wants to meet a certain deadline, but the requirements are constantly being refined. As a result, the project must go back a few steps each time to make changes when an assumption is incorrect.''*
>
> Project Manager – Amazon team

Long-term relationship (Amazon-RHDHV)

To maintain a long-term relationship with Amazon, it is critical to generate similar standards (program wide) that enables RHDHV to generate design at a fast pace as can be seen in Text Box 6. RHDHV is trying to achieve the speed of standardization in parallel with the development of new templates. Improvement and development are seen as separate from the designs itself. This allows RHDHV to serve the customer quickly when they ask for results as well as allowing RHDHV to keep improving its internal processes. To serve the customer's need, RHDHV should include Amazon in this so that they are aware of this to benefit the project outcome. Less customization and more standardization, so that by improving its internal standards, RHDHV is able to work faster with fewer people (Text Box 6). Besides, Amazon encourages RHDHV grow, which is the case since the project started and is not expected to slow down in the coming period. RHDHV is investing lately a lot of their attention into program wide parametric design.

Text Box 6 – Long-term relationship Amazon

> *''We should pay more attention to standardization, so that we can serve the customer's need.''*
> Project Manager – Amazon team
>
> *''Less customization and more standardization.''*
> Project Manager – Amazon team
>
> *''Amazon thinks it is important that we continue to grow like them. The team is growing all the time and I do not expect this increase to slow down.''*
> Project Manager – Amazon team

Team viability Amazon project

In terms of team viability, employees see this differently on the Amazon project. Amazon is a high demand customer which creates many challenges as a project employee. Continuing to develop as an employee and working with a diverse team on large projects like the Amazon program pose significant challenges for project managers (Text Box 7).

Text Box 7 – Team viability Amazon project

> *''I would definitely consider another assignment for Amazon with a different challenge. Currently, I find a lot of challenge in the work I am doing now.''*
> Project Manager – Amazon team

Organizational culture Janssen

Compared to RHDHV, Janssen is more a hierarchical organization. At Janssen, it is established who has to figure out certain actions and protocols are in place to determine who could give approval for particular actions on and off site as can be seen in Text Box 8. On the other hand, employees of the organization are easy approachable in every layer where RHDHV is in contact with. It could have something to do with the industry the company operates in. At Janssen the aim is to produces medicine, which must comply with quality, process and product requirements. In that context, the is checked in a stricter context in which they have to meet many more requirements.

Text Box 8 – Organizational culture Janssen

> *''Protocols have been drawn up to determine who has to say what.''*
> Project Manager – Janssen team

Clashes in organizational culture (Janssen-RHDHV)

The main clashes on the Janssen project can be referred to communication. At RHDHV, when the team runs into a problem, it is solved together through quick decisions. At Janssen, the whole team communicates with each other when mistakes occur, and all make this known to RHDHV employees. To get approval or permission to solve this problem, again all employees of the Janssen team have their opinion, which makes it difficult to acquire fast solutions. It also creates a different communication dynamic as can be seen in Text Box 9. The employees on Janssen's side also often express their opinions in a packaged way. Whereas we as RHDHV are sometimes straightforward. However, this does give a nice dynamic to the project.

Text Box 9 – Clashes organizational culture Janssen-RHDHV

> *''There is a different culture of adaptation which leads to a different communication dynamic as well.''*
> Project Manager – Janssen team

Perceptual distance dimensions (Janssen project)

As indicated by the project manager, RHDHV and Janssen differ in the area of communication and information provision. Janssen has very structured approach regarding information provision (standards for how to provide and record). The Janssen project team often refers to this and then asks RHDHV to comply. Everything is done according to the protocols of the company, which according to the interviewee is also logical given the sector in which they operate (Text Box 10).

Text Box 10 – Perceptual distance Janssen project

> *''Everything is done according to the company's protocols, which makes sense given the industry in which they operate.''*
> Project Manager – Janssen team

Long-term relationship (Janssen-RHDHV)

Janssen and RHDHV already have a very long relationship with each other and both parties are at an advantage to maintain it. Maintaining a formal communication structure is of added value to the project in this aspect. Informal communication lines can arise easily at the site-based team where many of the Janssen project within the program are carried out (Text Box 11). The challenge for the team is to be informed on project that are going on site, which is extra difficult during Covid-19. Besides, spreading the workload and retaining project employees on the program is of utter importance. The knowledge within the Janssen project is huge and needs to be retained because every employee needs to learn the Janssen protocols (Text Box 11). Forecast planning is therefore very important during programs such as this.

Text Box 11 – Long-term relationship Janssen

> *''Within a site-based team where many projects are carried out, there are many issues at play and informal lines of communication can arise.''*
> Project Manager – Janssen team
>
> *''The Janssen knowledge is very important during these projects. Retaining people is very useful for both parties.''*
> Project Manager – Janssen team

Team Viability Janssen project

Working with Janssen as a client is confirmed as a good working environment with both a pleasant internal and external team. The advantage of working on site is that you get to know the members of both teams very well. Although, working full-time at a site-based team ensures that you get more distance from the RHDHV office (Text Box 12). Testing team viability in the tool can certainly see interesting according to the interviewee. There are employees on the project who have been working there for more than 8 years and also employees who see after 3 months that the project is not for them. Janssen is a demanding customer and the employees of RHDHV are finally in the same building, which ensures short lines of communication. However, implementing a new dimension like this can be difficult according to the interviewee.

Text Box 12 – Team viability Janssen project

> *''I do not want to lose the feeling with the RHDHV-office completely, since I am now only part of the site-based team at Janssen.''*
> Project Manager – Janssen team

Project success

The four different project managers describe project success in different ways with all their own insights. However, many similarities can be seen in their answers. Almost all of them refer first of all to generic project success or time, quality and budget and in addition to this also project result (Text Box 13). They therefore consider meeting these requirements to be a project success. However, there are several other aspects of how they see success. Next to these, customer satisfaction (relationship), team functioning (satisfied feeling of team), little disruption for customers/users during implementation, and the deliverable must be available immediately for the purpose it is intended (suitable for use). However, the softer factors of project success do depend on the hard (generic) factors. Therefore, only when a project is performing well, more attention is often given to these softer factors.

Organizational project success is described by many as two-part, namely, making a profit financially and, in addition, customer satisfaction. In addition, there are aspects such as the development of the organization during the project, additional work that is brought in. The satisfaction of the team is not yet included in project success at the organizational level, but there is a shift where this aspect is included. Employee satisfaction is important to continue to grow as a company and therefore attention should be paid to it on both organizational and project level (Text Box 13).

Text Box 13 – Project success

> *''Project level: generic conditions (budget, time, quality, result), customer satisfaction, team functioning. These three aspects must have an OK stand behind to call it a success in my eyes. Not one or two of the three but all of them.''*
> Project Manager – RHDHV (1)
>
> *''Besides generic conditions and customer satisfaction, the process that we have gone through with both the internal and external team. Running well and smoothly is very important to me personally.''*
> Project Manager – Janssen team
>
> *''In the past I have not really noticed if my or other employee's satisfaction matters for the organizational project success. Word of mouth is currently being used to build more emphasis for this.''*
> Project Manager – RHDHV (2)

Phase 2 – Usability and user-friendliness tool

Tool deployment

The first question of the second phase of interviews explored the tool's deployment during projects or programs. After explaining the tool, all project managers indicated that they found the tool useful in providing more insight into collaboration and the potential impact of cultural differences (Text Box 14). The interviewees indicated that it is very useful to identify the potential risks of the collaboration and also to see opportunities. When data is available at the beginning of the project it can be acted upon proactively instead of reactively hands on at a later stage. It is always interesting to consider in advance how cultures might clash at a later stage. When the project team knows how an organization works, they can act accordingly and improve upon it to benefit the collaboration. In addition to positive insights, there are also critical views regarding the time available during the start-up phase of projects. Time is often limited and the use of the tool may therefore have less priority. However, the results of the tool are likely to come in handy later and it is still desirable to use the tool which ensures that time must be set aside during the startup phase to put a tool like this into use. It is important here that both internally and on the customer side someone wants to carry the tool otherwise the chances of success are slim (Text Box 14). In addition, it is good to take a critical look at the level at which the tool should be used. At the work level, employees of both organizations have their own interests, and the common interest of collaboration can be more difficult due to frequent contact with each other. In this case, the working tension between the two parties can remain. At the account level in the initial phase of the project, this has the best chance of success, according to one of the project managers. After this, it can be periodically used during evaluation moments.

Text Box 14 – Tool deployment

''I as a project manager consider the tool useful and would like to use it. What seems useful to me is to identify the risks of the collaboration so that you know where things can potentially go wrong and also shows potential opportunities. You have areas that you need to pay extra attention to in order to keep your noses in the same direction. If you know these at the front end of the project you can act on them instead of reacting at a later stage. It is always interesting to look in advance at how cultures may clash at a later stage.''

Project Manager – Amazon team

''It is almost a missed opportunity not to do it because it gives a lot of insight into the way the customer works.''

Project Manager – Janssen team

''Any new phase of a project would be a potentially appropriate time to deploy the tool. However, this does depend on the client. You may need to have someone on the client side who is enthusiastic about this.''

Project Manager – RHDHV (2)

The interviewees indicate that the tool can be used for both future and current projects. However, with current projects it does depend on how the project is running and what the customer relationship is. When the collaborative relationship is upstanding, there may be little pressure to put in into use. The interviewees indicate that it is a missed opportunity not to put the tool into operation because it provides so many insights into the collaboration between both parties. In addition, the time to complete the survey is very short, which ensures that it is doable for all project employees. The same applies to short or long-term projects. The added

value is greatest for long-term projects. However, short-term projects can develop into follow-up assignments from the same client, giving it a long-term vision.

Tool practicality

The second question of the second phase explored the practical value that the tool has and what, if anything, should be added. The interviewees indicated that the tool should contain follow-up steps from which the pitfalls and opportunities become visible to the project manager. These follow-up steps make the tool easy to use, and these follow-up steps can be applied and refined through case study projects. In addition, it is very important to make the tool visually attractive by using colors (RHDHV) and also to apply uniformity in these colors (Text Box 15). The cells that should not be changed by the project manager should be protected with a code. The tool should be easy to use for both the respondents and the project manager. The follow-up actions should contain clear recommendations that the project manager can apply, so that he or she can see results immediately by means of the dashboard. Finally, several project managers indicated that it is pleasant that the actions of the project manager are limited which makes the tool easier to use (Text Box 15).

Text Box 15 – Tool practicality

> *''The tool should be visually appealing.''*
> Project Manager – RHDHV (1)
>
> *''Nice to see that the actions of the project manager are very small.''*
> Project Manager – Janssen team

Success of tool

The third and final question related to testing the use of the tool elaborates on the probability of success. Here the interviewees indicate that the tool's chance of success is best in the early stages of projects. At the start of the cooperation, both parties benefit from a superior long-term cooperation and will both show commitment to put it into use. The willingness to cooperate is dependent on the type of client and relationship (Text Box 16). However, they should have been working with each other for a while, so they are able to answer these kinds of questions. The atmosphere that prevails between the two parties can be of great importance here. The account manager can determine together with the project manager whether the tool can be used on the project because they are both involved with the customer at an early stage. Geographical cultural differences, for example, can be an issue and they can make a decision together.

With respect to the tool's success rate, according to the respondent, it makes little difference who deploys the tool. If the communication with both parties is excellent and the results are actively used to improve collaboration, the tool has a high chance of success. When the tool is no longer part of a thesis research but a real product the success rate is considered higher (Text Box 16). Perhaps,

Text Box 16 – Success of tool

> *''At the start of a collaboration the tool has the best chance of success. During this period both parties are committed to get the cooperation running smoothly. I can imagine that halfway through the project the characteristic of the customer is very decisive in the willingness to cooperate.''*
> Project Manager – Amazon team
>
> *''The problem now is that it is a thesis research (pilot) and soon it will really be a product that can be used on projects. Perhaps that is underutilized now because it is still a thesis research. Once it is a product it is more tangible and attractive to use.''*
> Project Manager – Janssen team

because it is then clear to the project manager how to use and deploy the tool during projects. During the interviews it was indicated that the failure of the survey on the Amazon project was simply bad luck. Using the survey on complex projects is desirable, but the success rate is the lowest (Text Box 17).

Text Box 17 – Success of tool (2)

> *''You want to use your tool precisely in complex projects. However, the failure rate of the tool here is also the highest.''*
> Project Manager – RHDHV (2)

During the interviews, it was indicated that the sensitivity of questions and anonymity of respondents will not be a problem according to the interviewee. The tool is considered very valuable to use periodically during evaluation moments to identify the differences in perceptual distance and to base that on data. The degree of periodic deployment varies among the interviewees from once every three months to a desired deployment of once a year. Here it is very important that the respondents are informed quickly about the results.

Additional comments

During the interviews and particularly during the last minutes there were open discussions about the graduation research and tool. The interviewees indicated that it is an interesting research subject and that in doing so they were pleased that RHDHV pays attention to the softer side of collaboration (Text Box 18). In addition to the research, they found the tool impressive and certainly worthy of both RHDHV and graduation itself. It was indicated that the interviews were more of a brainstorming session to improve the tool. In addition, they indicated that at a certain point the tool can only be improved by actually using it through case study project. Thereby, the practical value of the tool can be tested and further optimized.

Text Box 18 – Additional comments

> *''Super interesting research subject. Nice to see that you are doing this with us (RHDHV), which shows that that we are working the softer side of project collaboration as a company.''*
> Project Manager – Janssen team

Project manager perspective

Based on the results of the in-depth interviews, the third sub-question can be answered. The sub-question was designed to identify which aspect are recognized as having the most influence on project performance and collaboration-based project success. This research questions is answered with assistance of the interviews. The question states as follows: *What organizational culture differences and perceptual distance aspects are recognized as having the most influence on project performance and collaboration-based project success from a project practitioner's and business expert's perspective?*

The first phase of the interviews was designed validate the results of the literature review and survey research. After which in the second phase, questions addressing the usability and user-friendliness of the tool were discussed. The results of the second phase are used for the further optimalization of the tool which is schematically represented in the tool section (5.3).

First, the interviewees were asked to describe the organizational cultures of both RHDHV and the client organization (regarding the client organization only the project managers who actually work or have worked with the client). When describing their own organizational culture, many similarities emerged, and the answers were mostly consistent with the survey

results. The organization was described as modern and growing organization with an eye for the customer and which cares for its people, enters into multidisciplinary team cooperation, has an accessible way of communicating and encourages its own staff to excel.
Next, the project managers described the organizational culture of the client organizations that are clearly different from RHDHV and each other. Amazon is described as a young and dynamic company with a huge drive to expand and start-up culture where work must be done fast-pace and results must be achieved. Seizing opportunities and taking risks is essential and failure is acceptable. In contrast, Janssen manages its processes according to a hierarchical structure with regard to protocols. The organization must always meet certain quality, process and product requirements and this is strongly reflected in its culture.

The clashes regarding organizational culture arise mainly on the Amazon project due to the degree of organization in the companies, vision of project managers and the difference in perception regarding results. The focus of Amazon is to get quick results where RHDHV wants to produce thorough and qualitative designs. Partly through standardization, these differences are expected to be further minimized. The clashes in organizational cultures of Janssen and RHDHV arise mainly because of the way of communication and the dynamics of both parties on this. Where RHDHV focuses on quick handling of certain processes and projects with the right persons, the speed and the persons of communication are often lagging behind which causes further delays in approvals and reaching a solid solution. The dynamics of communication play into the less direct nature of the employees on the customer side which can be the result of geographical cultures. For both the Amazon and Janssen projects, communication and information provision are considered dimensions where possible perceptual deprivation occurs. The differences in requirements and opinions of project managers are a clear stumbling block for the internal Amazon team. The Janssen team also considers communication as a dimension for perceptual distance and thereby an additional factor to pay attention to as mentioned earlier. In terms of information provision, this is a factor at Amazon due to the constant changes in design requests and in addition this also requires a lot of dimension flexibility. The Janssen project has a very structured approach to information provision, which can be traced back to the protocols of the company and the sector in which they operate.

Maintaining a long-term relationship is important for both project teams. Whereas there is already a very long collaborative relationship with Janssen, Amazon's is still only a few years old. Nonetheless, the internal team is making every effort to give this relationship a long-term outlook by betting on program-wide standards and processes that should boost the speed of design generation. As for the Janssen team, they are committed to maintaining a formal communication structure so that the site-based team is aware of ongoing projects at all times. Spreading the workload is a challenge for both programs and crucial for the long-term relationship so that technical and strategic knowledge is retained within the programs.

Regarding the team viability of both project teams, the project managers indicate that they enjoy working for the client with its challenges. However, there are other factors that play a role in leaving the team such as scaling down from a full-time site-based team or when the projects within the program become smaller in size and challenge.

Describing project success is still strongly referenced by the project managers to meeting the requirements based on generic project success or time, quality and budget and additionally project result. In addition, aspects such as customer satisfaction (relationship), team functioning (satisfied feeling of team) and little disruption to customers/users during implementation were cited by the project managers. However, they indicate that the latter aspects are not or hardly seen as how the organization defines project success. Profit making and customer satisfaction are the primary aspects of project success. Changes related to aspects, such as team functioning, and satisfaction are slow to be realized by the organization.

5.2. Business tool

With the information obtained from the survey results and interviews, a business tool was developed, which is based on the theoretical frameworks of the OCAI and PDM. The aim of the tool is twofold: first, insights are provided in the effects of organizational culture differences (OCAI). Second, the tool indicates the amount of perceptual distance according to different dimensions with respect to the collaborative relationship. The business tool thus provides insights in the organizational culture differences on organizational level and perceptual distance on project level. The tool is further optimized during the graduation period based on the interviews (second phase). Screenshots of the tool are provided in Appendix X, XI, XII, XIII and XIV.

The tool is an interactive Excel model based on the theoretical frameworks OCAI and PDM. The user of the tool can plot the questionnaire of both theoretical frameworks via Excel and then easily paste the answers into the file for both RHDHV project staff and the project staff on the client side. The answers are then automatically calculated so that the user of the tool gets the results presented in the same file. The first part of the questionnaire that the respondents fill out is about the organizational culture based on six dimensions, namely dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphases, and criteria of success. The second part elaborates on the project dimensions based on the collaboration, which consist of satisfaction with project objectives, competence client/RHDHV project team, management style, information exchange, RHDHV internal tasks routines, RHDHV organizational responsiveness, flexibility, solidarity, project performance, trust, and importance performance criteria client/RHDHV.

The business case tool consists of several sheets, which can be seen on the first sheet of the tool (Figure 24). The first sheet presents the roadmap on how to use the tool step by step. All actions the user must take to get the results are listed on the homepage. For each part of the tool, a brief explanation will follow in this section.

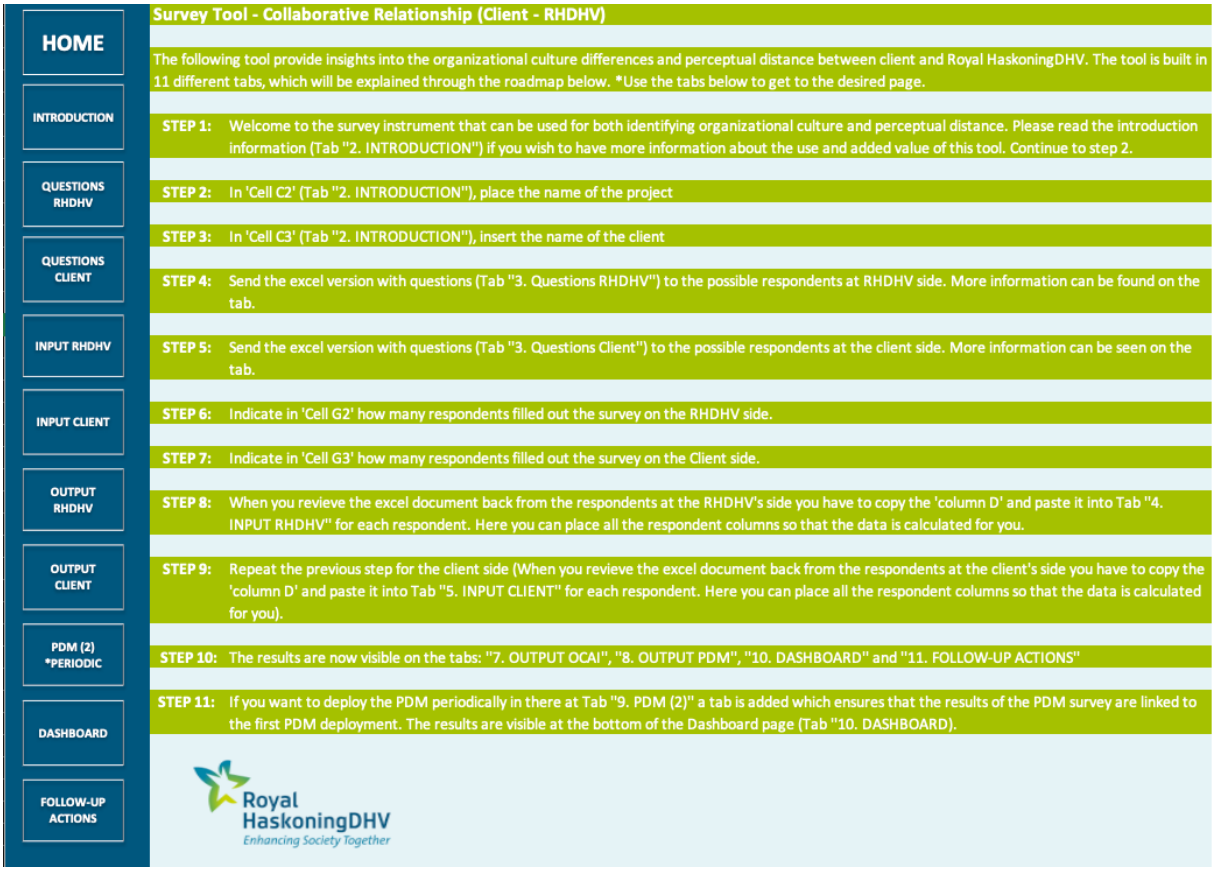

Figure 24 – Homepage tool

Next, the introduction page is presented, part of which is shown in Figure 25. This page largely contains information for the user about the objective, deliverable and added value of the tool. On this page, the first input from the user is also expected. Here the user has to supply information into four dedicated cells so the information will change in the rest of the file based on the project name, client name and the number of respondents on both the RHDHV and client side. In addition, a list of abbreviations and the sources used to develop the tool is included in the tool.

Survey Tool - Collaborative Relationship (Client - RHDHV)			
Project	#PROJECT NAME	**Number of respondents RHDHV**	6
Client	#CLIENT NAME	**Number of respondents #CLIENT NAME**	10

Objective	The objective of the survey tool is to identify organizational culture differences on organizational level and perceptual distance on project level. The tool will take into account these dimensions through the combined theoretical framework of the Organizational Culture Assessment Instrument (OCAI) and Perceptual Distance Monitor (PDM).
Deliverable	A tool that includes the combined validated theoretical frameworks OCAI and PDM that will provide insights into the challenges and opportunities related to perceptual distance and organizational culture differences. The survey, which is incoporated in this document, needs to be filled in by project participants of RHDHV and the client to indentify these challenges and opportunities.
Added value	The instrument will enable project managers to periodically assess organizational culture differences and/or perceptual distance in inter-organizational collaborations and thereby prevent or mitigate its negative effects on project outcomes and/or project performance. If there is a focus on minimizing or preventing the negative consequences of differences in working practices between the two organizations, this will add value to a positive project collaboration. On the other hand, the tool could also give insight into the opportunities the inter-organizational collaboration generates. The OCAI can be used during the front-end phase of the project to identify organizational cultural differences, which will provide insight into the challenges and opportunities these differences or similarities can bring for a successful completion of the project. The PDM can be used during the entire project to periodically assess perceptual distance. Both organizations provide with their answers the perceptions of important aspects regarding the input, process and output of the interorganizational collaboration. The PDM provides project managers with a useful tool to prevent the escalation of conflicts, project failure and identify opportunities for succesful collaboration.

Figure 25 – Introduction page

To start using the tool, the user needs to send the questionnaire to both RHDHV and client respondents. Once the respondents have sent back answers, the user can specify the number of respondents on the introduction page. Figure 26 shows an example of one of the questions (Question 1: Dominant Characteristics, OCAI) along with the answer menu.

Organizational Culture Assessment Instrument (OCAI)		
Question 1	**Dominant Characteristics**	
Answers #	RHDHV is:	Answers Respondent #
1	A very personal place where people seem to share a lot of personal information and features. It is like an extended family	
2	A very dynamic entrepreneurial place where people are willing to stick out their necks and take risks	Strongly disagree Disagree Neutral Agree Strongly agree
3	Very result-oriented where people are very competitive and achievement-oriented. A major concern is getting the job done	
4	A very controlled and structured place where formal procedures generally govern what people do	

Figure 26 – Example question survey

Once the user receives the Excel document return including the answers, they can be inserted into the input sheets. This is the last action of the user. When the answers are added to the input sheets the business tool calculates the results. Figure 27 shows an example of two of the questions along with the answers of three respondents.

INPUT PAGE (RHDHV): Organizational Culture Assessment Instrument (OCAI)				
Question 1	**Dominant Characteristics**			
Answers #	RHDHV is:	Answers Respondent 1	Answers Respondent 2	Answers Respondent 3
1	A very personal place where people seem to share a lot of personal information and features. It is like an extended family	Agree	Disagree	Agree
2	A very dynamic entrepreneurial place where people are willing to stick out their necks and take risks	Disagree	Neutral	Disagree
3	Very result-oriented where people are very competitive and achievement-oriented. A major concern is getting the job done	Agree	Agree	Neutral
4	A very controlled and structured place where formal procedures generally govern what people do	Neutral	Neutral	Disagree
Question 2	**Organizational Leadership**			
Answers #	The leadership within RHDHV is generally considered to exemplify:	Answers Respondent 1	Answers Respondent 2	Answers Respondent 3
5	Mentoring, facilitating, or nurturing	Agree	Disagree	Disagree
6	Entrepreneurship, innovation, or risk-taking	Neutral	Agree	Agree
7	A no-nonsense, aggressive, results-oriented focus	Neutral	Strongly disagree	Strongly disagree
8	Coordinating, organizing, or smooth-running efficiency	Disagree	Agree	Agree

Figure 27 – Example input page

Once the user has placed the respondents' answers in the document, the results are presented. First, the results are presented from the OCAI. An example is shown in Figure 28. The corresponding radar charts as presented during the results of the OCAI (section 5.1.1.) are also included on this page. See Appendix X for the entire output sheet.

Question 1	Dominant Characteristics								
RHDHV					#CLIENT NAME				
	Mean	*SD*	*Min*	*Max*		*Mean*	*SD*	*Min*	*Max*
Clan	3,17	0,98	2	4	*Clan*	3,60	0,84	2	5
Adhocracy	3,00	0,89	2	4	*Adhocracy*	3,70	0,95	2	5
Market	3,50	0,55	3	4	*Market*	3,10	0,99	1	4
Hierarchy	3,00	0,63	2	4	*Hierarchy*	3,30	1,16	1	5

Question 2	Organizational Leadership								
RHDHV					#CLIENT NAME				
	Mean	*SD*	*Min*	*Max*		*Mean*	*SD*	*Min*	*Max*
Clan	3,00	0,89	2	4	*Clan*	3,50	1,08	1	4
Adhocracy	3,33	0,82	2	4	*Adhocracy*	2,90	0,74	2	4
Market	2,00	0,89	1	3	*Market*	2,60	1,07	1	5
Hierarchy	3,50	0,84	2	4	*Hierarchy*	3,20	0,79	2	4

Figure 28 – OCAI output

Secondly, the results of the PDM are presented. An example of this is shown in Figure 29. See Appendix XI for the entire output sheet.

Question 7	Satisfaction with project objectives					
I am satisfied with the agreements we made with RHDHV regarding:						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
25	Budget	3,50	0,97	0,94	1	4
26	Planning	3,30	0,82	0,68	2	4
27	Quality standards	3,40	1,17	1,38	1	5
28	Sustainability	3,50	0,85	0,72	2	5
29	The use of innovative techniques, processes and products	2,70	1,34	1,79	1	5

Question 7	Satisfaction with project objectives					
I am satisfied with the agreements we made with #CLIENT NAME regarding:						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
25	Budget	3,00	1,26	1,60	2	5
26	Planning	2,83	0,98	0,97	2	4
27	Quality standards	3,33	0,82	0,67	2	4
28	Sustainability	3,67	1,03	1,07	2	5
29	The use of innovative techniques, processes and products	4,17	0,41	0,17	4	5

Total PD
0,26
PD per item
0,24
0,25
0,03
0,09
0,70

Figure 29 – PDM output

If the user chooses to deploy the PDM periodically, they can use the 9th input page. It has the same layout as the input pages presented in Figure 29. As a second to last sheet, the dashboard is presented. This shows both the results of the OCAI and those of that (periodic) PDM. An example of this is shown in Appendix XII and XIII. Regarding the OCAI, here is a matrix showing what kind of cultural style the organization identifies with based on the six different dimensions. Also added are the hyperlinks that direct the user to the possible follow-up steps of the OCAI. Regarding the PDM, the perceptual distance can be seen for each dimension along with the possible differences that occur when it is performed periodically. Also shown here is the internal consistency per item. The last sheet contains the follow-up steps of each culture type (Appendix XIV). When a customer has a different culture type than RHDHV and the user wants to respond to this, there are several recommendations that the user can apply in the project group (Cameron & Quinn, 2006). The same is true for the results of PDM. However, the next steps should be discussed in mutual agreement with both parties in a project collaboration. When perceptual distance occurs, both parties must ensure, during an open conversation with each other, that actions are taken for the dimensions where perceptual deprivation occurs (Van der Krift et al., 2020).

5.3. Conclusion

This chapter has presented the results of the survey research, interview research and tool description. Sub-question 2, 3 and 4 were answered providing insights into the organizational culture differences and perceptual distance of two internal project teams within RHDHV. The results of the literature review and survey study were used to establish the business tool presented in the previous chapter. This provides RHDHV with an easy-to-use tool for identifying differences in organizational culture and perceptual distance in (inter-) organizational collaborations and possible follow-up steps.

First, using the OCAI section of the tool, the organizational culture of RHDHV was defined and in addition identified the differences between the two project teams. Next, the PDM was used

to identify perceptual distance according to several dimensions. Most of these differences can be attributed to the difference in projects on which the questions were answered. However, the results of the PDM have been very useful for the design of the tool allowing it to be used generically on future projects of RHDHV. Furthermore, the interviews validated the results of the literature review and survey research and addressed the usability and user-friendliness of the tool. The feedback received from the project managers in the interviews regarding the tool was immediately applied to further optimize the tool. By deploying the OCAI in relation to the PDM, resulting in a combined assessment at both organizational and project level, the tool supports the further collaborative relationship by providing insights into dimensions based on organizational culture and perceptual distance with the addition of possible follow-up steps and actions for its users.

6. Discussion

This chapter discusses the results of the entire research study. First, implications of theory and practice are discussed, which focus on the contributions of this study to the field of project management and the construction sector. Next, the limitations and recommendations for future research are discussed.

6.1. Implications for theory and practice

Within the construction sector, it is necessary to look beyond just the tangible aspects of project management and intensify the focus on the intangible aspects. Focusing on intangible assets will contribute to project's success in which the human capital side is of utter importance. Project success is achievable with sufficient project management and the most important aspect of this is to create an environment or culture in which people work together to achieve a common goal. Culture is a highly untapped competitive advantage experiencing constant changes in environment in which organizations operate. Companies develop, learn, and adapt themselves over time to withstand competition, which creates an organizational culture consisting of patterns of assumptions. These aspects can result in differences in views on expectations and perceptions of their business partner and the collaborative projects worked on, which are referred to as perceptual distance. Within the project management literature, many studies can be found that address different aspects of organizational culture and perceptual distance, however, a total overarching approach that provides insights based on both topics is lacking.

The aim of this research was therefore to develop a business case tool presenting the differences in organizational culture and perceptual distance during (inter-)organizational project collaborations. The combined focus on both organizational culture on organizational level and perceptual distance on project level allows organizations to (periodically) assess both topics for further optimalization of the collaborative relationship. The easy-to-use business tool is created using the both the OCAI and PDM frameworks in Microsoft Excel. The familiarity of the program enables RHDHV employees to carry out a similar research as this themselves on future projects with different clients.

In parallel to the development of the business tool, several sub-questions were answered in the thesis. The first sub-question addressed the dimensions and elements of the different themes examined in the literature study. In the thesis, the dimensions on organizational culture and perceptual distance (OCAI and PDM) were presented several times and therefore form the basis of the business tool. In addition, the literature review has provided insight into the similarities of project performance and project success. However, the focus on the success factors that strongly influence the intangible side of the collaboration deserves more attention during (inter-)organizational collaborations to which the tool eventually contributes.

The second sub-question addressed the impact of organizational culture differences using the OCAI. The OCAI measures organizational culture differences according to six main dimensions. Based on these dimensions, RHDHV is referred to as a clan culture that is strongly dependent on a family-like culture, which is directly in line with the textual phrasing Cameron & Quinn (2006) use to describe clan culture. Team performance is more important than individual performance and the long-term vision of the organization focusses on education and growth of its members, which is in line with the findings from the interviews. According to Cheung et

al. (2012), organizational culture expresses sense of identity for organization members, facilitates the generation of commitment to something larger than their own interests, enhances system stability, and serves as a sensemaking device, which guides and shapes members' behavior. Employees experience RHDHV as a family-like culture and by investing in it, the organization unlocks its full potential as a company, as a team and as individuals, which is in line with its current mission, vision and strategy. The similarities in results scattered throughout the thesis show that the use of the business tool accurately reveals the current culture of an organization.

The customer organizations Amazon and Janssen did not complete the survey however based on literature review and interviews they can be divided into the quadrants. Amazon is a combination of an adhocracy and market culture leading to an organization that emphasizes a dynamic and creative workplace, commitment to experimentation and innovation, long-term emphasis on growth, freedom, initiative and competitive attitude of employees is encouraged With reference to the organizational culture at Amazon, the results of the interview presented the organization as a young, dynamic and start-up like company with a huge drive to expand and work must be done fast-pace by achieving results quickly. Seizing opportunities, being proactive, innovate and taking risks is essential and failure is acceptable. Focusing on the characteristic of the Amazon culture, Harracá (2017), among others, provides the same clear picture on the organization. The culture is described as highly demanding and competitive internal culture based on a permanent drive to be the best and being customer centric. Rapidly expanding with a strong emphasis on innovation fuels the 'Winner takes it all' mentality, which guides the company to be Earth's most customer-centric company.

In contrast, Janssen is a combination of clan and hierarchical culture, in which the latter is described as an organization with strong emphasis on efficiency and protocols that meets certain quality, process and product requirements that is strongly reflected in its culture. As the literature demonstrates in the case study section, these characteristics are indeed typical of the Janssen culture which may be prevalent in the overall pharmaceutical industry. The safety of users of Janssen products is always a priority. Literature shows that Janssen describes itself as a company with an innovative, international culture in which the personal approach predominates. However, the results of the research show that Janssen considers performance criteria to be more important than innovation and the pharmaceutical company tends to favor a hierarchical structure.

The third sub-question addressed the measurement of perceptual distance, using the PDM, according to input, process, and output factors. The results of the PDM took a different turn than intended prior to the study due to the change in research approach. As a result, the focus is purely on describing the prevalence of perceptual distance on projects and the theoretical evidence on why this is a threat to project performance and success. Van der Krift et al. (2020) state that perceptual distance can be expected between clients and contractors, and greater perceptual distance is generally associated with poorer project outcomes. Using the PDM, project managers can concretize, discuss, and monitor this perceptual distance over time, which prevents surprises from occurring. The PDM is a useful tool to prevent escalating conflicts and project failure.

The final sub-question addressed the aspects of organizational culture and perceptual distance that have the most significant impact on project performance and project success. The interviewees indicated that the most common clashes in culture and perceptual distance can be related to the extent of being organized, vision of project managers and the difference in perception regarding results, communication, flexibility and information provision. The clashes in cultures can be traced back to the differences of these with respect to the OCAI quadrant. The similarities in results and literature could strengthen the tool as a worthy addition to use during the early stages of projects to identify these differences in advance, in which both the client and RHDHV cooperate in the study. One of the project managers is interested in using the tool during the initial phase of a project that RHDHV recently won. Further, the results of the research and literature study strongly show that a long-term collaborative relationship is desirable in a collaboration which requires attention from parties on both sides of the collaboration. Consequently, intensifying on dimensions (e.g. standardization and innovation) that the customer considers important are applied, which is in line with the long-term vision of organization cultures and focus obsessively on their customers. Furthermore, long-term vision of projects, the aspect of team viability, as supposed by Bell & Merentette (2011), becomes extra important and deserves more attention, which could be a valuable additional implementation to the business tool. Regarding project success, the research results share the same picture as the literature review. The focus is strongly on generic aspects such as time, quality and budget and additionally project result. As described by. Sebestyen (2017), In recent years increased attention is being paid to factors such as customer satisfaction (relationship) and team functioning (satisfied feeling of team), in which the human factor is of extra importance. Although a change is visible around project success, the organization itself is lagging on an overarching level by still referring the perception of successful projects to the generic aspects and customer satisfaction without considering the human factor.

With the establishment of the business tool presented in this research study organizations are able to (periodically) assess differences in organizational culture and perceptual distance to further optimize their collaborative relationship during (inter-)organizational project collaborations. The tool offers managers a previously unavailable comprehensive and combined tool, which will benefit collaborative project outcomes. The results generated from the tool should be discussed by both parties through open discussions which can lead to pre-empting organizational cultural differences and changing practices with respect to the perceptual deprivation dimensions. The business tool could be the first product during the initial phase of the project to highlight not only the tangible but also the intangible effects that are becoming increasingly important in modern projects. Based on the discussion with business experts, follow-up actions are implemented in the tool, which need further practical value based on culture and human aspects in the project in order to get deeply embedded in the project organization. Further expansions and optimization of the business tool in the area of the softer factors of collaboration can lead to even better deployment of the tool and the corresponding results for future case study projects.

6.2. Limitations

Although the research is a valuable contribution to the work-practices of RHDHV and project management research on the combined effort of using both an organizational culture as well as perceptual distance framework, some limitations apply to the results.

The most obvious limitation of this research is that the research is eventually not conducted inter-organizationally, but internally within RHDHV. Results within the research show only one side of the dyad for both the survey and interviews. In advance, the goal was to investigate cultural differences and perceptual distance on the complex Amazon program, which would ultimately provide insights in these two themes with the accompanied business tool. Unfortunately, it was not possible to conduct the study during the inter-organizational collaboration with Amazon and therefore the tool was tested during this research study using only input from two internal teams within the same organization. Partly because of this, it became difficult to generalize the results of this research study for other inter-organizational collaborations in the construction sector and among others.

Furthermore, it is important to cite that when the perceptual distance value is low with respect to both parties this can still refer to dissatisfaction with certain factors in the collaboration. When both parties indicate that they are not satisfied with, for example, the use of innovative techniques and processes, the perceptual distance value will be low. However, this requires extra attention from the project manager to find a solution. In the tool, therefore, values lower than neutral will turn red so that clear results per team are visible.

Next, a small sample size was used during this study due to the use of the PDM which requires project staff to be in close contact with each other. However, several studies in the project management literature show that the use of the OCAI is often associated with a large sample size. Moreover, a 5-point Likert scale related to the OCAI was used, which caused marginal differences to occur between the culture types. Subdividing 100 points across the 4 culture types per question may result into larger differences and thus more evident results.

Finally, although the research and the accompanying tool have the aim to steer the project organization more towards the softer factors of collaboration, these may, however, be reflected even more prominently within the business tool itself. Dimensions such as team viability appear, according to the results, to be a worthy addition to check (periodically) whether employees still really want to be involved in the project team and/or they have further aspirations for new challenges inside or outside the project. In addition, the tool often addresses dimensions related to only the contractor and not the customer organization (e.g organizational responsiveness). As a result of the interviews, it was indicated that these dimensions could be considered important for the customer organization as well.

To conclude, based on the results of the graduation research business experts indicated the additional value of the tool by implementing follow-up steps and actions. However, these steps and actions are now solely based on the theory as opposed by the authors of both frameworks and its users. These need to be further improved and optimized during multiple case study project in which the business tool is put into use during inter-organizational project or program collaboration. As a result, the actions are going to be more related to the internal project processes of RHDHV.

6.3. Recommendations

Further recommendations for future research, which are related to the limitations, relate to both RHDHV and the scientific literature. Starting with RHDHV, it is recommended that the tool needs to be used on one of the inter-organizational projects so that the practical value

can be tested for the organization. In this way the potential follow-up actions can be optimized and further implemented in other projects. The tool's greatest success rate, based on the result, is recommended to be deployed in the early stages of projects. The results should be discussed during the official (periodically) project meetings with the entire team. A potential trail project has already been identified by a project manager to deploy the tool within RHDHV.

In addition, it is recommended to examine where in the future soft factors of collaboration can be added in the tool, such as team viability. An example of this is a study by (Rousseau & Aubé, 2010) in which team viability was assessed using a 4-item scale. Also, when changes in vision, strategy and mission of RHDHV occur this may require new factors to be added to the business tool in order to optimize its use. For both project managers and the organization, it is recommended that in addition to paying attention to the generic success factors of projects, attention must be paid to intangible results such as team building and satisfaction and customer satisfaction. The softer factors of project collaboration continue to be put behind generic factors while being equally important to both organization and project. Projects have no chance of success without the human factor.

Regarding the change in research approach, the results have shown that internal teams within RHDHV can learn a significant number of things from each other based on how they approach projects. Many projects offer opportunities that may remain unused because participants are full-time occupied with their own projects. The organization should therefore invest in cross-organizational learning between various project teams. Applying business cases in order to gain new insights could lead to valuable new approaches and possible innovations.

As for future academic research, it is recommended to further intensify project management research focused on the softer factors of project collaborations. The results show that organizations still emphasize the generic factors of project management. Nevertheless, literature shows the interests of soft factors (e.g. team adaptability, viability, satisfaction) in the collaboration and the potential additional result on project performance and success of projects. Therefore, research can contribute to the needed change in the construction sector to give more importance to the human factor within project collaborations. Ultimately, the scope of this study may have proved too broad and is therefore recommended to select one of the dimensions to work out in detail.

Further research is needed to establish the interrelationship of organizational culture and perceptual distance during project collaborations. It is interesting to find out to what extent is the occurrence of perceptual distance in the collaborative relationship between two parties attributable to the differences in organizational culture. Making perceptual distance related to organizational culture measurable and predictable can identify in advance potential opportunities and negative consequences, which add value during the longer-term relationship.

Finally, future studies should further investigate the combined effect of organizational culture and perceptual distance on project performance and success. Whereas during this research the initial focus was on investigating the interrelationship of these aspects, due to unforeseen circumstances, more emphasis was eventually placed on developing the tool. The ability to measure the combined effect on project performance and success can be a worthy addition to the field of academic literature.

7. Conclusion

This study aimed to provide insights in the combined aspects of differences in organizational culture and perceptual distance in order to boost project performance and thereby improve collaboration-based project success by developing an easy-to-use business tool. Through answering the sub-questions in the study, an answer was finally formulated for the main question which reads as follows:

How can perceptual distance and differences in organizational culture be managed to boost the project performance, and thereby improve collaboration-based project success?

The results of this research contribute to a more advance and combined understanding of perceptual distance and differences in organizational culture. With the establishment of the business tool presented in this research study organizations are able to (periodically) assess differences in organizational culture and perceptual distance to further optimize their collaborative relationship during (inter-)organizational project collaborations. The tool offers managers a previously unavailable comprehensive and combined tool, which will benefit collaborative project outcomes. Based on the results, open discussion between both parties within the collaboration lead to pre-empting organizational cultural differences and changing practices with respect to the perceptual distance dimensions. The business tool should be used as the first product during the initial phase of the project to highlight not only the tangible but also the intangible effects that are becoming increasingly important in modern projects. Further expansions and optimization of the business tool around the softer factors of collaboration can lead to even better deployment of the tool for future case study projects, which eventually benefits the collaboration-based project success.

It is recommended for RHDHV to use the business tool during (inter-)organizational collaborations with clients to (periodically) assess differences in organizational culture and perceptual distance, which will contribute to further optimizing their collaborative relationship. The results generated from the tool should be discussed by both parties through open discussions which can lead to pre-empting negative consequences based on organizational cultural differences and changing practices with respect to the perceptual distance dimensions. Follow-up actions are implemented in the tool, which need further practical value based to get deeply embedded in the project organization. Besides, further academic research is needed to establish the interrelationship of organizational culture and perceptual distance during project collaborations and its combined effect on project performance and success.

To conclude, organizations and its employees have long been condemned by COVID-19 to work from home, leaving contact between collaborating parties only online. The return of employees to offices and the recurring physical contact with customers provides excellent opportunity for the implementation of the business tool for intensifying attention to the collaborative relationship. Returning to the quote at the start of this thesis: *''CULTURE: from the Latin cultus, which means care''* shows that both organizations need to take care of each other to reach the optimal and successful collaborative relationship. By using the tool, project managers on both sides of the collaboration can encourage teams to take the collaborative relationship to new heights. This will generate a positive contribution to each other's expectations of performance, success and satisfaction that ultimately leads to a successful long-term vision, which creates the necessary transformation in the construction sector.

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Appendices

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Appendix I: Case study research cycle

Throughout this research, two case study projects are used as explained in Chapter 3. Through these case study projects, an online survey is used to investigate organizational cultural differences and perceptual distance in the collaborative relationship of Amazon and RHDHV. Online interviews are used to validate the results of the literature and survey study and to identify the usability of the designed tool. For explanation of both chosen research methods, reference is made to the previous section (4.1).

As described earlier, a case study research cycle is used. This research strategy is a study that examines a phenomenon within its real-world context. Case studies are based on an in-depth examination of a single individual, group, project, or event to investigate the causes of underlying principles and may include both qualitative and quantitative research methods. Case study research also follows a clear methodological path. It is a linear, but an iterative process and often includes six steps:

1. Plan to identify research question
2. Design case studies
3. Prepare to collect case study evidence
4. Collect case study evidence
5. Analyze case study evidence
6. Report and reflect

At first, the research questions were drafted in the proposal phase prior to the study. Minor adjustments were made during the research based on change in order and use of the PDM in addition to the OCAI. The research questions were drafted based on literature and knowledge obtained from RHDHV about the case study projects with Amazon and Janssen. The main question and the five sub-questions are divided across the study. The first sub-question relates to the literature review, then the next three sub-questions address the case study (survey and interviews), followed by the final sub-question that addresses the recommendations and added value of the research study.

Second, the design of the case study was fixed before the research began. However, during the writing of the thesis this changed as mentioned in chapter 3. The case study projects are between RHDHV and client organizations Amazon and Janssen which is explained in detail in Chapter 3.

Third, the preparation of collecting the evidence for the case study consists of several steps. As a start, the literature review was prepared whereby a theoretical foundation was built for the remainder of the research study. The information from the literature review was used to investigate the usage and suitability of the research methods in the case study. For the survey study, the research methods chosen were the OCAI and PDM frameworks. Using these tools, statements can be made regarding organizational culture differences and perceptual distance. The questions from both frameworks were inserted in the online survey instrument 'Survey Monkey' which is used by RHDHV for both internal and external surveys. In addition, survey study results are validated using interviews. Both the results of the survey study and literature review are used for this purpose. The interviews are prepared using semi-structured questions in order to promote discussion and the possibility of intensifying certain aspects that the respondent feels need attention.

Fourth, as mentioned before, an online survey instrument has been used to collect the results of the case study. The potential respondents receive an email with a link to fill out the survey. The results are delivered when the survey is stopped, so that the results can be processed. Regarding the interviews, the collection of the results is done by recording the online interview.

Fifth, to analyze the results, a tool is created in Excel where both tools (OCAI and PDM) are implemented. The tool can be used by RHDHV on all its projects in order to identify the organizational cultural differences prior or during the project. Furthermore, the tool enables project managers to periodically assess the perceptual distance between the client and RHDHV during the project. With respect to the interviews, the interviews recorded online are transcribed after which the results can be extracted. The analyzed results of the interviews are used to validate the findings of both the literature and survey study and to identify the usability of the designed tool. Generalizing the results contributes to the use of the tool made during this research.

Finally, the results analyzed are used to report and reflect. The research report reflects both aspects. The results are used to both make recommendations and promote the deployment of the tool. Partly through the interviews, the findings of the study are already being tested and reflected upon by interviewed project managers both inside and outside the project teams. Based on the report and the tool, a contribution is made to improving the collaborative client relationships of Amazon and Janssen with RHDHV and for other (future) projects with other clients.

Appendix II: Additional information OCAI

This section will provide more in-depth information on the validity, reliability, and effects of the OCAI. The information presented is of a scholarly nature, and it is intended to provide background evidence for the credibility of the instrument. To find out if the OCAI is useful, it must be certain that it measures important aspects of organizational culture (a question of validity), that it does so reliably, and that the aspects of culture being measured have some relationship to organizational performance. Furthermore, it must be clear which dimensions of organizational culture are being considered, why they are important, and what the results of the assessment present. In addition, this chapter will provide a brief summary on the background information on the meaning of organizational culture and its key dimensions. The information has been generated from several scientific studies of organizational culture using the OCAI, which examines the relationships between organizational culture and desirable outcomes such as organizational effectiveness, leadership success, organizational strategies, processes, and decision styles (Cameron & Quinn, 2006).

Importance of Organizational Culture Assessment

As described by Cameron & Quinn (2006), the need for managing organizational culture is the result of the increasing turbulence, complexity, and unpredictability of the external environments in which organizations operate. As mentioned in both the literature review and the previous chapter on the current culture at both RHDHV and Amazon, organizations tend to develop a dominant organizational culture over time to adapt and respond to challenges and changes in the environment. Organizational culture is given more prominence and emphasis when competition, change, and pressure on organizations intensifies. This is because organizational culture creates both stability and adaptability for organizations. First, it creates stability by being the glue that holds the organization together. Culture reinforces continuity and consistency in the organization through the support of a clear set of corresponding values. Second, culture promotes adaptability by providing a clear set of principles to follow when creating strategies to cope with new circumstances. Clarifying core competence and strategic intent are essential requirements to organizational adaptability and both are firmly embedded in the organization's unique culture.

Organizational culture assessment is increasingly important because of the necessity to both change and maintain stability in consideration of increasingly turbulent external environments. An instrument like the OCAI can be an especially useful instrument to identify core organizational culture values for effective project management. Interestingly, based on multiple academic studies used by Cameron & Quinn (2006), no organization is completely characterized by only one culture type, but dominant cultures were clearly present in most organizations, which is in line with the descriptions of the companies' cultures in the hypothesis chapter.

Issues in Assessing Organizational Culture

Numerous academical literature studies discuss the conceptual boundaries and the theoretical foundations of organizational culture. Each of these studies points out several important controversies, which characterize the concept of organizational culture. These controversies can be divided in three different types of issues. The controversies relate to how to precisely define culture (definitional issues), how to measure culture (measurement issues), and what key dimensions should characterize culture (dimensional issues). Each of these three

issues are summarized so that the approach of Cameron & Quinn (2006) to assess organizational culture is explained.

First, related to the definitional issues, Cameron & Quinn's study distinguishes two main disciplinary foundations of organizational culture form the disciplinary roots, namely an anthropological foundation (organizations are cultures) and a sociological foundation (organizations have cultures). Within each of these disciplines, there are two different approaches to culture, namely functional (culture emerges from collective behavior) and semiotic (culture resides in individual interpretations and cognitions). Based on these different approaches, culture is treated as an enduring set of values, beliefs, and assumptions that characterize organizations and their members, which can be related to functional, sociological perspective. On the other hand, there is organizational climate, which refers to more temporary attitudes, feelings, and perceptions on the part of individuals. Culture focusses on an enduring, slow-changing core attribute of organizations; refers to implicit, often indiscernible aspects of organizations; and includes core values and consensual interpretations about how things are. Whereas climate is based on attitudes that can change quickly and dramatically; refers to more overt, observable attributes of organizations; and includes individualistic perspectives that are modified frequently as situations change and new information is encountered. The Competing Values approach used during this research will focus on cultural attributes rather than climate attributes.

Second, based on the measurement issues, there are different ways of how to measure organizational culture. Cameron & Quinn describe organizational cultures as holograms, in which each separate element presents unique information that differentiates that particular element from all others. However, each of these elements also contains common information from which the entire image can be reproduced. Similarly, organizational cultures could be comprised of unique subculture, but all the subcultures have common attributes that are typical of the entire organization, which forms the overarching culture. To use the OCAI, the organization level of analysis is the intended target of assessment, in which the overarching elements are the focus of measurement. To go more in-depth on the project level of analysis, the PDM is used, which will be further elaborated in the next section.

The study presents three strategies to measure culture at the organization level of analysis, namely holistic approach, metaphorical or language approaches, and quantitative approaches. A holistic approach is related to the investigator, which becomes immersed in the culture and engages in in-depth participant observation. The metaphorical or language approaches are related to the investigator that uses language patterns in documents, reports, stories, and conversations to uncover cultural patterns. Quantitative approaches are related to the investigator, which uses questionnaires or interviews to assess particular dimensions of culture. This approach allows multiple viewpoints to be considered in evaluating the attributes of an organization’s culture.

The study describes that an investigation of multiple organizational culture becomes impossible when immersion in each one is mandatory. However, during this graduation research, only two culture need to be investigated in-depth, what shows it the qualitative aspect is strongly emphasized. It is crucial that the respondent of the survey instrument actually report underlying values and assumptions (culture) and not just superficial attitudes

or perceptions (climate). Therefore, the scenario analysis procedure is used by Cameron & Quinn, in which respondents report the extent to which written scenarios are indicative of their own organization's culture. These scenarios serve as both emotionally and cognitively cues that bring core cultural attributes to the surface. The scenarios could enlighten the respondents because they may be unaware of the crucial attribute of culture and are cued by them in the questionnaire. Numerous of other academical studies related to organizational culture have used this approach.

Third, based on the dimensional issues, the instrument focusses on certain dimensions more than other by an adequately diagnose of the organization's culture. These choice for these certain dimensions relies on the notion of psychological archetypes, which is captured by the OCAI in its core dimensions. Psychological theorists have pointed out that most individuals have a similar kind of framework for making sense of the world around them, in which the framework refers to the categories people form in their minds to organize the information they encounter. Therefore, by assessing organizational culture using the Competing Values Framework, it taps into the fundamental organizing framework used by people when they obtain, interpret, and draw conclusions about information. The key to assessing organizational culture is to identify aspects that reflect key values and assumptions in the organization and thereby give individuals an opportunity to respond using their underlying archetypal framework. The OCAI allows this to occur by six dimensions, which form the basis for the instrument (Cameron & Quinn, 2006):

7. *The dominant characteristics of the organization, or what the overall organization is like*
8. *The leadership style and approach that permeate the organization*
9. *The management of employees or the style that characterizes how employees are treated and what the working environment is like*
10. *The organizational glue or bonding mechanisms that hold the organization together*
11. *The strategic emphases that define what areas of emphasis drive the organization's strategy*
12. *The criteria of success that determine how victory is defined and what gets rewarded and celebrated*

These dimensions reflect fundamental cultural values and implicit assumptions about the way the organization functions, which is reflected by "how things are" in the organization. By having organization members respond to questions about these six dimensions, the underlying organizational culture can be revealed. As mentioned before, Cameron & Quinn state that this is especially true because the core structure of the competing values model is consistent with the dominant psychological archetype. Also, respondents are able to use a structure that is familiar to them to reflect their cultural ratings.

Cameron and Quinn describe in their book that the OCAI is unique in its ability to identify the organization's cultural strength, congruence, and type. The instrument detects the extent to which one or more cultures are strong (or dominant) in that organization by observing the overall cultural profile. Also, it detects the extent to which the six profiles are congruent or heterogeneous (incongruent) with one another, by reviewing the profiles associated with each of the six scenarios (questions) individually. Finally, the culture profiles make it easy to present the type of culture which the organization possesses based on the quadrant that receives the most emphasis.

Reliability and Validity

Reliability refers to the extent to which the instrument measures culture types consistently and whether the results can be reproduced under the same conditions. Numerous studies have been used by Cameron & Quinn (2006), to assess the reliability of the instrument. Reliability is tested using several studies that have used the tool. These studies have deployed the tool with its accompanying questionnaire to over a thousand different companies with over ten thousand respondents. The different studies show that every time the tool is applied, the Cronbach Alpha value is above 0.7 indicating very satisfactory. In every case that they know of, the reliability of these culture types has shown patterns consistent with the ones reported in their book. In other words, sufficient evidence has been produced regarding the reliability of the OCAI, which creates confidence that it matches or even exceeds the reliability of other most commonly used instruments in social and organizational sciences.

Assuming the validity of the instrument, multiple academic studies were examined to test the validity of the OCAI. As explained by themselves in their book, validity refers to the extent to which phenomena that are supposed to be measured are actually measured. In the case of the OCAI is the question if the instrument really measures four types of organizational culture. Several studies described in the book that have used the framework show that the different culture types correspond to characteristics that fit these particular types. One example is that a study of college cultures, they found that clan cultures were strongly associated with decentralization, trust, a sense of equity among organization members, high morale, and satisfaction with the leader. All of these factors are consistent with the core values represented by the clan culture. Examples of this can be found for each culture-state. The book describes, as with reliability tests, that there is no known study in which contradictory, denying evidence was provided. In other words, empirical evidence suggests that the instrument measures what it claims to measure, namely, key dimensions of organizational culture that have a significant impact on organizational and individual behavior. Furthermore, it measures these dimensions in a reliable way.

Response Scale & Analysis

The response scale of the OCAI can be used in multiple ways, as described by Cameron & Quinn (2006) themselves. They prefer the response scale in which individuals divide 100 points among alternatives, which is known as an ipsative rating scale. Next, they describe the most common alternative rating scale, which is the Likert scale where respondents rate each alternative in each question on a scale of 1 to 5 or 1 to 7 – ranging from strongly agree to strongly disagree. For each response scale there are advantages as well as disadvantages.

An advantage of the ipsative rating scale it results in more differentiation in ratings compared to Likert scale. Also, an advantage is that respondents are forced to identify the trade-offs that actually exist in the organization. When the Likert scale is used, respondents tend to rate all quadrants high or all quadrants low, which results in less differentiation. On the other hand, the Likert response scales do produce independent responses. For example, the response to alternative A in question 1 is related to the response to alternative B in question 1. Therefore, in a Likert format, each response is assumed to be independent. Both ways of response scales are used by different academical studies.

In doing so, Camaron & Quinn (2006) suggest that scholars select for research purposes the technique that best matches their research agendas and central research questions. Therefore, there are two reasons for choosing the Likert scale. First, both the OCAI and the PDM are combinedly used during the survey study. In the PDM designed by Van der Krift et al. (2020), the response scale is a Likert scale from 1 to 7. Thus, in order to maintain consistency throughout the survey study, it was partially chosen to apply the Likert scale. Secondly, RHDHV has already sent out several surveys, both internal and external, using the Likert scale 1 to 5. An example of this is the Employee Satisfaction Survey (ESS) that RHDHV employees fill out every 3 months to assess the satisfaction of employees on the project. Thus, a Likert scale of 1 to 5 has been chosen for both the OCAI and the PDM in order to maintain consistency and an easy to fill out survey that requires little explanation to the respondents beforehand. The two different frameworks can also simply be used on their own by either sending the questions of the OCAI or PDM to respondents.

The analysis of the different dimensions of the OCAI shows to which culture type the organization belongs according to the respondents. This can be presented using the different dimensions on their own (Figure AI-1) and the total where all six dimensions are combined (Figure AI-2). In addition, the differences between the two companies can also be depicted at a single glance when they are merged into one, as shown in Figure AI-3. For example, the dotted line here shows RHDHV and next to it is the solid line Amazon as a customer.

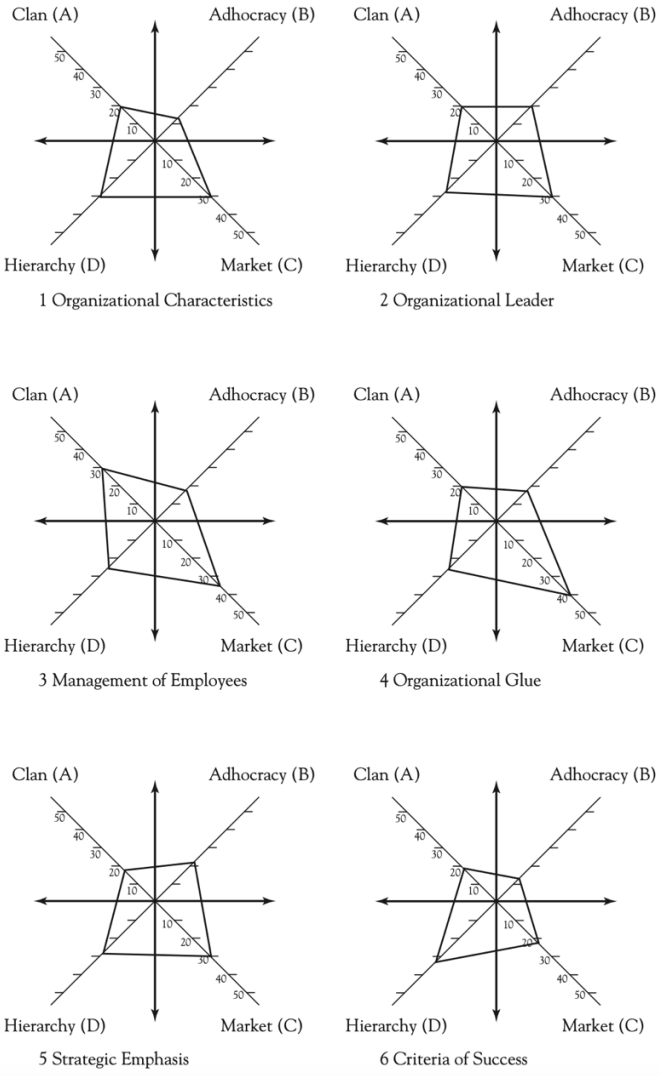


Figure AI-1 – Average Profile for Each Item on the OCAI (Adopted from Cameron & Quinn, 2006)

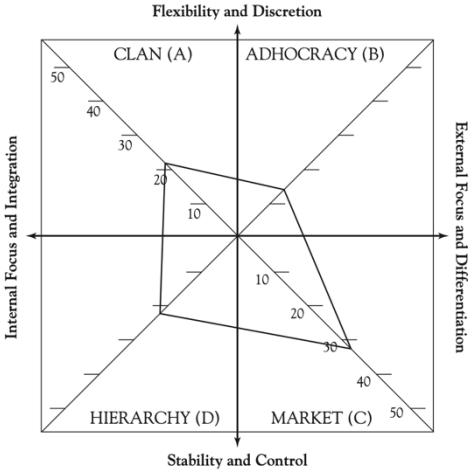


Figure AI-2 – Average Culture Plot for More Than One Thousand Organizations (Adopted from Cameron & Quinn, 2006)

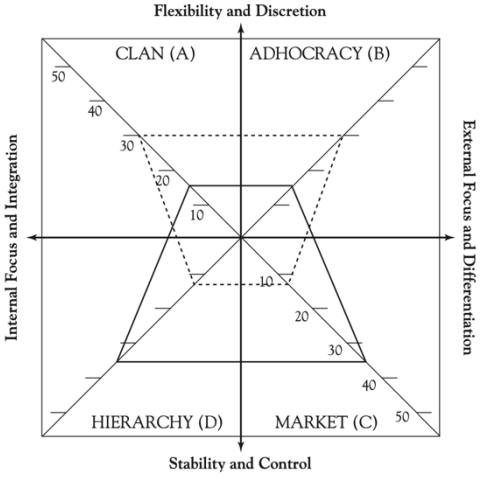


Figure AI-3 – Culture of Two Organizations (Adapted form Cameron & Quinn, 2006)

Appendix III: Additional information PDM

This section will provide more in-depth information on the validity, reliability, and effects of the PDM. The information presented is of a scholarly nature, and it is intended to provide background evidence for the credibility of the instrument. To determine if the PDM is useful, it must be certain that it measures important aspects of perceptual distance (a question of validity), that it does so reliably, and that the aspects of perceptual distance being measured have some relationship to organizational performance. Moreover, it must be clear which dimensions of perceptual distance are being considered, why they are important, and what the results of the assessment present. In addition, this chapter will provide a brief summary on the background information on the meaning of perceptual distance and its key dimensions. The information has been generated from the study conducted by Van der Krift et al. (2020), in which they have tested the instrument and collected data from client and contractor collaborations in various industries. Hereby, they used both public and private organizations (e.g., construction, energy, social care, IT) because they firmly belief that perceptual distance is not limited to a particular industry. When designing the tool, it was tested in the construction industry in both the pilot phase and the refinement phase, which shows the usefulness of the tool in this industry with its projects and stakeholders.

Importance of Perceptual Distance Assessment

Based on the research of Van der Krift et al. (2020) and others, it can be stated that perceptual distance poses a threat to project performance. This is partly because of its negative effect on the quality of the relationship between collaborating parties, which is a key determinant of project performance. As mentioned before, to investigate this relation, Van der Krift et al. (2020), designed a new instrument to address these weaknesses and to improve the conceptualization and measurement of perceptual distance in inter-organizational collaboration. The instrument is suitable for researchers, project managers, as well as project practitioners, enables them to periodically assess perceptual distance during inter-organizational relationships, particularly between client and contractor. Moreover, the instrument endorses the value of assessing perceptual distance during inter-organizational collaborations by evidencing its impact on project outcomes. With the regular assessment and careful monitoring of perceptual distance, remedial action can be taken in a dedicated, open discussion between both parties to ensure that they are heard and given the opportunity to improve. Collaborative projects rely on a complex network of actors working together toward a particular project accomplishment in which a cooperative and trusting client-contractor relationship is the backbone of superior project performance. Both sides of the inter-organizational collaboration may have different perceptions of the collaboration and therefore should be actively involved. The PDM gathers perceptual data of both sides of the dyad instead of a single side that is a common fallacy other inter-organizational project and supply chain management studies.

Issues in Assessing Perceptual Distance

The previous section on the OCAI extensively covered numerous academical literature studies that have already used the tool and discusses the conceptual boundaries and the theoretical foundations of organizational culture. As a result, based on these studies, the strengths and weaknesses of the tool can be well substantiated. However, the PDM is a new tool from the year 2020 that has not yet been widely used by other academic studies. Therefore, we

examined the limitations that the research itself describes related to the use of the instrument.

The first limitation described by the authors of the instrument is the sample size. In the two phases (pilot and refinement) combined, they have obtained 283 valid responses representing client and contractor teams for 38 dyadic measurements. Although, this presents an overall large sample size, it is lower at the higher levels of analysis due to the multi-level nature of the research. The small sample size at the project level reduced the ability to unequivocally prove the effect of perceptual distance on project outcomes and trust, which requires larger sample sizes in future research.

Another important issue concerns the relationship between perceptual distance based on trust and project performance and these as dependent variables. The formula assesses a distance score based on team averages and standard deviations, which shows that the dependent variables represented the average score are based on all project member's responses. However, these different constructs did not appear to be significantly related. Therefore, it is important to take into account is that a small perceptual distance does not necessarily imply that both partners perceive high trust in their collaborative relationship. Apparently, both parties can agree that mutual trust is low, which has a potential negative effect on the further collaborative relationship. So, when both parties indicated somewhat the same perceptions, this will show small perceptual distance, but actually could imply the need for further action.

Another improvement of the instrument, described by the authors, could be including more measurements of dependent variables such as financial data, planning updates, safety incidents and third parties' reports on quality and sustainability. Trust is assumed to be an important indicator of the quality of a relationship. However, as argued in other research and this literature study, the quality of relationship is broader than trust and includes indicators such as commitment and satisfaction. They describe that future research would benefit assessing relationship quality in a broader sense. Other impactful variables are also mentioned to incorporated in measuring collaborative relationships, such as various forms of the client's powers, which are believed to affect the interorganizational collaboration. Power is believed to influence the level of conflict and trust and when an imbalance in power is present, it could be linked to mismatched perceptions. Next, there is the interesting phenomenon of contractual governance by collaborating organizations. Thereby, clients could use contracts to particularize their expectations, which reduces perceptual distance and prevent conflicts. With regard to these additional topics, research will provide a more comprehensive view of factors that could potentially impact the collaboration between client and contractor. To determine if these additional aspects could be valuable to the instrument in the future, this will be questioned during the interviews.

The authors intend to further investigate the consequences of perceptual distance on project outcomes in the longer term, because they believe that perceptual distance poses a serious threat to project outcomes on the longer term, mainly due to the deleterious effect on the quality of the relationship between collaborating partners. The consequences of perceptual distance could be better noticeable over a longer period of time, because perceptual distance happens the alignment of partner's interests, goals, and activities. Therefore, they conducted

a separate study over a life span of one year, in which they found that perceptual distance both increased and decreased over time. The research findings suggest that regular review and evaluation of partners' perceptions of critical project issues is warranted to detect and counteract perceptual distance in a timely manner.

Reliability and Validity

The reliability and validity of the PDM are determined according to guidelines by Churchill (1979) and Hinkin (1998). As mentioned earlier, the development work of the instrument involved a pilot and refinement phase. First, the pilot phase is an assessment of an initial sample in relation to input, process and output aspects regarding which perceptual distance is likely to be present on certain dimensions. Second, the refinement phase refined the measures and tested them on a new sample, after which a method was established to calculate perceptual distance for further analysis. Finally, to assess the predictive validity of the PDM, a correlation of perceptual distance values with trust and project performance was conducted. The developed PDM proves to be a valid and reliable instrument to assess perceptual distance regarding various aspects of collaborations between client and contractor. The established instrument shows to validly predict project outcomes in terms of both trust and performance in projects across multiple industries.

However, the study indicated that predictive validity was unfortunately not found for process aspects. This may indicate that the PDM is not sensitive enough to validly assess the impact of perceptual distance on process variables. Still, the results of Van der Krift's et al. (2020) are consistent with previous studies, in which evaluations of input and output variable related to better process outcomes, unlike evaluations of process variables. Rather than pointing out the inefficiencies of the PDM, it is assumed by the authors that the relationship between the evaluation of process variables and performance outcomes is not straightforward, nor is it currently well understood, which calls for further research.

Altogether, the results of the study show that the provided instrument is valid and reliable to assess the perceptual distance between client and contractor regarding various aspects of their inter-organizational collaboration. The research study offers managers a previously unavailable comprehensive tool, which will benefit collaborative project outcomes. In doing so, both researchers and project managers in public and private organizations can use this indispensable tool to study perceptual distance, an important problem in inter-organizational collaborations, and to understand its antecedents and effects.

The formula by which perceptual distance is calculated uses multiple methods using a standardized mean difference, namely Hedges' g (Hedges, 1981). This takes into account the standard deviation and group size of the variable on both sides. The formula is slightly adjusted by Van der Krift er al., (2020) to prevent standard deviations close to zero resulting in extreme values. This formula can be seen in Figure AII-1.

$$Perceptual\ \ distance = \frac{|\mu_P - \mu_A|}{1 + \sqrt{\frac{(n_P - 1)\sigma_P^2 + (n_A - 1)\sigma_A^2}{n_P + n_A - 2}}}$$

Figure AII-1 – Formula Perceptual Distance (Adopted form Van der Krift et al., 2020)

Applying this formula, the perceptual distance between client and contractor is calculated for each variable in a certain project, using: the mean on the client's side (μ_P) and on the contractor's side (μ_A); the sample size on the client's side (η_P) and on the contractor's side (η_A); and the variance on the client's side (σ^2_P) and on the contractor's side (σ^2_A). The research proves to have a reliable value for perceptual distance that can be used as a variable in subsequent analyses.

Besides, the Cronbach Alpha will be calculated to assess the internal consistency of items within each dimension. This formula for calculating the Cronbach Alpha be seen in Figure AII-2.

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum V_i}{V_t}\right)$$

Figure AII-2 – Formula Cronbach's Alpha (Adopted from Scribbr, 2021)

Applying this formula, the Cronbach's alpha (α) is calculated, using the number of items (k), the variance of each individual item (V_i), and the variation over all items (V_t). With the Cronbach's alpha, the internal consistency can be presented. The internal consistency presents how closely related a set of items are as a group (Scribbr, 2021). An internal consistency is unacceptable (0,5 > α), Poor (0,6 > α ≥ 0,5), Questionable (0,7 > α ≥ 0,6), Acceptable (0,8 > α ≥ 0,7), Good (0,9 > α ≥ 0,8), and Excellent (α ≥ 0,9).

Response Scale & Analysis

As mentioned in the previous section regarding the OCAI, a Likert scale ranging from 1 to 5 is selected based on two reasons that are shortly summarized here. Originally, Van der Krift et al. (2020) used the Likert scale from 1 to 7 during the survey study used in their research. Therefore, it is partially chosen to use the Likert scale during this survey study for both the OCAI and PDM in order to maintain consistency. Besides, RHDHV has already sent out several surveys within the organization and the project using the Likert scale 1 to 5, such as the Employee Satisfaction Survey (ESS). Thus, a Likert scale of 1 to 5 has been chosen for both the OCAI and the PDM in order to maintain consistency and an easy to fill out survey that requires little explanation to the respondents beforehand.

Important to mention is that not all dimensions of the PDM are asked of the respondent because of several reasons. There are five of the fifteen dimensions not asked, which is chosen in consultation with the graduation company supervisor. Of these, four dimensions are process related factors that are not asked, namely importance of regulations, constructive conflict, decision-making autonomy and trustworthiness. Questions of trustworthiness are not to be confused with those of trust. The questions of trustworthiness deal with the degree of conformity between the established rules and their implementation (mainly contract and written agreements). Some dimensions had to give way so that filling out the survey does not take up too much time. In addition, the process factors are the least important dimensions as results show in the study of Van der Krift et al. (2020). Also, the input dimension competence project manager of both client and contractor was not included in the survey study because it is related to one specific person. Partly because of meetings with different people within

RHDHV, discussing the sensitiveness of the questions, it was decided not to include them in the survey, even though it has a high priority as per the results of the research into the development of the PDM (Van der Krift et al., 2020).

Using the developed monitor, managers can collect perceptions of different aspects held by team members on both sides of their collaborative project. Consistent with the approach suggested by the authors, perceptual distance should be measured from multiple, close collaborating and well-informed, team members on both sides of the dyad. They also describe that team members should be able to respond anonymously so that everyone feels free to provide truthful perceptions. In addition, project managers are advised to calculate the perceptual distance between client and contractor using the formula presented in the previous section to obtain a reliable and valid measurement. This will enable them to identify and address the aspects of interorganizational collaboration that need to be aligned. The research shows that both sides of the collaborative relationship may have different perceptions and therefore should be actively involved.

As mentioned before, the second part of the survey study will go more in depth on the relationship dimensions on project level and the perceptual distance present regarding these dimensions. In combination with the usage of the OCAI it will provide the research with insights into both the organizational culture differences on the organizational level and the perceptual distance on the project level. During this research study, one survey was sent out that included the combined use of the OCAI and the PDM. In order to achieve reliable results regarding the PDM, respondents must be selected who work closely with the other party. Thus, these are the program, project and design managers of RHDHV. This therefore ensures that the sample size is small for both the PDM and the OCAI. As described earlier, the OCAI has been used by many companies with both large and small sample sizes. The instrument demonstrates that it is a reliable and valid method in both situations. However, a large sample size is desired which is thus a weakness of this study.

Appendix IV: Additional information in-depth interviews

As described earlier, the interviews are used to validate both the results of the literature study and those of the survey study. In addition to validating the results of the study, the interviews also address the usage of the tool and how to optimize it for future use. This is important because the case study projects focus on only two projects within RHDHV. With the help of generalizing the results, these also become useful for future projects with other customers. In addition, statements can be made about current practices and trends in project management research related to organizational culture and perceptual distance and its effect on project performance and success. To achieve this, four RHDHV project managers are interviewed both inside and outside the projects. All interviewees have a project manager or program manager role within RHDHV.

There are three primary interview styles that all serve to achieve a different goal, namely structured interview, semi-structured interview, and unstructured interview. As the name describes, the difference between these three is related to the structure. A structured interview, also called a standardized interview, is a previously established interview schedule that is adhered to during the conduct of the interview. Both the questions and the order of the questions are fixed, which aims to ensure that all interviewees are interviewed under the same conditions, that increases the validity of the interview. A structured interview is often used in quantitative research, in which the questions asked are often very specific and closed, with multiple-choice answers that are pre-coded by assigning numbers to the answer categories. This type of interview makes statistical analysis of the answers possible. Next, a semi-structured interview, also called qualitative, focus, or in-depth interview could be used. This type has a general interview schedule with predetermined, somewhat more generally formulated questions. Unlike the structured interviews, here the questions may be deviated from in order to discover more detailed information from the respondent, which is often the goal in qualitative research. Finally, the unstructured interviews, also called an intensive, qualitative, or in-depth interview, as a researcher often uses a list of topics instead of questions. These topics will be discussed in the interview. However, it is completely the choice of the interviewer to decide the structure and type of questions. Most of the time this interview style is informal (Scribbr, 2021). During this study, we chose to use qualitative semi-structured interviews to discover detailed and in-depth information from the respondents, which are often used during case studies.

The semi-structured interviews are designed to last 45 minutes to acquire the information needed, which will validate the findings of both the literature review and survey study. The time frame is indicative as each respondent is different in sharing his or her opinion towards the different viewpoints. The goal or purpose of the interviews are besides validating the findings of the literature review and survey study, to also identify relational factors between both parties related to their collaboration. Their involvement in the project and observations made through the project life cycle (participation in meetings, formal and informal communications with team members of both parties, etc.) could be key to the outcomes and recommendations of this research study. Two out of four interviewees are part of the core internal Amazon and Janssen team, so that they work intensively with the client team. Besides both project managers within the project, two project managers outside the project will be interviewed to go more in-depth on the usability of the tool, which is designed during this research study. As mentioned in the description on semi-structured interviews, the format of

the interview contains a combination of primary questions and possible follow-up questions, depending on the willingness to share information. The primary questions are designed to ensure that the required information is extracted from the respondent. Next the follow-up questions are designed for achieving the right degree of depth, detail, vividness, richness and nuance that is required (Rubin et al., 2005).

The first part of the interview includes an introduction by the researcher about the purpose of the study and the topic of the study. Also, there are some questions about the interviewee regarding his professional background and role, period of involvement in the team and degree of involvement in the project. Partly because of this, an attempt is made to gain the confidence of the respondent so that the interviewee feels comfortable enough to provide information about the collaborative relationship between both parties. In addition, interviewees are also informed that all data is handled anonymously, and the results of the interviews cannot be traced back to a specific person. Subsequently, the most relevant elements of both collaboration frameworks (OCAI and PDM) are identified and discussed during the interviews, which is part of the second part of the interview. Here the results of the survey research are also discussed in more detail and whether they think the same way. Besides, the interview encourages the interviewee to consider if there are any aspects that need to be changed regarding the current project situation or that they would like to see changed in the future. If the respondent would like to see aspects changed regarding the (long-term) collaboration, they are asked how they would address this. The final part of the interview looks at the use of the tool and how to further optimize it for future use. This includes questions related to the deployment of the tool (e.g. phase of the project, existing or future customers, duration of the project, etc.). Furthermore, the practical value and the potential willingness of customers to participate in the survey research is questioned to the interviewees. The complete interview protocol with all questions is given in Appendix VIII.

Appendix V: Data collection literature study

During the literature study, mainly academic articles were used as well as books, reports from knowledge institutes and companies, internet articles and news reports. Prior to the research, a literature review was conducted for various components which ensured that they also returned intensively in the thesis. These parts were therefore used as keywords to search and obtain important academic articles and further required information.

Main keywords used: construction industry, project definition, organizational culture (including frameworks), inter-organizational collaboration, perceptual distance, project performance, project success, team viability. Other important key words: project management, critical success factors, stakeholder, construction and/or engineering projects, project teams, productivity, effectiveness, corporate relationships. In conjunction with the key words, academic articles from certain specific high-level journals in the construction industry, namely International Journal of Project Management, Construction Management and Economics, Journal of Construction Engineering and Management, among others, were sought. First of all, no period was used for searching certain articles in order to get the best information required for the study. At a later stage, more recent articles were used to outline and substantiate the situation the world is currently like.

In addition to academic articles, articles from knowledge institutes and companies that write reports on both the current situation and performance of the construction industry and on organizational culture were also used. Reports from companies and institutions such as Deloitte, KPMG, Harvard Business Review, ING, McKinsey & Company, and World Economic Forum. These reports have been used primarily to describe the value of contemporary organizational culture and also to describe the current construction industry and how it functions. The reports used in this research were mainly selected to be no older than five years.

To address the qualitative part of the literature study, a literature grid was used. This used the information coming mainly from the academic articles and reports. For each topic or keyword, sections of texts originating from these articles and/or reports are selected and added in the literature grid in Excel. For each section, the source (author) is added, and the corresponding comments as shown as an example in Table X below.

Table 2 – Example literature grid

Definition of a project		
Source	***Statement***	***Remarks***
Van der Krift et al., 2020	The management of projects is a challenging and dynamic task which involves an increasing number of parties. Over the past, many projects have been recognized for going over budget, not meeting the planning and/or not delivering according to the requirements.	1.1 The dynamics of projects
Bosch-Reckveldt, 2011	All definitions indicate that a project is characterized by its temporary character, in which a (unique) scope of work is undertaken, within certain constraints and for a particular reason.	2.1 What defines a project?

The literature grid made it possible to read all literature related to a particular topic or theme. After this, all interesting pieces are listed in one overview from different sources, making it

easier to write a relevant content piece. As a result, the author of the research does not lose the overview of all relevant information.

In addition to the literature review, a chapter was also written regarding the case study description (Chapter 3). This used the same type of methodology as the literature review. However, more research was conducted via the Internet and internal documents were used.

Appendix VI: Survey RHDHV (Amazon)

E-mail
Friday April 23rd

Dear Colleague,

You may have already seen me during the Amazon cross-program meeting or other online meetings, but for the people who do not know me yet, I am Stijn van den Nouweland and I am currently doing my graduation internship at Royal HaskoningDHV. I am sending you this email containing the link for a survey that aims to contribute to the collaborative relationship between Amazon and Royal HaskoningDHV.

Participation is voluntary and anonymous and will take between 15-20 minutes of your time. You as a respondent will contribute to better results and reliability. Therefore, thank you in advance for your participation in this survey study. Please complete the survey before April 24th.

Link Survey: https://www.surveymonkey.com/r/JR9636H

If you have any questions concerning this survey study or my graduation, you can always send an email to me. Have a great day!

Kind regards,

Stijn van den Nouweland
Graduate Intern at Royal HaskoningDHV

Reminder E-mail
Thursday April 8th

Dear Colleague,

I am sending this email as a reminder for filling out the survey I sent out earlier. I would kindly ask those of you who have not yet completed the survey to do so when this suits you.

Link Survey: https://www.surveymonkey.com/r/JR9636H

Thankyou in advance and have a great weekend!

Kind regards,

Stijn van den Nouweland
Graduate Intern at Royal HaskoningDHV

Survey

Title: Project collaboration RHDHV - Amazon

Dear Colleague,

First of all, thank you for taking the time to fill out this survey, which aims to contribute to the collaborative relationship between Amazon and Royal HaskoningDHV and helps me with relevant data for my graduation research. The objective of this survey is to gain a better understanding of the combined effect of organizational cultural differences and perceptual distance on project performance. The results of this survey will only be published within the Worldwide Design team and Royal HaskoningDHV internally including a confidentiality statement.

All statements can be scored based on a scale of 1 (strongly disagree) to 5 (strongly agree). Except at:

- Question 16, where a scale of 1 (much lower/shorter) to 5 (much higher/longer) is applied;
- Questions 18 and 19, where a ranking based on performance indicators is requested.

Participation is voluntary and anonymous and will take between 15-20 minutes of your time. It is possible to fill out the survey partially and continue at a later point in time under the condition that you use the same device and browser. There are no wrong or right answers to give because I will only ask your view on certain statements regarding organization culture and perceptual distance. If you want more information regarding your privacy in this study, please look at the privacy notification attached. If you have any questions concerning this survey study or my graduation, you can always send an email to stijn.van.den.nouweland@rhdhv.com.

Let's start.

Link Privacy Notification

Survey questions:

1. **Dominant Characteristics**

RHDHV is:

- A very personal place where people seem to share a lot of personal information and features. It is like an extended family.
- A very dynamic entrepreneurial place where people are willing to stick out their necks and take risks.
- Very result-oriented where people are very competitive and achievement-oriented. A major concern is getting the job done.
- A very controlled and structured place where formal procedures generally govern what people do.

2. **Organizational Leadership**

The leadership within RHDHV is generally considered to exemplify:

- Mentoring, facilitating, or nurturing.
- Entrepreneurship, innovation, or risk-taking.
- A no-nonsense, aggressive, results-oriented focus.
- Coordinating, organizing, or smooth-running efficiency.

3. **Management of Employees**

The management style within RHDHV is characterized by:

- Teamwork, consensus, and participation.
- Individual risk-taking, innovation, freedom, and uniqueness.
- Hard-driving competitiveness, high demands, and achievement.
- The security of employment, conformity, predictability, and stability in relationships.

4. Organizational Glue

The glue that holds RHDHV together is:

- Loyalty and mutual trust. Commitment to this organization runs high.
- The commitment to innovation and development. There is an emphasis on being on the cutting edge.
- An emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes.
- Formal rules and policies. Maintaining a smooth-running organization is important.

5. Strategic Emphases

RHDHV emphasizes:

- Human development. High trust, openness, and participation persist.
- Acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.
- Competitive actions and achievement. Attaining targets and winning in the marketplace are dominant.
- Permanence and stability. Efficiency, control and smooth operations are important.

6. Criteria of Success

RHDHV defines success on the basis of:

- The development of human resources, teamwork, employee commitment, and concern for people
- Having the most unique or newest products. It is a product leader and innovator
- Winning in the marketplace and outpacing the competition. Competitive market leadership is key
- Efficiency. Dependable delivery, smooth scheduling and low-cost production are critical

7. Satisfaction with project objectives

The following statements are about the satisfaction with the project objectives to be achieved by RHDHV and with the financial compensation for achieving these objectives.

I am satisfied with the agreements we made with Amazon regarding:

- Budget
- Planning
- Quality standards
- Sustainability
- The use of innovative techniques, processes and products

8. Competence Amazon project team

The following statements are about the extent to which the project team is able to execute the project well and collaborate effectively.

The team members at Amazon:

- Have the technical expertise required for the project
- Work well together in a (multidisciplinary) team
- Communicate clearly
- Are convincing and assertive
- Show great empathic ability
- Are good at handling complexity

9. Competence RHDHV project team

The following statements are about the extent to which the project team is able to execute the project well and collaborate effectively.

The team members at RHDHV:

- Have the technical expertise required for the project
- Work well together in a (multidisciplinary) team
- Communicate clearly
- Are convincing and assertive
- Effectively translate the principal's requirements into technological solutions
- Are good at handling complexity

10. Management style

The following statements are about a firm's management style, which is defined by its unique managerial approach, control systems, decision-making style and communication modes.

- RHDHV is an informal organization (few managerial layers, bureaucratic procedures and contracts, flexible control and monitoring)
- Decision-making within RHDHV is based on consensus (of many people) rather than authoritarian decision-making (by a senior person)
- Within RHDHV informal communication is preferred over formal communication (short presentations, no lengthy reports)
- Within RHDHV decisions are guided by concrete considerations and planned processes rather than hidden agendas

11. Information exchange

The following statements concern the level at which parties freely and actively provide useful information to each other.

- Both parties are willing to provide proprietary information if it helps each other
- Both parties keep each other informed about any events or changes that might affect either party
- Information relevant to the project is exchanged willingly
- Each party provides proprietary information that is helpful to the other

12. RHDHV internal task routines

The following statements describe how employees perform ordinary tasks. It is measured by the effort of the effort when developing, attaining and master organizational skills.

- RHDHV has goal-focused and achievement-oriented employees
- RHDHV has employees with a strong work ethic (defy the 9-to-5 attitude, willing to do whatever it takes to get the job done)
- Within RHDHV, employees are encouraged to make decisions themselves
- Within RHDHV, teamwork and cooperation (e.g., collaboration among individuals in different business units) is emphasized

13. RHDHV organizational responsiveness

The following statements concern a firm's reaction to external entities and events occurring in its environment.

- RHDHV has an open attitude toward Amazon regarding problem-solving
- At RHDHV they are open-minded and creative in their approach to problem-solving
- RHDHV responds quickly to emerging situations, changes and opportunities

14. Flexibility

The following statements are about the willingness of an organization to make adaptations as circumstances change.

- When unexpected situations arise, we (both parties) prefer to work out a new arrangement rather than hold each other to the original arrangement
- In this collaboration, we (both parties) can adjust our relationship without significant disputes, conflicts or uncooperative behaviors
- When unexpected events occur, both parties are open to modifying previous agreements
- Amazon and RHDHV are flexible in responding to each other's requests throughout the project

15. Solidarity

The following statements concern the behaviors regarding relationship maintenance, the value placed on joint relationship and a feeling of mutuality.

- Problems arising in the course of the project are treated as a joint responsibility of both parties
- Both parties are committed to improvements that can benefit the project as a whole, not only the individual parties
- Problems are pushed solely onto one party instead of being solved jointly
- The responsibility for making sure the relationship works for all parties is shared jointly

16. **Project performance**

The following statements are about the outcomes of the project (so far) compared to the objectives that have been defined, i.e., the extent to which the objectives have been accomplished.

- The costs of the project (so far), compared to the budget
- The duration of the project (so far), compared to the planning
- The quality being delivered (so far), compared to the expectations
- The level of sustainability of the project (so far), comparted to the expectations
- The level of innovativeness of the project (so far), comparted to the expectations

17. **Trust**

The following statements concern the willingness *to rely on an exchange partner in whom one has confidence resulting from the partner's expertise, reliability and intentionality.*

- Amazon keeps the promises it makes to us
- Amazon gives sound advice on our business, and our company knows it is sharing its best judgment
- Amazon is concerned about its own welfare, particularly when making major decisions
- We can depend on Amazon's support in matters of importance to us

18. **Importance performance criteria Amazon**

*Please indicate what you think is the importance of the following five performance indicators (according to **Amazon**) by ranking them from 1 (most important) to 5 (least important):*

- Costs
- Planning
- Quality
- Sustainability
- Innovation

19. **Importance performance criteria RHDHV**

*Please indicate what you think is the importance of the following five performance indicators (according to **RHDHV**) by ranking them from 1 (most important) to 5 (least important):*

- Costs
- Planning
- Quality
- Sustainability
- Innovation

Thank you for your participation in this research study by filling out the survey. You have been of great help. Have a great day!

If you have any questions and/or suggestions concerning this survey study, you can always send me an email (stijn.van.den.nouweland@rhdhv.com)

Appendix VII: Survey RHDHV (Janssen)

E-mail
Thursday May 20th

Beste collega,

Wellicht heeft u mij vandaag al gezien tijdens de SBT-Instructiebijeenkomst, maar voor de mensen die mij nog niet kennen, ik ben Stijn van den Nouweland en ben momenteel aan het afstuderen bij Royal HaskoningDHV. Ik stuur u deze mail met daarin de link voor een enquête die een bijdrage moet leveren aan de samenwerkingsrelatie tussen Janssen en Royal HaskoningDHV.

Deelname is vrijwillig en anoniem en zal tussen de 15-20 minuten van uw tijd in beslag nemen. U als respondent draagt bij aan betere resultaten en betrouwbaarheid. Daarom bij voorbaat dank voor uw deelname aan dit enquête onderzoek. Ik verzoek u vriendelijk de enquête voor of op vrijdag 28 mei in te vullen.

Link enquête: https://www.surveymonkey.com/r/8TNLGM6

Mocht u vragen hebben over dit enquête-onderzoek of over mijn afstuderen, dan kunt u mij altijd een mailtje sturen. Nog een hele fijne dag!

Met vriendelijke groet,

Stijn van den Nouweland
Graduate Intern at Royal HaskoningDHV

Survey

Title: Project collaboration RHDHV - Janssen

Dear Colleague,

First of all, thank you for taking the time to fill out this survey, which aims to contribute to the collaborative relationship between Janssen and Royal HaskoningDHV and helps me with relevant data for my graduation research. The objective of this survey is to gain a better understanding of the combined effect of organizational cultural differences and perceptual distance on project performance. The results of this survey will only be published within Royal HaskoningDHV internally.

All statements can be scored based on a scale of 1 (strongly disagree) to 5 (strongly agree). Except at:

- Question 16, where a scale of 1 (much lower/shorter) to 5 (much higher/longer) is applied;
- Questions 18 and 19, where a ranking based on performance indicators is requested.

Participation is voluntary and anonymous and will take between 15-20 minutes of your time. It is possible to fill out the survey partially and continue at a later point in time under the condition that you use the same device and browser. There are no wrong or right answers to give because I will only ask your view on certain statements regarding organization culture and perceptual distance. If you want more information regarding your privacy in this study, please look at the privacy notification attached. If you have any questions concerning this survey study or my graduation, you can always send an email to stijn.van.den.nouweland@rhdhv.com.

Let's start.

Link Privacy Notification

Survey questions:

1. **Dominant Characteristics**

RHDHV is:

- a very personal place where people seem to share a lot of personal information and features. It is like an extended family.
- a very dynamic entrepreneurial place where people are willing to stick out their necks and take risks.
- very result-oriented where people are very competitive and achievement-oriented. A major concern is getting the job done.
- a very controlled and structured place where formal procedures generally govern what people do.

2. **Organizational Leadership**

The leadership within RHDHV is generally considered to exemplify:

- mentoring, facilitating, or nurturing.
- entrepreneurship, innovation, or risk-taking.
- a no-nonsense, aggressive, results-oriented focus.
- coordinating, organizing, or smooth-running efficiency.

3. **Management of Employees**

The management style within RHDHV is characterized by:

- teamwork, consensus, and participation.
- individual risk-taking, innovation, freedom, and uniqueness.
- hard-driving competitiveness, high demands, and achievement.
- the security of employment, conformity, predictability, and stability in relationships.

4. **Organizational Glue**

The glue that holds RHDHV together is:

- loyalty and mutual trust. Commitment to this organization runs high.
- the commitment to innovation and development. There is an emphasis on being on the cutting edge.
- an emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes.
- formal rules and policies. Maintaining a smooth-running organization is important.

5. **Strategic Emphases**

RHDHV emphasizes:

- human development. High trust, openness, and participation persist.
- acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.
- competitive actions and achievement. Attaining targets and winning in the marketplace are dominant.
- permanence and stability. Efficiency, control and smooth operations are important.

6. **Criteria of Success**

RHDHV defines success on the basis of:

- the development of human resources, teamwork, employee commitment, and concern for people
- having the most unique or newest products. It is a product leader and innovator
- winning in the marketplace and outpacing the competition. Competitive market leadership is key
- efficiency. Dependable delivery, smooth scheduling and low-cost production are critical

7. **Satisfaction with project objectives**

The following statements are about the satisfaction with the project objectives to be achieved by RHDHV and with the financial compensation for achieving these objectives.

I am satisfied with the agreements we made with Janssen regarding:

- Budget
- Planning
- Quality standards
- Sustainability
- The use of innovative techniques, processes and products

8. Competence Janssen project team

The following statements are about the extent to which the project team is able to execute the project well and collaborate effectively.

The team members at Janssen:

- Have the technical expertise required for the project
- Work well together in a (multidisciplinary) team
- Communicate clearly
- Are convincing and assertive
- Show great empathic ability
- Are good at handling complexity

9. Competence RHDHV project team

The following statements are about the extent to which the project team is able to execute the project well and collaborate effectively.

The team members at RHDHV:

- Have the technical expertise required for the project
- Work well together in a (multidisciplinary) team
- Communicate clearly
- Are convincing and assertive
- Effectively translate the principal's requirements into technological solutions
- Are good at handling complexity

10. Management style

The following statements are about a firm's management style, which is defined by its unique managerial approach, control systems, decision-making style and communication modes.

- RHDHV is an informal organization (few managerial layers, bureaucratic procedures and contracts, flexible control and monitoring)
- Decision-making within RHDHV is based on consensus (of many people) rather than authoritarian decision-making (by a senior person)
- Within RHDHV informal communication is preferred over formal communication (short presentations, no lengthy reports)
- Within RHDHV decisions are guided by concrete considerations and planned processes rather than hidden agendas

11. Information exchange

The following statements concern the level at which parties freely and actively provide useful information to each other.

- Both parties are willing to provide proprietary information if it helps each other
- Both parties keep each other informed about any events or changes that might affect either party
- Information relevant to the project is exchanged willingly
- Each party provides proprietary information that is helpful to the other

12. RHDHV internal task routines

The following statements describe how employees perform ordinary tasks. It is measured by the effort of the effort when developing, attaining and master organizational skills.

- RHDHV has goal-focused and achievement-oriented employees
- RHDHV has employees with a strong work ethic (defy the 9-to-5 attitude, willing to do whatever it takes to get the job done)
- Within RHDHV, employees are encouraged to make decisions themselves
- Within RHDHV, teamwork and cooperation (e.g., collaboration among individuals in different business units) is emphasized

13. RHDHV organizational responsiveness

The following statements concern a firm's reaction to external entities and events occurring in its environment.

- RHDHV has an open attitude toward Janssen regarding problem-solving
- At RHDHV they are open-minded and creative in their approach to problem-solving
- RHDHV responds quickly to emerging situations, changes and opportunities

14. Flexibility

The following statements are about the willingness of an organization to make adaptations as circumstances change.

- When unexpected situations arise, we (both parties) prefer to work out a new arrangement rather than hold each other to the original arrangement
- In this collaboration, we (both parties) can adjust our relationship without significant disputes, conflicts or uncooperative behaviors
- When unexpected events occur, both parties are open to modifying previous agreements
- Janssen and RHDHV are flexible in responding to each other's requests throughout the project

15. Solidarity

The following statements concern the behaviors regarding relationship maintenance, the value placed on joint relationship and a feeling of mutuality.

- Problems arising in the course of the project are treated as a joint responsibility of both parties
- Both parties are committed to improvements that can benefit the project as a whole, not only the individual parties
- Problems are pushed solely onto one party instead of being solved jointly
- The responsibility for making sure the relationship works for all parties is shared jointly

16. Project performance

The following statements are about the outcomes of the project (so far) compared to the objectives that have been defined, i.e., the extent to which the objectives have been accomplished.

- The costs of the project (so far), compared to the budget
- The duration of the project (so far), compared to the planning
- The quality being delivered (so far), compared to the expectations
- The level of sustainability of the project (so far), comparted to the expectations
- The level of innovativeness of the project (so far), comparted to the expectations

17. Trust

The following statements concern the willingness *to rely on an exchange partner in whom one has confidence resulting from the partner's expertise, reliability and intentionality.*

- Janssen keeps the promises it makes to us
- Janssen gives sound advice on our business, and our company knows it is sharing its best judgment
- Janssen is concerned about its own welfare, particularly when making major decisions
- We can depend on Janssen's support in matters of importance to us

18. Importance performance criteria Janssen

*Please indicate what you think is the importance of the following five performance indicators (according to **Janssen**) by ranking them from 1 (most important) to 5 (least important):*

- Costs
- Planning
- Quality
- Sustainability
- Innovation

19. Importance performance criteria RHDHV

*Please indicate what you think is the importance of the following five performance indicators (according to **RHDHV**) by ranking them from 1 (most important) to 5 (least important):*

- Costs
- Planning
- Quality
- Sustainability
- Innovation

Thank you for your participation in this research study by filling out the survey. You have been of great help. Have a great day!

If you have any questions and/or suggestions concerning this survey study, you can always send me an email (stijn.van.den.nouweland@rhdhv.com)

Appendix VIII: Interview protocol

Introduction:

1. Can I record this meeting? Will use it to transcribe the results. Deleted afterwards.
2. After this interview I will send you the results which I extracted from the interview for your acceptance.
3. Mind the 5 why's
4. Listen, summarize, ask follow-up questions.

Goal: To collect useful information to partially validate the results of the survey study and in addition to test the usage of the tool by the people who could actually use it in the future.
Added value:

- Validation of literature review and survey results
- Possible adjustments and tips to improve the tool

(**5 min**) The first questions presented to the interviewee will be designed in such a way to become familiar with each other and get the conversation started (this information will not be included in the thesis due to anonymity):

1. Background, role within the project and RHDHV experience.
2. How long have you been involved in this project?
3. What experience do you have in similar projects (with same client and/or project type)?

(**20 min**) After which, the questions are set to validate the results of the literature review and survey research.

4. Could you describe in a couple of sentences the current organizational culture prevailing at RHDHV? Main characteristics? What change have you experienced in the last couple of years?
5. How would you describe (or how do you experience) the organizational culture prevailing at the Client?
6. In your experience, what do you think are the main cultural differences that clash on the project? Were these visible at the beginning of the project or only later?
7. As described in the survey earlier, can the two parties differ greatly with respect to several dimensions that are important for a good collaborative relationship. In your experience, what are the main dimensions where perception differences are present Could you explain why? Any other dimensions which were not included?
8. How would you define project success (organizational-wise and project-wise)?
9. Are there in your opinion clear areas to improve the long-term relationship between RHDHV and the client? Why these?
10. When the current project comes to its end, would you still like to be involved in future projects with this client or not? Could you describe why?
    a. May be respondent is ready for a new challenge on a different project. Or is the person no longer willing to work together with the client after this project.

(**20 min**) Finally, questions are asked regarding the tool and its use.

11. I will now briefly explain how to use the tool. Based on your experience, when would you deploy this tool on any of RHDHV's current or future projects? What kind of projects (long-term or short-term projects)? Existing or new clients?
12. The tool is now fully based on two frameworks that have been extensively tested in academic studies. What kind of dimensions should be added in your opinion so that the tool generates more (practical) value for RHDHV and its clients? Or removed?
13. During this research, as you may already know, I've had problems putting the survey out to Amazon because the research is not a priority right now. When would the client be more willing to cooperate? Or: How could we address this topic to be more successful in getting Client response?
    a. Do you have an idea for a better chance of success? Could you describe why? (e.g. project manager instead of graduate intern)
    b. Customer cooperation is, of course, an important aspect of using the tool. What do you think of the questions asked in the survey? Which questions or aspects in the tool would you change? Why would you change those? (e.g. sensitivity of questions, timing of putting out to the customer, type of customer etc.)

Appendix IX: Interview transcriptions

Project Manager Amazon Program

(5 min) The first questions presented to the interviewee will be designed in such a way to become familiar with each other and get the conversation started (this information will not be included in the thesis due to anonymity):

Q1: Background, role within the project and RHDHV experience.

Q2: How long have you been involved in this project?

Q3: What experience do you have in similar projects (with same client and/or project type)?

** Personal information not included due to privacy of interviewee. Key project aspects discussed during the intro that are useful for the results of this interview are listed below.*

Demand for new templates grows on the project. Prior tunnel vision regarding the projects. Now much more programmatic regarding the different projects in the program. Look at the different aspects (Design, Compliance, Consultancy) growing intertwined during the project. Applying feedback from live projects in the current templates. Also busy with innovations, parametric, databases, net zero carbon. Previously busy with one project now program wide with learning moments.

(20 min) After which, the questions are set to validate the results of the literature review and survey research.

Q4: Could you describe in a couple of sentences the current organizational culture prevailing at RHDHV? Main characteristics? What change have you experienced in the last couple of years?

We are an organization that likes to produce qualitative, good results and good designs. We work on this with (multidisciplinary) teams. A joint way to achieve a solid design. Innovation and improvement are also part of this. We may not be the front runners, but we do go along with the trends in the sector.

Changes in recent years? A shift to digital, not only with designs but also with the handling of data, smart analyses, we can program designs with software.

Survey results (Amazon team) indicate a Hierarchical culture profile. Can you relate to this? Can you explain why?

This is not so much the culture of RHDHV, but we are pushed into this by Amazon as a customer. What you notice is that Amazon is a fast-pace customer who wants to see results quickly. They want a flexible attitude from RHDHV. When you are under pressure as a team regarding deadlines and time, it is necessary to make choices and who will make these choices. Because if you always look for consensus from the group then we are too slow and not agile enough. So in that respect, Amazon makes sure that we act towards a hierarchical culture so that decisions can be made and deadlines can be met.

You can see a difference between the culture of the Janssen and Amazon teams (Clan and Hierarchy) based on the results of the survey. Still, both are internal teams within RHDHV. What are your thoughts on this topic?

Interviewee: I can indeed imagine that there is a difference here!

Q5: How would you describe (or how do you experience) the organizational culture prevailing at the Client?

Amazon is a fast-pace organization. Wants to see results quickly. Continuously develop, grab things, show initiatives and innovate. Amazon prefers to have more initiatives and things explored, where 9 out of 10 don't turn out to be what they are and 1 does. They require us not to stand still for long and look for the best solution (overanalyzing). They want fast, proactive, results, progress and learning by doing. They expect us as RHDHV to go along with this and learn from it.

We work with the Worldwide Design (WWD) Team. They provide a design that meets all the requirements of the stakeholders. They are a spider in the web. Buttons are made, but with a group feeling (all 7 persons of the team on the client side). It is essential for RHDHV that we have good stakeholder contact and sometimes prefer to pick a wish too much rather than too little, so they feel that they are being served.

Q6: In your experience, what do you think are the main cultural differences that clash on the project? Were these visible at the beginning of the project or only later?

We have the need to get to the bottom of things and create solid designs. We're looking for a clear coat reck that leads to the bigger picture. And Amazon wants us to do a lot of research where the big picture is not entirely clear. Amazon says go ahead and research this and see how it fits and then we'll see how we pull this broadly later on. Less organized. The most important thing according to Amazon is making progress.

Are the lessons learned applied within the Amazon program and in what way?
Together with WWD, we want to achieve a different approach. We are making steps. First draft took six months, maybe more. Also to get a feeling for Amazon's wishes. What you also notice is that at a later stage there is a lot of room for design changes, so that you have to go back a few steps each time to implement the consequences of those changes in a multidisciplinary way. What you now notice strongly is standardization. First, clear agreements at the start. Clear agreements at the start, which reduce the further consequences. Second, allowing changes up to a certain level and phasing them out. So that we can pick it up at a later stage after a specific project and apply it again for the next project. Creating more focus both within RHDHV and within the project.
The Team of both RHDHV and Amazon has grown significantly. The contacts within Amazon have ownership over certain projects (7 Design PMs). Each project manager has their own vision. We as RHDHV want to standardize this more which provides more clarity and peace within the project. We are currently taking these steps.
Are you experiencing difficulties in this so far (standardization on the Amazon side)?
Yes, we are working programmatically and there is an area of tension here. We show that we are making improvements. However, the indications we get differ with respect to the different projects and project managers on Amazon side. Customization is also requested, and we have to find a good balance in that for both parties.

Q7: As described in the survey earlier, can the two parties differ greatly with respect to several dimensions that are important for a good collaborative relationship. In your experience, what are the main dimensions where perception differences are present (e.g., flexibility, communication, provision of information, etc.)? Could you explain why? Any other dimensions which were not included?
Flexibility and information provision are mainly dimensions where perception differences occur. Different perceptions, design change requests. With respect to information supply, we are often asked to start without a clear program of requirements, which means we go into the project with a lot of assumptions. Amazon wants to meet a certain deadline, but the requirements are constantly being refined. As a result, the project must go back a few steps each time to make changes when an assumption is incorrect. This also puts pressure on the deadlines. For Amazon, it is very important that we meet the deadlines. They are on top of that. This requires flexibility of the whole RHDHV team.
Communication: directions of certain projects differ from PM to PM. This causes deviations in the designs with a different design direction each time. This creates different solutions. This must then also be accepted by the customer that there are deviations within different programs. This does not always go together with a programmatic approach. Amazon is a very challenging customer in this respect.

Q8: How would you define project success (organizational-wise and project-wise)?
Project success: meeting the customer's requirements within the set frameworks (schedule, budget, quality, project outcome) (basically generic project success). Only the frameworks are sometimes set differently at Amazon.
Can you give an example of this?
Planning: specific planning imposed by Amazon for the design of a template. They have a blueprint for that themselves. Gives a lot of clarity. It also indicates when we as RHDHV should receive certain information and that is where things sometimes go wrong (the planning is not always in line).
Difference in success: We as RHDHV want to deliver a solid, high-quality design. Amazon likes to have a certain solution that contributes to the progress of the project and to polish it up accordingly. A difference between the clients Amazon and Janssen can be that at Amazon we deliver a design of a 6 or 7 by the customer and at Janssen already work towards an 8 or 9. Design quality will be a difference in the success experience.
Organizational (project) success: first, a project that makes money. Second, that you develop as an organization during a project (learning process for subsequent projects).

Q9: Are there in your opinion clear areas to improve the long-term relationship between RHDHV and the client? Why these?
What I indicated, where we need to go: Program wide similar standards that will allow us to generate designs relatively quickly. What we ultimately want is to be able to achieve speed with that standardization while also applying development. Improvement and development must be seen as separate from the designs themselves. This allows you to a. serve the customer quickly when they want to see results and b. keep improving. We should pay more attention to this so that we can serve the customer's need.

Does this also require action from Amazon?
We as RHDHV need to take them up on that. Less customization and more standardization. We need to improve standards. With clear standards, we can apply more design programming (generate designs). This allows us to continue to do the same work faster and with fewer people. In addition, Amazon thinks it is important that we continue to grow like them. The team is growing all the time and I do not expect this increase to slow down.
Will RHDHV be able to get Amazon on board with our current working methods? Hurtling and bumping. We are working on it: Parametric, for example. Now we still have subprojects that we need to extend to all projects as an overall project team.

Q10: When the current project comes to its end, would you still like to be involved in future projects with this client or not? Could you describe why?

c. May be respondent is ready for a new challenge on a different project. Or is the person no longer willing to work together with the client after this project. Give interviewee space to answer.

I would still definitely consider another assignment for Amazon with a different challenge. Currently, I find a lot of challenge in the work I do.
What else drives you in the project? I always want to keep developing myself, where can we improve, what can I get stuck in, what can be done differently. To be able to tackle the big subject. Here it is necessary to get enough challenge so the implementation of the major projects within the Amazon program. Small projects also provide less challenge, and I would therefore be less quick to pick them up.
Do you see the same picture in your colleagues within the project? Yes, I surely do.

(20 in) Finally, questions are asked regarding the tool and its use.

Q11: I will now briefly explain how to use the tool. Based on your experience, when would you deploy this tool on any of RHDHV's current or future projects? What kind of projects (long-term or short-term projects)? Existing or new clients?
*During the explanation of the tool: You want to know what are points of interest that we should do something with to improve the cooperation between RHDHV and the client (both internal and external).
I as a project manager consider the tool useful and would like to use it. What seems useful to me is to identify the risks of the collaboration so that you know where things can potentially go wrong and also shows potential opportunities. You have areas that you need to pay extra attention to in order to keep your noses in the same customer's mouth. If you know these at the front end of the project you can act on them instead of reacting at a later stage. It is always interesting to look in advance at how cultures may clash at a later stage.
*Related to new projects the tool is definitely an asset to use.
*Related to current projects depends on the state of affairs. First discuss with the project team how the project is going (good > maybe not use). But if there are problems, it is a useful tool to see where they are coming from.
Long-term or short-term projects?
Depends mainly on the customer relationship. If we have a client with a lot of short-term projects, it's still a long-term partnership and so this can be very useful. I would almost always use it. Because you don't know what the follow-up is going to be to an assignment. A successful project can always result in new assignments from the same client. Only consider not using it if you know beforehand that there will be no new projects after a short and small project.

Q12: The tool is now fully based on two frameworks that have been extensively tested in academic studies. What kind of dimensions should be added in your opinion so that the tool generates more (practical) value for RHDHV and its clients? Or removed?
Not so much the dimensions but more the follow-up steps. Also, it's interesting to see if we want to collaborate with a particular client at all. Prior to the collaboration. Are the cultures not too far apart. Initial assessments also important.
The practical value of the tool there certainly provided that clear action points are linked. The results are of course interesting, but afterwards you also want to know where the pitfalls and opportunities lie.

Q13: During this research, as you may already know, I've had problems putting the survey out to Amazon because the research is not a priority right now. When would the client be more willing to cooperate? Or: How could we address this topic to be more successful in getting Client response?

d. **Do you have an idea for a better chance of success? Could you describe why? (e.g. project manager instead of graduate intern)**
   At the start of a collaboration the tool has the best chance of success. During this period both parties are committed to get the cooperation running smoothly. The initial phase has the greatest chance of success. We are still exploring together how we are going to tackle this, how are we going to find a way through this, how are we going to enter into this collaboration.
   No influence from the person carrying out the research. It has mainly to do with the workload within the Amazon project, which is why the research on her side was not successful. We have several topics that are interesting to discuss with Amazon, but the Program Manager of the Amazon project cannot cover them all. It mainly depends on the priority and availability of the Amazon employees. Initial phase most likely to succeed.
e. **Customer cooperation is, of course, an important aspect of using the tool. What do you think of the questions asked in the survey? Which questions or aspects in the tool would you change? Why would you change those? (e.g. sensitivity of questions, timing of putting out to the customer, type of customer etc.)**
   Sensitivity of the questions has not been an issue to my recollection. Willingness to cooperate definitely up for discussion in the early stages of (large) projects so that both parties can benefit. I can imagine that halfway through the project the characteristic of the customer is very decisive. For example, Amazon is a fast-pace organization and wants to pick up many initiatives. However, they are all very busy (WWD team) and if they collaboration runs, and it delivers desired results then they are less inclined to take time to fill out that kind of survey. However, this can be different with customers where the pace is a bit slower and there is an open attitude and relationship. At Amazon also but is limited by time but just a little more attention is paid to attention of the relationship. Moment is very important!
   PDM Periodically?
   Very useful during evaluation moment (quarterly). This would be a calibrated moment for me to deploy the tool and this allows you to base everything on data.

Project Manager Janssen Program

<u>(5 min)</u> The first questions presented to the interviewee will be designed in such a way to become familiar with each other and get the conversation started (this information will not be included in the thesis due to anonymity):

Q1: Background, role within the project and RHDHV experience.

Q2: How long have you been involved in this project?

Q3: What experience do you have in similar projects (with same client and/or project type)?

** Personal information not included due to privacy of interviewee. Key project aspects discussed during the intro that are useful for the results of this interview are listed below.*

<u>(20 min)</u> After which, the questions are set to validate the results of the literature review and survey research.

Q4: Could you describe in a couple of sentences the current organizational culture prevailing at RHDHV? Main characteristics? What change have you experienced in the last couple of years?

Organizational culture of RHDHV is large but low threshold organization. Despite the fact that on paper we have a very hierarchical structure, you do not notice this in the culture and way of working. Low threshold way of communicating, everyone is approachable and available. For me, these are the most important aspects of our company culture. Our organization is divided into several pillars, which is necessary in a large organization. This can also be a hindrance because it makes you think in pigeonholes (compartementalize).

The vast majority of our colleagues are open-minded and look for cooperation and are open to contacts. Low-threshold forms of communication.

What change have you experienced in recent years?

What I have just described has largely remained the same. The hard structures (on paper) do change (new business lines, mergers, etc.). I do not think that the culture and way of dealing with people has changed.

Q5: How would you describe (or how do you experience) the organizational culture prevailing at the Client?

Janssen is more of a hierarchical organization compared to RHDHV. There is no hierarchy that you can't approach people. People are easily approachable. Response rate is somewhat lower. At Janssen it is established who has to find out what. So, in that sense they are more hierarchical. Protocols have been drawn up to determine who has to say what.

It may also have something to do with the industry in which we operate. We are a consultancy and engineering firm. We want to transfer knowledge, do the best we can for the client, think along with the client. Beautiful designs, good solutions. At Janssen they want to make good medicine, quality requirements, process and product requirements. In that context, they are checked in a stricter context, they have to meet many more requirements. At RHDHV this is much less the case.

*Example: Fruit basket with signs ''only for Janssen employees''.

Q6: In your experience, what do you think are the main cultural differences that clash on the project? Were these visible at the beginning of the project or only later?

The main clashes: communication. If you look at it very broadly. If we at RHDHV run into a problem, we try to solve it together and make quick decisions. At the end of the day, we have a solution and that is what we are all working towards. At Janssen, everyone has to have their say, but no one ultimately makes the decision. This makes it more difficult to get approval or permission to start something new. There is a different culture of adjustment. It also creates a different communication dynamic. Janssen employees communicate with the entire group when mistakes occur. This is done in a packaged way (Belgian), not bluntly and woodenly. Not straightforward, very flowery. *Janssen is really Janssen. We as RHDHV are contractors and that is how we are treated (fruit basket).

Results survey: I agree 100%. Within the side-based team and also with the Janssen team, we search for solutions together as a group.

Q7: As described in the survey earlier, can the two parties differ greatly with respect to several dimensions that are important for a good collaborative relationship. In your experience, what are the main dimensions where perception differences are present (e.g., flexibility, communication, provision of information, etc.)? Could you explain why? Any other dimensions which were not included?

Communication certainly a factor on which we differ as discussed earlier. The provision of information is also very important, and Janssen has a much more structured approach to this (standards concerning the manner of delivery and recording). The Janssen team refers to this a lot. They like to follow the laws on paper instead of

thinking for themselves. Everything follows the protocols of the company, which is also somewhat logical given the industry in which they operate.

Q8: How would you define project success (organizational-wise and project-wise)?
Project success: If the project is completed in accordance with the agreed framework (time, quality, budget). In addition, as little disruption as possible for the customer/users during implementation. An end result that not only the customer and end user are happy with. Customer and end user are not always the same parties. And in addition, the process that we have gone through with both the internal and external team. Running well and smoothly is very important to me personally.
Organizational project success: If the project is completed in accordance with the agreed framework (time, quality, budget). And also a satisfied client.

Q9: Are there in your opinion clear areas to improve the long-term relationship between RHDHV and the client? Why these?
There is always room for improvement and in this case there is. What you see with us is that we have a site-based team with next to it a similar team (equals) from Janssen that we are in contact with. Above this is the site-based team manager, and above that someone who has final responsibility for the account. Everyone here has meetings with their counterpart to discuss crucial issues. This is very useful (good structure) because then you can always escalate if necessary. On the other hand, what is interesting is when people are fed from another way which then trickles back down. This causes you to have to verify that this is correct and to see if everyone is correctly informed about this remains on the current state of affairs. In terms of Covid, this is very difficult because they (DAG and site-based team manager) are super involved but don't get everything. Annoying when people are not aware of everything. However, we have executed more than 500 projects (large and small projects) at Janssen last year. So, it is sometimes logical that not everyone is up to speed on everything that is going on. Within a site-based team where many projects are carried out, there are many issues at play and informal lines of communication can arise. Maintaining the communication structure is of added value. The challenge is to always be aware of what is going on in the many projects being carried out.
It is also difficult to spread the workload in a program so that the team stays busy and does not lose members over a period of time. The Janssen knowledge is very important during these projects. Retaining people is very useful for both parties. Janssen has its own protocols that new employees have to learn. As a result, the workload must be reasonably constant. Forecast planning is very important during programs.

Q10: When the current project comes to its end, would you still like to be involved in future projects with this client or not? Could you describe why?

- **May be respondent is ready for a new challenge on a different project. Or is the person no longer willing to work together with the client after this project. Give interviewee space to answer.**

No longer full-time (Started part-time). Also, back to RHDHV office since I am now only on side-based team. I don't want to lose the feeling with the RHDHV office completely. But would really like to keep working with the client. The advantage of side-based team is that you know the project members very well, both the internal and external Janssen team. Nice environment to work in.
Include team viability in the tool? Definitely add it to the tool! Seems interesting to me. Example: There are people within the program who have been working for it for 8 years and people who say after 3 months this is not for me. Janssen is a demanding client. They ask a lot of you, and after all, you are in the same building. Clients and contractors also drop by often enough. Nice addition to the tool, but this can be tricky, keep an eye on it.

<u>(20 min)</u> Finally, questions are asked regarding the tool and its use.
Q11: I will now briefly explain how to use the tool. Based on your experience, when would you deploy this tool on any of RHDHV's current or future projects? What kind of projects (long-term or short-term projects)? Existing or new clients?
I would definitely use it on projects. It is very useful to know in advance how an organization operates, background knowledge. This allows you to act better and improve cooperation if you have more insight into this. The tool has more value if the follow-up actions are indeed visible. Values are interesting, but the follow-up actions are very useful. This makes it even more usable.
Certainly, useful for future projects. It can also be useful for current projects, but this requires some research whether it is necessary to use it and in what way because you are already familiar with each other (how to

launch?). It is almost a missed opportunity not to do it because it gives a lot of insight into the way the customer works (background information).
Short term or long term? > Useful for both small and large projects. Small effort to fill in the tool (15-20 min).

Q12: The tool is now fully based on two frameworks that have been extensively tested in academic studies. What kind of dimensions should be added in your opinion so that the tool generates more (practical) value for RHDHV and its clients? Or removed?
Follow-up actions very useful when added. What needs to be improved? How to deal with this? These actions make it easy to use.
Add colors so the tool is clearer. Uniformity in the colors.
Nice to see that the actions of the project manager are very small.
Protect cells that do not need to be changed. Only open the cells that the project manager can create.

Q13: During this research, as you may already know, I've had problems putting the survey out to Amazon because the research is not a priority right now. When would the client be more willing to cooperate? Or: How could we address this topic to be more successful in getting Client response?

- **Do you have an idea for a better chance of success? Could you describe why? (e.g. project manager instead of graduate intern)**
- **Customer cooperation is, of course, an important aspect of using the tool. What do you think of the questions asked in the survey? Which questions or aspects in the tool would you change? Why would you change those? (e.g. sensitivity of questions, timing of putting out to the customer, type of customer etc.)**

The problem now is that it is a thesis research (pilot) and soon it will really be a product that can be used on projects. Perhaps that is underutilized now because it is still a thesis research. Once it is a product it is more tangible and attractive to use.
Great chance of success if PM, does it?
I do expect this to have a greater chance of success then indeed.
Collaboration with the customer?
Sensitivity of the questions not really noticed. So, I expect not.
Timing of deployment?
Initial phase very useful. Scanning period is very useful, I think. Periodic also definitely possible.
*In addition, I think it is also useful to have the tool deployed by someone other than a PM who is a bit more outside of it (well RHDHV). Someone who might facilitate this. The advantage of this is that you make it more impartial. This may make it come across differently to both the client and RHDHV. Anonymity can also be more guaranteed by this.

*Super interesting research. Nice to see that you are doing this with us and to see that we are working on this as a company. The softer side of project collaboration.

Project Manager RHDHV (1)

(5 min) The first questions presented to the interviewee will be designed in such a way to become familiar with each other and get the conversation started (this information will not be included in the thesis due to anonymity):

Q1: Background, role within the project and RHDHV experience.

Q2: How long have you been involved in this project?

Q3: What experience do you have in similar projects (with same client and/or project type)?

** Personal information not included due to privacy of interviewee. Key project aspects discussed during the intro that are useful for the results of this interview are listed below.*

(20 min) After which, the questions are set to validate the results of the literature review and survey research.

Q4: Could you describe in a couple of sentences the current organizational culture prevailing at RHDHV? Main characteristics? What change have you experienced in the last couple of years?

RHDHV is a modern engineering firm with an eye for the client. We like to help the client in all kinds of ways and are businesslike (where are the opportunities and where not). In addition, we like to work on good and large projects and are very creative in this.

What are the most important changes of recent times?

We have made a lot of acquisitions recently in order to be more broadly based with additional services. Also, the company has been getting a lot of promotion in the media lately which is of course positive for both the organization and recognition for the employees.

Q5: How would you describe (or how do you experience) the organizational culture prevailing at the Client?

Amazon is a young and dynamic company (25 years old). They actively focus on growing, growing and growing again. Still a start-up atmosphere as it was 25 years ago (preserved) when Jeff Bezos started his company. Everything that is proposed or suggested within the company is taken seriously and examined to see if there is a chance of success. If it fails, it is unfortunate but then they just go on to something else. It is also very important to think big within the company (one of the fourteen principles). There is an enormous drive for expansion within the company worldwide, which we at RHDHV see reflected in the making of the templates. Amazon is very wealthy so mistakes can be afforded. Black Friday, for example, is critical! Many logistics centers must be ready by then. The errors that are made will be corrected afterwards. Start-up mentality can be seen everywhere. Everything must happen quickly, and the 'can do' mentality is emphatically used. This is where they are very successful.

Q6: In your experience, what do you think are the main cultural differences that clash on the project? Were these visible at the beginning of the project or only later?

Amazon wants to go very fast and are constantly changing (in a hurry and sometimes too quickly). They do not think carefully about certain aspects in advance (e.g. design requirements). Frequent changes that are not well thought out in advance by the client create friction with the RHDHV team (constantly making changes).
Hierarchy culture Amazon project: I can certainly agree, however this is in contradiction with the start-up culture of course (flat with short communication lines).

Q8: How would you define project success (organizational-wise and project-wise)?

Project level: sanitary conditions (budget, time etc.), customer satisfaction, team functioning (satisfied feeling of the team). These three aspects an OK must stand behind to call it a success in my eyes. Not one or two of the three but all of them.
Organizational level: 1. completed within budget 2. Customer satisfaction, additional work taken on (Team satisfaction is not really included here, only looked at later).

(20 min) Finally, questions are asked regarding the tool and its use.

**Comments during the explanation on how to use the tool.*

- Make it visually appealing, fairly boring how it looks now.
- Introduction page, what is important here? Where should I start reading? Hyperlinks and steps with arrows. I am looking for that I can see at a glance what we are going to do with the tool.
- Risk with pasting the cells into the input pages. Weakness of the tool. This can potentially go wrong. Make this clear somewhere.

- Good that you thought about putting the management of the whole tool with the PM anyway. This makes him all accountable. There are easy tools (like SurveyMonkey) for this kind of questions, but then indeed more people need to be involved.
- Indicate that the project team is from RHDHV, and the same customer project team. It is not about the whole organization but the project teams.
- Good idea to use RHDHV colors.
- Interesting and impressive to see how you set up the tool. Must have been a lot of work in it.

Q11: I will now briefly explain how to use the tool. Based on your experience, when would you deploy this tool on any of RHDHV's current or future projects? What kind of projects (long-term or short-term projects)? Existing or new clients?
I can definitely see applying the tool as PM when the tool is deployable. It does need to be a bit more user friendly. In doing so, in my opinion, only use it for long-term projects.
The beauty of the tool is that you can use it at any time, so we are not dependent on that. Repeating can always be easy (1-year for example). The tool is both usable for existing and new customers. Time to complete (plus minus 15 minutes) questionnaire is good and not too long for both internal and external employees.
OPTION: Put the tool into use on one of the new projects within RHDHV.

Q12: The tool is now fully based on two frameworks that have been extensively tested in academic studies. What kind of dimensions should be added in your opinion so that the tool generates more (practical) value for RHDHV and its clients? Or removed?
The tool should be visually appealing. Furthermore, the tool should look good. Make sure it is easy to use for both the respondent and the PM.

Q13: During this research, as you may already know, I've had problems putting the survey out to Amazon because the research is not a priority right now. When would the client be more willing to cooperate? Or: How could we address this topic to be more successful in getting Client response?

a. **Do you have an idea for a better chance of success? Could you describe why? (e.g. project manager instead of graduate intern)**
b. **Customer cooperation is, of course, an important aspect of using the tool. What do you think of the questions asked in the survey? Which questions or aspects in the tool would you change? Why would you change those? (e.g. sensitivity of questions, timing of putting out to the customer, type of customer etc.)**

- In my opinion, the tool can only be deployed after commissioning. There must be some kind of relationship already formed in order to deploy the tool. The atmosphere that exists between the two parties is important here.
- It does not matter who uses the tool (PM or graduate). What matters is that the tool is used properly in the relationship and that there is communication about this. 1-year (periodic) deployment (max 1x per half year).
- We need to bring the customer into this and convince them to fill out the questionnaire. You have hit a bad example with Amazon, because unfortunately they do not prioritize the survey. This is probably due to the chaotic corporate culture there. With the use of the tool, you do appeal to the goodwill of the customer. We as RHDHV have to convince them of the added value for both parties.
- Anonymity is no longer guaranteed when the Excel questionnaire is sent to potential respondents. However, I do not see a problem with that. Judging by the questions, they do not pose any problems.

Project Manager RHDHV (2)

(5 min) The first questions presented to the interviewee will be designed in such a way to become familiar with each other and get the conversation started (this information will not be included in the thesis due to anonymity):

Q1: Background, role within the project and RHDHV experience.

Q2: How long have you been involved in this project?

Q3: What experience do you have in similar projects (with same client and/or project type)?

** Personal information not included due to privacy of interviewee. Key project aspects discussed during the intro that are useful for the results of this interview are listed below.*

(20 min) After which, the questions are set to validate the results of the literature review and survey research.

Q4: Could you describe in a couple of sentences the current organizational culture prevailing at RHDHV? Main characteristics? What change have you experienced in the last couple of years?

I see the current organizational culture as dual. On the one hand, the organization is strongly focused on making profit and occupancy rate on projects (excel organization). Everyone within RHDHV must be billable and thereby generate money for the company. On the other hand, we are growing and changing into an organization that takes care of its people, becomes more social towards clients and its own employees in the cooperation. Where we clearly realize that we need to work better together across the boundaries of our own business lines. I can only applaud this. Empowering our own people so that we can excel optimally. We are investing in the future. There is also a really good focus here (e.g. digital and the investments aimed at those kinds of aspects).

Q8: How would **you define project success (organizational-wise and project-wise)?**

Project success: Being able to finish a project in a good way, in harmony with my client and having a good relationship with each other. Pleasant cooperation with occasional friendliness but also hard work. In doing so, I achieve a good result for the client. In particular, that it can be used for the purpose for which it is intended (suitable for use). Afterwards the client should not have to work to fit it into the organization. Right at the end of the project this should be done.

Organizational project success: First of all, the project must be financially profitable. In the past I have not really noticed if my or other employee's satisfaction matters. Word of mouth is currently being used to bring this out more (employee satisfaction). Employee satisfaction is also important to grow together as a company. New objective is also to grow with the projects. The projects must also maintain a good customer relationship. They must be satisfied with the way of working and the result we as RHDHV deliver. I find it important that not only the project runs smoothly but also that I as PM and my colleagues in my team feel good in their place within the project.

(20 min) Finally, questions are asked regarding the tool and its use.

*Previously during the explanation of the tool: I have gone through the principle of the tool and would like to give some feedback:

- Make the purpose of the tool clear at the beginning (first page), the user should see the importance of the tool.
- Nice to see that you describe the questionnaire to a numerical whole. Have someone check this so that no wrong results are sent to a client.
- Make a clear instruction of the pasting (Column C), this is a potential risk of the tool when colleagues are not so familiar with Excel. Where are the resistances of the colleagues who will use the tool?
- Give Input fields a separate color
- Table style light/dark with respect to color use (easy to read for the user, visual orientation).
- Excel-online an option to fill in his or her scores? Stijn: This allows people to see each other's results which may create a one-sided view.
- Collaboration on customer level (account level, they can judge to use the tool)

Q11: I will now briefly explain how to use the tool. Based on your experience, when would you deploy this tool on any of RHDHV's current or future projects? What kind of projects (long-term or short-term projects)? Existing or new clients?

Personal answer is immediately yes, because you want to go straight to a good cooperation with the customer and this can work as an advantage at a later stage. On the other hand, the doubt is there because during the start-up phase you are busy setting up the project. Time is usually limited. Using this tool may then be less of a

priority. While at a later stage it can be very useful and then you wish you had used the tool. Personally, I sometimes tend to skip these kinds of things when I'm busy.
Future or current projects?
Any new phase of a project would be a potentially appropriate time to deploy the tool. However, this does depend on the client. You may need to have someone on the client side who is enthusiastic about this.
Where does the tool have the most opportunity?
I think especially with project managers who are positive about using the tool. And in addition, you want to encourage long-term collaboration from the customer so maybe look at the account level. This is where I think the chances of success are higher than at the working level. At the working level, we all have our own interests, and the common interest of cooperation may be difficult to implement here because you are often discussing things with each other. The work tension can then linger (this also depends on the individuals, of course). For this purpose, use the tool at an early stage and then perhaps have it come back periodically.
*Make it part of the start-up meeting of a project?

Q12: The tool is now fully based on two frameworks that have been extensively tested in academic studies. What kind of dimensions should be added in your opinion so that the tool generates more (practical) value for RHDHV and its clients? Or removed?
Put focus on that the outcomes are indicated in an easy way. Cockpit and/or dashboard model must be clear to the user. Translate this to your tool. The project manager should be able to see results immediately without too much work. There should be short and clear measures for the project manager to apply within the project. Can be one simple sentence that gets the project manager thinking or working. Formulate a recommendation for the PM. By doing this you will see an immediate result. Getting the data from respondents should be able to be turned into 5 to 10 minutes.

Q13: During this research, as you may already know, I've had problems putting the survey out to Amazon because the research is not a priority right now. When would the client be more willing to cooperate? Or: How could we address this topic to be more successful in getting Client response?

- **Do you have an idea for a better chance of success? Could you describe why? (e.g. project manager instead of graduate intern)**
- **Customer cooperation is, of course, an important aspect of using the tool. What do you think of the questions asked in the survey? Which questions or aspects in the tool would you change? Why would you change those? (e.g. sensitivity of questions, timing of putting out to the customer, type of customer etc.)**

Amazon may have been the wrong example perhaps. You want to use your tool precisely in complex projects. However, the failure rate of the tool here is also the highest for a tool like this (you can see it as being in a difficult market). There are many projects within RHDHV that can use a tool like this during the initial phase of projects. In the initial phase there are no sentiments yet and then you have to start forging the cooperation. Deploy at the account level so that it can be pushed through at the work level. When the teams are known, and you are a bit busy then the account manager and the representative of the customer can deploy the tool. They have to agree together and want to go for it to get their own teams into the optimal collaboration state. You have to create the desire. The project managers can carry this as well. The results must be visible quickly to the PM but also the respondents must be informed of the outcome.

Important to keep in mind is that the tool might have less chance of success with parties whose team comes entirely from a geopolitical culture (think Pallas, Argentine team). They have their own working method and we as RHDHV just have to adapt to it. The account manager or someone who is highly involved in making the quotation can judge well in advance whether this tool has a chance of succeeding with the customer. Perhaps you can also link the tool to the Tier-level of project managers (A-B-C). This might be the stage for using the tool. The tool should be a tool for the human component.

*Tool looks good overall and definitely worthy of RHDHV and for graduation. Think of my feedback as a brainstorming session. And the feedback you get from everyone are useful but at some point, it is also what it is and then it is done.

RESULTS Organizational Culture Assessment Instrument (OCAI)

Organizational Culture Profile

RHDHV					#CLIENT NAME				
	Mean	SD	Min	Max		Mean	SD	Min	Max
Clan	3,42	0,64	2	4	Clan	3,60	0,82	1	5
Adhocracy	3,36	0,81	1	5	Adhocracy	3,13	0,88	1	5
Market	2,83	0,85	1	5	Market	2,83	0,85	1	5
Hierarchy	3,50	0,71	1	5	Hierarchy	3,27	0,91	1	5

Organizational Culture Profile		RHDHV	#CLIENT NAME
Clan	Clan culture is like a family where organizational members are open to each other and team performance is more important than individual performance. The long-term vision of the organization focusses on education and growth of its members and values like commitment, empowerment, participation and loyalty are highly important. Employees stimulate each other in their growth potentials and customer are seen as partners of the organization.	3,42	3,60
Adhocracy	Adhocracy culture is an innovative environment, which creates a dynamic, flexible and creative organization. Organization members are encouraged to take risks, which stimulates innovative behavior and experiments. The long-term vision of this culture put emphasis on rapid growth and acquiring new resources needed for succeeding. Values like risk taking, individuality and future anticipation are important, and success is measured through producing unique and original products.	3,36	3,13
Market	Market culture can be described as a goal- or result-oriented workplace and external partners are of utter importance. The organization members strive to win, which implicates their core values of competitiveness and productivity. The organization focusses on profitability, return on investment and an established customer base. Staying ahead of the competition is of great importance, in doing so, the leaders of the organization are demanding of their employees.	2,83	2,83
Hierarchy	Hierarchy culture can be described as a formalized and structured work environment. The organization is led by procedures, formal rules and policies for smooth running of operations. Long-term goals of this culture type are stability, predictability and efficiency. Leadership is characterized by coordinating their employees and organize operation of the organization.	3,50	3,27

*NOTE: Green is the most common culture type of the organization and red the least common.

Question 1 Dominant Characteristics

RHDHV					#CLIENT NAME				
	Mean	SD	Min	Max		Mean	SD	Min	Max
Clan	3,17	0,98	2	4	Clan	3,60	0,84	2	5
Adhocracy	3,00	0,89	2	4	Adhocracy	3,70	0,95	2	5
Market	3,50	0,55	3	4	Market	3,10	0,99	1	4
Hierarchy	3,00	0,63	2	4	Hierarchy	3,30	1,16	1	5

Question 2 Organizational Leadership

RHDHV					#CLIENT NAME				
	Mean	SD	Min	Max		Mean	SD	Min	Max
Clan	3,00	0,89	2	4	Clan	3,50	1,08	1	4
Adhocracy	3,33	0,82	2	4	Adhocracy	2,90	0,74	2	4
Market	2,00	0,89	1	3	Market	2,60	1,07	1	5
Hierarchy	3,50	0,84	2	4	Hierarchy	3,20	0,79	2	4

Question 3 Management of Employees

RHDHV					#CLIENT NAME				
	Mean	SD	Min	Max		Mean	SD	Min	Max
Clan	4,00	0,00	4	4	Clan	3,80	0,92	2	5
Adhocracy	2,50	1,05	1	4	Adhocracy	2,90	0,88	2	4
Market	2,83	0,98	1	4	Market	2,70	0,67	2	4
Hierarchy	3,33	1,21	1	4	Hierarchy	3,30	0,82	2	4

Question 4 Organizational Glue

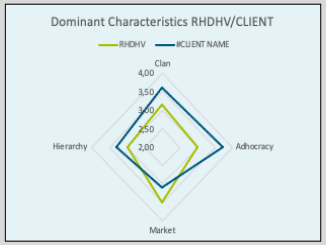
RHDHV					#CLIENT NAME				
	Mean	SD	Min	Max		Mean	SD	Min	Max
Clan	3,67	0,82	2	4	Clan	3,80	0,63	3	5
Adhocracy	3,67	0,52	3	4	Adhocracy	3,10	1,20	1	4
Market	2,17	0,98	1	3	Market	2,90	0,88	1	4
Hierarchy	3,33	0,52	3	4	Hierarchy	3,00	0,82	2	4

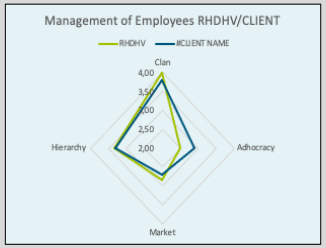
Question 5 Strategic Emphases

RHDHV					#CLIENT NAME				
	Mean	SD	Min	Max		Mean	SD	Min	Max
Clan	3,67	0,52	3	4	Clan	3,60	0,52	3	4
Adhocracy	3,83	0,41	3	4	Adhocracy	3,50	0,71	2	4
Market	3,00	0,63	2	4	Market	2,90	0,57	2	4
Hierarchy	3,83	0,41	3	4	Hierarchy	3,80	0,79	2	5

Question 6 Criteria of Success

RHDHV					#CLIENT NAME				
	Mean	SD	Min	Max		Mean	SD	Min	Max
Clan	3,00	0,63	2	4	Clan	3,30	0,95	2	4
Adhocracy	3,83	1,17	2	5	Adhocracy	2,70	0,82	2	4
Market	3,50	1,05	2	5	Market	2,80	0,92	1	4
Hierarchy	4,00	0,63	3	5	Hierarchy	3,00	1,05	1	4





RESULTS Perceptual Distance Monitor (PDM)

RHDHV

Question 7 Satisfaction with project objectives

I am satisfied with the agreements we made with #CLIENT NAME regarding:

Item	Question	Mean	SD	Variance	Min	Max
25	Budget	3,00	1,26	1,60	2	5
26	Planning	2,83	0,98	0,97	2	4
27	Quality standards	3,33	0,82	0,67	2	4
28	Sustainability	3,67	1,03	1,07	2	5
29	The use of innovative techniques, processes and products	4,17	0,41	0,17	4	5

*Number of item: 5

*NOTE: numbers in red might need attention

Question 8 Competence #CLIENT NAME Project team

The team members at #CLIENT NAME:

Item	Question	Mean	SD	Variance	Min	Max
30	Have the technical expertise required for the project	3,33	0,82	0,67	2	4
31	Work well together in a (multidisciplinary) team	3,17	0,75	0,57	2	4
32	Communicate clearly	2,83	0,75	0,57	2	4
33	Are convincing and assertive	4,00	0,00	0,00	4	4
34	Show great empathic ability	3,17	0,75	0,57	2	4
35	Are good at handling complexity	3,67	0,82	0,67	3	5

*Number of item: 6

Question 9 Competence RHDHV Project team

The team members at RHDHV:

Item	Question	Mean	SD	Variance	Min	Max
36	Have the technical expertise required for the project	4,17	0,41	0,17	4	5
37	Work well together in a (multidisciplinary) team	4,00	0,63	0,40	3	5
38	Communicate clearly	3,33	0,82	0,67	2	4
39	Are convincing and assertive	3,67	0,82	0,67	3	5
40	Effectively translate the principal's requirements into technological solutions	4,00	0,00	0,00	4	4
41	Are good at handling complexity	4,00	0,63	0,40	3	5

*Number of item: 6

#CLIENT NAME

Question 7 Satisfaction with project objectives

I am satisfied with the agreements we made with RHDHV regarding:

Item	Question	Mean	SD	Variance	Min	Max	Total PD	Cronbach alpha	
							0,26	0,5	
25	Budget	3,50	0,97	0,94	1	4	PD per item: 0,24	Sum items variance: 1,16	Variance of total scores:
26	Planning	3,30	0,82	0,68	2	4	0,25	0,78	
27	Quality standards	3,40	1,17	1,38	1	5	0,03	1,05	
28	Sustainability	3,50	0,85	0,72	2	5	0,09	0,80	
29	The use of innovative techniques, processes and products	2,70	1,34	1,79	1	5	0,70	1,67	
								5,46	9,05

Question 8 Competence #CLIENT NAME Project team

The team members at #CLIENT NAME:

Item	Question	Mean	SD	Variance	Min	Max	Total PD	Cronbach alpha	
							0,19	0,84	
30	Have the technical expertise required for the project	3,60	1,17	1,38	1	5	PD per item: 0,13	Sum items variance: 1,07	Variance of total scores:
31	Work well together in a (multidisciplinary) team	3,60	1,17	1,38	1	5	0,21	1,06	
32	Communicate clearly	3,10	1,29	1,66	1	5	0,13	1,20	
33	Are convincing and assertive	3,10	0,99	0,99	1	4	0,50	0,80	
34	Show great empathic ability	3,30	0,95	0,90	1	4	0,07	0,73	
35	Are good at handling complexity	3,40	1,26	1,60	1	5	0,13	1,20	
								6,06	20,12

Question 9 Competence RHDHV Project team

The team members at RHDHV:

Item	Question	Mean	SD	Variance	Min	Max	Total PD	Cronbach alpha	
							0,14	0,91	
36	Have the technical expertise required for the project	3,60	1,26	1,60	1	5	PD per item: 0,28	Sum items variance: 1,10	Variance of total scores:
37	Work well together in a (multidisciplinary) team	3,80	1,03	1,07	2	5	0,10	0,78	
38	Communicate clearly	3,50	1,08	1,17	1	5	0,08	0,93	
39	Are convincing and assertive	3,70	0,67	0,46	3	5	0,02	0,50	
40	Effectively translate the principal's requirements into technological solutions	3,60	1,07	1,16	1	5	0,21	0,73	
41	Are good at handling complexity	3,70	0,95	0,90	2	5	0,16	0,70	
								4,73	19,45

Question 10 Management style						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
42	Informal organization	3,17	0,75	0,57	2	4
43	Decision-making (consensus vs. authoritarian)	3,50	0,84	0,70	2	4
44	Communication (formal vs. informal)	3,83	0,98	0,97	2	5
45	Concrete desicions made	4,00	0,63	0,40	3	5

*Number of item: 4

Question 10 Management style						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
42	Informal organization	3,70	0,67	0,46	2	4
43	Decision-making (consensus vs. authoritarian)	3,40	0,52	0,27	3	4
44	Communication (formal vs. informal)	3,30	0,67	0,46	2	4
45	Concrete desicions made	3,60	0,52	0,27	3	4

Total PD	*Cronbach alpha*	
0,23	0,38	
PD per item	*Sum items variance*	*Variance of total scores*
0,31	0,53	
0,06	0,40	
0,30	0,67	
0,26	0,33	
	1,93	2,70

Question 11 Information exchange						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
46	Both provide proprietary information	3,83	0,75	0,57	3	5
47	Informed on events and changes	3,50	0,84	0,70	2	4
48	Information shared willingly	4,00	0,63	0,40	3	5
49	Each provide proprietary information	3,83	0,41	0,17	3	4

*Number of item: 4

Question 11 Information exchange						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
46	Both provide proprietary information	3,70	0,67	0,46	2	4
47	Informed on events and changes	3,70	0,67	0,46	2	4
48	Information shared willingly	3,60	0,70	0,49	2	4
49	Each provide proprietary information	3,70	0,67	0,46	2	4

Total PD	*Cronbach alpha*	
0,13	0,76	
PD per item	*Sum items variance*	*Variance of total scores*
0,08	0,47	
0,12	0,52	
0,24	0,47	
0,08	0,33	
	1,78	4,12

Question 12 RHDHV internal task routines						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
50	Focus of employees	4,00	0,00	0,00	4	4
51	Work ethic	3,50	0,84	0,70	2	4
52	Individual descisions	3,67	0,82	0,67	3	5
53	Teamwork and cooperation	4,17	0,41	0,17	4	5

*Number of item: 4

Question 12 RHDHV interal task routines						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
50	Focus of employees	3,20	0,92	0,84	2	4
51	Work ethic	3,50	1,08	1,17	1	4
52	Individual descisions	3,80	0,42	0,18	3	4
53	Teamwork and cooperation	3,80	0,42	0,18	3	4

Total PD	*Cronbach alpha*	
0,20	0,59	
PD per item	*Sum items variance*	*Variance of total scores*
0,46	0,67	
0,00	0,93	
0,08	0,33	
0,26	0,20	
	2,13	3,83

Question 13 RHDHV organizational responsiveness						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
54	Attitude problem solving	4,00	0,00	0,00	4	4
55	Open-minded and creativeness	3,50	0,55	0,30	3	4
56	Respond to changes and opportunities	3,83	0,75	0,57	3	5

*Number of item: 3

Question 13 RHDHV organiztional responsiveness						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
54	Attitude problem solving	4,10	0,32	0,10	4	5
55	Open-minded and creativeness	3,90	0,57	0,32	3	5
56	Respond to changes and opportunities	3,70	0,95	0,90	2	5

Total PD	*Cronbach alpha*	
0,14	0,70	
PD per item	*Sum items variance*	*Variance of total scores*
0,08	0,06	
0,26	0,33	
0,07	0,73	
	1,13	2,13

Question 14 Flexibility						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
57	Unexpected situations	4,00	0,63	0,40	3	5
58	Adjust relationship	4,17	0,41	0,17	4	5
59	Unexpected events	3,33	1,21	1,47	2	5
60	Flexibility requests	3,83	0,75	0,57	3	5

*Number of item: 4

Question 14 Flexibility						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
57	Unexpected situations	3,60	1,07	1,16	1	5
58	Adjust relationship	3,50	0,97	0,94	1	4
59	Unexpected events	3,50	1,08	1,17	1	5
60	Flexibility requests	3,70	0,82	0,68	2	5

Total PD	*Cronbach alpha*	
0,18	0,89	
PD per item	*Sum items variance*	*Variance of total scores*
0,21	0,87	
0,37	0,73	
0,08	1,20	
0,07	0,60	
	3,40	10,23

Question 15 Solidarity						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
61	Problems joint responsibility	3,00	1,26	1,60	2	5
62	Improvements shared jointly	4,17	0,41	0,17	4	5
63	Problems one party / shared *	2,50	0,55	0,30	2	3
64	Relationship shared jointly	3,00	0,89	0,80	2	4

*Number of item: 4

Note: * Items marked with an asterisk are reversed in the scale

Question 15 Solidarity						
Item	*Question*	*Mean*	*SD*	*Variance*	*Min*	*Max*
61	Problems joint responsibility	3,20	1,03	1,07	1	4
62	Improvements shared jointly	3,60	0,97	0,93	1	4
63	Problems one party / shared *	2,80	0,92	0,84	2	4
64	Relationship shared jointly	3,10	1,20	1,43	1	4

Total PD	*Cronbach alpha*	
0,16	0,68	
PD per item	*Sum items variance*	*Variance of total scores*
0,09	1,18	
0,31	0,70	
0,17	0,63	
0,05	1,13	
	3,64	7,43

Question 16 Project performance

Item	Question	Mean	SD	Variance	Min	Max
65	Cost/budget *	3,50	0,55	0,30	3	4
66	Duration/planning *	3,50	0,55	0,30	3	4
67	Quality/expectations	3,50	0,55	0,30	3	4
68	Sustainability/expectations	3,00	0,63	0,40	2	4
69	Quality/expectations	3,00	0,63	0,40	2	4

*Number of item 5

Note: * Items marked with an asterisk are reversed in the scale

Question 16 Project performance

Item	Question	Mean	SD	Variance	Min	Max
65	Cost/budget *	3,00	0,47	0,22	2	4
66	Duration/planning *	3,70	0,67	0,46	3	5
67	Quality/expectations	3,00	0,82	0,67	1	4
68	Sustainability/expectations	2,80	0,63	0,40	1	3
69	Quality/expectations	2,80	0,63	0,40	1	3

Total PD	Cronbach alpha	
0,20	0,67	
PD per item	Sum items variance	Variance of total scores
0,33	0,30	
0,12	0,38	
0,29	0,56	
0,12	0,38	
0,12	0,38	
	2,01	4,33

Question 17 Trust

Item	Question	Mean	SD	Variance	Min	Max
70	Promises partner	3,67	0,52	0,27	3	4
71	Advice partner	3,00	0,63	0,40	2	4
72	Patner's welfare (major decisions)	3,83	0,75	0,57	3	5
73	Support partner	3,50	0,55	0,30	3	4

*Number of item 4

Question 17 Trust

Item	Question	Mean	SD	Variance	Min	Max
70	Promises partner	3,30	1,06	1,12	1	4
71	Advice partner	3,30	0,95	0,90	1	4
72	Patner's welfare (major decisions)	3,60	0,70	0,49	2	4
73	Support partner	3,40	0,70	0,49	2	4

Total PD	Cronbach alpha	
0,14	0,80	
PD per item	Sum items variance	Variance of total scores
0,19	0,80	
0,16	0,70	
0,14	0,50	
0,06	0,40	
	2,38	5,93

Question 18 Importance performance criteria #CLIENT NAME

Item	Question	Mean	SD	Variance	Min	Max
74	Costs	3,17	1,33	1,77	1	5
75	Planning	1,50	0,55	0,30	1	2
76	Quality	2,00	1,10	1,20	1	4
77	Sustainability	4,17	0,75	0,57	3	5
78	Innovation	4,17	0,98	0,97	3	5

NOTE: Scale: 1 = Most important to 5 = Least important

Question 18 Importance performance criteria #CLIENT NAME

Item	Question	Mean	SD	Variance	Min	Max
74	Costs	2,40	1,07	1,16	1	5
75	Planning	2,50	1,27	1,61	1	5
76	Quality	1,80	1,40	1,96	1	5
77	Sustainability	4,00	0,47	0,22	3	5
78	Innovation	4,30	0,95	0,90	3	5

Total PD
0,22
PD per item
0,35
0,48
0,09
0,10
0,07

Question 19 Importance performance criteria RHDHV

Item	Question	Mean	SD	Variance	Min	Max
79	Costs	2,17	1,17	1,37	1	4
80	Planning	2,50	1,52	2,30	1	5
81	Quality	2,33	1,03	1,07	1	4
82	Sustainability	4,50	0,84	0,70	3	5
83	Innovation	3,50	1,38	1,90	1	5

Question 19 Importance performance criteria RHDHV

Item	Question	Mean	SD	Variance	Min	Max
79	Costs	2,00	0,94	0,89	1	4
80	Planning	2,90	1,20	1,43	1	5
81	Quality	2,10	1,37	1,88	1	5
82	Sustainability	3,90	0,99	0,99	2	5
83	Innovation	4,10	1,29	1,66	1	5

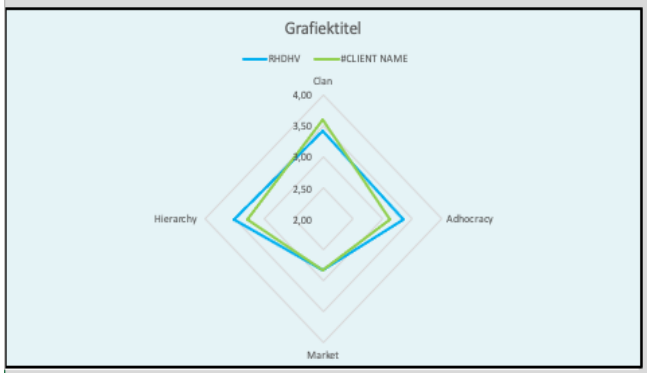
Total PD
0,19
PD per item
0,08
0,17
0,10
0,31
0,26

DASHBOARD - COLLABORATION TOOL

RESULTS Organizational Culture Assessment Instrument (OCAI)

Organizational culture profile	RHDHV				
Item	*Question*	*Clan*	*Adhocracy*	*Market*	*Hierarchy*
1	Dominant Characteristics	3,17	3,00	3,50	3,00
2	Organizational Leadership	3,00	3,33	2,00	3,50
3	Management of Employees	4,00	2,50	2,83	3,33
4	Organizational Glue	3,67	3,67	2,17	3,33
5	Strategic Emphases	3,67	3,83	3,00	3,83
6	Criteria of Success	3,00	3,83	3,50	4,00
	Total	3,42	3,36	2,83	3,50

Organizational culture profile	#CLIENT NAME				
Item	*Question*	*Clan*	*Adhocracy*	*Market*	*Hierarchy*
1	Dominant Characteristics	3,60	3,70	3,10	3,30
2	Organizational Leadership	3,50	2,90	2,60	3,20
3	Management of Employees	3,80	2,90	2,70	3,30
4	Organizational Glue	3,80	3,10	2,90	3,00
5	Strategic Emphases	3,60	3,50	2,90	3,80
6	Criteria of Success	3,30	2,70	2,80	3,00
	Total	3,60	3,13	2,83	3,27



Most prevalent cultural style			
	RHDHV	*CLIENT*	*Hyperlinks to Tab "11. FOLLOW UP ACTIONS"*
Clan	3,42	3,60	Follow-up steps
Adhocracy	3,36	3,13	Follow-up steps
Market	2,83	2,83	Follow-up steps
Hierarchy	3,50	3,27	Follow-up steps

	Clan	*Adhocracy*	*Market*	*Hierarchy*
1. Dominant Characteristics	The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves. 3,17 3,60	The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks. 3,00 **3,70**	The organization is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement-oriented. **3,50** 3,10	The organization is a very controlled and structured place. Formal procedures generally govern what people do. 3,00 3,30
2. Organizational Leadership	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing. 3,00 **3,50**	The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking. 3,33 2,90	The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus. 2,00 2,60	The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency. **3,50** 3,20
3. Management of Employees	The management style in the organization is characterized by teamwork, consensus, and participation. **4,00** **3,80**	The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness. 2,50 2,90	The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement. 2,83 2,70	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships. 3,33 3,30
4. Organizational Glue	The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high. **3,67** **3,80**	The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge. **3,67** 3,10	The glue that holds the organization together is the emphasis on achievement and goal accomplishment. 2,17 2,90	The glue that holds the organization together is formal rules and policies. Maintaining a smooth-running organization is important. 3,33 3,00
5. Strategic Emphases	The organization emphasizes human development. High trust, openness, and participation persist. 3,67 3,60	The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued. **3,83** 3,50	The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant. 3,00 2,90	The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important. **3,83** **3,80**
6. Criteria of Success	The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people. 3,00 **3,30**	The organization defines success on the basis of having the most unique or newest products. It is a product leader and innovator. 3,83 2,70	The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key. 3,50 2,80	The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical. **4,00** 3,00
Total OC profile	3,42 **3,60**	3,36 3,13	2,83 2,83	**3,50** 3,27

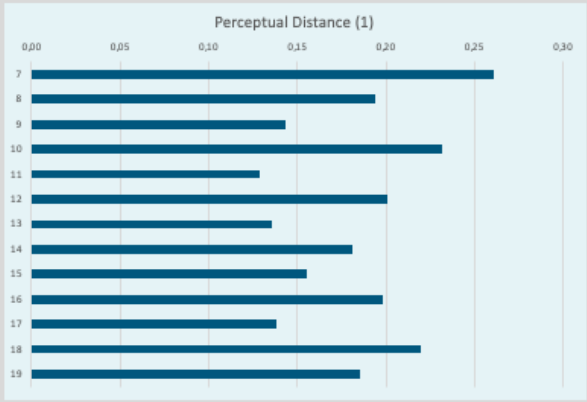
RESULTS Perceptual Distance Monitor (PDM)

Item	Question	PD	SD	Min	Max	CA	IC
7	Satisfaction with project objectives	0,26	0,26	0,03	0,70	0,50	Unacceptable
8	Competence #CLIENT NAME Project team	0,19	0,16	0,07	0,50	0,84	Good
9	Competence RHDHV Project team	0,14	0,09	0,02	0,28	0,91	Excellent
10	Management style	0,23	0,12	0,06	0,31	0,38	Unacceptable
11	Information exchange	0,13	0,07	0,08	0,24	0,76	Acceptable
12	RHDHV internal task routines	0,20	0,20	0,00	0,46	0,59	Poor
13	RHDHV organizational responsiveness	0,14	0,10	0,07	0,26	0,70	Acceptable
14	Flexibility	0,18	0,14	0,07	0,37	0,89	Good
15	Solidarity	0,16	0,12	0,05	0,31	0,68	Questionable
16	Project performance	0,20	0,10	0,12	0,33	0,67	Questionable
17	Trust	0,14	0,06	0,06	0,19	0,80	Acceptable
18	Importance performance criteria #CLIENT NAME	0,22	0,19	0,07	0,48		
19	Importance performance criteria RHDHV	0,19	0,10	0,08	0,31		

*NOTE: The five highest PD numbers are indicated by the color red and deserve the most attention.

PD	A high PD number indicates a big disparity in collaborating partners' perceptions of important aspects.
SD	A high SD expresses a big difference between certain items and the mean value of the entire dimension
Min	The minimum perceptual distance an item has been assigned within a single question set.
Max	The maximum perceptual distance an item has been assigned within a single question set.
CA + IC	A low internal consistency means that the items within one question are not closely related as a group.

FOLLOW-UP STEPS PDM

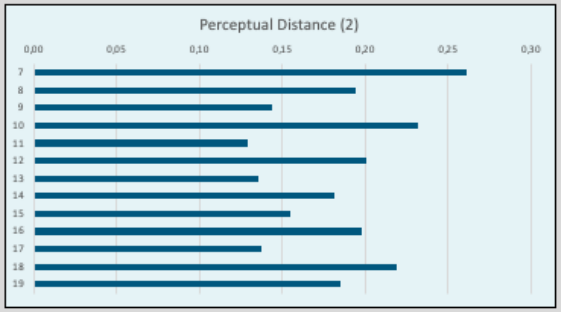


NOTE: Information only usable when PDM is performed periodically (see Tab "9 PDM (2)")

RESULTS PDM (2)

Item	Question	PD	SD	Min	Max	CA	IC
7	Satisfaction with project objectives	0,26	0,26	0,03	0,70	0,50	Unacceptable
8	Competence #CLIENT NAME Project team	0,19	0,16	0,07	0,50	0,84	Good
9	Competence RHDHV Project team	0,14	0,09	0,02	0,28	0,91	Excellent
10	Management style	0,23	0,12	0,06	0,31	0,38	Unacceptable
11	Information exchange	0,13	0,07	0,08	0,24	0,76	Acceptable
12	RHDHV internal task routines	0,20	0,20	0,00	0,46	0,59	Poor
13	RHDHV organizational responsiveness	0,14	0,10	0,07	0,26	0,70	Acceptable
14	Flexibility	0,18	0,14	0,07	0,37	0,89	Good
15	Solidarity	0,16	0,12	0,05	0,31	0,68	Questionable
16	Project performance	0,20	0,10	0,12	0,33	0,67	Questionable
17	Trust	0,14	0,06	0,06	0,19	0,80	Acceptable
18	Importance performance criteria #CLIENT NAME	0,22	0,19	0,07	0,48		
19	Importance performance criteria RHDHV	0,19	0,10	0,08	0,31		

*NOTE: The five highest PD numbers are indicated by the color red and deserve the most attention.



Changes PDM periodically Assessment

Item	Question	PD	SD	Min	Max
7	Satisfaction with project objectives	0,00	0,00	0,00	0,00
8	Competence #CLIENT NAME Project team	0,00	0,00	0,00	0,00
9	Competence RHDHV Project team	0,00	0,00	0,00	0,00
10	Management style	0,30	0,00	0,00	0,00
11	Information exchange	0,20	0,00	0,00	0,00
12	RHDHV internal task routines	0,30	0,00	0,00	0,00
13	RHDHV organizational responsiveness	0,35	0,00	0,00	0,00
14	Flexibility	0,20	0,00	0,00	0,00
15	Solidarity	-0,10	0,00	0,00	0,00
16	Project performance	-0,20	0,00	0,00	0,00
17	Trust	-0,30	0,00	0,00	0,00
18	Importance performance criteria #CLIENT NAME	0,00	0,00	0,00	0,00
19	Importance performance criteria RHDHV	0,00	0,00	0,00	0,00

*NOTE: The five highest PD numbers (changes) are indicated by the color red and deserve the most attention.

Appendix XIV: Follow-up actions

FOLLOW-UP ACTIONS - COLLABORATION TOOL

Most prevalent cultural style				
RHDHV	*CLIENT*	*Culture type*	*Organizational Culture Profile*	*Possible Characteristics of Employees (leadership roles)*
3,42	3,60	*Clan*	Clan culture is like a family where organizational members are open to each other and team performance is more important than individual performance. The long-term vision of the organization focusses on education and growth of its members and values like commitment, empowerment, participation and loyalty are highly important. Employees stimulate each other in their growth potentials and customer are seen as partners of the organization.	1. The Facilitator is people- and process-oriented. This person manages conflict and seeks consensus. His or her influence is based on getting people involved in the decision making and problem solving. Participation and openness are actively pursued. 2. The Mentor is caring and empathic. This person is aware of others and cares for the needs of individuals. His or her influence is based on mutual respect and trust. Morale and commitment are actively pursued.
3,36	3,13	*Adhocracy*	Adhocracy culture is an innovative environment, which creates a dynamic, flexible and creative organization. Organization members are encouraged to take risks, which stimulates innovative behavior and experiments. The long-term vision of this culture put emphasis on rapid growth and acquiring new resources needed for succeeding. Values like risk taking, individuality and future anticipation are important, and success is measured through producing unique and original products.	1. The Innovator is clever and creative. This person envisions change. His or her influence is based on anticipation of a better future and generates hope in others. Innovation and adaptation are actively pursued. 2. The Visionary is future-oriented in thinking. This person focuses on where the organization is going and emphasizes possibilities as well as probabilities. Strategic direction and continuous improvement of current activities are hallmarks of this style.
2,83	2,83	*Market*	Market culture can be described as a goal- or result-oriented workplace and external partners are of utter importance. The organization members strive to win, which implicates their core values of competitiveness and productivity. The organization focusses on profitability, return on investment and an established customer base. Staying ahead of the competition is of great importance, in doing so, the leaders of the organization are demanding of their employees.	1. The Competitor is aggressive and decisive. This person actively pursues goals and targets and is energized by competitive situations. Winning is a dominant objective, and the focus is on external competitors and marketplace position. 2. The Producer is task-oriented and work-focused. This person gets things done through hard work. His or her influence is based on intensity and rational arguments around accomplishing things. Productivity is actively pursued.
3,50	3,27	*Hierarchy*	Hierarchy culture can be described as a formalized and structured work environment. The organization is led by procedures, formal rules and policies for smooth running of operations. Long-term goals of this culture type are stability, predictability and efficiency. Leadership is characterized by coordinating their employees and organize operation of the organization.	1. The Monitor is technically expert and well-informed. This person keeps track of all details and contributes expertise. His or her influence is based on information control. Documentation and information management are actively pursued. 2. The Coordinator is dependable and reliable. This person maintains the structure and flow of the work. His or her influence is based on situational engineering, managing schedules, giving assignments, physical layout, etc. Stability and control are actively pursued.

Follow-up Actions OCAI

The purpose these follow-up actions is to stimulate your thinking about activities or behaviors that the client organization strongly possesses to also be applied within RHDHV. It is not about changing the culture of RHDHV but about becoming aware of the culture of the client and being able to respond to it by using small actions and initiatives within the project group. *Besides, the statements below are intended only to provide some concepts and to encourage you to think creatively with respect to moving and learning from a different culture type. Therefore, when considering what you want to accomplish in each quadrant, select the ideas that are most relevant to your circumstances. Add to these suggestions others that you may have generated during a brainstorming session based on the results from this tool. From this list, choose the ideas that will be most powerful at the beginning of the culture learning process. Remember not to take on too many initiatives at once. Focus your efforts on a few powerful alternatives (Cameron & Quinn, 2006).*

Clan	*Adhocracy*	*Market*	*Hierarchy*
*Increase the effectiveness of the employee suggestion system (e.g. Yammer Groups). *Establish a clear, overarching goal or vision for the team. Clearly identify what the team's mission, vision and strategy (repeat it periodically). *Hold a retreat or an extended meeting to launch the team's activities, to explain the mission, to clarify roles and expectations, and to build cohesion among team members. *Sponsor informal events that help build team cohesiveness (such as getting together after hours). *Be as a manager accessible to team members to answer questions, pass along information, show interest and involvement, and model appropriate behaviors. *Seek feedback from team members about what you do that facilitates effective team meetings and what you do that inhibits effective team meetings. *Make time available to observe, evaluate, and coach the performance of your project practitioners. Be clear about the level of performance they expect of themselves, as well as the level expected by the organization. Help them exceed expectations. *Celebrate the successes of those with whom you work. Look for praiseworthy incidents, accomplishments, or attributes. Celebrate publicly. *Encourage and support your people in taking risks. Avoid punishing people when they try something new and fail. Cultivate a sense of excitement with trying something that might produce an improvement, but make certain that learning occurs from mistakes. Ensure that those who fail identify clearly what lessons were learned.	*Analyze the client organization's key values in terms of emphasis on adhocracy values. Where can we, as RHDHV, capitalize on? *Make a critical analysis of the current vision statement. Does it provide both cognitive and emotional direction? Does it inspire creative initiative? *Move to a more flexible structure that emphasizes speed and agility. *Forecast customer demand at all points of contact, and find ways to exceed those demands. *Encourage, measure, and reward innovative behavior at all levels. *Celebrate trial-and-error learning. *Develop visible rewards that recognize the creativity and innovation of employees. Recognize not only good ideas but also orchestrating and sponsoring activities that help new ideas get developed and adopted. Successful innovation takes all three roles: idea champions, sponsors, and orchestrators. *Avoid when people in your organization use "creativity killers" such as "We already tried that or "It'll never work,". *Hold idea-sharing or idea-blending events in your work setting, such as internal lunchlecture or focus groups. The idea is to address questions such as "What's new?" "What have you been thinking about?" and "What problem do you have that you don't expect anyone to solve?" *Make it easy for employees, as well as customers, to complain and to give suggestions. Besides, monitor regularly and closely the expectations, complaints, and preferences of customers. *Reject nothing out of hand as outrageous or impossible. Use their ideas to stimulate different ways to approach work. Borrow ideas shamelessly. *Make success visible. Celebrate even small wins. Provide a way for people involved in successful new processes or products to reap rewards from their innovations. *Encourage and reward not only big changes and visible innovations but also small, incremental, continuous improvements. Look for trends indicating minor but never-ending improvements in addition to major improvements. *Make the assumption that more input is better, and actively seek out improvement ideas from employees and customers.	*Constantly analyze the evolution of the market by holding exploratory focus group sessions with the people most closely associated with the market (internal or external). *Study the best-quality achievements of competitors, and share them with employees. Ask for suggestions on how to be more competitive. *Find ways to learn from successes by other units inside your organization. Hold discussion groups, lunchlectures, and use the internal organization publications of other units to highlight your own strengths and weaknesses and to pick up new ideas. *Give customers what they want the first time, every time; then work toward exceeding those expectations. Surprise and delight them with levels of service they would never have expected or requested. *Celebrate success. Vince Lombardi is said to have asked, "If winning isn't important, why do they keep score?" Instill an attitude of winning in your people by enthusiastically celebrating victories, even small ones. *Establish a procedure for assessing the needs and expectations of your customers, both inside and outside your unit. Collect those data on an ongoing basis, not just once. Because expectations continue to rise, monitor changes and trends. *Provide opportunities at some point for every employee to interact face-to-face with your external customers. *Make it easy for customers to complain. Seek out complaints. The more you know, the better the service you can provide and the more likely you are to meet or exceed expectations.	*Use process improvement audits. Compare the results to industry standards. Analyze the best practices used elsewhere. *Use an internal communications program that more effectively informs people of events, activities, and programs. What program is most used by project participants (e.g., Yammer)? Or encourage them to use a new program. *Provide regular, ongoing feedback to project participants on their work performance, their strengths, and their weaknesses. *Schedule informative socialization activities for individuals in your unit. Find ways to interact outside the formal roles associated with the organization. *Hold regular meetings with customers and with suppliers. Coordinate schedules, work flow, requirements, and expectations. Facilitate cross-functional teamwork by forming small task forces.

Follow-up Actions PDM

When the PDM is used, both parties must ensure, during an open conversation with each other, that actions are taken for the dimensions where perceptual distance occurs. Using the PDM between milestones enables both parties to adjust their behavior during the project, not just reflect on it. Partners can, therefore, try to reach common ground from where they can enhance the collaboration and project performance. It is therefore recommended to do regular assessment and careful monitoring of perceptual distance. Remedial action should be taken in a dedicated, open discussion between client and contractor to ensure that both are heard and given the opportunity to improve (Van der Krift et al., 2020).