

Project owners in creating and deciding on project concepts in practice

Case study research about creating and deciding on project concepts in the front-end phase of projects to accommodate organisations



Colophon

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Preface

This graduation research report represents the final part of my studies at the TU Delft. After studying the Bachelor Bouwkunde with much enthusiasm and taking courses in the Architecture master track I decided to follow the master Management in the Built Environment. This master program has offered me insight in the different areas of developing and realising projects in different scales and contexts.

Just over a year ago I had to decide on a graduation subject. Having learned more about the different phases and aspects of project management and development, my interests mostly geared towards the initiative (front-end) phase of a project, when a project and the plans are still very conceptual but fundamental decisions are made.

When starting the graduation process, I wondered how it is decided that a project is going to take place, how the first ideas are developed, and how this can be done best for organisations to fulfil their needs and eventually create buildings that are sustainable and remain relevant for a long time. These questions led me to the topic of studying project owners in creating and deciding on project concepts in the front-end phase of projects related to accommodating organisations. It has been a topic that required much perseverance and thinking but has resulted in me having a better understanding of practice and realizing the essence of communication between people. Providing me with lessons that I will take with me in the working life I am about to start.

Acknowledgements

Performing this research has been a very individual undertaking, even more so due to the unusual times we are in. It has been a year with many uncertainties that required adaptability from everyone, where having this research project has in a weird way also provided me with structure and stability as the project continued while we were all confronted with a 'new normal'.

In conducting this research I have gained much support from both my TU Delft and Royal HaskoningDHV mentors and my dear friends, family and boyfriend. Therefore I would like to take this opportunity to express my thanks and gratitude to all of them. Thank you for your consistent support, guidance and understanding. These last months, I have not only learned more about conducting research and the research topic itself, but also about the importance of the people you have around you, making it possible to reflect on my graduation period as a valuable time. Lastly, I also want to thank the interviewees for their participation and stories, as they have provided me with more insight into practice.

To conclude, I am happy to share this graduation report with people in the field as well as with those who are interested in the topic. Enjoy, reading!

Yours sincerely,

Esther Arensman

Delft, October 2020

Abstract

In a time where themes such as sustainability highly influence the built environment, it becomes ever more important that construction projects achieve strategic success. For securing a project's long-term strategic success, the importance of the front-end phase is increasingly recognised. In the front-end, fundamental decisions are made under high uncertainty. One of these decisions is the choice of the project concept.

The chosen project concept is the initial idea that responds to the problem/need of the client/owner (organisation). It sets the basis for strategic success, and should be aligned with the organisation's strategies and users' needs (strategy alignment). Although the development of project concepts in the front-end has long been recognised to be important, little is known about how project concepts are created and chosen in practice. As the project owner is responsible for the project within the client/owner organisation, this graduation research aimed to explore the project concept creation and decision-making process to identify critical aspects for project owners to focus on in creating and deciding on project concepts in practice for projects related to accommodating organisations.

A theoretical framework was developed by performing a systematic literature search on studies about the project owner in relation to the project front-end and strategy alignment. This theoretical framework was used to analyse project concept creation and decision-making processes in two case study projects around accommodating organisations. Data was gathered through performing multiple interviews and reviewing documents. Finally, the findings of the two cases were compared in a cross-case analysis. Here it was found that project concepts are created on different levels/in phases, that take place consecutively or in parallel, covering most of the front-end phase of a project. It is a continuous and iterative strategy alignment process where stakeholder management is key.

By comparing and discussing the case study findings, three critical aspects for project owners to focus on in creating and deciding on project concepts in practice were formed. These aspects all revolve around creating and maintaining urgency and support for the project (concepts). Here it is first of all considered critical for project owners to understand the hierarchy, culture and history of the client organisation. Secondly, achieving strategy alignment requires project owners to be translational and communicative. Thirdly, who to involve, how and when, are important questions to ask concerning active stakeholder management/involvement and can and should be planned and evaluated in creating and deciding on the different project concept levels.

Executive summary

Introduction & research aim

In a time where themes such as sustainability highly influence the built environment, it becomes ever more important that construction projects achieve strategic success. This means projects have a sustainable impact and keep their relevance and effectiveness during the operational phase.

For securing a project's long-term strategic success, the importance of the front-end phase is increasingly recognised. The front-end phase is the first phase of a project where a project is formulated before it is implemented. It is where fundamental decisions are made under high uncertainty. One of these decisions is the choice of the project concept.

The chosen project concept is the initial idea that responds to the problem/need of the client/owner (organisation). It sets the basis for strategic success, and should be aligned with the organisation's strategies and users' needs (strategy alignment). However, although the development of project concepts has long been recognised to be important, little is known about how project concepts are created and chosen in practice. As the project owner is responsible for the project within the client/owner organisation, this study focused on the project owner in project concept creation and decision-making.

With that in mind, this research aimed to ***explore the project concept creation and decision-making process to identify critical aspects for project owners to focus on in creating and deciding on project concepts in practice for projects related to accommodating organisations.***

Research Method

To meet this aim, a theoretical framework was developed by performing a systematic literature search. This theoretical framework covered the client, triggers, response to triggers, front-end activities, stakeholders and alignment strategies. It was used to analyse project concept creation and decision-making processes in two case study projects around accommodating organisations. Data was gathered through performing multiple interviews and reviewing documents. Finally, the findings of the two cases were compared in a cross-case analysis.

Findings

From the case studies it was found that project concepts are created on different levels/in phases. These can take place consecutively or in parallel and cover most of the front-end phase of a project. These levels are labelled as portfolio (of locations) project concepts, office/workplace project concepts and building/locations project concepts for projects related to accommodating organisations.

The process of creating and deciding on project concepts is dependent on the scale/size/particular features of the project and the core business, culture and hierarchy of the client organisation. In general, it was found that creating and deciding on project concepts is a constant stakeholder management and strategy alignment process: The strategic goals of the organisation and needs of the users (business operations) are identified. These are then translated into ambitions and requirements that set the boundaries for project concepts. Eventually, these goals and needs steer the decision-making, together with the culture and history of the organisation. While higher management is regularly reported to, users are mostly informed about the project. But more active user involvement is favoured.

Three critical aspects for project owners to focus on in creating and deciding on project concepts

Three critical aspects for project owners to focus on in creating and deciding on project concepts in practice were derived from both theoretical and empirical findings. These aspects are all around creating and maintaining urgency and support for the project (concepts):

- It is first of all critical for project owners to *understand the hierarchy, culture and history of the client organisation* as this sets the project environment. This will help to comprehend what the problems/needs/triggers are, and where these come from, as project (concepts) respond to these.
- Secondly, achieving and maintaining strategy alignment, requires project owners to be *translational and communicative*. Project owners should be able to communicate well with stakeholders on strategic, tactical and operational levels in the organisation to be able to translate their needs/requirements into the project.
- Thirdly, who to involve, how and when, are important questions to ask concerning *active stakeholder management/involvement*. This can and should be planned and evaluated in creating and deciding on the different project concept levels.

Recommendations for practice and further research

Several recommendations can be given to practice. First of all, the findings show that creating and deciding on project concepts takes place in different levels/phases. Therefore, the stakeholders that are involved, and how actively these should be involved can be planned and evaluated per project concept level. The same goes for the amount of elaboration that is done on project concepts before choosing.

Secondly, as choosing between project concepts are fundamental decisions in a project, it is advised not to rush the process. Look at the big picture and carefully compare the impacts of different project concepts on different scale levels. It is worthwhile to experiment and think in extremes and opposites to explore many possibilities.

Thirdly, for consultants that are asked to support/guide project owners (or the project team) in this process, it is important to be aware of the culture and history of the client organisation as this affects the process and also helps to understand where triggers come from. Additionally, in advising the client organisation, who should be the project owner is something to consider. As the creation and decision-making of project concepts revolves around strategy alignment and stakeholder management, who is identifying the strategic goals and users' needs (together with a project team), and whether this requires someone close to the strategic level or more towards the operational level in the organisation should be thought of.

For further research, what the consequences are of choosing a certain project concept was outside of the research scope but would be interesting to study because the choice of project concepts sets the basis for strategic success. Moreover, studying more cases or an ongoing case would provide more accurate data of the project concept creation and decision-making process.

Lastly, the theoretical framework was mostly developed from literature of 'project studies'. But the front-end phase is overlapping two fields of literature, being 'project studies' and 'corporate real estate studies' (CRE). CRE studies focus on the internal client organisation. Therefore, the perspective in CRE studies is much more long-term than that of a temporary project organisation, as these dissolve after a project is finished. This makes it especially interesting for researchers in the front-end (from the project field) to immerse themselves more into CRE literature, when aiming for long term strategic success.

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Chapter 1

Introduction

1. Introduction

1.1 Project success

The success of projects has been a research topic for decades and can be viewed in many ways. One can for example look at success in tactical terms and in strategic terms. Success in tactical terms concerns meeting short-term performance targets (see figure 1.1) such as time, cost and quality. Instead, success in strategic terms is about if a project has a sustainable impact and keeps its relevance and effectiveness in the operational phase throughout its lifespan (Samset & Volden, 2016).

These definitions for tactical and strategic success are adopted for this research.

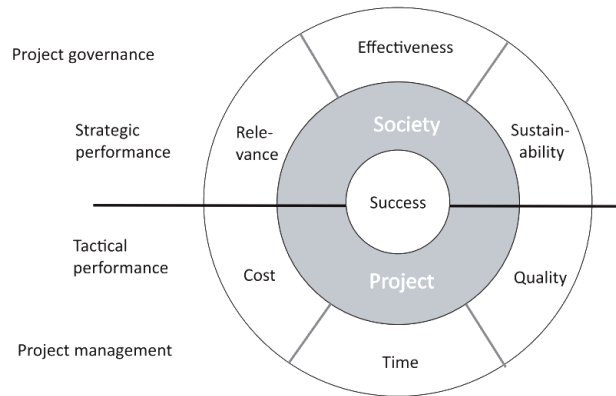


Figure 1.1 | Tactical and strategic performance (Samset, in Samset & Volden, 2016, p. 300).

1.1.1 The project front-end

The front-end phase of a project is increasingly recognised to be important for securing a project’s long-term strategic success (Samset & Volden, 2016; Williams, Vo, Samset, & Edkins, 2019), as the decisions that are made in the front-end “influence subsequent stages and the ability to achieve successful project outputs and outcomes” (Denicol, Davies, & Krystallis, 2020, p. 5). But while many experts in the construction industry stress the importance of the front-end in relation to the project’s success (Gibson Jr., Kaczmarowski, & Lore Jr., 1995; Nyaminani, Gwaya, & Mbiti, 2019; Oh, Naderpajouh, Hastak, & Gokhale, 2016; Williams et al., 2019; Winch & Leiringer, 2016), the literature in this area is still underrepresented (Samset & Volden, 2016).

There is no agreement on the definition of the front-end. But generally it could be said that the front-end phase of a project is from when the initial idea for a project is conceived until the final decision is made to finance the project, and it is handed over to the people responsible for the delivery of the defined and approved project. While the front-end takes place at the permanent (client/owner/base) organisation, the project is executed by a temporary project organisation (see figure 1.2). The approval of a project may take years, sometimes even decades, depending on the size of the project (Andersen, 2012; Samset, 2009; Samset, 2010; Williams et al., 2019).

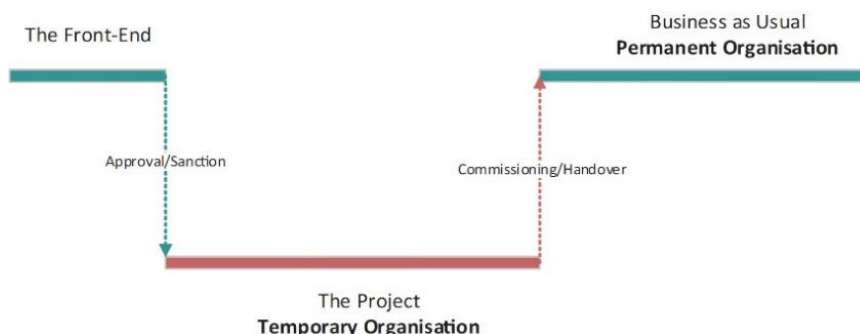


Figure 1.2 | Project’s front-end: The relationship between the permanent and temporary organisation (Williams et al., 2019, p. 1139) - edited.

1.1.2 The project owner

While the project manager is responsible for meeting short term project targets within the temporary project organisation, achieving strategic success is the responsibility of the managers in the client/owner organisation (see figure 1.1) (Andersen, 2012; Hjelmbrække, Klakegg, & Lohne, 2017). This gives the project owner an important role by being “the person who on behalf of the base [client/owner] organisation is responsible for the project” (Andersen, 2012, p. 68).

From an owner perspective, “project success is measured by the future value of the project” (Olsson, Johansen, Langlo, & Torp, 2008, p. 45). Here value is thus measured in terms of a project’s sustainability, relevance and effectiveness (strategic success) and is created when owner’s strategies and users’ needs are fulfilled by the project. Which requires the owner’s strategies and users’ needs to be identified (Haddadi, Johansen, & Bjørberg, 2017).

As projects are initiated to produce results or satisfy a need for an owner (client) organisation (Hjelmbrække, Lædre, & Lohne, 2014; Williams et al., 2019), the project owner has a central role in the front-end (Williams et al., 2019). Moreover, after project completion, when the project is handed over back to the owner (client) organisation, the client/owner (organisation) assesses the project’s strategic success and is deriving the strategic benefits (Andersen, 2012; Williams et al., 2019).

1.1.3 Choice of project concept

For strategic success, people involved in the front-end phase should have a broad and long term perspective in setting up projects and should allow different project concepts to be considered. One of the concepts can even be ‘the 0-option’, which is to proceed with the current situation without major changes or new investment (Samset, 2010; Williams & Samset, 2010). Here project concepts can be seen as different conceptual solutions, all aiming to solve the same problem/fulfil the need of the client/owner organisation (Samset, 2010).

The project concept is “the initial idea for the project that sets it in motion” (Gibson Jr. et al., 1995, p. 312), and can be seen as “an envisioned intervention in a larger cause-and-affect chain aimed at delivering a certain effect and thus solving a problem” (Samset, Andersen, & Austeng, 2014, p. 482) by being “the actions that enable realization of the goal” (Samset, 2010, p. 96) see figure 1.3.

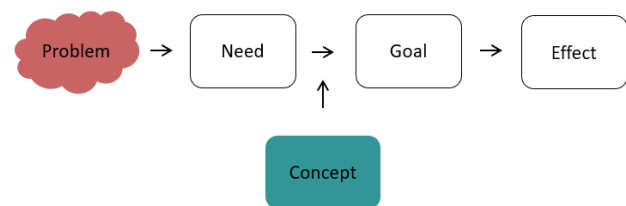


Figure 1.3 | The project concept (Samset et al., 2014, p. 482) - edited.

“For example, in a case where cars have to cross a body of water, the goal is clear, but it could be achieved through the construction of a bridge, an underwater tunnel, by establishing a ferry crossing, or ... constructing a road around the body of water” (Samset et al., 2014, p. 476).

In the identification of project concepts, it is crucial to explicitly identify the corporate strategy of the organisation that is introducing the project (Williams & Samset, 2010) in order to align the goals and objectives of a project with this strategy. In this way, the project can contribute to the overall goals of the organisation (Project Management Institute, 2013). Because, if the goals and objectives of a project

are not explicitly stated, this can lead to significant underperformance in comparison to the expectations (Cooke-Davies, 2009), and thus limits the chances for strategic success.

Moreover, Williams & Samset (2010) highlight the importance of recognising the ‘turbulence of the environment’ a project takes place in, for projects to be aligned, and stay aligned, with the strategy of an organisation. Besides, as major decisions are usually not taken by individuals in isolation, “there is a need to consider the social geography and politics within decision-making groups and organisational consortia” (Williams & Samset, 2010, p. 46).

A project fails in strategic terms when the chosen project concept is not the right solution to the particular problem, only partly solves it or it is creating more new problems than it solves (Williams & Samset, 2010). The choice of the project concept is therefore essential for the strategic success of a project, and can be traced back to the beginning of the front-end phase (Hjelmbrekke et al., 2014; Samset & Volden, 2016).

Examples of strategic failure from the Norwegian context are described by Samset (2008). For the traffic control centre at Trondheim airport, a very tall, oversized concrete control tower was built in 2003. The project was finished on schedule and within budget and considered as successful in tactical terms. But because of a restructuring of the national air traffic control system, the control centre in Trondheim was never equipped or taken into operation. Building the control centre was an outdated concept which responded to a need which was long overtaken by technological advances in the area of air traffic control and therefore not relevant anymore (Samset, 2008).

However, although the development of project concepts has long been recognised to be important (Hjelmbrekke et al., 2014; Samset, Berg, & Klakegg, 2006; Samset & Volden, 2016; Williams & Samset, 2010), “the absence of a concept-definition phase is a deficiency in many projects: the concept may be decided up front without considering alternatives” (Williams & Samset, 2010, p. 39), limiting chances for a project’s strategic success. Moreover, not many studies have researched how alternative concepts are defined and considered in practice and which ones are chosen (Samset, 2010).

1.2 Research focus

In summary: For securing a project’s long-term strategic success, the importance of the front-end phase is increasingly recognised. Here the chosen project concept is the initial idea that responds to the problem/need of the client/owner organisation. The choice of the project concept sets the basis for strategic success, and should be aligned with the owner’s strategies and users’ needs (strategy alignment). In this way the project can fulfil these and the client/owner organisation will derive the strategic benefits. However, although the development of project concepts has long been recognised to be important, little is known about how project concepts are created and chosen in practice.

As the project owner is responsible for the project within the client/owner organisation, this study focuses on the project owner in project concept creation and decision-making. See the conceptual model in figure 1.4.

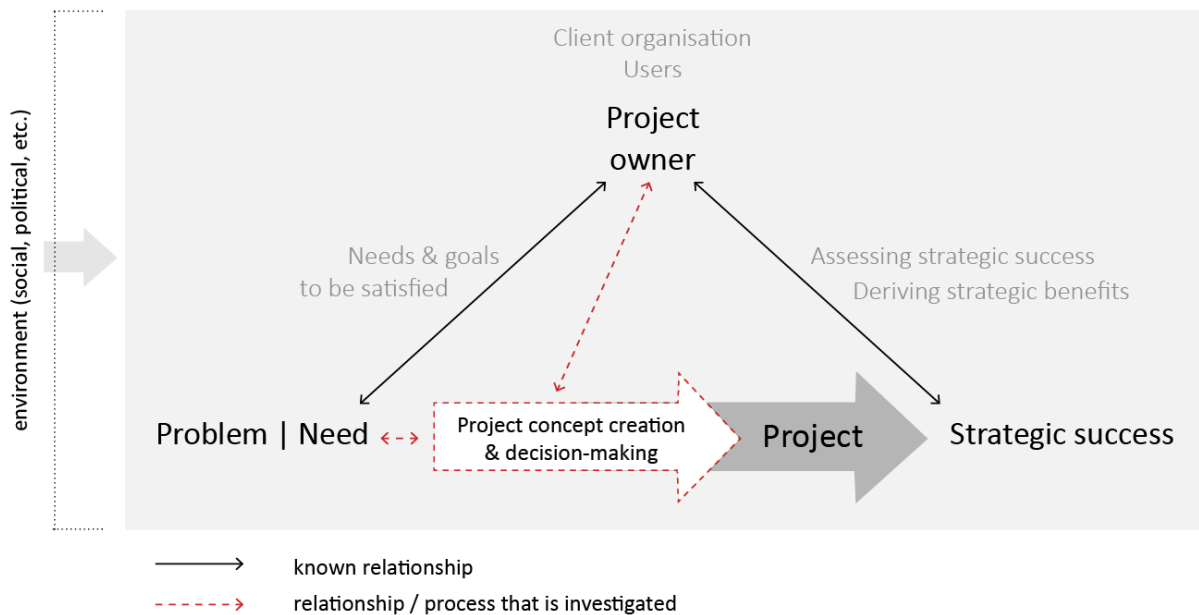


Figure 1.4 | Conceptual model (own image).

1.3 Research scope

This research project started with interest in how projects in the built environment are approached in practice. Therefore, the research is limited to projects in the built environment, since this is at the heart of the faculty of Architecture and the Built Environment and the researcher's interest.

The limited amount of research that is performed around project concepts covers public sector projects in Norway. Therefore, this graduation research focusses on projects from the Dutch private sector. To be precise, projects related to accommodating organisations.

Within an client/owner organisation, a Corporate Real Estate (CRE) department, or similar, is often responsible for realizing projects to accommodate the client/owner organisation. The CRE department (or representatives) can thus be considered project owner(s). In this context, the owner's strategies thus also include the CRE strategy.

1.4 Research aim and objectives

For this graduation thesis, a research aim and five research objectives were set.

The research aim is to *explore the project concept creation and decision-making process to identify critical aspects for project owners to focus on in creating and deciding on project concepts in practice for projects related to accommodating organisations.*

The objectives of this research are to:

- 1) Review the literature about the project owner in relation to the project front-end and strategy alignment;

- 2) Investigate the process, triggers and activities of creating and deciding on project concepts in practice;
- 3) Analyse who is involved in creating and deciding on project concepts in practice;
- 4) Analyse how the alignment with the owner's strategies and users' needs is incorporated in creating and deciding on project concepts;
- 5) Compare and reflect on project concept creation & decision-making processes and advise on the critical aspects for project owners to focus on in creating and deciding on project concepts.

1.5 Research questions

The main research question is formulated in line with the research aim and objectives, and is the following:

What are critical aspects for project owners to focus on in creating and deciding on project concepts in practice during the front-end phase of projects related to accommodating an organisation?

To answer the main research question, a set of research sub-questions have been formulated:

Sub question 1: What is studied on the project owner in the project front-end and in relation to strategy alignment?

- Purpose: Provide an overview about what studies found about the project owner in relation to front-end and strategy alignment (1st objective).
- Method: Systematic literature search
- Outcome: Theoretical framework to guide the analysis and interpretation for the empirical part of the research.

Sub question 2: What does the process of creating and deciding on project concepts in response to triggers look like in practice?

- Purpose: Gain insight in the process of creating and deciding on project concepts in practice by identifying the triggers and activities that are performed to create and decide on project concepts (2nd objective).
- Method: Multiple case studies, cross-case analysis.
- Outcome: Description and overview of the project concept development process and decision-making for multiple case studies, by discussing the triggers and activities performed to create and decide on project concepts.

Sub question 3: Who is involved in creating and deciding on project concepts in practice?

- Purpose: Determine who is involved in creating and deciding on project concepts in practice (3rd objective).
- Method: Multiple case studies, cross-case analysis.
- Outcome: Description and overview of who is involved in the project concept development process and decision-making for multiple case studies.

Sub question 4: How is the alignment with the owner's strategies and users' needs incorporated in creating and deciding on project concepts?

- Purpose: Determine how the alignment with the owner's strategies and users' needs is incorporated in creating and deciding on project concepts in practice (4rd objective).
- Method: Multiple case studies, cross-case analysis.
- Outcome: Description and overview of how the alignment with the owner's strategies and users' needs is incorporated in the creation and decision-making on project concepts for multiple case studies.

The theoretical framework that is made based on the systematic literature search for the first sub question (1st objective) is operationalised to answer the second, third and fourth sub-questions and fulfil the corresponding objectives. The fifth objective is met by answering the main research question through the analysis that is performed for sub questions 1-4 and discussion of the case study findings with literature.

1.6 Deliverables and dissemination

The deliverables of this study are a set of critical aspects for project owners to focus on in creating and deciding on project concepts for projects to accommodate organisations. These critical aspects are based on the answers to the sub research questions, a cross-case analysis and discussion of the case study finding with literature. Moreover, a set of recommendations, both for practice and for further research, is provided.

This study will be of interest for researchers in the front-end phase as well as people in practice who aim to get more knowledge about the front-end phase of projects and especially about the process of creating and decision-making of project concepts. By reading about how the process of concept development takes place in the case studies, organisations (project owners) who are themselves in the position to create and decide on project concepts are stimulated to reflect on their processes and learn from the case studies. Moreover, advisory parties can gain insight into the project concept development process and can treat the critical aspects as elements to support project owners with in the process of project concept creation and decision-making in the front-end phase.

1.7 Scientific and societal relevance

1.7.1 Scientific relevance

While the major choices are made in the front-end of projects, in the curriculum and textbooks for students in the field of Project Management, the focus lies mostly on the management of projects during the implementation phase (the delivery of the defined and approved project). The literature on the front-end is still underrepresented (Samset, 2010; Samset & Volden, 2016) and the problem of "how to systematically arrive at better project concepts up front is largely neglected" (Samset, 2010, p. 8).

Not many studies have researched how alternative concepts are defined and considered in practice and which ones are chosen (Samset, 2010). To the best of the researcher’s knowledge, no research has been carried out specifically on the project owner in creating and choosing project concepts before.

Moreover, this graduation research is combining two research fields (to a certain extent), being ‘project studies’ and ‘real estate studies’. Where the front-end is still at the permanent (client/owner) organisation, and thus has to do with CREM (corporate real estate management) in real estate studies, this first phase of a project is also seen as part of the project life cycle in project studies. This research combines two fields that are related but seldom connected in research. In this respect it is good to note that this research has been conducted from the ‘project side’.

1.7.2 Societal relevance

Research on the front-end is moreover of societal relevance, as in the front-end the fundamental choices are made, with the greatest consequences. Freedom to choose is at its optimum and the costs related to making major changes are minimal (figure 1.5). Uncertainty is at its highest and little information is available (figure 1.6). Paradoxically, most resources are usually spent in the implementation phase, where the potential to reduce uncertainties by adding information, is much lower (Samset, 2010; Samset & Volden, 2016).

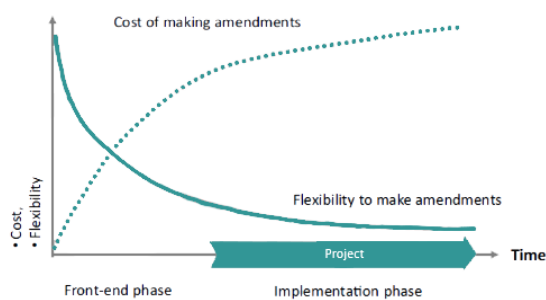


Figure 1.5 | People's conception of how flexibility to make amendments is restricted by cost, as time passes in a project (Samset & Volden, 2016, p. 301) - edited.

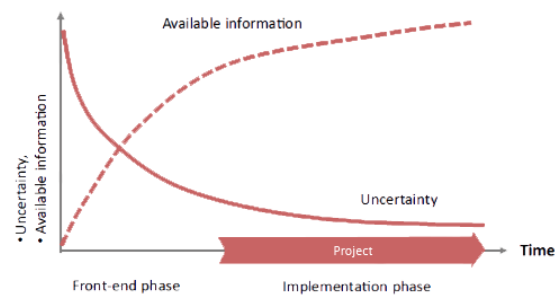


Figure 1.6 | People's conception of how uncertainty is affected by information, as time passes in a project (Samset & Volden, 2016, p. 301) - edited.

Many experts agree that the activities undertaken, and decisions that are made, in the front-end have a notably greater effect on the success of a project, than actions which are undertaken later on in the project (Gibson Jr. et al., 1995). Hjelmbrekke et al. (2014) even stress that “the first priority should be to ensure that relevant project concepts are chosen” (p. 663) for a project’s relevance, associated with the strategic success of a project.

In case of public projects, “the choice of concept is considered the single most important decision that will determine viability and utility of a project, and hence the extent to which public funds are being used effectively” (Samset et al., 2006, p. 6). When projects are unable to produce the anticipated effect, in public projects, public resources are wasted (Samset et al., 2006). Which is a serious problem associated with the strategic performance of projects.

Moreover, Miller & Hobbs (2009) state that “the concept must define the functionality and be technically coherent and socially acceptable” (p. 382). It is crucial that the chosen concept meets the needs of multiple stakeholders: in the client/owner organisation but also in the project environment. A

concept must “meet the multiple business objectives of internal business units and partners in order to create value for all parties” (Miller & Hobbs, 2009, p. 382), showing the relevance of studying who is involved in creating and deciding on project concepts, and how alignment with the owner’s strategies and users’ needs is incorporated.

Lastly, “a project can be constructed at acceptable cost, in time and with excellent quality, but still be irrelevant to the strategic goals of the owner” organisation (Hjelmbrekke et al., 2014, pp. 673-674). Therefore, and especially in a time where themes such as sustainability highly influence the built environment, it becomes ever more important to realise construction projects that not only successfully perform the intended outcomes but also are aligned with the goals and objectives of an organisation to achieve strategic success. Because if projects do not align with an organisation’s needs, this means resources, time and money are not optimally used. Research into improving the decisions made in the front-end phase, which influence the rest of the project and the implementation and operation phase, is therefore valuable.

1.8 Thesis structure

This thesis is structured as follows: In the second chapter, the theoretical background is presented, discussing the main elements that have been studied on project owners in the front-end phase and project owners in relation to strategy alignment. This chapter ends with a theoretical framework that is used to analyse the empirical data that is collected. Chapter 3 presents and discusses the research method. Here the case selection, data collection and data analysis are discussed.

Chapter 4 covers the two cases that have been the subject of this study. Hereafter, the fifth chapter presents the cross-case analysis where the findings of the two case studies are compared with each other and similarities and differences are discussed. Chapter 6 provides a discussion of the findings where the case study findings discussed in relation to literature. Chapter 7 covers the conclusions and recommendations and goes into the limitations, validity and reliability of the research and its findings. Lastly, chapter 8 presents a reflection on the position of the research, the method & scientific relevance, ethics and the research process.

Chapter 2

Theoretical background

2. Theoretical background

2.1 Systematic search method

A systematic search of literature was done to provide an overview about what studies found about the project *owner* in the *project front-end* and in relation to *strategy alignment* (see figure 2.1). The systematic search was done in search engine Scopus and Web of Science. The key terms had to appear in the title, abstract or key words of a study to come up as a result.

The terminology on project roles in the project management literature is not consistent (Hjelmbrekke et al., 2014; Zwikael & Meredith, 2018). There is for example substantial overlap in the use of the terms owner and sponsor (Andersen, 2012; Olsson, 2018) and the terms owner and client are used interchangeably by for instance Hjelmbrekke et al. (2017). Therefore, the terms ‘owner’, ‘sponsor’, ‘senior responsible owner’ (SRO), ‘governance’ and ‘client’ have all been used in the search strings to include a larger range of results.

The terms ‘construction’, ‘real estate’ and ‘built environment’ were added to limit the results to projects in the built environment. Without setting this scope, the document search would result in an unmanageable amount of papers. For the searches, the following key term combinations were used:

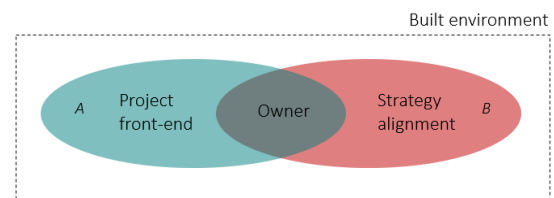


Figure 2.1 | Relation between key terms (own image).

- A) front-end AND owner OR sponsor OR SRO OR governance OR client AND construction OR real estate OR built environment
- B) owner OR sponsor OR SRO OR governance OR client AND strategy OR strategic AND align OR alignment AND construction OR real estate OR built environment

Search A resulted in 101 documents with the results from Scopus and Web of Science combined. These were limited to English journal articles, filtering out conference papers, business articles, book (chapters) and reviews. After removing duplicates, this led to 27 papers to review. An excel spreadsheet was kept to catalogue these 27 papers by stating the research problem they addressed (the main research question), the method adopted to perform the research and the key finding of the study. In this cataloguing process, another 13 papers were excluded to review since these were not about the front-end phase of a project, the project owner or about the construction industry.

Search B resulted in 162 documents with the results from Scopus and Web of Science combined. These were again limited to English journal articles. After removing duplicates, 95 papers were scanned on the abstract and title. Through this scan, 84 papers were excluded because the studies were not empirical, not about the client/owner organisation, not about the construction industry, or about the internal organisation of construction firms instead of the client/owner organisation. Only the empirical studies about the strategies of the owner (organisation) in construction projects were selected and catalogued.

The cataloguing process resulted in a total of 25 articles that were reviewed for this graduation research. These papers are published between 1995 and 2019. Besides the 25 articles, the systematic review and structuring of Williams et al., (2019) was used in developing a categorization of front-end activities.

Because of the inconsistency in the use of terms for project roles, the theoretical background starts with clarifying the role of the project owner by setting the definition for this thesis.

2.2 The project owner in the client organisation

There are different approaches for how to classify construction clients (organisations). To classify clients, scholars focus on the client's level of experience and others on the client's complexity (Badi, 2017; Tzortzopoulos, Cooper, Chan, & Kagioglou, 2006). Experienced clients have been involved in the commissioning of more than one construction project while novice clients are for example characterised by having little to no experience with design and construction (Herazo, Lizarralde, & Paquin, 2012; Tzortzopoulos et al., 2006). A client's complexity can be large when it for example needs to properly represent diverse stakeholder groups as well as wider society needs (Tzortzopoulos et al., 2006). Then there are primary clients, whose core business is to construct buildings for sale, lease, investment, while secondary clients are organisations that require buildings to accommodate their own main activities (Nahapiet & Nahapiet in Herazo et al., 2012). Taking into account the scope of this research being projects related to accommodating an organisation, secondary clients are thus studied. Whether these are novice/experienced or complex is not determined beforehand.

The role of the client can be performed by multiple people, on multiple levels of the client organisation (Aritua, Male, Bower, & Madter, 2011). People on the strategic and the operational level of the client organisation can together for example perform the role of the 'intelligent client' (also known as informed client or informed customer). The role of the intelligent client refers to "the public sector in managing the process of linking policy to benefits" in infrastructure projects (Aritua et al., 2011, p. 194), and involves specifying the requirements for the project and monitoring how they are carried out. The key tasks of the intelligent client role are fulfilled by the senior responsible owner (SRO) and project sponsor (PS) / project director (PD). The SRO is to ensure that the objectives of a project or programme are met and it realises the desired benefits. This fundamentally strategic role includes taking ultimate responsibility for the project. Compared to the strategic role of the SRO, the PS/PD are more operational roles by being the centre of attention for daily interests of the client organisation (OGC, 2010a; OGC, 2010b, in Aritua et al., 2011).

The role of the project owner is labelled as a strategic role within the client organisation by both Aritua et al. (2011) and Hjelmbrække et al. (2014). But where Aritua et al. (2011) label the project sponsor as more of an operational role, Hjelmbrække et al. (2014) place this role on the tactical level in the organisation, in between the strategic and operational level. In any way, the project owner can delegate its responsibilities to tactical and operational levels by appointing a project sponsor or governance body. Consequently, a project sponsor or governance body may be held responsible for the translation of the strategy into relevant project output, which can include the choice of project concept, supplier follow-up, the measurement of outputs and evaluation (Hjelmbrække et al., 2014).

The project owner is responsible for performing the project, but who fulfils this role can be different in each project (Aritua et al., 2011; Tzortzopoulos et al., 2006). Within the client organisation, the client and/or owner can for example be represented by the Board of directors and CEO, or the executive board of an organisation (Beckers, Voordt, & Dewulf, 2015; Hjelmbrække et al., 2014). Alternatively, a building management office, i.e. represented by a CRE manager, can be held responsible for realising projects related to real estate, and can thus be considered project owner (Herazo et al., 2012). This depends on the type of organisation, complexity and size of a project (Gibson Jr. et al., 1995; Herazo et al., 2012).

To conclude on the project owner, based on Tzortzopoulos et al. (2006) and Aritua et al. (2011), for this thesis the **'project owner' refers to the person(s) who is/are responsible for the project within the client owner organisation and is/are to ensure that the project's objectives are met and ambitions are realised.**

2.3 Projects

The understanding of projects in the general research literature has changed from a project being an implementation task to it being a strategic endeavour (Hjelmbrekke et al., 2017). Projects should contribute to achieving the strategic goals of the client organisation (Hjelmbrekke et al., 2014) and the reason a project is undertaken should be based on an organisation's strategy (Arge & Hjelmbrekke, in Haddadi et al., 2017).

Projects are considered to be temporary in nature by having a beginning and an end (Herazo et al., 2012; Hjelmbrekke et al., 2014; Nyaminani et al., 2019; Shiferaw & Klakegg, 2013). The beginning of a project is usually triggered by a predicted or existing client need (Haddadi et al., 2017; Sutrisna & Goulding, 2019; Nyaminani et al., 2019). These needs can be identified by looking inside and outside of the client organisation. Internally by looking at the strengths and weaknesses of the organisation, and externally by scanning the environment for possible opportunities and/or threats (Burke, Field & Keller, in Sutrisna & Goulding, 2019).

Projects include different project stages, or phases, that together form the project life cycle. While different names are used for the project stages, these represent the same processes. The project life cycle is often divided into the front-end (pre-project planning, concept, or preparation and brief) phase, a design phase, the construction or execution phase, and finally the operational (use) phase, when a project has come to its end (Haddadi et al., 2017; Hjelmbrekke et al., 2014; Oh et al., 2016; Schroeder, 2018; Shiferaw & Klakegg, 2013; Sutrisna & Goulding, 2019; Wearne, 2014).

2.3.1 Project front-end

Different definitions for the front-end are given in literature. It is defined as "the preliminary, pre-project stages of the design and construction process" (Tzortzopoulos et al., 2006, p. 660), or seen as from the initial visualization until the final decision is made to do the project (Shiferaw & Klakegg, 2013; Wearne, 2014). In 1995, Gibson Jr. et al. provided a process map of what they called the pre-project planning phase; also known as feasibility analysis, conceptual planning, and front-end planning (Gibson Jr. et al., 1995; Taylor, Uddin, Goodrum, McCoy, & Shan, 2012). Gibson Jr. et al. (1995) defined the front-end planning process as "the process of developing sufficient strategic information for owners to address risk and decide whether to commit resources to maximize the change for a successful capital facility project" (p. 312). The project front-end is thus about defining a project to a suitable level before it is authorized (Gibson Jr. et al., 1995; Taylor et al., 2012).

2.3.2 What happens in the front-end

In the front-end it is decided what a project is to achieve (Aritua et al., 2011) by defining and deciding on the project strategy. This includes defining and deciding on the project's goals, objectives, priorities and ambitions (Haddadi et al., 2017; Schroeder, 2018; Tzortzopoulos et al., 2006; Wearne, 2014). It includes setting the scope for the project and providing insight to the stakeholders on how the project goals contribute to the client organisation's goals at a higher level (Shiferaw & Klakegg, 2013). Therefore, the corporate goals should be well defined in the front-end so that the people involved in the front-end can act on those goals (Gibson Jr. et al., 1995).

Moreover, front-end activities include formulating the reasoning behind the project initiation; the business case (Hjelmbrekke et al., 2017), identifying requirements (Badi, 2017; Tzortzopoulos et al., 2006) for designing the brief (Schroeder, 2018), addressing risks (Oh et al., 2016; Wearne, 2014) and deciding on concepts of design outcomes (Aritua et al., 2011). Furthermore it is decided how to implement a project (Wearne, 2014) by selecting procurement/contractual arrangements (Haddadi et al., 2017; Nyaminani et al., 2019; Tzortzopoulos et al., 2006) before designing and executing parties are engaged (Haddadi et al., 2017).

Researchers disagree about when the front-end phase of a project commences. According to Gibson Jr. et al. (1995), the front-end planning process starts after a project concept is chosen and continues until project execution begins with design and construction. The project concept is hereby defined as “the initial idea for the project that sets it in motion” (p. 314). But it is unclear what this initial idea includes and how far it is developed at the start of the front-end.

While Gibson Jr. et al. (1995) do not include the creation of the initial project concept as part of the front-end planning process, others do (Haddadi et al., 2017; Pilanawithana & Sandanayake, 2017; Shiferaw & Klakegg, 2013; Wearne, 2014), which is why for this thesis, the creation of project concepts is considered to be part of the front-end phase.

In this study the following definition for front-end is used, based on Shiferaw & Klakegg (2013) and Wearne (2014): **The front-end phase is from the definition of the need of the client/owner organisation and the initial visualisation (idea creation) of project concepts until the final decision is made to do the project, and the project moves into the design phase.**

For the project concept, the definition by Gibson Jr. et al. (1995) is adopted for this thesis. **The chosen project concept is the initial idea which sets the project in motion: the conceptual solution chosen to satisfy the need of the client/owner organisation or solve their problem** associated with accommodating their organisation (scope of this research). Project concepts are thus multiple possible conceptual solutions that could provide this answer. What these conceptual solutions include, and how far they are developed is not stated in the literature found via the systematic search.

2.4 Front-end activities

It is generally agreed in literature that front-end planning is the responsibility of the owner (Gibson Jr. et al., 1995; Oh et al., 2016). However, engineering professionals may execute significant parts of the process as consultants. Therefore, it is important that the front-end planning process and activities are clear for who is performing the front-end planning process (Gibson Jr. et al., 1995).

2.4.1 Importance of the front-end activities

Many experts agree that the activities undertaken, and decisions that are made, in the front-end have a notably greater effect on the success of a project, than actions which are undertaken later on in the project (Gibson Jr. et al., 1995). Hjelmbrekke et al. (2014) even stress that “the first priority should be to ensure that relevant project concepts are chosen” (p. 663) for a project’s relevance, associated with the strategic success of a project.

The decisions that are made in the front-end highly impact the rest of the project and possibilities (Gibson Jr. et al., 1995). The needs of the client organisation in relation to the lock-in of the costs and

completion time of a project can for example influence the construction techniques possible or selection of the procurement strategy (El-Sayegh, 2009; Sutrisna & Goulding, 2019) and therefore affect the project concept creation and decision-making process.

2.4.2 The front-end planning process

The front-end planning process is complex, and should be shaped to the distinct business and project needs of the owner's domain (Gibson Jr. et al., 1995; Tzortzopoulos et al., 2006). To clarify the front-end planning process, Gibson Jr. et. al. (1995) aimed to provide a foundation for discussion within the engineering and construction industry about the requirements of a good front-end planning process by developing a generic model of what front-end planning process contains. The intention of this generic model was that it could apply to different project types and companies and serve as a basis for developing or refining the process within a company (Gibson Jr. et al., 1995). The activities and subprocesses as described by Gibson Jr. et al. (1995) are summarized in table 2.1.

Sub-processes and activities in the front-end planning process
<p>Organise for pre project planning</p> <ul style="list-style-type: none"> - the selection of a team to perform the process - setting the mission and responsibilities of the team to perform front-end planning - the refinement of the project concept into a workable concept - setting requirements based on corporate objectives - set priorities, a budget, a schedule and contracting strategy for completing pre-project planning
<p>Selecting alternatives</p> <ul style="list-style-type: none"> - evaluate existing and emerging technologies for feasibility and compatibility with the corporate business and operations objectives - weigh different siting locations against each other - prepare and compare conceptual scopes and estimates > select the alternative which is best for the business to study further
<p>Develop project-definition package</p> <ul style="list-style-type: none"> - identify and analyse the project risks related to the chosen project alternative - develop design: set the scope regarding costs, procurement strategy, operation and maintenance considerations - develop the procedures for managing the execution of the project by scheduling and setting milestones
<p>Decision-making</p> <ul style="list-style-type: none"> - determine the viability of the overall project > the "decision-maker" must weigh the business objectives and risk of the project, and decide if the project will meet the company's needs.

Table 2.1 | Sub-processes and activities in the front-end planning process (Gibson Jr. et al., 1995).

In these front-end activities, the chosen project concept is said to be further developed into a workable concept (Gibson Jr. et al., 1995), where “a more thorough evaluation of the business operations is said to improve the versatility and flexibility of the selected project option” (Tzortzopoulos et al., 2006, p. 663). Moreover, in the sub-processes as described by Gibson Jr. et al. (1995), different siting locations are to be weighed against each other, which involves choosing the best alternative. These could also be interpreted as project concepts that have to be decided upon, which is also discussed by Pilanawithana & Sandanayake (2017).

Pilanawithana & Sandanayake (2017) found that a CRE manager (who could perform the role of the project owner) is mostly supporting the business strategic directions by providing guidance to top management in deciding whether to construct new building facilities or instead to renovate or expand the existing buildings in the front-end (Pilanawithana & Sandanayake, 2017). These options can be interpreted as project concepts. In providing guidance in this decision-making, the CRE manager’s activities include advising top management on cost effective development options, sources of funding,

planning and development regulation, building modification and space requirements to perform the day to day business activities and type of buildings that suit these (Pilanawithana & Sandanayake, 2017). What activities are done to create these project concepts is not described in this study.

2.4.3 Client activities in the front-end

The activities that are part of the front-end planning process are performed by multiple actors within the client organisation: the front-end planning team, project owner and decision-maker(s) (Gibson et al., 1995). Instead of combining the activities of all actors involved in the front-end into one model, Tzortzopoulos et al. (2006) specifically summarized the ten client front-end activities for successful building outcomes. The client in this research is an organisation providing primary healthcare facilities in the UK, responsible for the development of one or more healthcare facilities (Tzortzopoulos et al., 2006).

As the client is said to be responsible for the project – which corresponds with the definition of the project owner for this thesis, the client’s activities as sketched by Tzortzopoulos et al. (2006) are interpreted as project owner activities. This does not mean the project owner is performing these activities alone, but it is expected that the project owner at least takes part in performing these activities. Therefore, the client activities as summarized by Tzortzopoulos et al. (2006), are still referred to as client activities below.

The client activities in the front-end can be classified as managerial and design activities (see figure 2.2). Firstly, managerial activities have to do with the business operations of the company and the definition of project management structures, such as determining the project organisation, and decision-making processes for a project. Secondly, the design activities of the client are focussed on providing the design team with the necessary information to develop and assess design solutions. To do this, the building vision has to be defined, the project objectives priorities have to be stated and requirements defined for developing the brief (Tzortzopoulos et al., 2006). Where managerial activities are internal to the client organisation, design activities have to do with preparing the project for the design team, and are oriented more towards the temporary project organisation instead of the internal client organisation.

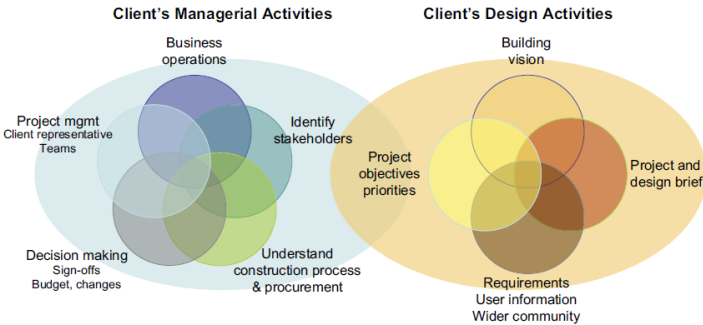


Figure 2.2 | Main client Managerial and Design Activities at the design front-end (Tzortzopoulos et al., 2006, p. 677).

Although the client activities in the front-end differ in nature, they are interrelated. There is for instance a clear link between a client’s business operations and the building requirements that are defined as a result of this: The management of requirements is an ongoing activity in the front-end planning stages of a project, since a client’s requirements can change or mature while a project further develops. At the front-end of a project, the uncertainties are high and the available information is scant. Part of the

client's business operations may still be unknown, or can change on the way which may result in redesign due to changing requirements. Too little interactions between the specification of requirements and business operations may result in unsuccessful outcomes while a disproportionate amount of interactions causes time delays and unnecessary design changes (Tzortzopoulos et al., 2006).

Additionally, missing appropriate decision-making structures within the client organisation can also impact the definition of requirements or result in many design changes (Tzortzopoulos et al., 2006), again showing the interrelatedness of the different front-end activities of the client.

For this thesis, the front-end activities are classified in three categories. These categories are:

- *Strategic analysis/definition and decision-making*
- *Operational and preparatory activities*
- *Aligning activities*

These categories of activities, as well as key issues associated with them, are discussed in the following sections. A summary of the activities within these categories can be found in table 2.2 on the next page.

For this table, besides Gibson Jr. et al. (1995) and Tzortzopoulos et al. (2006), front-end activities as described in the systematic review and structuring of Williams et al. (2019) are also included. This was done because this is a very recent publication that also discusses front-end activities based on an extensive review of literature on the front-end phase of projects.

2.4.4 Strategic analysis/definition and decision-making

Shiferaw & Klakegg, (2013) highlight that “the creation of an enabling environment for effective front-end project assessment and informed decision-making is vital for the success of projects” (p. 300). In this study, project success is seen operational terms (efficiency), tactical terms (effectiveness) and strategic terms (relevance, sustainability, and effects) (Shiferaw & Klakegg, 2013). To allow for assessment and informed decision-making, it is important to carefully perform problem analysis, needs assessment, prioritization and uncertainty assessments in the front-end (Shiferaw & Klakegg, 2013). This finding clearly shows the interrelatedness between different front-end activities.

Considering decision-making structures, having an effective project governance system at the front-end improves the basis for decisions and decision-making processes (Wee & Tavasszy, in Shiferaw & Klakegg, 2013). Project governance is herein the “decision-making framework that guides the development of a project within which important project decisions are made” (Garland, in Shiferaw & Klakegg, 2013, p. 291).

Having a “top-down project approach, lack of mandatory control gateways at the front-end project preparation and decision-making stages, and weak links between project stakeholders” (Shiferaw, Klakegg, & Haavaldsen, 2012, p. 52) can affect the effectiveness of a governance system. When front-end decisions are made without active participation of users or the wider community (especially in public projects), these stakeholders could miss the ‘feeling of having an ownership for the project’ which negatively impacts the sustainability of the projects effects, and thus a project's strategic success (Shiferaw et al., 2012; Shiferaw & Klakegg, 2013). Who to involve in the front-end decision-making, and in what way (how active) is thus important to consider in the front-end, showing the interrelatedness between decision-making activities and aligning activities such as stakeholder management.

Front-end activities	Based on fig. 3-6, in Gibson Jr. et al. (1995)	Based on table 1, in Tzortzopoulos et al. (2006)	Based on table 1 & fig. 2, in Williams et al. (2019)
Strategic analysis/definition and decision-making			
Setting scope, aims & ambitions	Prepare and compare conceptual scopes and estimates	Define building vision, aims and project objectives/priorities Requirements, user info, wider community	Set scope for conceptual solutions Set success criteria Generating the idea and the interest it would serve, needs analysis
Analysing context & risks	Identify and analyse the project risks	Explore benchmarks and learn from past projects	Analyse uncertainties, risks Analysing the context
Evaluating & decision-making	Weigh different siting locations against each other Weigh the business objectives and risk of the project, and decide if the project will meet the company's needs	Decision-making and sign-offs Requirements, user info, wider community	Decision-making (go/no go) / project selection
Operational and preparatory			
Define the project team	Selecting of a team to perform the front-end planning	Define a client in-house team	
Estimate costs and benefits	Set the scope regarding costs		Balance detailed information with selected facts Estimate costs and benefits
Develop project brief	Refine project concept into a workable concept	Project and design brief	
Setting up project execution (procurement)	Develop procedures for project execution: scheduling & milestones Procurement strategy, operation and maintenance considerations	Procure and determine project team Understand construction process	Project delivery system
Aligning			
Strategy alignment	Evaluate existing and emerging technologies for feasibility and compatibility with the corporate business and operations objectives Set requirements based on corporate objectives Weigh the business objectives and risk of the project, and decide if the project will meet the company's needs	Requirements, user info, wider community Describe business operations	Align project within portfolio
Stakeholder management		Identify stakeholders Requirements, user info, wider community	Identify stakeholders & stakeholder management

Table 2.2 | Front-end activities (own table, based on Gibson Jr. et al., 1995; Tzortzopoulos et al. 2006; Williams et al., 2019).

2.4.5 Operational and preparatory activities

Define a client in-house team

As the front-end is “very much shaped by the context in which it takes place, as well as by the perspectives, beliefs and motivations of the individuals involved” (Tzortzopoulos et al., 2006, p. 667), defining a client-in house team is an important activity in the front-end. It is important that team members are selected who have complementing skills and competencies and together suit the particular features of the project (Aritua et al., 2011). In case the client/owner organisation is for example lacking in-house construction competence, expertise should be contracted from external parties when composing the project team. By integrating construction input in the front-end phase of a project, the workability of plans increases as well as the chance of project success (Oh et al., 2016).

Who is part of the front-end planning team is very dependent on the size and complexity of a project. Besides, it is dependent on the expertise that is present within the client/owner organisation (Gibson Jr. et al., 1995). Consultants are often hired to perform front-end planning activities for construction projects (Nyaminani et al., 2019; Oh et al., 2016), while in case of operation and maintenance kind of projects, usually in house expertise is employed (Oh et al., 2016).

Overall, it is said to be important to have continuity in the people involved in front-end planning. Moreover, representatives from the facility users should be involved and the responsibilities should be clear to help the front-end planning team during the process (Gibson Jr. et al., 1995), again stressing stakeholder management.

Procure and determine project team

One of the key choices which has to be made in the front-end “concerns the selection of the most appropriate procurement system for a given project” (Rajeh et al., in Plantinga, Voordijk, & Doree, 2019, p. 303). The client can for example choose for traditional or more integrated ways of procurement, which impacts the role of the client organisation in the (rest of) the project and the internal client organisation (van Zoest, Volker, & Hermans, 2019). The choice for a particular procurement strategy may be drawn from the previous experience of individuals or capabilities of members of the client organisation/project team (Plantinga et al., 2019).

Where studies largely focus on the effects/benefits and risks of more integrative procurement strategies (Chan, Chan, Lam, Yeung, & Chan, 2011; Chan, Lam, Chan, & Wong, 2010), for the client (organisation) it all depends on the specific project or organisation what suits best. More integrative procurement strategies can for example enhance incentives and chances for improving the efficiency and innovation in projects. Here the limits for innovation are fundamentally set by the duration of a collaboration. Long-term commitments and early involvement in maintenance are favourable ways for innovation, which increases by the duration of the collaboration. Instead, increased efficiency can easier occur in collaborations with limited durations (Eriksson et al., 2019). Aspects as such should be taken into account when developing and choosing a procurement strategy, as “procurement choices may have significant impact on an organisation’s performance and attainment of strategic objectives” (Plantinga et al., 2019, p. 317).

2.4.6 Aligning activities

Strategy alignment

From the perspective of the owner (organisation), “the aim of planning and executing a project is to produce relevant value” (Hjelmbrekke et al., 2017, p. 64), which requires the owner’s strategies and users’ needs to be fulfilled by a project (Haddadi et al., 2017). In order to fulfil these, the owner’s strategies and users’ needs thus have to be identified and well understood and the goals of the project should be aligned with these at the initiation of a project (Hjelmbrekke et al., 2014; Hjelmbrekke et al., 2017; Shiferaw & Klakegg, 2013). But as Haddadi et al., (2017) note, “lack of satisfactory communication ... to identify the owner’s strategies and users’ needs is suggested as one of the major obstacles in achieving desired outputs” (p. 94) of the front-end, such as clear objectives and priorities (Haddadi et al., 2017).

When project governance (in charge of overseeing the project’s performance and making crucial decisions) states the strategic objectives and intended purpose of a project at the initiation and during the project, the alignment between the project and the owner’s strategic goals can be maintained. However, it is more common practice when the alignment between the initial project proposal and the strategic goals of the organisation are not explicitly stated, which is limiting value creation (Hjelmbrekke et al., 2017) and thus project success.

In CRE literature, alignment is largely discussed. Here it is said that in the process of achieving CRE alignment, the corporate goals, users’ needs and day-to-day operating activities of a business are to be analysed and deeply understood to determine a suitable CRE strategy and the corresponding CRE operating (accommodating) solutions (Beckers et al., 2015; Rytönen, Heywood, & Nenonen, 2017). In this alignment process, the role of the CRE manager (project owner) can be both advisory or directive in helping the executive board in the translation of needs into accommodating solutions, and can be done both reactively or proactively (Beckers et al., 2015).

But identifying the users’ needs and owner (organisation)’s strategies is a difficult task. Concerning users, a user involvement process can help with this. But issues with a process as such are “the users’ inadequate ability to recognize, formulate and balance their needs and demands” (Haddadi et al., 2017, p. 95). Moreover, it is good to be aware of the fact that ‘too early involvement of users’ might not bring the advantages hoped for. For value creation, it is best that users are actively involved when the project team is formed, as “the project team, including the owner, can significantly contribute to identifying and aligning users’ needs and owner’s strategies based on their experience and knowledge” (Haddadi et al., 2017, p. 95).

2.5 Alignment strategies

CRE managers (who could perform the role of project owners) can employ different alignment strategies in aligning CRE with the needs and requirements of their (client) organisation and end user: either by employing a control-oriented or involvement-oriented alignment strategy (Beckers et al., 2015; Rytönen et al., 2017). These alignment strategies are based on three key activities that can be used in managing CRE alignment with the needs of the client organisation and the end users. These activities are: coordination (inform), communication (participate) and decision-making (decision-making) (Beckers et al., 2015).

In a control-oriented alignment strategy, “the responsibilities, power and also often the financial resources are allocated to the strategic CREM level. The corporate strategies are translated into CRE strategies, which are the starting point for operating solutions” (Beckers et al., 2015, pp. 92-93). Communication is mainly happening at the strategic level of the executive board, as well as decision-making (Beckers et al., 2015).

On the contrary, in the involvement-oriented alignment strategy, the CREM department is mostly organising communication at the operational level of the organisation. The responsibilities, power and also financial resources are often allocated to the organisation’s lower levels (Beckers et al., 2015). In this alignment strategy, “the CRE operating solutions are directly derived from the operational processes and activities, resulting in a bottom-up approach in which communication with end users is key” (Beckers et al., 2015, p. 93).

Organisations (in the study of Beckers et al. (2015), universities) “tend to choose a combination of a little more control-oriented and a little less involvement-oriented CRE alignment strategy. In practice, that means that end users mainly participate in CREM issues or are informed about these issues by the CREM department” (Beckers et al., 2015, p. 94). This means that end users are much less involved in the decision-making around CREM than the executive board and middle managers are.

2.6 Theoretical framework and definitions

2.6.1 Overview

To provide an overview about what studies found about the project owner in relation to front-end and strategy alignment, a systematic literature search was performed. The articles that were found via this systematic search have been discussed in the previous sections, highlighting especially client activities in the front-end. What has been discussed in the theoretical background is used to operationalise the conceptual model for this research and to answer the first research sub question, being:

What is studied on the project owner in the project front-end and in relation to strategy alignment?

Research to date on the project owner has focussed mainly on client activities, emphasising especially procurement strategies and value creation through strategy alignment. The importance of the front-end is highly stressed in relation to a project’s success, where the project owner is said to be responsible for the project within the client/owner organisation and is/are to ensure that the project’s objectives are met and ambitions are realised. Hjelmbrekke et al. (2014) even stress that “the first priority should be to ensure that relevant project concepts are chosen” (p. 663) for a project’s relevance, associated with the strategic success of a project. But what project concepts are / include remains vague, as the literature concerning project concepts is very limited.

As project concepts are created in the front-end, the literature that was found via the systematic search, has been used to operationalise the conceptual model of this thesis. Here the client, triggers, response to triggers, front-end activities, stakeholders and alignment strategies are part of the theoretical framework (operationalisation of conceptual model) that is created. This theoretical framework is used to analyse data from case studies later on and eventually answer the research questions that were set for this graduation research. This theoretical framework is presented in figure 2.3.

2.6.2 Theoretical framework

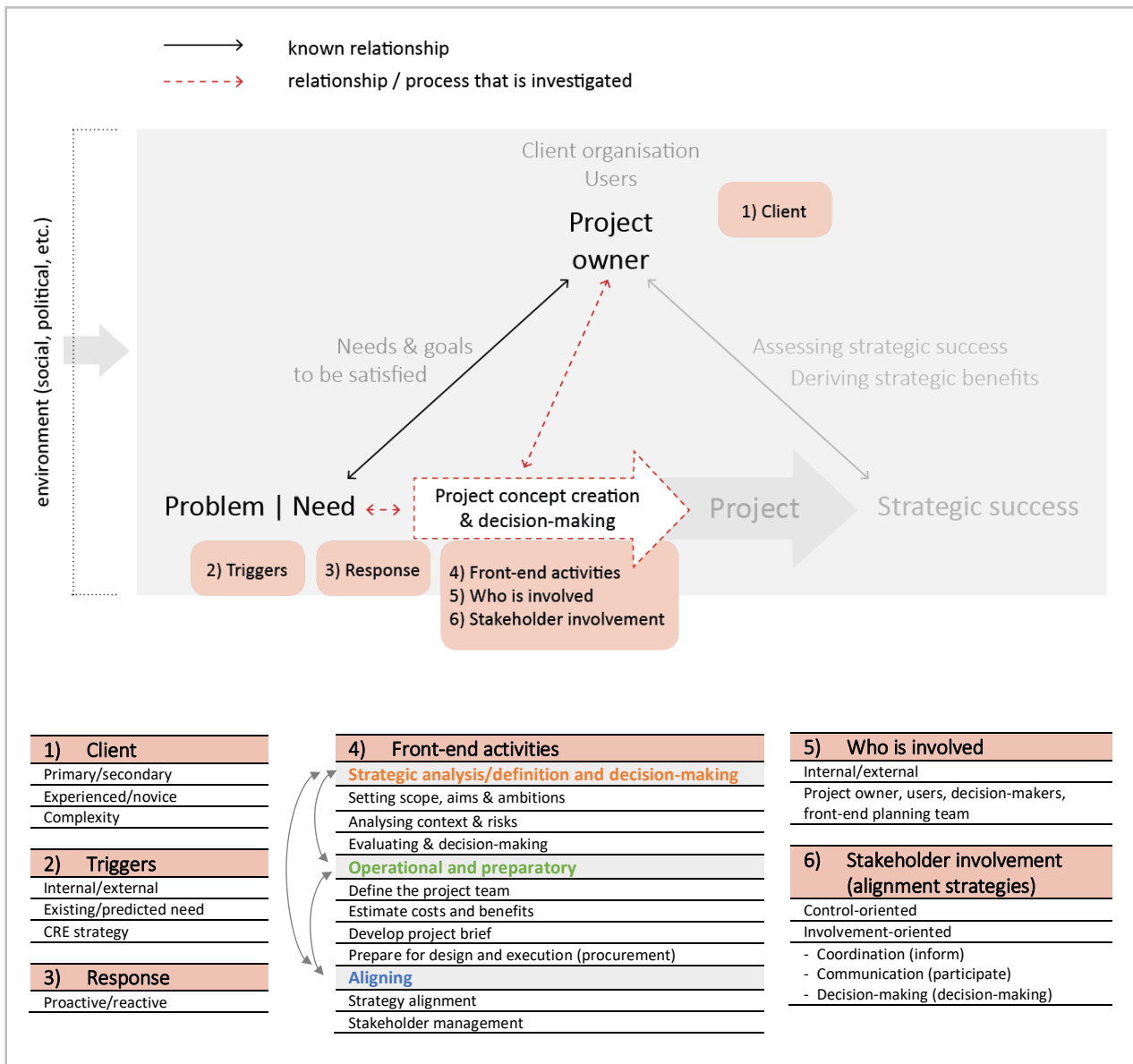


Figure 2.3 | Theoretical framework (own image).

First of all, the complexity of the client organisation relates to the variety of stakeholders it represents, and a client's experience depends on how many times a client has been involved in the commissioning of a construction project.

Secondly, the triggers for a project can be both internal and external to the client organisation. They can be existing or predicted needs, and should be based on the strategies (including CRE strategy) of the organisation that is implementing the project for the project to create value/achieve strategic success for the client organisation. A project owner (CRE manager) can both reactively or proactively respond to triggers. These triggers (problems/needs) form the start of the project concept creation process, as project concepts have to respond to these.

Three categories of front-end activities have been identified. These categories include strategic analysis/definition & decision-making activities, operational and preparatory activities, and lastly aligning activities. While the activities differ in nature, they are interrelated. This interrelatedness between the activities is depicted with the arrows between the different activity categories in the theoretical framework.

Concerning who is involved in the front-end is said to be dependent on the expertise present within the client organisation. This means external consultants can perform a large role, highlighting the importance of having the activities clear. The importance of involvement of users is highly stressed, as active participation of users or the wider community creates the feeling of ownership and increases the chances for project success.

Lastly, the kind of involvement of stakeholders depends on the alignment strategy that is employed for aligning CRE with the needs and requirements of the client organisation (decision-makers) and end-users and where operating solutions are derived from. Decision-makers and/or users can be informed, participate or be involved in the decision-making in terms of CRE. In the theoretical framework these alignment strategies and associating activities are presented as ways of stakeholder involvement, and are referred to as such from now on.

2.6.3 Definitions

The definitions for the project owner, project concept and front-end phase that were set in the theoretical background are repeated here to provide a good overview.

Project owner

The person(s) who is/are responsible for the project within the client/owner organisation and is/are to ensure that the project's objectives are met and ambitions are realised.

The front-end phase

The phase from the definition of the need of the client/owner organisation and the initial visualisation (idea creation) of project concepts until the final decision is made to do the project, and the project moves into the design phase.

Project concept

The chosen project concept is the initial idea which sets the project in motion: the conceptual solution chosen to satisfy the need of the client/owner organisation or solve their problem associated with accommodating their organisation (scope of this research).

Project concepts are thus multiple possible conceptual solutions which could provide this answer. What these conceptual solutions include, and how far they are developed is not stated in the literature found via the systematic search.

Chapter 3

Research method

3. Research method

3.1 Type of research

This research project started with interest in how projects in the built environment are approached in practice. Therefore, in this research, multiple projects were studied in their context.

This research is descriptive of nature, producing knowledge about practice and can be classified as empirical research (Barendse, Binnekamp, De Graaf, Van Gunsteren, & Van Loon, 2012). The steps of an empirical research process can be seen in figure 3.1.

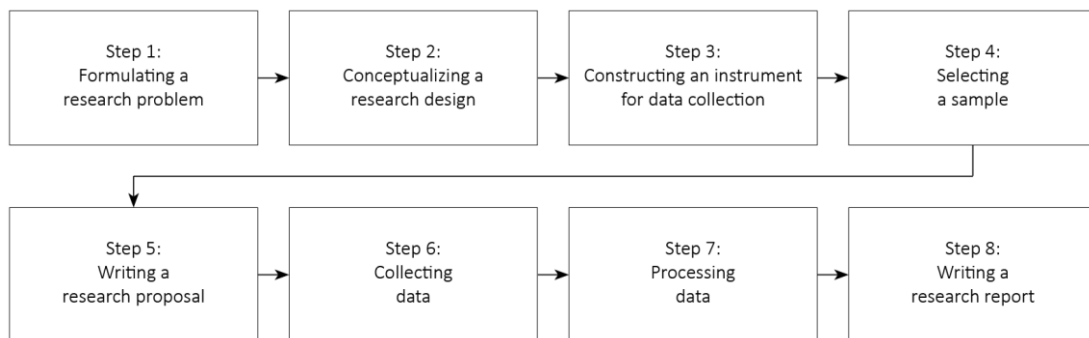


Figure 3.1 | Steps of an empirical research process (Kumar, 2019 p. 43) - edited.

The first step of the research process is to decide *what* to do, which has to do with formulating the research problem (Kumar, 2019). This was done by performing the systematic search of literature and literature presented in the introduction chapter. Besides, the theoretical background provided context, and, accompanied by a recent systematic literature review by Williams et al. (2019), led to a theoretical framework to guide the analysis and interpretation after the data collection.

The second part of the research process is about planning the *how* (Kumar, 2019). For this research, a qualitative research methodology was adopted. In qualitative research, the focus is on “the understanding of the social world through an examination of the interpretation of that world by its participants” (Bryman, 2012, p. 380). Two case studies were performed. These cases were selected based on selection criteria which can be found section 3.2.2.

The last phase of the research process is about *conducting the study*. This includes collecting and processing the data in order to write the research report (Kumar, 2019). In this study, qualitative data was collected by performing semi-structured interviews and reviewing documents of the project concept development phase. The findings of each case study were reported and compared with each other in a cross-case analysis. Hereafter, the findings were related back to literature discussed in the theoretical background, introduction chapter, and wider literature in the discussion of findings. From here, general conclusions were presented, where the research questions were answered and recommendations were provided for further research and practice at the end of this research report to complete the empirical research process.

3.2 Methods and techniques used

3.2.1 Case study research

For this graduation research, case study research was performed. A case study is an empirical method that: “investigates a contemporary phenomenon (the ‘case’) in depth and within its real-world context – especially when the boundaries between phenomenon and context may not be clearly evident” (Yin, 2018, p. 15). This methodology was chosen because to find out how project concepts are created and chosen in practice, it is useful to study the process in its real-world context.

For this case study research the unit of analysis were the processes of creating and deciding on project concepts for projects to accommodate an organisation. In total, two cases were studied and compared to identify critical aspects for project owners to focus on in creating and deciding on project concepts in practice for projects related to accommodating organisations.

Due to time constraints it was only possible to study two cases, although it is recognized that the value of the findings would have been greater with more case studies. The cases took place in different contexts, which was taken into account in the analysis.

3.2.2 Case selection criteria and case selection

To select the cases, the following case selection criteria were used:

1. In the cases, a minimum of 2, project concepts were created (apart from ‘the 0-option’ - proceeding without major changes or new investment).
2. It concerns large building projects (not infrastructure) since that is at the heart of this faculty and the researcher’s interest;
3. The need/problem in the cases had to do with accommodating an organisation (scope of the project > secondary clients);
4. A) The projects were at least in the definitive design phase, or past this phase to be able to reflect on the front-end phase at the time of data collection;
B) If the project was finished, it should have been recently finished, in relation to the available information and memory of the people involved. To be able to state how project concepts are created in practice it becomes more relevant if the project was recently performed, otherwise the results could already have been outdated – do not describe the present situation;
5. Dutch projects, to be able to conduct interviews in the native language.

To acquire the two case studies, the researcher started a graduation internship in mid-February at Royal HaskoningDHV, an independent international engineering and project management consultancy (Royal HaskoningDHV, 2020). In the search for a graduation company, the researcher focussed on large consultancy firms. It was assumed that here the availability of larger, complex projects, with a higher probability that different project concepts were created in the first place, was higher.

In the selection of cases, there were multiple options that fit the selection criteria. Therefore, cases were selected by means of available information and connections. The cases were selected in consultation with the internship company and the graduation mentors. The selected cases are **(1) the reorganisation of the housing of the office employees of Royal FloraHolland (RFH) and (2) the resettlement of 180 Amsterdam based employees of Royal HaskoningDHV (RHDHV).**

3.3 Data collection

The collection of data included conducting interviews and reviewing a variety of documents discussing progress, decisions and outcomes of the project concept development process. Data was collected from multiple sources of evidence to allow for triangulation of data, which strengthens the validity of the findings: “any case study finding or conclusion is likely to be more convincing and accurate if it is based on several different sources of information, following a similar convergence” (Yin, 2018, p.127).

For each case, multiple interviews were performed with members from the client organisation and external people involved to be able to draw a complete picture of the concept development phase. In total, seven people were interviewed via Skype or Microsoft teams, due to travelling restrictions and government rules that applied during the COVID-19 outbreak. Audio recordings were made in order to produce transcripts for data analysis. The interviews and collection of documents took place in March and April 2020.

In preparation of the interviews, documentation about the projects and information about the client organisations was read. A general interview protocol (see Appendix I) was made and used as a guideline in the interviews but left room to go with the flow of the conversation. The interview protocol consisted of multiple sections, related to the research questions and objectives that were set (at the time of interviewing).

The best way to approach the interviewees was discussed with the graduation mentors from RHDHV and TU Delft. Six out of the seven people who were interviewed were involved in creating and deciding on project concepts (three in each case) and could reflect on this process and on the project owner(s) in this process. The person who was not involved in creating and deciding on project concepts was the external Program Manager in the RFH case. This person was involved just after the project concepts were decided upon and provided mostly background information and context which was considered valuable. As this was the only external person interviewed in the RFH case, this person also provided another perspective, a more external view. Similarly, in the RHDHV case, besides two internal persons, one external consultant was interviewed, again providing this ‘external perspective’.

3.4 Data plan and ethical considerations

The FAIR guiding principles concerning data to be findable, accessible, interoperable and reusable were taken into account (Wilkinson et al., 2016), while also considering the privacy and confidentiality of the participants. Secondly, considering ethics, in case studies where human ‘subjects’ are involved in the research, specific ethical considerations arise (Yin, 2018). The National Research Council, in Yin (2018, p. 88) lists the aspects that should be taken into account, which are:

- Gaining informed consent, alert the participants on the nature of the case study;
- Protecting participants from harm and deception;
- Protecting the privacy and confidentiality of participants;
- Taking special precautions that might be needed to protect especially vulnerable groups;
- Selecting participants equitably, so that no groups of people are unfairly included or excluded from the research.

The ethical considerations were acted on in several ways. First of all, when the interviewees were approached, the aims and goals of the research were made clear. Secondly, the interviewees were asked for permission to audio record the interviews and to mention their function titles in the report (with regards to privacy and confidentiality) via an informed consent (Appendix II) before the interview took place. Thirdly, the interview transcripts were not included in the appendices to prevent any possible harm and/or deception. Moreover, no vulnerable groups, such as children, were included as participants in the research. Finally, the participants were selected in an equitable way.

3.5 Data analysis

3.5.1 Coding

To analyse the collected data, the transcripts and documents were uploaded into Atlas.ti. This is a computer software program in which data can be coded. Coding was used to review transcripts by giving labels (names) to parts of text that seem to be of “potential theoretical significance and/or that appear to be particularly salient within the social worlds of those being studied” (Bryman, 2012, p. 568). Coding is one of the main processes in grounded theory, which is an iterative approach concerned with developing theory out of data. It is advised to start coding as soon as possible, to sharpen the understanding of the data (Bryman, 2012). In this graduation research, the coding was started after the first three interviews were conducted (two in the RFH case and one in the RHDHV case).

In coding, the data is considered as possible indicators of concepts that are constantly compared. “Constant comparison enjoins the researcher constantly to compare phenomena being coded under a certain category so that a theoretical elaboration of that category can begin to emerge” (Bryman, 2012, p. 568). Coding the data does not mean analysing the data. It is a way to reduce the vast amount of data that is gathered and helps thinking about the meaning of the data (Huberman & Miles, in Bryman, 2012).

Multiple steps were made in the coding. As the first step in this process, the interview transcripts were read to identify general themes or categories. A first round of coding was done, after which many followed. By going through multiple interview transcripts and documents, categories started to emerge on different levels. Some codes were more general and others more specific within certain categories. Alongside coding the data, memos were written which later were used in writing about the case studies.

The first rounds of coding were done without having developed the theoretical framework (figure 2.3). This open coding process resulted in the inductive codes in table 3.1 (Bryman, 2012). In this coding process, three levels of project concepts were identified. The creation, decision-making and who was involved was coded separately for these different levels (1-3 in table 3.1). These levels were labels as:

General inductive codes
General info
Context
Strategy (corporate & CRE)
Triggers
Time
Project concepts
1) Portfolio (of locations) project concepts
- Creation
- Decision-making
- Who
2) Office/workplace project concepts
- Creation
- Decision-making
- Who
3) Building/location project concepts
- Creation
- Decision-making
- Who

Table 3.1 | The inductive codes (own table).

- 1) Portfolio (of locations) project concepts
- 2) Office/workplace project concepts
- 3) Building/location project concepts

After developing the theoretical framework, more depth was found in the different coding categories that were previously used. The quotations (raw data) corresponding to specific (inductive) codes were exported to Excel to have clearer overview of what 1st order concepts, 2nd order themes and aggregate dimensions could be identified. This process of more specifically working on a certain category (coded in Atlas.ti) by using Excel, resulted in having a closer look into the data where the theoretical framework was employed (deductive approach) and created the structure of the case studies chapter (Bryman, 2012).

Employing the theoretical framework meant that ‘creation’ could be coded in more detail through the front-end activities, ‘who’ was split into internal/external and decision-maker/users etc. and stakeholder involvement was coded with inform/participate/decision-making.

3.5.2 Case analysis and cross-case analysis

As explained, the coding resulted in the identification of project concepts on different levels/phases in both cases. These different levels were analysed separately by making a chronological story of each level and determining the kind of client, triggers, responses, activities, who was involved and how the stakeholder involvement was done, following the theoretical framework (figure 2.3).

In reporting the case study findings, the activities under the three activity-categories were used as headings for the different sections. In discussing the activities, who was involved and how the stakeholder involvement was done is also highlighted. Moreover, a summarizing scheme (see figure 3.2 for an empty example) is presented at the end of each project concept level together with concluding notes. These summarizing schemes and concluding notes formed the basis for the cross-case analysis, where similarities and differences between the case study findings were discussed and elaborated upon.

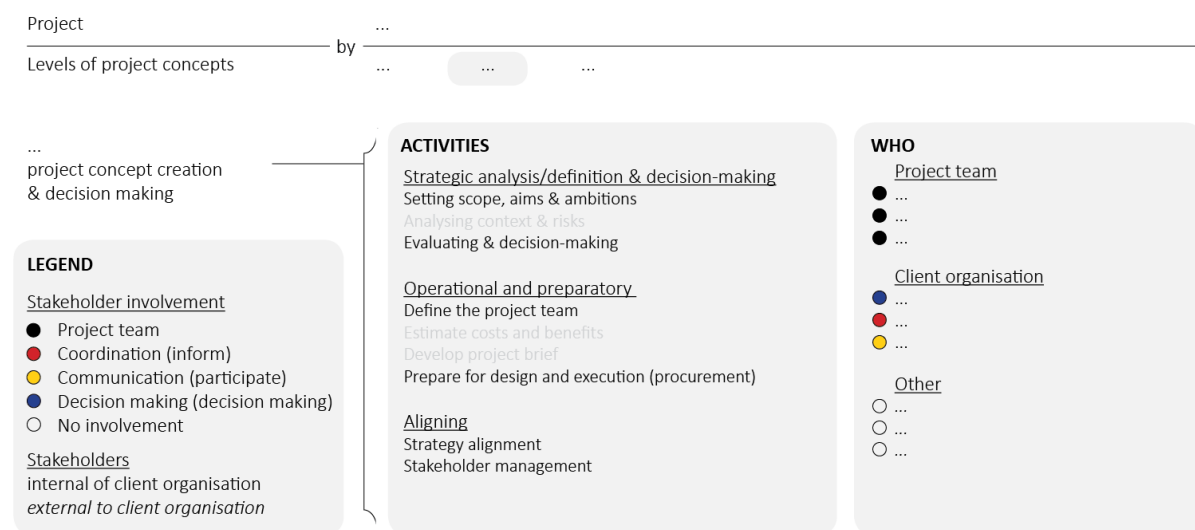


Figure 3.2 | Empty summarizing case analysis scheme (own image).

Explanation of the summarizing scheme (figure 3.2)

The content of the summarizing scheme was made based on the theoretical concepts identified in the theoretical framework (figure 2.3), and is build up as follows:

- At the top of the scheme, the project and project concept levels are presented. The project concept level that the scheme is representing is highlighted.
- The left column is stating the project concept level and provides a legend.
- The middle column lists the activities that were identified in the theoretical framework. The activities are shown in black when they are performed in that project concept level, and in light grey if they were not performed (as randomly shown in figure 3.2).
- The right column is concerning who is involved, where the external stakeholders are written in italic font and the internal stakeholders in a regular font (see legend). Lastly, the colour of the circle in front of the listed stakeholder represents the kind of involvement (see legend).

3.5.3 *Deriving the critical aspects for project owners to focus on*

After the case studies were discussed separately and were compared with each other in the cross-case analysis, certain themes arose that the interviewees mentioned to be important, discussed a lot about, and were prominent in the process of creating and deciding on project concepts. These formed the basis for the critical aspects, that became even more clear through discussing the findings in relation to literature. Furthermore, the critical aspects were also formed by the answers to the sub research questions.

Lastly, the interviewees were also asked about whether they would do certain things differently another time and what aspects were impacting the project concept creation and decision-making both in a positive and negative way. The answers to these questions also provided valuable input for the critical aspects.

Chapter 4

Case studies

4. Case studies

As discussed in the previous chapter, two cases were selected to gain insight in the process of creating and deciding on project concepts in practice. For both of the cases, multiple interviews were conducted and documents reviewed. An overview of the interviews and documents (table 4.1 & 4.2) is provided below in alphabetical order. Moreover, for the case descriptions, general information about the organisation was gathered from webpages and documents found via the websites of the organisations. These sources are included in the references. In the discussing the cases, the interviewees are referred to by their function titles during the time of project concept creation and decision-making.

RFH: The reorganisation of the housing of the office employees

Interviews held with:

- Concern Manager Real Estate & Facility Management (Concern Manager RE&FM)
- Manager Real Estate & Lease (Manager RE&L)
- Program Manager (PM) (external consultant)
- Real Estate & Housing Consultant (RE&H Consultant)

Title	Author	Date	Document type	# pages
Goedkeuring Kantoorhuisvesting Aalsmeer Raad van Commissarissen FloraHolland	-	May 2015	PowerPoint slides	19
SamenWerken: Resultaten fase 1 definitiedocument	-	September 2014	PowerPoint slides	24
SamenWerken – VT	-	October 2014	PowerPoint slides	20
Toelichting Kantoorhuisvesting Aalsmeer	-	September 2015	Word report	7

Table 4.1 | Documents received RFH (own table).

RHDHV: The resettlement of 180 Amsterdam based employees

Interviews held with:

- Business Developer (Business Developer)
- Consultant & Co-founder Copper8 (Copper8) (external consultant)
- Director Procurement & Facility Management (Director Procurement & FM)

Title	Author	Date	Document type	# pages
Contact Amsterdam Case study	RHDHV	n.d.	Report	6
Article 'facts': interview with Director Procurement & FM	-	August 2018	Word report	4
Leidraad RHDHV/KvE "Nieuwe huisvesting Amsterdam"	Smedts, F.	November 2015	PDF Report	21
Plan of Approach	-	November 2015	PowerPoint slides	
Resultaten werksessie - RHDHV showcase kantoor Amsterdam	-	June 2015	PowerPoint slides	7
Smart Workplace: Story behind Amsterdam office	Bekkering, P.	March 2018	Webmagazine	8
Trade-off matrix	Wijngaarde CO, BAM & AM	February 2016	PDF	1
Value case en uitvraag RHDHV	Kantoor Vol Energie (KvE)	May 2015	PowerPoint slides	73
Royal HaskoningDHV in Amsterdamse broedplaats: 'Om te innoveren moet je niet alleen opereren'	Hentenaar, R.	June 2017	PDF of online article	3

Table 4.2 | Documents received RHDHV (own table).

4.1 Case Royal FloraHolland

4.1.1 Case description

Company profile

De Koninklijke Coöperatieve Bloemenveiling Royal FloraHolland U.A. (The Royal Cooperative Flower Auction Royal FloraHolland U.A.) has been an (international) marketplace for floricultural products for over a 100 years (Real Estate & Facility Management, 2019; Royal FloraHolland, n.d.). Being the international market leader, the auctions offer their customers a very wide variety of flowers and plants. Around 20,000 different floricultural products are offered each day, which are produced all over the world (Real Estate & Facility Management, 2019).

“Royal FloraHolland is a cooperative, with 4,500 members from the Netherlands and other flower producing countries, together owning the business. Around 6,000 growers from all over the world supply their flowers and plants to the various locations. The aim of the cooperative is to bring its member growers into the best possible market position at the lowest possible cost” (Real Estate & Facility Management, 2019, p. 5).

The RFH Flower Auction offers its growers and customers a network of five (inter)national market places, in close proximity to the main Dutch production areas (see figure 4.1) (Real Estate & Facility Management, 2019). In recent years, digitalization has become more important for RFH. From being a physical marketplace, RFH is increasingly becoming the service provider for the auction of the flowers and plants (PM RFH, 2020; RE&H Consultant RFH, 2020).

Around 2,500 people work for RFH and the network of market places generate a turnover of 4.8 billion euros in flowers and plants per year. RFH is an international company with strong Dutch characteristics: cooperative, transparent, level-headed and reliable (Real Estate & Facility Management, 2019; Royal FloraHolland, 2020).



Figure 4.1 | RFH locations in the Netherlands (own image).

Merger organisation and real estate

RFH is a merger organisation. On January 1st 2008, the Bloemenveiling Aalsmeer and FloraHolland in Naaldwijk merged. This resulted in RFH operating from five locations in the Netherlands, with offices in three of these locations, being Naaldwijk, Rijnsburg and Aalsmeer (see figure 4.2-4.5) (Caminada Notarissen, 2019; Manager RE&L RFH, 2020), these are referred to as ‘office locations’.

Figure 4.5, clearly shows the enormous amount of sqm of real estate (this is only shows the Aalsmeer location) of RFH. Much of this real estate consists of logistical halls. The office buildings in Aalsmeer are located across the roundabout on the bottom of figure 4.5, and can be seen in more detail in figure 4.2. Besides the tower, main building and Zuidzicht, another two small office buildings are located at the other end of the Aalsmeer site (RvC – kantoren Aalsmeer, 2015).

After the merger, RFH became an organisation with around 2.5 million sqm of real estate, of which the offices are only around 100.000 sqm. Due to the enormous amount of real estate, there is a continuous program devoted to the maintenance and expansion of real estate (Concern Manager RE&FM RFH, 2020; PM RFH, 2020).

Until 2014, investments have mostly been allocated to the logistical process, which is RFH's core business. As RFH is operating in a very volatile market, it wants to keep its operational costs under control in case of setbacks. Especially in Aalsmeer, investment in the offices for employees who are not bound to the logistical process have been largely neglected (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020). These employees who are not bound to the logistical process are from here on referred to as 'office employees'.



Figure 4.2 | Offices in Aalsmeer: Tower (left), Main building (middle), Zuidzicht (right) (RvC – kantoren Aalsmeer, 2015).



Figure 4.3 | Offices in Rijnsburg (RvC – kantoren Aalsmeer, 2015).



Figure 4.4 | Offices in Naaldwijk (RvC – kantoren Aalsmeer, 2015).



Figure 4.5 | Auction terrain Aalsmeer (van Middelkoop & Aerophoto-Schiphol, 2017).

RFH as a client

RFH is considered a more complex client, as the company is owned by a cooperative with many members, and employees. Decisions concerning large investments have to be approved by a Supervisory board. This Supervisory board monitors the decisions made by the Management team.

The organisation is organised in different departments that report to the Management team. Amongst these departments, the Real Estate & Facility management (RE&FM) department is responsible for the CRE of RFH. The Concern Manager RE&FM is the head of the RE&FM department. The RE&H Consultant is working in the Real Estate team within RE&FM, led by the Manager RE&FM (see figure 4.6) (Concern Manager RE&FM RFH, 2020; Manager RE&L RFH, 2020; PM RFH, 2020; RE&H Consultant RFH, 2020).

Although the organisation has a large amount of real estate, and has a constant program dedicated to it, the offices have not gained much attention up until 2014. No large amount of work has been done regarding the office environment, making RFH a more novice than experienced for these projects. Thus RFH can be classified as quite complex, more novice secondary client.

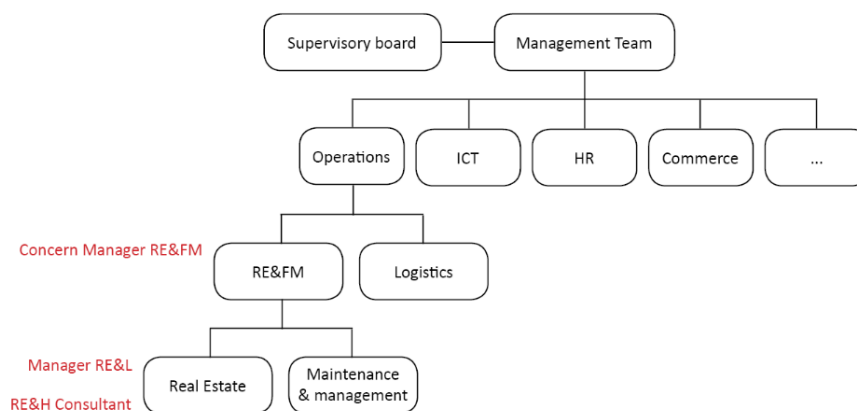


Figure 4.6 | Organisational structure RFH (own image) - interviewees that are internal of the client organisation are presented in red.

Project owners

The Concern Manager RE&FM carried the final responsibility for the project. But as the RE&H consultant also carried responsibilities (on behalf of the Concern Manager RE&FM), it is established that these two together fulfilled the role of the project owner. As the project (as will be explained) focused on the work environment of RFH as a whole, this was a large undertaking. That might be why in this case, two project owners shared the responsibilities on different levels in the organisation (Concern Manager RE&FM RFH, 2020; PM RFH, 2020; RE&H Consultant RFH, 2020).

The project: The reorganisation of the housing of the office employees

In 2013, a strategic real estate exploration was performed to plan the development of RFH's real estate until 2023. Part of this exploration was the housing of the office employees. The initial plan was to not invest in the office location in Aalsmeer, and utilize the qualitatively better accommodations in Rijnsburg and Naaldwijk (Toelichting Kantoorhuisvesting Aalsmeer, 2015).

But this was in 2013... In May 2015 the decision was made to invest in the offices in Aalsmeer after all. It was decided to reorganise the housing of the office employees by implementing the workplace concept 'SamenWerken' (WorkTogether) in the existing locations Naaldwijk & Aalsmeer through refurbishing the Naaldwijk office and integrating Zuidzicht (Aalsmeer) in an extension (Concern Manager RE&FM RFH, 2020; Manager RE&L RFH, 2020; PM RFH, 2020; RE&H Consultant RFH, 2020; RvC – kantoren Aalsmeer, 2015). This decision was triggered by several internal factors and made by developing project concepts on three levels. These triggers and the project concept levels that were developed in response are discussed in the following sections.

4.1.2 Triggers

The internal triggers that initiated the reorganisation of the housing of the office employees are categorized in three themes and discussed below.

Internal trigger: Organisational restructure and change

The merger of 2008 between the Bloemenveiling Aalsmeer and FloraHolland in Naaldwijk required RFH to reactively restructure the organisation of the company's processes and its office accommodation (PM RFH, 2020; RE&H Consultant RFH, 2020). How to really shape the organisation as 'one' started around 2014 (PM RFH, 2020).

Another event that required RFH to react was a strike among RFH's employees, that took place in the beginning of 2014 (Concern Manager RE&FM RFH, 2020). Employees were unsatisfied with the working conditions and also the potential relocation was one of the reasons to strike (Toelichting Kantoorhuisvesting Aalsmeer, 2015).

Besides the merger and strike, RFH proactively introduced change by appointing a new CEO in the beginning of 2014. This new CEO introduced a new strategy called FH2020 (FloraHolland2020), Flowering the world Together. One of the most important aspects of this strategy was for the different locations to really unite and collaborate instead of compete between them: *"It [the organisation] was not yet really one. Therefore, the subtitle of the strategy was: Flowering the world Together. So it was also very much on that word 'Together' as well"* (Concern Manager RE&FM RFH, 2020).

The new corporate strategy focused on the modernisation and digitalization of the business operations which also included the modernisation of the company's real estate and efficient use of office space (Concern Manager RE&FM RFH, 2020; RvC – kantoren Aalsmeer, 2015; Toelichting Kantoorhuisvesting Aalsmeer, 2015). This part of the corporate strategy thus concerned the CRE of RFH. As RFH has a wide variety of real estate, the offices were only a small part of the CRE strategy. Concerning offices, the CRE strategy focused on intensifying collaboration, in line with the FH2020 strategy (Manager RE&L RFH, 2020; Toelichting Kantoorhuisvesting Aalsmeer, 2015).

Internal trigger: Review of current requirements and use

Multiple attempts had been made to change the company's office environment as it was outdated and old, especially in Aalsmeer. Here the main building dated from 1976 and only Zuidzicht, built in 2001, was up to the quality standards. But before 2014, no budget was made available to really improve the workspaces as a way to keep the operational costs down (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020; Toelichting Kantoorhuisvesting Aalsmeer, 2015).

In 2014, a first exercise was done by the RE&H Consultant to map the amount of workplaces and reactively evaluate the sub-optimal performance of the office space, both quantitatively and qualitatively. This analysis showed how the amount of office employees decreased between the merger and 2014, but the amount of sqm of offices stayed the same. There were 1,6 workplaces available per office employee, while 0,8 workplace per FTE (full time equivalent) was the benchmark (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020; Toelichting Kantoorhuisvesting Aalsmeer, 2015): *"Then we found out that the ratio was definitely not ok compared to modern office environments, as there were benchmark figures about this ratio of course. That was actually a kind of start"* (Concern Manager RE&FM RFH, 2020). The ratio between amount of workplaces and office employees clearly showed the

need to change something about the offices/workplaces of the office employees. Moreover, the office activities increasingly concentrated in Aalsmeer and Naaldwijk (Manager RE&L RHF, 2020).

Internal trigger: Strategic reorientation to the future market

The new CEO had a clear vision regarding the housing of employees (RE&H Consultant RFH, 2020). One of his first statements was that collaboration should be intensified within the organisation: *“One of the first strategies he actually introduced was that we needed to collaborate more in the organisation”* (Concern Manager RE&FM RFH, 2020). This required the re-thinking of space use as in the offices, people were working behind closed doors and different divisions were working in silos (RE&H Consultant RFH, 2020; RvC – kantoren Aalsmeer, 2015; Toelichting Kantoorhuisvesting Aalsmeer, 2015).

The office environment did not contribute to the employer’s image by being closed off and outdated; expressing an office environment RFH did not want to identify itself with (RvC – kantoren Aalsmeer, 2015). There was a clear need within the organisation to break through the silo’s and have one RFH, instead of Naaldwijk, Rijnsburg and Aalsmeer all having their own culture. In order to attract new employees, but also to retain existing talent, RFH was stimulated to rethink their space use (RE&H Consultant RFH, 2020). This rethinking of space use was done reactively, but the CEO proactively introduced its vision regarding the housing of employees.

Summary and classification of triggers

As can be seen in table 4.3, all triggers are classified as internal, existing needs. The triggers are classified as internal because they all present the result of internal change or needs. There were no external factors that led to the reorganisation of the housing of the office employees. Secondly, the needs are considered existing as the actions that were taken in response to these were to change the current situation into one that better suited the organisation’s current needs. This also meant a mostly reactive approach. But the proactive actions of the new CEO with introducing a new strategy, that also impacted the CRE strategy and thus eventually RFH’s CRE, was eventually the ‘push’ that started the project to reorganise the housing of the office employees.

Triggers		Response		
Category	Internal/External	Predicted/Existing need	Reactive/Proactive	
<i>Organisational restructure and change</i>				
- Merger	Internal	Existing need	Reactive	
- Strike among RFH’s employees	Internal	Existing need	Reactive	
- New CEO with new strategy	Internal	Existing need	Proactive	
- New CRE strategy	Internal	Existing need	Reactive	
<i>Review of current requirements and use</i>				
- Quality of workplaces	Internal	Existing need	Reactive	
- Quantity of workplaces	Internal	Existing need	Reactive	
<i>Strategic reorientation to the future market</i>				
- Rethinking space use	Internal	Existing need	Reactive & Proactive	

Table 4.3 | Summarizing table triggers and response RFH (own table, based on theoretical framework).

4.1.3 Three levels of project concepts

As previously mentioned, in May 2015 it was decided to reorganise the housing of the office employees by implementing the workplace concept SamenWerken in the existing locations Naaldwijk & Aalsmeer through refurbishing the Naaldwijk office and integrating Zuidzicht (Aalsmeer) in an extension. This decision was made in multiple steps, that can be considered as project concepts on different levels.

Three levels/phases of project concept development were identified, as at each level/phase, a fundamental conceptual solution was chosen to satisfy the need of the client/owner organisation or solve their problem associated with accommodating their organisation (scope of this research). Each level included different kinds of activities, there were different people involved, and stakeholder involvement was done in different ways. These different levels of project concepts are labelled as:

- 1) Workplace concept SamenWerken
- 2) Portfolio (of locations) project concepts (2 sub levels)
- 3) Building/location project concepts

The three levels/phases of project concept development are discussed chronologically, while their development largely took place in parallel as can be seen in figure 4.7. After each level, a scheme (figure 4.8, 4.9 & 4.15) summarizing the activities, who is involved and how stakeholder involvement was done is presented.

To provide an overview before the different levels of project concepts are discussed separately, the timeline in figure 4.7 shows the triggers (T), project concept levels (1-3 in yellow) and decision-making (DM) of the RFH case.

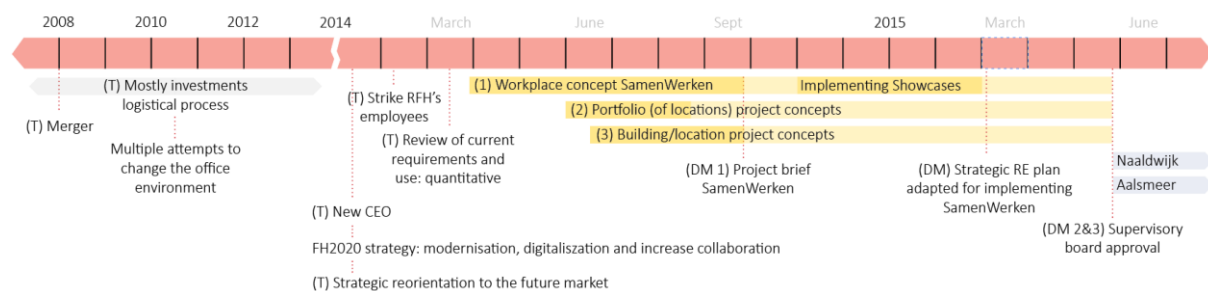


Figure 4.7 | Timeline RFH case: Triggers (T), Project concepts (1-3 in yellow) and decision-making (DM) (own image, based on interviews and documents received).

Workplace concept SamenWerken

This first level of project concepts was the development of workplace concept SamenWerken for the organisation as a whole (RE&H Consultant RFH, 2020). This program aimed to create a modern, innovative working environment that encourages collaboration, both appealing to current and future employees (SamenWerken definitiedocument, 2014).

Although no alternative project concepts were considered for SamenWerken, the development of the workplace concept is shortly discussed and the activities, who is involved and stakeholder involvement is analysed to give a complete story and background for the project concepts that were developed on the two consecutive project concept levels for the implementation of SamenWerken: *“So first, there was the concept [SamenWerken] and then they went to see where they could apply it”* (PM RFH, 2020).

Strategy alignment and analysing context (problem/need analysis)

The demand for more collaboration (from the corporate and CRE strategy) was picked up by the RE&FM department; by the RE&H Consultant and Concern Manager RE&FM in particular, responsible for the project as project owners. The initiative was started to think about how collaboration could be stimulated through the office environment (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020; SamenWerken definitiedocument, 2014).

The RE&H Consultant started with investigating the quantitative demand and supply of workplaces in the different office locations of RFH. Hereafter, also the qualitative element was added to review (RE&H Consultant RFH, 2020). For location Aalsmeer, apart from Zuidzicht, the office space did not comply with the current quality standards and thus resulted in too little good quality office space (PM RFH, 2020; RE&H Consultant RFH, 2020; Toelichting Kantoorhuisvesting Aalsmeer, 2015).

Multiple things came together at the same time: The aim to increase collaboration, the ratio between workplaces and office employees and the backlog of investment in the offices (especially in Aalsmeer) (Concern Manager RE&FM RFH, 2020):

“In fact, it all fell into place, in the right place, at the right time. Perhaps it was quite a coincidence. Because there was a new CEO who immediately picked it up, as something that could also help him in his strategy. Then that ball [the idea to change the work environment for the office employees] actually started rolling” (Concern Manager RE&FM RFH, 2020).

Defining the project team & requirements

A project team was formed, consisting of the RE&H Consultant, Concern Manager RE&FM, and representatives from the HR, ICT and Commerce department to further review the current quality of the offices and define general requirements for the future office environment (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020). Here the regulations concerning working conditions, among other things, were set as preconditions for the future work environment (SamenWerken definitiedocument, 2014).

Setting ambitions, objectives and defining the scope (target group)

Ambitions for the work environment were set in May 2014, being that RFH offers its employees an attractive work environment where everyone wants to work. Furthermore it should offer a work environment that facilitates SamenWerken, encourages encounters, facilitates what is necessary to achieve results, matches the desired corporate image and reduces travel time & travel costs as much as possible (SamenWerken definitiedocument, 2014).

The target group was determined, being employees who perform office work for a minimum of two consecutive hours per day, excluding logistical-bound employees (SamenWerken definitiedocument, 2014). These are referred to as ‘office employees’. Moreover, in the beginning of May 2014, the project team set objectives for the office environment (SamenWerken definitiedocument, 2014; RE&H Consultant RFH, 2020). The objectives were to:

- Increase employee satisfaction;
- Improve the quality of the working environment (it must meet the health and safety requirements);
- Decrease the amount of sqm of office space (from 1.6 workplace per FTE to 0.8 workplace per FTE);
- Increase collaboration, so that people can find each other more easily.

Stakeholder management

The objectives that were set by the project team were proposed to the Management team and showed what was needed in relation to the office environment. The Management team, functioning as the decision-makers for this program and its implementation, agreed with the objectives and the project team started developing the project brief (a basis document) (RE&H Consultant RFH, 2020). *“We have always kept repeating [the objectives] to those who had to make decisions”* (RE&H Consultant RFH, 2020) as a way to gain and keep support for the project.

The Management team was actively involved in the development of the workplace concept through discussing ideas and reporting in progress presentations, from when it became clear that there was both a problem with the quantity and quality of the workplaces (RE&H Consultant RFH, 2020). *“So we actually included management in the process from the moment it was established that it was not satisfactory, supply and demand, quality and quantity”* (RE&H Consultant RFH, 2020).

Developing the project brief

A project brief (basis document) was developed until September 2014 by the project team to guide the implementation of the program SamenWerken, and focused on Behaviour, Bytes and Bricks (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020; PM RFH, 2020; SamenWerken definitiedocument, 2014). Here Behaviour was about the way of working. Secondly, Bytes was about Wifi, software and other ICT related aspects. Lastly, Bricks was about the use of space as an organisation as a whole (over the different locations) and within the buildings, concerning the quantity, quality and the look & feel (SamenWerken definitiedocument, 2014).

The project brief discussed the problem analysis, highlighting the urgency for improving the work environment and thus for the program SamenWerken and its implementation. Moreover the ambitions and objectives were described, requirements concerning Behaviour, Bytes and Bricks and a general planning for its implementation. Concerning the Bricks it was for example decided to cluster the workplaces in each locations into one building, to maximize encounter between office employees (SamenWerken definitiedocument, 2014). Which excluded portfolio (of locations) project concepts later on.

Describe business operations (strategy alignment) through inspiration projects (analysing context)

Several ‘ways of working (together)’ were described by the project team (Concern Manager RE&FM RFH, 2020; SamenWerken definitiedocument, 2014). In developing these ‘ways of working (together)’, input was gathered from different teams within RFH (SamenWerken VT, 2014). Moreover, to collect inspiration and discuss ideas, people who were working on an HR program to increase collaboration at the NS (Dutch railway), among others, were invited by the project team. This NS program both had to do with the hard (bricks - physical) and the soft side (behaviour), that overlapped with RFH’s approach for the SamenWerken program (Concern Manager RE&FM RFH, 2020). Additionally, work environments of other organisations were visited to see whether for example activity based working would fit RFH, which mainly the RE&H Consultant was working on (Manager RE&L RHF, 2020). The defined ways of working (together) were also described in the project brief (SamenWerken definitiedocument, 2014).

Stakeholder management & strategy alignment

In the development of the project brief, the ideas were shared with a steering committee around the FH2020 strategy, to ensure the project brief was going 'in the right direction' (in alignment with the FH2020 strategy) and if it should be expanded/changed in any way. A delegation of the Management team was part of this steering committee, as well as the Concern Manager RE&FM (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020; SamenWerken definitiedocument, 2014). *"We developed the first basic idea with that project team. And we discussed that with a separate steering committee around that strategy a number of times"* (Concern Manager RE&FM RFH, 2020).

Lastly, in developing the definitive version of the project brief, the Works council was informed about the SamenWerken program and was informed in the implementation (SamenWerken definitiedocument, 2014).

Implementing workplace concept SamenWerken

Stakeholder management in further developing the project brief

The program SamenWerken entered a next phase. The project team had finished its activities and decomposed in September 2014 (SamenWerken definitiedocument, 2014), but HR and ICT and Commerce were kept informed: *"We informed them about the steps we are taking, so that that support also became somewhat broader"* (RE&H Consultant RFH, 2020).

The next phase included testing the workplace concept SamenWerken by implementing it in so called showcases and an elaboration on the Bricks aspect, that happened in parallel (RvC – kantoren Aalsmeer, 2015; SamenWerken definitiedocument, 2014; SamenWerken VT, 2014). This meant decisions had to be made on a portfolio (of locations) level, being where to implement the program SamenWerken.

The showcases were initiated to be able to evaluate the project brief thus far and have office employees participate in thinking about how to change the office environment by adapting their work environment. Two enthusiastic teams/departments joined and a consultancy firm, specialised in new ways of working, was involved to guide the process. The showcases were not only about physical changes to the office environment (look & feel) but also the way of working together (Concern Manager RE&FM RFH, 2020; SamenWerken definitiedocument, 2014). *"So it was really more about office furnishing"* (RE&H Consultant RFH, 2020). *"We are going to mobilize the people who want to join first ... to create a flywheel"* (SamenWerken definitiedocument, 2014).

Summarizing scheme and concluding notes

- **Activities in creating & deciding on project concepts:** Creating and deciding on the workplace concept SamenWerken mostly included aligning activities as ways to achieve support from the decision-makers in the client organisation. Moreover, the project team started setting ambitions and objectives, forming the basis for the project brief. Here, the ways of working were described by analysing the current work environment and collecting inspiration.
- **Who is involved:** The workplace concept was developed internally, although inspiration was gathered from other organisations. The Concern manager RE&FM and RE&H Consultant were in the lead (from the RE&FM department) but representatives from HR, ICT and Commerce were also part of the project team, as it was a broad program, covering RFH as a whole.

- **Stakeholder involvement:** Points towards top-down, control-oriented alignment strategy, as employees (users) only participate in the implementation of SamenWerken through showcases (small scale), and the project team is reporting to the Management team that is making the decisions in the process. Moreover the triggers to start the program SamenWerken were largely initiated by the new CEO with a new corporate strategy focussed on collaboration. This trigger was the 'push' that resulted in starting the program and came from top-down. The corporate goals were translated into CRE objectives, that formed the basis for SamenWerken.
- **Project owners:** The Concern Manager RE&FM and RE&H Consultant were mostly ensuring that the workplace concept would gain support, from different levels in the organisation. Support from the decision-makers by answering to the demand for modernisation, constantly repeating the urgency to improve the work environment and reporting regularly. Employees were involved with the elaboration in showcases (small scale), as a way to broaden support amongst them.

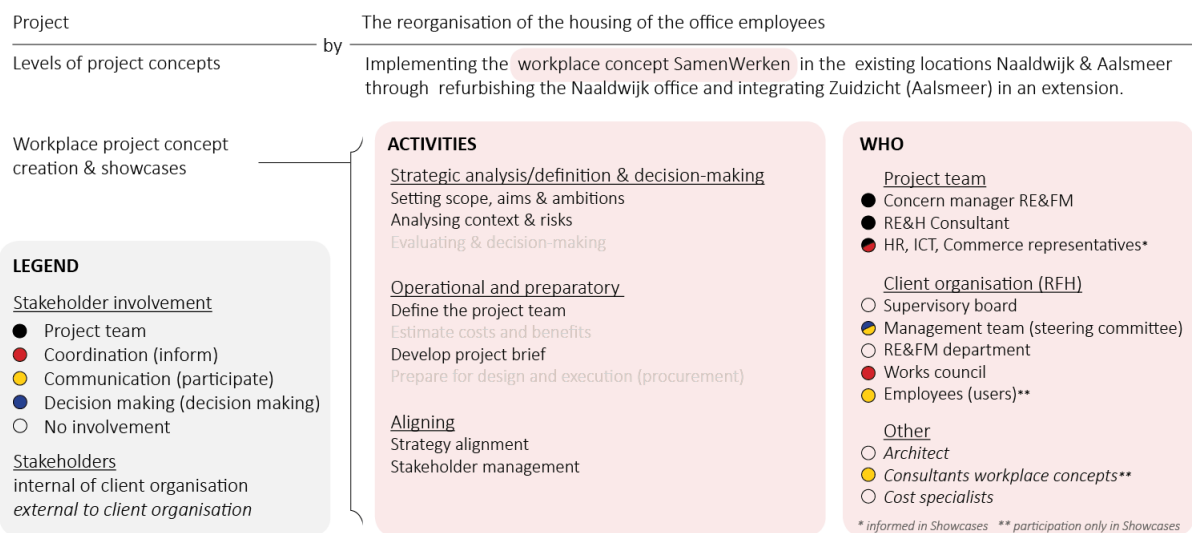


Figure 4.8 | RFH Workplace concept SamenWerken: Summarizing scheme of activities, who is involved & stakeholder involvement (own image).

Portfolio (of locations) project concepts - 1: Within / outside of current portfolio

As previously mentioned, the program SamenWerken was covering RFH as a whole, not just one specific location (RE&H Consultant RFH, 2020). As the project brief was developing, the question of where to implement it (Bricks) was raised (Concern Manager RE&FM RFH, 2020; PM RFH, 2020). Here a decision had to be made, first on a portfolio (of locations) level (Manager RE&L RFH, 2020). This was all done within the RE&FM department, with the RE&H Consultant and Concern Manager RE&FM still responsible for the project as project owners (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020).

RFH had existing office buildings in Aalsmeer, Rijnsburg and Naaldwijk. Was it a possibility to stay within these buildings? Is better to find a location outside of the current portfolio? *"You just have an existing office environment, so how are you going to do that"* (Concern Manager RE&FM RFH, 2020). They asked themselves the following questions: Do we want to invest in the existing buildings? Should we create a central office location outside of the auction sites? Rent an office? Build something new (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020)?

In the end, three project concepts were created on this portfolio (of locations) level:

- The 0-option, to not change the office accommodations;
- Lease office spaces outside of the existing office locations;
- Realise suitable workspaces within the existing office locations (Toelichting Kantoorhuisvesting Aalsmeer, 2015).

These different project concepts were not elaborated on any further before a decision was made. The concept to lease office space in a location outside the auction sites was not even studied with a particular location in mind (Manager RE&L RHF, 2020). No activities or further development of the different concepts was done before one was decided upon.

Evaluation & Decision-making through stakeholder management & strategy alignment

The evaluation and decision-making between these project concepts was not difficult. The different project concepts were briefly evaluated and a decision was made quite quickly and easily: *“It is a choice that has been considered for very long”* (Manager RE&L RHF, 2020).

The 0-option was not realistic as the quality, of the Aalsmeer offices especially, was far below acceptable (Toelichting Kantoorhuisvesting Aalsmeer, 2015). Moreover, with the merger it was actually already decided that RFH is not the organisation with their Headquarters somewhere else in the country. Although the project concept to lease office space outside of the current locations was opted by the Supervisory board, the Management team wanted to be close to RFH’s customers, who are at the auction locations (Concern Manager RE&FM RFH, 2020; Manager RE&L RHF, 2020). Realising office space outside of the existing auction sites would create distance between the office employees and the daily operational processes which was unwanted (Toelichting Kantoorhuisvesting Aalsmeer, 2015)

The decision was made to realise the office space within the existing office locations, mainly because the Management team wanted to keep the connection with the auctions (Concern Manager RE&FM RFH, 2020; Manager RE&L RHF, 2020). *“Actually, a very fundamental choice has been made, regardless of the strategy: we believe that we should organise our office environment close to our customers, and that customer is located on the auction site”* (Manager RE&L RHF, 2020). As the Supervisory board is involved in decision-making concerning large investments, the decision to stay within the existing office locations was discussed with them by the Management team (Concern Manager RE&FM RFH, 2020).

This decision was also steered by the culture and history of the organisation. It would not suit an organisation like RFH to have their Headquarters on the South-axis in Amsterdam for example. As the RE&L Manager stated about the decision to stay within the existing locations:

“And perhaps is also a bit dictated by the historical perspective. It is also good to consider that aspect. It is also something we are used to and were used to. And that is where the connection with the kind of culture within the floriculture sector is sought: ‘Just act normal, because then you are already crazy enough’. Because it would not suit us to, for example, realize a head office on the South-axis. That does not suit the environment in which we operate. It has not been a choice that required a lot of consideration” (Manager RE&L RHF, 2020).

Portfolio (of locations) project concepts - 2: How to change the current portfolio

Context analysis & requirements & strategy alignment (needs users)

With the decision to stay within the existing locations, the question arose whether all office employees should be accommodated in one existing location or whether this should be done at multiple locations. A second decision had to be made on a portfolio (of locations) level, that required analysing the locations. In order to do this, first the supply and demand (and difference between them) for workplaces was mapped by the RE&H Consultant, consulting HR and Control in August 2014 (see table 4.4) (Manager RE&L RHF, 2020; RE&H Consultant RFH, 2020; SamenWerken VT, 2014).

- The supply includes the workplaces that comply with the legal working conditions, structural and installation requirements. Moreover the workplaces should suit the application of SamenWerken, meaning having enough workplaces concentrated in one building, and being well accessible.
- The demand for workplaces (users' needs) was concentrated in Aalsmeer (flowers) and Naaldwijk (plants), while in Rijnsburg only location bound office employees demanded space (SamenWerken VT, 2014).

In total, demand and supply almost matched. But looking at the locations separately, there was a clear need for additional workplaces in Aalsmeer (SamenWerken VT, 2014).

Location	Supply workplaces	Demand workplaces	Difference
Aalsmeer	150	375	-/- 225
Naaldwijk	495	420	+ 75
Rijnsburg	150	32	+ 118
Total	795	827	-/- 32

Table 4.4 | Demand & supply (SamenWerken VT, 2014). Calculated as 1 workplace per office employee.

Strategy alignment

Apart from the current demand and supply of workplaces, different scenarios for the future demand for workplaces were sketched by RE&FM. Based on the first information about the strategy FH2020, it seemed plausible to assume that the demand for space would decrease. Taking the current distribution of workplaces over the locations as a basis (see table 4.4), it was concluded that demand would always decrease, maybe even with 30%, see table 4.5. This would largely affect (mostly) the Aalsmeer location in the amount of additional workplaces that would have to be realised there if this location was chosen (SamenWerken VT, 2014).

Scenario space demand	Total	Aalsmeer	Naaldwijk	Rijnsburg
Current demand	827	375	420	32
-/- 10%	745	338	378	29
-/- 20%	662	300	336	26
-/- 30%	580	263	294	22

Table 4.5 | Future demand in FTE based on FH2020 strategy (SamenWerken VT, 2014).

Stakeholder management

With the demand and supply in mind, two project concepts were proposed to the steering committee to house the office employees at the existing office locations of RFH (RE&H Consultant RFH, 2020;

SamenWerken VT, 2014). *“I think it was initiated from our project team at the time to make different scenarios. Because ... it always works well for the management, to be able to choose”* (RE&H Consultant RFH, 2020).

Both these project concepts would distribute the office employees over more than one location as from a political point of view – being a merger organisation – having one main office remained a sensitive point, especially for the cooperation’s members. From a more substantive point of view, it would mean that the office employees had to be transferred to different parts of the country, that would result in a lot of extra travel time (Manager RE&L RHF, 2020). The project concept to house the office employees in one existing location was thus excluded beforehand.

“Ultimately, a choice was made through those 2 perspectives. So, on the one hand, a bit politically sensitive, and on the other, substantively. Because then we are going to bring a lot of people from Amsterdam to the Westland, or from the Westland to Amsterdam, which is difficult to justify towards colleagues” (Manager RE&L RHF, 2020).

Project concept 1: Demand = supply

In this project concept, the idea was to realise the supply that was demanded at each location, following the amount of workplaces from table 4.4. This would mean the workplaces for the office employees would be realised in Naaldwijk and Aalsmeer, and additional workplaces would have to be realised in Aalsmeer:

- In Naaldwijk, the existing office offered enough space and potential to fulfil the demand. This even offered the possibility to lease out a part of the offices due to oversupply;
- Rijnsburg had a lot of oversupply and with the elaboration of SamenWerken it was questionable whether this location would be future-proof due to the lacking demand;
- To meet the demand in Aalsmeer, an additional 225 workplaces would have to be realised (taking the current demand scenario, and one workplace per office employee), as Aalsmeer was largely lacking supply of workplaces that met the requirements (SamenWerken VT, 2014).

Project concept 2: Naaldwijk & Rijnsburg (use office plan 2014 as starting point)

The second project concept was to house the office employees in Naaldwijk and Rijnsburg, taking the office plan of February 2014 as a starting point, as these offices were of better quality than Aalsmeer. This would mean the offices in Aalsmeer would be left. The offices of Naaldwijk and Rijnsburg combined had 645 workplaces (table 4.4), which was the same amount as Aalsmeer and Naaldwijk combined (SamenWerken VT, 2014).

Evaluating & Decision-making through strategy alignment

It was advised by RE&FM to let go of the office plan of 2014 since there is very little demand for workplaces in Rijnsburg. Secondly, combining the workplaces in Naaldwijk and Rijnsburg would not meet the total demand. Thirdly, the flower cluster (flower department) wanted to be housed in Aalsmeer, but there was too little supply in Aalsmeer for them to be accommodated there. This resulted in having to make changes in Aalsmeer anyways when taking into account the needs of the users. Lastly, this would result in having the office employees spread over three locations that would not intensify collaboration (one of the SamenWerken objectives) (SamenWerken VT, 2014).

It was decided to house the employees in Aalsmeer and Naaldwijk (project concept 1: demand=supply). This decision was officially made in May 2015 by the Supervisory board, since it concerned an investment above a certain threshold. This decision was made at the same time as the decision on the building/location project concept, that is discussed in the next sections (PM RFH, 2020; Toelichting Kantoorhuisvesting Aalsmeer, 2015).

Summarizing scheme and concluding notes

- **Activities in creating & deciding on project concepts:** Not many activities were performed to create the different project concepts on this level. Activities were strategic (analysis) and aligning activities. The project concepts were evaluated based on the idea without specification or elaboration. The decision-making process was mostly steered by the needs of the users (to avoid travel time) and of the Management team that wanted to stay within the auction sites where the customers are. Moreover, the decision-making was also steered by the history and culture of the merger organisation. Having one office location, or being outside of the auction sites was unwanted as it remained sensitive what RFH’s main location would then become.
- **Who is involved:** The creation and decision-making on project concepts on this level only involved internal stakeholders. The RE&FM department (represented by the Concern manager RE&FM and RE&H Consultant) discussed possible project concepts with the Management team and the Supervisory board, that also suggested a project concept.
- **Stakeholder involvement:** While representatives from different departments (HR, ICT, Commerce) were kept informed to keep support for the project, the project team (owners) largely focused on the strategic levels of the organisation (control-oriented alignment strategy) because decision-making was done by the Supervisory board & Management team as it concerned substantial investments above a certain threshold.
- **Project owners:** The project owners were advising the decision-makers through mapping different scenario’s and a demand and supply analyses. Here, the needs of both the users and Management team were taken into account (strategy alignment) as formulated in the SamenWerken project brief.

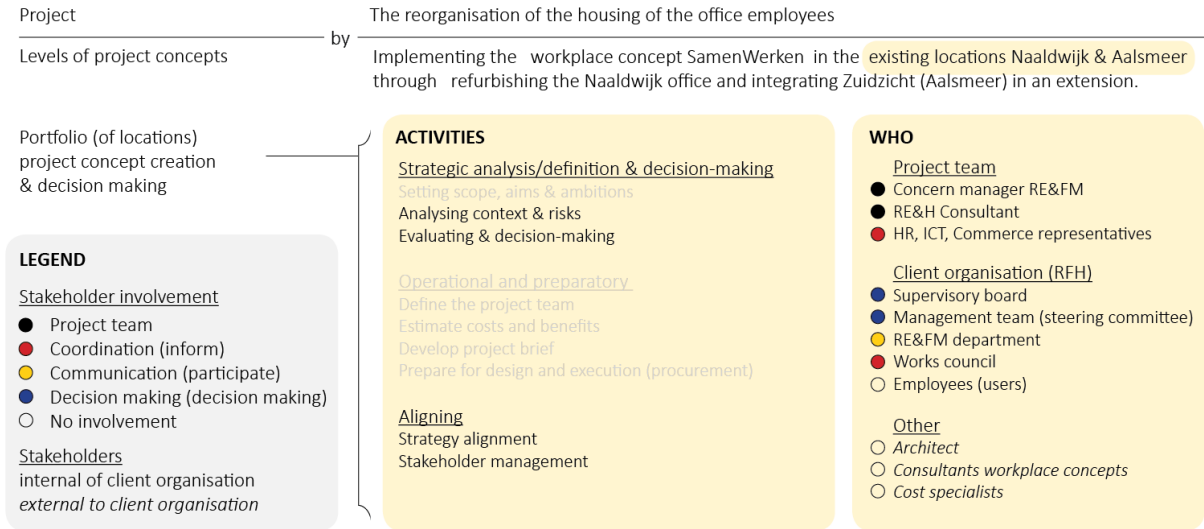


Figure 4.9 | RFH Portfolio (of locations) project concepts: Summarizing scheme of activities, who is involved & stakeholder involvement (own image).

Building/location project concepts

With the decision made to house the office employees in Naaldwijk & Aalsmeer, it still had to be decided how this would be done on a building/location level (Concern Manager RE&FM RFH, 2020). Naaldwijk and Aalsmeer are discussed separately.

Naaldwijk

From the workplace supply and demand analysis it became clear this matched for the Naaldwijk office location. The oversupply could even be leased out (SamenWerken VT, 2014). As the exiting Naaldwijk office was still meeting the quality requirements, but was only not adapted to the SamenWerken workplace concept look and feel, it was decided to refurbish the office tower in phases (figure 4.4). No alternative project concepts were created as the 0-option (minimal investment) sufficed (Concern Manager RE&FM RFH, 2020; PM RFH, 2020; RE&H Consultant RFH, 2020).

Aalsmeer

Although the quality of the Naaldwijk offices sufficed for the implementation of SamenWerken, the urgency to change the office environment in Aalsmeer (Bricks) was felt by the RE&FM department and the steering committee. As the majority of the office buildings in Aalsmeer were not fit for the implementation of SamenWerken, RE&FM started to explore indicative possibilities for improvement, since this was within their field of expertise (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020; SamenWerken VT, 2014).

Project team

Within RE&FM, a large group of people was involved to explore different building/location project concepts. While the Concern Manager RE&FM and RE&H Consultant were still in the lead as project owners, also an Asset manager, project leaders and technical specialists from RFH participated in developing project concepts (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020).

Moreover, an external architect was attracted to think about what could be project concepts to meet the demand in Aalsmeer, as well as a cost specialist to make indicative cost estimations (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020; SamenWerken definitiedocument, 2014).

Requirements, boundary conditions (scope) & strategy alignment

An important question was how many workplaces should be realised in Aalsmeer (Concern Manager RE&FM RFH, 2020), here *“alignment with the FH2020 strategy is [was] necessary (number of workplaces necessary in the longer term, choice of location, etc.)”* (SamenWerken definitiedocument, 2014). In the end, the requirement was set that the project concepts should realise a minimum of 250 workplaces, to meet the demand of both Aalsmeer and Rijnsburg (because it seemed unlikely this location would be considered future proof). Furthermore, the project concepts should fit the site plans for Aalsmeer, that consisted of creating a truck loading area behind the current offices at the roundabout (figure 4.10) (SamenWerken VT, 2014).



Figure 4.10 | Offices in Aalsmeer: Tower (left), Main building (middle), Zuidzicht (right) (RvC – kantoren Aalsmeer, 2015).

Stakeholder management, strategy alignment & analysing context

In conversation with RE&FM colleagues, the Management team and the architect, it became clear what project concepts could be possible and were worth developing (RE&H Consultant RFH, 2020). In the end, four project concepts were developed using common sense: *“We mainly applied logical thinking”* (Concern Manager RE&FM RFH, 2020) and by looking at the existing real estate: *“what could you do, looking at our existing real estate”* (RE&H Consultant RFH, 2020).

The goals that were set in the SamenWerken program were taken into account in developing the project concepts on a building/location level. The effect on the organisation and the budget were kept in mind as well (RE&H Consultant RFH, 2020). *“Because we continuously report to the Management team, you naturally take into account the goals [of the organisation]”* (RE&H Consultant RHF, 2020).

The four building/location project concepts that were developed focused on the Tower, Main building, and Zuidzicht (figure 4.10), because the other offices in Aalsmeer were even in worse condition. Moreover, the three buildings were located at the ‘entrance’ of the Aalsmeer location, where clients would approach the auction terrain and would thus be close to the offices already (Concern manager RE&FM RFH, 2020; Manager RE&L RHF, 2020; SamenWerken VT, 2014).

To get across the different concepts to the steering committee, sketch impressions of volume studies were made. These were purely made to make it all a bit more alive, also for people who find it difficult to imagine things like this and gain support for the project (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020).

Building/location project concepts

The first building/location project concept was to revitalise the existing buildings (figure 4.11). The second one to demolish the tower and revitalise the other existing buildings (figure 4.12), the third to integrate Zuidzicht in an extension (figure 4.13), and fourth to build a completely new building separate from Zuidzicht (figure 4.14) (RE&H Consultant RFH, 2020; SamenWerken VT, 2014).

Cost estimation & prepare for design and execution

The project concepts on the building/location level were really only defined in main lines and *“the level of detail of elaboration was not determined in advance”* (RE&H Consultant RFH, 2020). There were indications about the costs based on rough numbers, time indications and the amount of workplaces that would be realised in each of the project concepts. After performing a feasibility study to get a better idea about the costs, the different project concepts were evaluated (RE&H Consultant RFH, 2020; SamenWerken VT, 2014). RFH started a procurement process for an architect after the building/location project concept decision was made (Concern Manager RE&FM RFH, 2020; RE&H Consultant RFH, 2020).

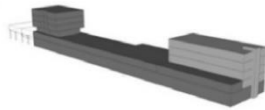


Figure 4.11 | Revitalise the existing buildings (SamenWerken VT, 2014).

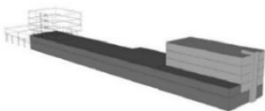


Figure 4.12 | Demolish the tower, revitalise existing buildings (SamenWerken VT, 2014).

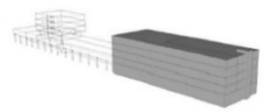


Figure 4.13 | Integrate Zuidzicht in an extension (SamenWerken VT, 2014).

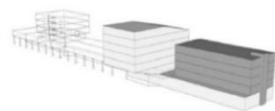


Figure 4.14 | Build a completely new building separate from Zuidzicht (SamenWerken VT, 2014).

Evaluating & Decision-making

There were different views about what would be the preferred option and why. While the project team preferred to build a new office, the Management team was thinking about the cooperative and its members. Investing in the employee's offices was about the capital of its members. In the decision-making, the amount of investment was an important motivation for the Management team, leading the choice between the building/location project concepts (RE&H Consultant RFH, 2020): *"Finances have always been an important argument"* (Concern Manager RE&FM RFH, 2020).

Within the location Aalsmeer, the third project concept to integrate Zuidzicht in an extension was chosen. This also meant demolishing the outdated offices (Toelichting Kantoorhuisvesting Aalsmeer, 2015). Following a scenario with a significant decrease in the need of workplaces, a total of 250 FTE would be realised with the restyle and integration of Zuidzicht in an extension, applying a workplace factor of 0.8. This resulted in around 300 workplaces, including amenities such as meeting rooms and a restaurant (RE&H Consultant RFH, 2020). With this project concept, RFH kept its best quality office and replaced the outdated low-quality stock (PM RFH, 2020): *"What they wanted to achieve with the concept was clear. There were financial arguments and qualitative considerations"* (PM RFH, 2020).

In March 2015, the strategic real estate plan was adapted for implementing SamenWerken and in May 2015, the final decision was made by the Supervisory board to integrate Zuidzicht in an extension and demolish part of the existing buildings. This decision was made together with the decision to house the office employees in Naaldwijk & Aalsmeer (portfolio (of locations) level). As the decision meant approving of an investment above a certain threshold, the Supervisory board had to approve with the decision of Management team as well (Concern Manager RE&FM RFH, 2020; PM RFH, 2020; RvC – kantoren Aalsmeer, 2015).

Analysing risks

Both for Naaldwijk & Aalsmeer, there was a risk that the actual demand for workplaces would be lower or higher than estimated. To anticipate for this risk, the extension should be able to house more office employees than initially decided in a situation of higher demand in Aalsmeer. If demand would be lower, the extension should not even be built. For Naaldwijk, in case of more demand, the oversupply of offices should not be leased out. In case of lower demand, more offices should be leased out (RvC – kantoren Aalsmeer, 2015; Toelichting Kantoorhuisvesting Aalsmeer, 2015).

Summarizing scheme and concluding notes

- **Activities in creating & deciding on project concepts:** As the 0-option for Naaldwijk sufficed, no other project concepts were created for this location. Instead, in Aalsmeer, the creation & decision-making on project concepts on a building/location level was based on the analysis of the current condition of the buildings and aligning activities of strategy alignment and stakeholder management. For strategy alignment, the amount of workplaces was a discussion point that required alignment with the needs of the users and corporate strategy. Stakeholder management for example included making sketch impressions of the different project concepts to get across the possibilities and to better be able to discuss these. The decision-making was led by the quality of the existing real estate and the costs of the different project concepts.
- **Who is involved:** The RE&FM department was in the lead in developing the project concepts together with external expertise that was attracted for competencies that were not in house such as an architect and cost specialists.
- **Stakeholder involvement:** The project team (owners) focused mostly on the decision-makers. While representatives of HR, ICT and Commerce were still kept informed, as well as the Works Council, the project team reported to the management team that made the decisions. The decision-making, even had to be approved by the Supervisory board.
- **Project owners:** The project owners involved competencies that were not in house in order to provide indicative cost estimations and impressions to advise the decision-makers and ensure decision-making could take place on the building/location project concept level.

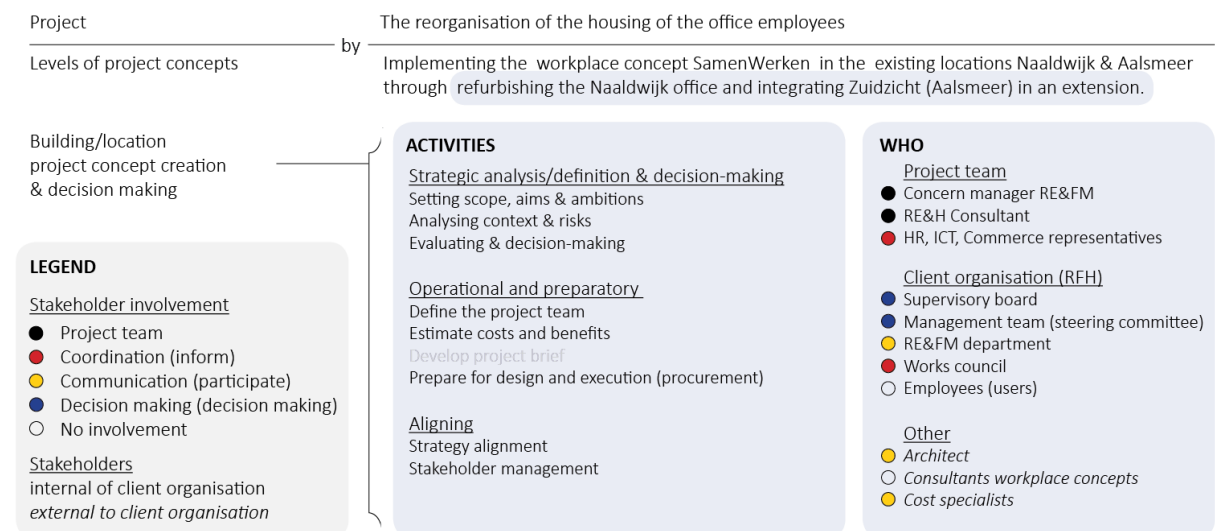


Figure 4.15 | RFH Building/location project concepts: Summarizing scheme of activities, who is involved & stakeholder involvement (own image).

4.2 Case Royal HaskoningDHV

4.2.1 Case description

Company profile

“Royal HaskoningDHV is an independent international engineering and project management consultancy with over 138 years of experience” (Royal HaskoningDHV, 2020, p. 88). RHDHV delivers a wide variety of services in the fields of “aviation, buildings, energy, industry, infrastructure, maritime, mining, transport, urban and rural development and water” (Royal HaskoningDHV, 2020, p. 88).

RHDHV combines its global expertise with local knowledge in order to deliver a wide range of consultancy services for the entire living environment in both public and private projects. Services are provided in more than 140 countries (Royal HaskoningDHV, n.d.-a; Royal HaskoningDHV, 2014), in total generating a turnover of 649.7 million euros (in 2019) (Royal HaskoningDHV, 2020).

In their services, RHDHV focusses on delivering added value for its clients and meanwhile addressing the challenges that societies are facing. In their business, RHDHV distinguishes four challenges: the urban, transport, water and industrial challenge (see figure 4.16) (KvE, 2015; Royal Haskoning DHV, n.d.-a). These challenges cover aspects such as “the growing world population and the consequences for towns and cities; the demand for clean drinking water, water security and water safety; pressures on traffic and transport; resource availability and demand for energy and waste issues facing industry” (Royal Haskoning DHV, n.d.-a).



Figure 4.16 | Four global challenges (KvE, 2015, p. 29).

RHDHV’s mission is to Enhance Society Together through their expertise, partnerships and innovations. Here innovation is indispensable for RHDHV as it enables the company to continuously renew its solutions (products, services, business models and processes). Through innovations, these solutions are faster to implement, safer, of a higher quality and / or more sustainable. Moreover, RHDHV believes that meaningful solutions for the future can only be created by combining RHDHV’s knowledge with the strengths of their clients, highlighting the importance of ‘together’ in RHDHV’s mission of ‘Enhancing Society Together’ (Royal HaskoningDHV, n.d.-c; Smedts, 2016).

Around 6,000 consultants and engineers are working from around 75 permanent offices in over 30 countries (Royal HaskoningDHV, n.d.-a; Royal Haskoning, 2014). The RHDHV headquarters is in the Netherlands (Amersfoort) and other principal offices are in the United Kingdom, South Africa and Indonesia. Moreover, RHDHV has established offices in Thailand, India and the Americas; and has a long standing presence in Africa and the Middle East (Royal HaskoningDHV, n.d.-a). The regional office locations of RHDHV can be seen in figure 4.17.



Figure 4.17 | RHDHV has Regional Office Locations all over the world (in blue) (Royal HaskoningDHV, 2020, p. 88).

Dutch office locations of the merger organisation

Within the Netherlands, RHDHV has 12 office locations, see figure 4.18 (Royal HaskoningDHV, n.d.-b). These office locations are the result of a time of merging and moving office locations due to the merger between Royal Haskoning and DHV in 2012.

As both companies had offices through the whole of the Netherlands, the merger organisation ended up with a total of 29 office locations in the Netherlands alone. As having this many offices was unnecessary, offices were merged and moved to reduce the amount of offices and decrease the costs of the company's real estate (Director Procurement & FM RHDHV, 2020).



Figure 4.18 | RHDHV locations in the Netherlands (own image, based on (Royal HaskoningDHV, n.d.-b).

After the merger, RHDHV still wanted to be represented with regional offices all over the Netherlands to minimise commute and to serve (inter)national as well as regional clients, that require regional presence. This led to decreasing the amount of offices to a total of 12 by 2015, of which one was the regional office in Duivendrecht, just outside of Amsterdam (Director Procurement & FM RHDHV, 2020).

RHDHV as a client

RHDHV is considered a less complex client, as the company is not representing a large variety of stakeholders. Due to the merger that required the real estate department of RHDHV to reduce and move many of the offices, the company has gained much experience in commissioning projects and is therefore considered experienced. Thus RHDHV can be classified as a not complex, experienced secondary client.

Looking at the organisational structure of RHDHV (see figure 4.19), the Executive board function as the ultimate decision-makers. Then there are a variety of Corporate groups, amongst which is also the real estate department of RHDHV, named Procurement & Facility management (FM). The Director Procurement & FM, is responsible for procurement, real estate and FM within this department. Then, the organisation is organised in different departments all with their own field of expertise (Director Procurement & FM RHDHV, 2020; Gloudemans, 2015).

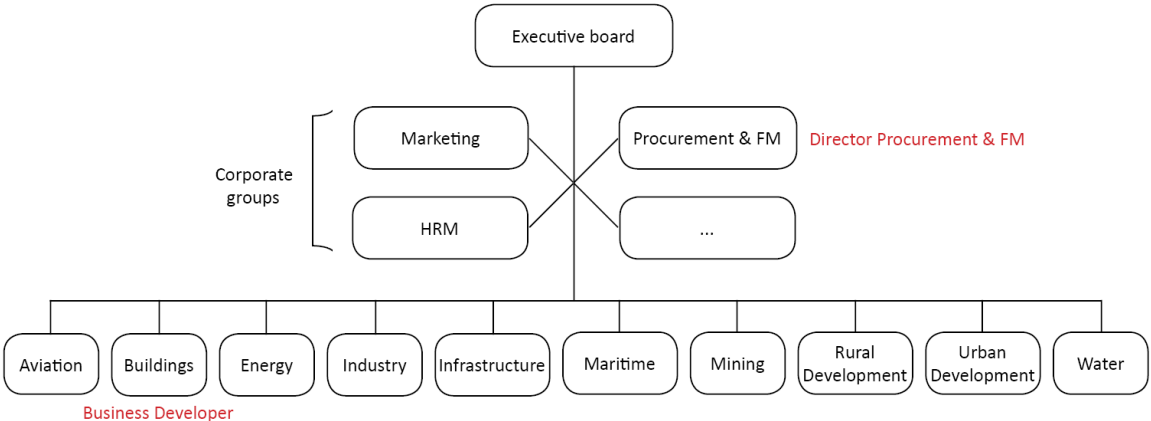


Figure 4.19 | Organisational structure RHDHV (own image) - interviewees that are internal to the client organisation are presented in red.

Project owner

The project owner in this case is the Director Procurement & FM, responsible for realising the project (that is discussed hereafter) for RHDHV, internally supported by the Procurement & FM department and Business Developer of the Buildings department (Director Procurement & FM RHDHV, 2020).

The project: The resettlement of 180 Amsterdam based employees

RHDHV has been based in the Amsterdam area for around 50 years. Before the merger in 2012, Royal Haskoning and DHV have had regional offices in Heerhugowaard, Hoofddorp, Zaandam and Amsterdam. By 2015, around 180 employees were working from the regional office in Duivendrecht (just outside of Amsterdam) on a wide range of projects for cities, water, transport and industry (Director Procurement & FM RHDHV, 2020; Hentenaar, 2017; Smedts, 2016).

Mid 2016 it was decided to resettle 180 Amsterdam based employees by transforming an old garage in Amsterdam into a shared office space (Director Procurement & FM RHDHV, 2020; Plan of approach, 2015). This decision was both triggered from internal and external factors, and made by developing project concepts on three different levels. These triggers and project concept levels that were developed in response are discussed in the following sections.

4.2.2 Triggers

Internal trigger: Organisational change: New CRE strategy

Three internal triggers can be identified for the resettlement of the Amsterdam based employees. First of all, RHDHV's approach towards its real estate changed. Up until 2015, when the last two major office moves due to the merger were done in Nijmegen and The Hague, the Procurement & FM department did not question whether providing a modern but standard, functional office environment actually suited its employees and what the employees required of their office environment (Director Procurement & FM RHDHV, 2020). In merging and moving offices after the merger between Royal Haskoning and DHV, Procurement & FM focused on providing the employees with a functional work environment. But in 2015, Procurement & FM wanted the CRE to be of added value to the company's primary processes instead. This resulted in a new CRE strategy that was more focused on the company's employees and on how real estate could be of added value to the business instead of mostly focusing on costs when making decisions around CRE (Director Procurement & FM RHDHV, 2020).

Internal trigger: Strategic (re)positioning towards clients

Secondly, RHDHV wanted to create a new showcase project. In 2011, the headquarters of RHDHV in Amersfoort was drastically renovated with the help of the employees themselves. The office renovation gained much attention from the public as it went from energy label G to label A. Moreover, RHDHV's employees were proud and happy to work in Amersfoort as they contributed to the renovation. But by 2015/2016, it was time for a new showcase, as RHDHV proactively wants to innovate and enhance society, also through its own real estate (practice what you preach), and create this feeling of proudness again (Bekker, 2018; Director Procurement & FM RHDHV, 2020).

Internal trigger: Contractual

What this showcase could be was closely related to the last internal trigger of the lease of the Duivendrecht office that would expire at the end of 2016. As the expiring lease required a response anyways, this offered the opportunity to create a new showcase office and Procurement & FM started rethinking the Amsterdam office as a whole (Business Developer RDHVH, 2020; Director Procurement & FM RHDHV, 2020).

The fact that RHDHV wanted to create a new showcase was also related to an external trigger around RHDHV's (re)positioning towards clients:

External trigger - Strategic (re)positioning towards clients

Around 2014/2015, the demand for consultancy services for making real estate and work environments more sustainable, circular and healthy increased. As RHDHV offers consultancy services regarding housing policies and real estate strategies for both private and public clients, RHDHV itself wanted to react to this demand by creating a more sustainable and future proof work environment for its own employees. In line with 'practice what you preach', setting an example required strategic (re)positioning towards clients (Bekker, 2018; Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020) as it was predicted that this would create more business possibilities for RHDHV.

This demand of clients was picked up by a Business Developer of RHDHV (from the Buildings department), who took part in a group of Business line directors and Business Developers working on sustainability, led by the Director Corporate Responsibility and Integrity (head of sustainability within RHDHV). The Business Developer stepped towards the Director Procurement & FM with the question of how to advice clients on sustainability (circularity) and energy neutrality while RHDHV was not doing it themselves (Business Developer RHDHV, 2020). As the renovation and energy performance improvement of the Amersfoort Headquarters had been finished for a few years, and the lease of the Amsterdam office was about to expire, making a showcase around sustainability and circularity i.e. out of the resettlement of the Amsterdam employees seemed a good option (Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020).

Summary and classification of triggers

In short it can be said that a combination of internal and external triggers (see table 4.6) led to start thinking about the resettlement of the Amsterdam based employees. As a consequence of the company’s new approach towards its real estate, wanting to realise a new showcase and the demand from clients to realise more sustainable office environments, the project was started (Director Procurement & FM RHDHV, 2020). Generally, RHDHV has a proactive approach where needs of the future (predicted needs), such as the lease that would expire and the increasing demand towards sustainable and circular buildings were taken into account before they were really confronted with them. This also suits their core business of being a consultancy company, where competing for work and standing out is part of daily practice. RHDHV was thinking ahead of how to be a frontrunner

“In Amsterdam we had an expiring lease, we were in need of a specific approach, a different approach, We wanted to generate that pride again, and actually it was an add up of a number of things that came together” (Director Procurement & FM RHDHV, 2020).

Triggers			Response
Category	Internal/External	Predicted/Existing need	Reactive/Proactive
<i>Organisational change</i>			
New CRE strategy	Internal	Existing need	Proactive
<i>Contractual</i>			
Expiring lease	Internal	Predicted need	Reactive
<i>Strategic (re)positioning towards clients</i>			
New showcase	Internal	Existing need	Proactive
Changing market / business demand	External	Predicted need	Reactive

Table 4.6 | Summarizing table triggers and response RHDHV (own table, based on theoretical framework).

4.2.3 Three levels of project concepts

As previously mentioned, mid 2016 it was decided to resettle the Amsterdam based employees by transforming an old garage in Amsterdam into a shared office space. This decision was made in multiple steps, that can be considered as project concepts on different levels.

Three levels/phases of project concept development were identified, as at each level/phase, a fundamental conceptual solution was chosen to satisfy the need of the client/owner organisation or solve their problem associated with accommodating their organisation (scope of this research). Each level included different kinds of activities, there were different people involved, and stakeholder involvement was done in different ways. These different levels of project concepts are labelled as:

- 1) Portfolio (of locations) project concepts
- 2) Office concepts
- 3) Building/location project concepts

The three levels/phases of project concept development are discussed chronologically and after each level, a scheme (figure 4.21-4.24) summarizing the activities, who is involved and how stakeholder involvement was done is presented.

To provide an overview before the different levels of project concepts are discussed separately, the timeline in figure 4.7 shows the triggers (T), project concept levels (1-3 in yellow) and decision-making (DM) of the RHDHV case. Here it can be seen how the development of project concepts on the different levels happened quite consecutively and project concepts on a portfolio (of locations) level were already created before the Procurement & FM department decided they wanted to create a new showcase.

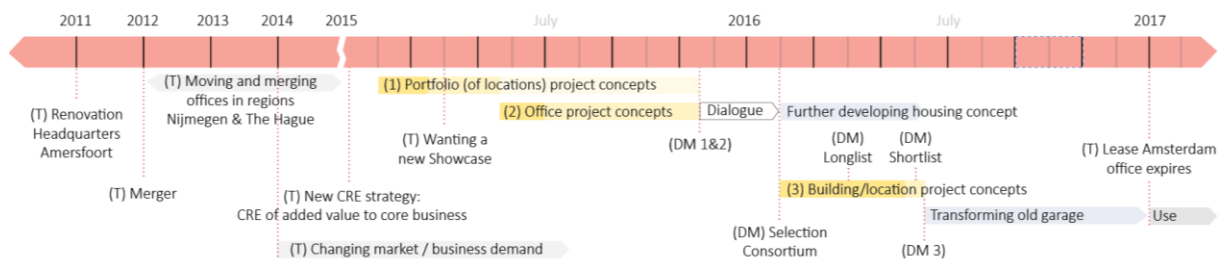


Figure 4.20 | Timeline RHDHV case: Triggers (T), Project concepts (1-3 in yellow) and decision-making (DM) (own image, based on interviews and documents received).

Portfolio (of locations) project concepts

Already before the ideas of creating a new showcase office started to arise, two project concepts were created on a portfolio (of locations) level within the Procurement & FM department for the resettlement of the Amsterdam based employees due to the expiring lease. These project concepts were to either relocate the Amsterdam based employees to other RHDHV offices, or to stay within Amsterdam (Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020). These project concepts were created based on the existing situation of having 12 office locations in the Netherlands (one of which in Amsterdam) and thus stayed within the existing real estate portfolio (of locations) of RHDHV: *“So, partly, by having the historical information of the organisation in mind you start thinking about what the future might look like”* (Director Procurement & FM RHDHV, 2020).

Analysing context and risks & strategy alignment

The initial response of RHDHV was to see whether the Amsterdam based employees could be offered workplaces in other RHDHV offices. By performing a ZIP code analysis it became clear that the Amsterdam based employees would get an extra 1,5 hour of commuting time per day on average by relocating them to the Amersfoort, The Hague, or Utrecht offices of RHDHV. This extra commuting time was seen as a large risk for RHDHV as employees (the users) might leave the company for this reason. As consultancy services are a knowledge based service, that require specialist expertise which is present within people, its employees are very important for RHDHV (Bekkering, 2018; Director Procurement & FM RHDHV, 2020; Smedts, 2016).

“We are a company that functions on the basis of employees. So that employee is interesting. That employee has a certain level of knowledge, thus we don’t want to lose that employee, because then a piece of knowledge leaves” (Director Procurement & FM RHDHV, 2020).

Moreover, Amsterdam was seen as a strategic location for RHDHV from a business perspective. If the Amsterdam office was left behind, the regional presence of RHDHV would also disappear. Moreover it was seen as a growth location, as many people want to work and live in or near Amsterdam (Director Procurement & FM RHDHV, 2020). Taking into account the needs of the users and corporate business (strategy alignment) thus pointed towards staying in the Amsterdam area.

Evaluation & decision-making

Both from a risk perspective of losing employees and the Amsterdam region as a strategic location, it was decided that relocation to other offices was not preferred and RHDHV wanted to maintain an Amsterdam office. Although this decision was made within Procurement & FM informally, the formal decision to stay in Amsterdam was not made until November 2015, by RHDHV’s Executive board that functioned as ultimate decision-makers for the project (Director Procurement & FM RHDHV, 2020; Plan of approach, 2015).

Summarizing scheme and concluding notes

- **Activities in creating & deciding on project concepts:** Two project concepts were explored on this portfolio (of locations) level. Either to stay within Amsterdam or relocate Amsterdam based employees to other RHDHV offices. From analysing the risks of possible relocation, taking into account the needs of the users (travel time) that are the basis of providing consultancy services (core business) and company (Amsterdam as growth location), it was decided to stay within Amsterdam. Moreover, the history of RHDHV being located in the Amsterdam area resulted in having business ties with the area, as well as that many employees live (moved) to this area. As employees are very important for RHDHV (consultancy is knowledge service), the needs of the employees were an important evaluation criteria in the decision-making around accommodation. Decision-making was thus done through strategy alignment.
- **Who is involved:** The Procurement & FM department is internally responsible for the CRE portfolio of RHDHV (led by Director Procurement & FM). No external people were involved at this level.
- **Stakeholder involvement:** At this level, no employees were involved in any way. The Executive board was involved as ultimate decision-makers.
- **Project owner:** Advising the Executive board on decision-making based on strategy alignment and strategic analysis.

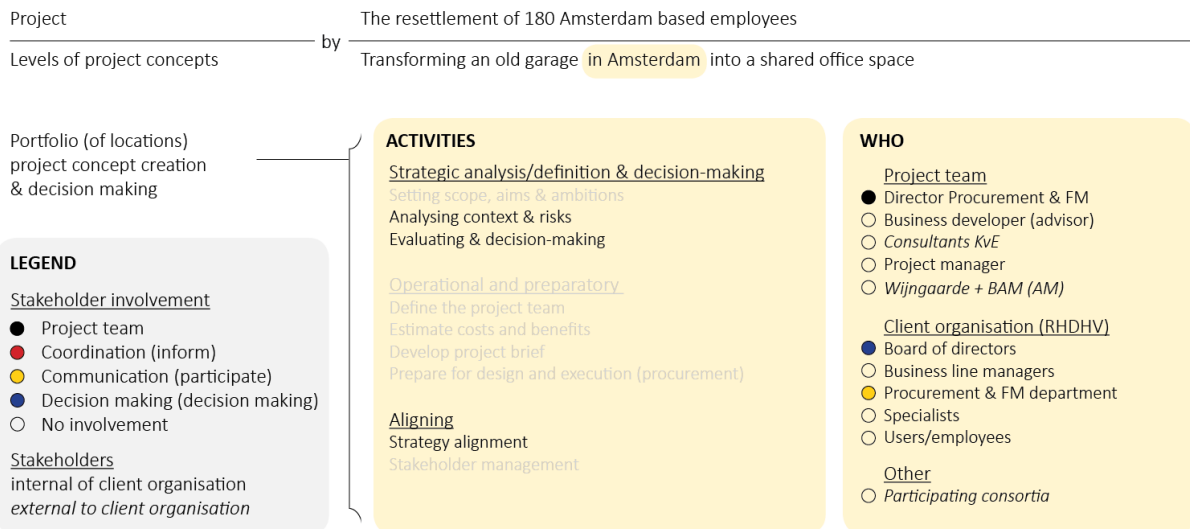


Figure 4.21 | RHDHV Portfolio (of locations) project concepts: Summarizing scheme of activities, who is involved & stakeholder involvement (own image).

Office concepts

Taking the opportunity to join the ‘Kantoor vol Energie’ program

While the Procurement & FM department was already thinking about realising the resettlement of their Amsterdam based employees by staying in Amsterdam (portfolio (of locations) project concept), the opportunity to join a program called ‘Kantoor vol Energie’ (KvE) arose (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020).

KvE is a program of the national government around making existing offices energy neutral and focused on how real estate could be used to add value for a company. At first RHDHV wanted to join this program as an advisor but another company was appointed for this. Alternatively RHDHV took the opportunity to join the program as a participant and learn more about energy neutrality and about how real estate could be used as a means to achieve company goals (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020). This also reinforced Procurement & FM in executing the new CRE strategy.

RHDHV brought in the housing of their employees working in Amsterdam as a pilot / example project for KvE, and a collaboration was started mid 2015 (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; Plan of approach, 2015). It was a matter of timing that the example project for KvE became the resettlement of the Amsterdam based employees, as the lease of the Amsterdam office was about to expire. An example project might as well could have been the housing of RHDHV’s employees somewhere else in the country (Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020; Plan of approach, 2015).

Strategy alignment & developing ambitions

In May 2015, an inspiration session was organised where two project managers from KvE guided a workshop for the Director Procurement & FM, Business Developer and Director Corporate Responsibility and Integrity, to discuss and explore how RHDHV’s Amsterdam accommodation could be used as a means to achieve business goals (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; KvE, 2015).

In this inspiration session, the participants started from the mission of RHDHV and business challenges the company's employees are working to develop ambitions/objectives from there:

“Then we actually started looking at what is RHDHV's mission: Enhancing Society Together. What does it stand for, what is society in Amsterdam and who is Together? And then we really zoomed in on: what is happening in Amsterdam in terms of business, and what does that look like in the future, and how can you actually use that” (Business Developer RHDHV, 2020).

By focussing on the mission of RHDHV, being 'Enhancing Society Together', the question arose how to enhance society in Amsterdam, and who the 'together' could be in this case (Business Developer RHDHV, 2020). The project managers of KvE supported RHDHV's internal team to think about how the organisation wanted to present itself, whether this required an office or could be realised without one (Director Procurement & FM RHDHV, 2020). By analysing the business challenges of RHDHV and brainstorming about what elements of the challenges could be used in the housing of the Amsterdam based employees, five office concepts were explored by taking two extremes: having an own office (1) to not having an own office (5) (Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020, Resultaten werksessie, 2015).

1. (shared)office in Amsterdam based on a challenge
2. Open space office with knowledge institutes/multinationals
3. Open space office with start-ups
4. Join the 'Circle Economy Hotspot' in Amsterdam/Hoofddorp
5. No office in Amsterdam (using NS business lounges i.e.)

Project team

These project concepts were generally about the idea of what an office could be and were explored and evaluated by the project team. This project team consisted of the two project managers of KvE, the Director Procurement & FM and the Business Developer (as advisor from the business). The Director Procurement & FM was hereby responsible for the project within RHDHV and is for this project thus considered to be the project owner (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020).

Additionally, different specialists within RHDHV were consulted from time to time, when their expertise was required. After developing the different office concepts, the Corporate Director Marketing & Communications, was for example consulted to get input from Marketing concerning the challenges (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020).

Evaluation & decision-making

After exploring and evaluating the different office concepts in June 2015, the 1st project concept, of having an 'own' office (that could be shared) based on a challenge fit the desires of RHDHV the best. This project concept would result in being able to express a strong identity, innovate and stimulate future-thinking together with clients or others (as collaboration is very important for RHDHV). Elements of the other concepts such as the circular economy (concept 4) and working together with others in the same building (concept 2 and 3) were valued as well and taken along in the further development of project concept 1 in setting ambitions/objectives and requirements (Resultaten werksessie, 2015).

“We asked ourselves what we wanted to achieve, what do we find important from the business, and how do we translate it into housing” (Verhoeven, in Bekkering, 2018).

While the project team decided on the project concept of creating a shared office space based on a challenge in June, the formal decision-making only took place after the concept was further developed, by the Executive board in November 2015 (Director Procurement & FM RHDHV, 2020; Plan of Approach, 2015).

Summarizing scheme and concluding notes

- **Activities in creating & deciding on project concepts:** The creation of office concepts was started by analysing the business in Amsterdam (what the users were working on – business operations) as well as the company’s mission (Enhancing Society Together). This strategic analysis, where strategy alignment was taken as a basis, resulted in five project concepts that were developed by thinking in extremes and taking opposites. As the business was taken as a starting point, this also steered the decision-making of the office concept.
- **Who is involved:** External advisors (project managers from KvE) were attracted and facilitated the process of analysing the business operations and company mission. From RHDHV itself, specialists, the Business Developer and Director Procurement & FM were taking part. The project team consisted of a diverse group of people, all with their own field of expertise.
- **Stakeholder involvement:** No users were involved in developing the office concepts on this level, but what they were working on was used as a basis to develop the project concepts. While the Executive board were the ultimate decision-makers for this project, what office concept to go for was first decided within the project team. Only after the office concept was further developed, the formal decision-making took place by the Executive board.
- **Project owner:** Taking the opportunity to join the KvE program to enhance the CRE strategy of focussing more on the employee instead of seeing office accommodations mostly as costs. Here the alignment with the users’ needs and company’s mission steered the process of creating and deciding on the office concepts.



Figure 4.22 | RHDHV Office concepts: Summarizing scheme of activities, who is involved & stakeholder involvement (own image).

Developing the project brief (office concept into a workable concept)

Analysing business operations (strategy alignment) to develop ambitions/objectives and a vision

With the idea for the office concept chosen, the project team continued with further developing this concept. The Amsterdam based employees and what they were working (business operations) on was analysed by the project team (in line with the new CRE strategy) for developing ambitions/objectives and ultimately a vision for the accommodation of the Amsterdam based employees (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020, Bekkering, 2018). From this analysis it was concluded that where enhancing society is done by RHDHV around four challenges, the employees based in Amsterdam are mostly working on challenges facing cities, and thus 'the Urban Challenge' (Business Developer RHDHV, 2020).

Among the Amsterdam based employees were mostly architects, project managers, installation advisors or technical advisors, all focused on the built environment (Business Developer RHDHV, 2020). Employees were working on projects for making Amsterdam natural gas-free, rainproof (climate adaptation) and increasing the density of the city, taking into account themes such as sustainability and circularity. These type of projects and themes are all related to the Urban Challenge, resulting in the project team deciding to make contributing to the Urban Challenge through the Amsterdam office accommodation one of the main ambitions of the project (Bekkering, 2018; Smedts, 2016).

"We defined a number of objectives and ambitions for the Amsterdam office with the aim of making an office for the people instead of making a financial investment office" (Director Procurement & FM RHDHV, 2020).

Stakeholder management & strategy alignment

The objectives and ambitions were further developed by the project team by thinking about what they wanted the Amsterdam office to fulfil in relation to the company's mission (Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020). In order to do this, interviews were held with Business line directors (Bekkering, 2018; Business Developer RHDHV, 2020). These interviews were consultation moments where the ambitions were discussed and the interviewees asked about what they would like to see happening in Amsterdam (Business Developer RHDHV, 2020): *"We asked them how they envisioned their ideal housing and where they saw their business grow"* (Verhoeven, in Bekkering, 2018).

While the employees themselves were not interviewed or directly consulted about what they would want or need from their work environment, the employees (and their daily work) was taken as a starting point for developing the ambitions by analysing the challenges (Business Developer RHDHV, 2020):

"Look, if you want this, and you are going to do something special, but the employees are against it, or the Works Council, then of course you have a problem. But by starting very much from that starting point of the future business of those employees, and questioning them about it, or asking whether it is correct as we interpret it? It is increasingly difficult to say 'no', because we have asked them before: do you recognize yourself in this?" (Business Developer RHDHV, 2020).

Defining the vision, ambitions, priorities & requirements

Multiple work sessions ultimately resulted in the definition of the vision for the office in Amsterdam accompanied by a set of ambitions and requirements (Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020). In these work sessions, the project managers of KvE were used as sparring partners in developing and prioritising ambitions and if these could be answered by market parties (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020).

Strategy alignment

In developing the ambitions, the project team focused on aligning these with the business: *“By defining our ambition we do expect to get an office which is a synonym of our company, which could be: A showcase for our Urban Challenge (branding); A healthy building which encourages productivity, lower sickness rates, less staff turnover, etc.”* (Plan of Approach, 2015).

At this point, the project team also excluded constructing a new building as a project concept. With the large amount of vacancy in Amsterdam at that time (2015) this did not align with ‘Enhancing Society Together (Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020): *“Enhancing Society Together has been a very important one, and that ultimately resulted in wanting to be in society, between people, and add social value”* (Copper8 RHDHV, 2020). Therefore, new construction was not considered.

Developing the project brief

The vision, ambitions/objectives and requirements were presented in a selection guideline in November 2015. This selection guideline can be considered a project brief, and was used to communicate with developers what RHDHV was looking for to create and get from the resettlement of the Amsterdam based office employees (Copper8 RHDHV, 2020; Smedts, 2015). The selection guideline discussed the vision, ambitions & requirements for the project (see Box 1) as well as the selection procedure, that can be considered the procurement strategy (Smedts, 2015).

BOX 1: Content of the selection guideline

Vision

RHDHV’s vision was to create an inviting place to work where people that have something to do with RHDHV, as employee, client, pioneer or others can meet (Smedts, 2015). The work environment should be *“inspiring and sustainable, as well as enriching productivity, comfort and wellbeing for its users. And one that the community can share and benefit from”* (RHDHV, n.d., p. 2). The office would be used as a showcase to show the challenges and themes RHDHV is working on (Facts, 2018). The focus in Amsterdam is specifically on the Urban Challenge, where the RHDHV wants to *“create a pleasant, safe and healthy environment in which to live, work and learn”* (Smedts, 2015).

Ambitions

The main ambitions were to *“to create a circular, energy neutral building, a healthy work environment and space that was smart and flexible for the range of people that would use it”* (RHDHV,n.d., p.2).

Requirements (preconditions) (Director Procurement & FM RHDHV, 2020, Resultaten werksessie, 2015; Smedts, 2015)

1. Location and accessibility
2. Integral workplace environment
3. Energy neutrality
4. Planning
5. Housing needs
6. Integral usage compensation
7. Duration of the use agreement
8. Delivery method
9. Maintenance and guarantees

Setting up project execution: Procurement strategy

In the project brief (selection guideline), the procurement strategy (selection procedure) for a developer and construction company, responsible for executing the project, was described. The project team wanted to select a collaboration partner based on the ambitions that were set from analysing the business and a description of the Urban Challenge, instead of providing a long list of specific requirements. Furthermore, a selection process with multiple phases was chosen to be able to test the project brief with market parties and develop it further (Director Procurement & FM RHDHV, 2020; Smedts, 2015). What the selection procedure looked like is discussed on the next page.

Project team

Through the whole selection process, KvE provided guidance and support to the internal project team of RHDHV (Copper8 RHDHV, 2020). KvE was facilitating the process of putting a question in the market that was different than normal, as it was more focused on fulfilling ambitions instead of meeting a long list of requirements: *“Normally you are looking for a building, now we were looking for a collaboration partner and we were going to talk about the process, not the end result”* (Director Procurement & FM RHDHV, 2020).

Moreover, from the selection guideline onwards, a project manager from RHDHV joined the project team. While KvE was providing guidance and support, the Business Developer and Director Procurement & FM were in the lead (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; Smedts, 2015), with the Director Procurement & FM still as project owner responsible for the project within RHDHV.

Setting up for project execution and estimating costs & benefits

Together with the strategic activities that included analysing the companies' needs and developing the vision and ambitions, more operational requirements were set by performing preparatory / operational activities in the development of the selection guideline/project brief. The budget was determined and for setting up project execution, the planning, delivery method and duration of the use agreement were for example developed (Business Developer RHDHV, 2020; Smedts, 2015).

Decision-making, stakeholder management and analysing risks

The approach (vision, selection of a collaboration partner, based on ambitions from analysing the business operations and selection procedure) as was described in the selection guideline was presented to the Executive board of RHDHV. In this presentation in November 2015, both the portfolio (of locations) level project concept decision to stay in Amsterdam, and the approach towards the resettlement and collaboration with KvE were approved by the Executive board (Director Procurement & FM RHDHV, 2020; Plan of Approach, 2015). Moreover, a fall back scenario was sketched, where the resettlement could not include a renovation (analysing risks). Apart from the approval of the Executive board, the project team also discussed the approach with a provisional sounding board consisting of employees from different advisory groups of different departments of RHDHV (Director Procurement & FM RHDHV, 2020; Plan of Approach, 2015).

Selection procedure: sharpening the project brief, prioritizing ambitions, requirements, decision-making

Apart from the vision, ambitions and requirements, the selection guideline furthermore discussed what the participating developers were to deliver and what the selection procedure would look like. The procedure included a first selection phase, where twelve developers were invited to respond to the selection guideline with the aim to find a collaboration partner. The selected developers were asked to deliver propositions including (Smedts, 2015):

- An existing (office) building (including building owner);
- A vision regarding the new accommodation in combination with RHDHV's identity and the Urban Challenge;
- A multidisciplinary design and construction team, able to realise an integral design in which exploitation of the building is taken into account.

The propositions of the twelve selected developers were tested on the requirements (preconditions) that were set in the selection guideline. From this first selection phase, three consortia (developer + construction company) were selected for the second phase of the selection process (Business Developer RHDHV, 2020; Smedts, 2015).

The second phase of the selection process was the dialogue phase. For this phase, three consortia were invited to discuss the selection guideline, their ideas and the ambitions of RHDHV in a transparent and open way. In the end two consortia joined the dialogue phase that participated both in individual as well as plenary sessions taking place in December 2015 (Bekkering, 2018; Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; Hentenaar, 2017; Smedts, 2016). In these sessions, the market parties were thus consulted by the project team to sharpen the project brief. As a construction firm was part of each consortium, construction input was also present from the dialogue phase onwards.

The final ambitions and requirements for the project were set in the dialogue phase (Smedts, 2015). These led to changing the initial selection guideline and resulted in a the final selection document, that was finished mid-January 2016. This final selection document had an even larger focus on ambitions instead of requirements (Bekkering, 2018; Copper8 RHDHV, 2020; Smedts, 2016). The requirements in the final selection document were only concerning planning, duration of the use agreement, location & accessibility and integral usage compensation (Smedts, 2016), making the priorities clear:

"We have gone from a lot to less and less and more concrete. ... And in the end we were able to convince RHDHV that it is about going through a good process and formulating the ultimate question to arrive at the fulfilment of your housing need instead of a detailed description of your housing need and what it should look like" (Copper8 RHDHV, 2020).

The involvement of the market parties in sharpening the brief was deemed very important by the project team. As a consultant of KvE frames it: *"Involving the market parties, certainly, that has been really crucial. We could never have achieved this as a consultant"* (Copper8 RHDHV, 2020).

As more focus was laid on fulfilling the ambitions, also the content of the proposition the consortia had to deliver changed. Instead of answering to the selection guideline with a location (building), team, and integral solutions, the consortia were asked to focus more on the process (Business Developer RHDHV, 2020; Copper8 RHDHV, 2020). As deliverables, the consortia were asked to include three things in their proposition (Bekkering, 2018; Business Developer RHDHV, 2020; Copper8 RHDHV, 2020; Smedts, 2016):

1. A housing concept. By describing what the building will look like in a year's time / at the opening, including how all stakeholders contributed to it in a (news) article;

2. A plan of how to arrive at the right location. The consortia were asked to sketch out the process of how to get to a suitable location instead of delivering one beforehand;
3. A description of how the stakeholders will be involved to ensure that RHDHV's ambition will be realized within the agreed financial frameworks.

Finally, a consortium was selected at the end of January 2016 (Smedts, 2016; Wijngaarde, Sykens, & Valk, 2016) consisting of Wijngaarde real estate concepts (developer) and BAM & AM (construction firms) (Director Procurement & FM RHDHV, 2020; Facts, 2018; Hentenaar, 2017). The selection of these collaboration partners led to the project moving into the next phase, that involved the location search and further development of the housing concept as presented by the consortium in the following months (Smedts, 2016, Wijngaarde et al., 2016). This consortium was selected because although no location was decided upon at this point, the process of how the location search and decision-making around this would take place was carefully thought through by the consortium (Business Developer RHDHV, 2020).

Summarizing scheme and concluding notes

- **Activities in creating & deciding on project concepts:** In developing the project brief (the elaboration of the office concept), the business operations were taken as a basis for developing ambitions and checked with business line directors through interviews (aligning activities and strategic analysis). This was all done to create support from the business (representing the employees on a higher level). Hereafter, more preparatory / operational activities were performed in the development of the project brief and eventually procuring a consortium. This procurement process consisted of a dialogue phase where the ambitions and requirements were sharpened and prioritised. For the final selection of the consortium, responsible for executing the project, a large focus was laid on stakeholder involvement and contribution, highlighting the importance of stakeholder management for the project team.
- **Who is involved:** Through the whole selection process, KvE provided guidance and support to the internal project team of RHDHV that consisted of the Director Procurement & FM, the Business Developer and a project manager. The Executive board were the ultimate decision-makers and multiple internal specialists and external developers and construction firms took part in developing, sharpening and reflecting on the project brief.
- **Stakeholder involvement:** In the work sessions, the project managers of KvE were used as sparring partners in developing and prioritising ambitions and deciding on whether these could be answered by market parties. In the dialogues, market parties were consulted by the project team and thus participated in sharpening the project brief with construction and developer's input. These were open and transparent discussions, aiming to in the end deliver a project that would really represent what RHDHV stands for and the work they do (strategy alignment). This approach resulted in really analysing the business and a more bottom up approach (more towards involvement-oriented alignment strategy)
- **Project owner:** Strategy alignment and stakeholder management were central in this phase, both with the business as well as with executing parties. It was about understanding each other and preparing for execution of the project that required much focus on stakeholder management, that was done through showing how the project related to the company's mission and business operations (strategy alignment).

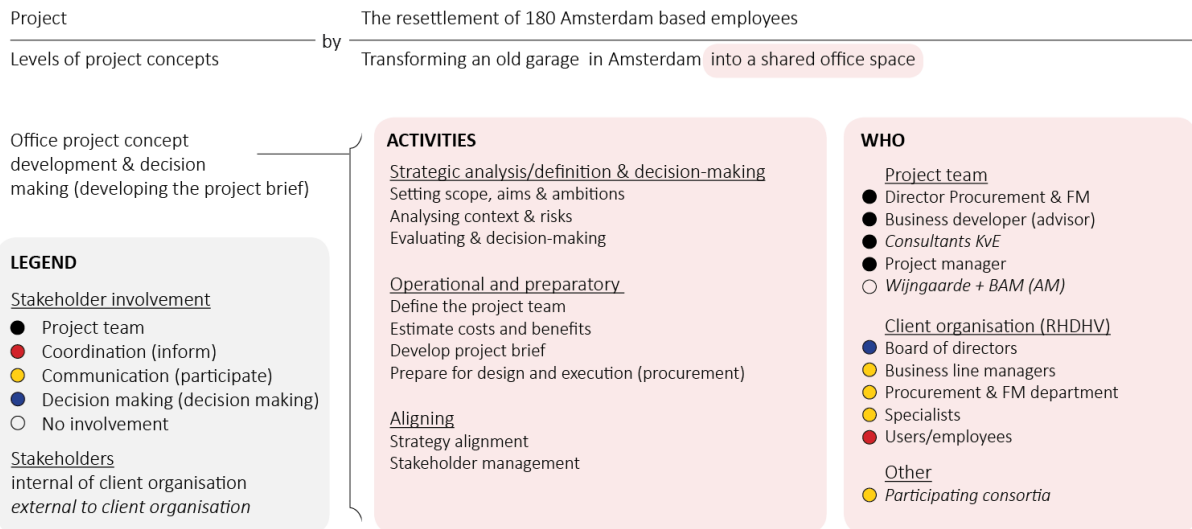


Figure 4.23 | RHDHV Office concept development: Summarizing scheme of activities, who is involved & stakeholder involvement (own image).

Building/location project concepts

Longlist building/location project concepts

With the consortium selected, the location search started. With the confidence of the project team, the consortium, led by Wijngaarde, was responsible for finding the location (Business Developer RHDHV, 2020, Smedts, 2016). By employing their networks, the consortium and project team developed a longlist of 23 possible locations based on the ambitions of RHDHV within the requirements that were set. Meanwhile, the housing concept as proposed by the consortium was further developed (Director Procurement & FM RHDHV, 2020; Facts, 2018; Wijngaarde et al., 2016).

Wijngaarde and the project team drove by these different locations in one day to evaluate the possibilities (Director Procurement & FM RHDHV, 2020; Hentenaar, 2017). *“We actually just took a completely different approach by asking ourselves: Do we see potential in this building? Is this a building that could possibly be available to us? And then we were not looking at standard offices”* (Director Procurement & FM RHDHV, 2020).

Among the locations were schools, a university building, a bakery, a church an old garage and only three ‘standard’ office buildings (Director Procurement & FM RHDHV, 2020; Facts, 2018). These locations can be considered project concepts as some required complete transformations, others renovations or some could be moved in the next day. These different type of interventions are really about the type of project it is going to be and the different locations on this ‘building/location level’ are thus considered the third level of project concepts.

Evaluating & Decision-making through trade-off matrix based on ambitions, strategy alignment

A trade-off matrix was used to score the different locations on different criteria for evaluation and decision-making (Bekkering, 2018; Business Developer RHDHV, 2020; Copper8 RHDHV, 2020). The criteria that were included for this structured approach were based on the ambitions and requirements that were set for the project in the final selection document (Copper8 RHDHV, 2020; Director Procurement & FM RHDHV, 2020). As this final selection document was created with the mission of

RHDHV and the business of its employees (strategy alignment) in mind, the criteria/evaluation/ decision-making were thus aligned with the organisation's and users' needs (Business Developer RHDHV, 2020).

The criteria of the trade-off matrix included the kind and amount of work that was needed in each location (feasibility), energy aspects, structural and locational factors. Additionally, the impact that could be made with regards to the ambitions of RHDHV was also weighed in the trade off-matrix. Whether a location was well suited regarding the Urban Challenge was very important for the project team, and thus received a heavier weighing factor (Business Developer RHDHV, 2020; Wijngaarde et al., 2016; Wijngaarde CO, BAM & AM, 2016), resulting in the project team setting priorities.

"Because if you say 'I am for solving the challenge in the city', as we were saying as RHDHV back then, are you going to house yourself on the South-axis, or are you going to be located at those locations where you can make that difference" (Business Developer RHDHV, 2020).

The 0-option

Wijngaarde was the one that brought in staying in the existing building (the 0-option) as a project concept. But as the office space RHDHV was leasing in the existing building was spread over five floors, which did not contribute to collaboration, and the development potential in the area and of the building was very limited, the project team excluded the 0-option for further consideration as it scored too low on the criteria (Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020).

Shortlist building/location project concepts

The longlist was narrowed down to a shortlist of three possible locations in a few months by comparing the scores in the trade-off matrix (Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020; Wijngaarde et al., 2016). The last three possible locations included a standard office building, a church and an old garage (Bekkering, 2018; Business Developer RHDHV, 2020):

1. A standard office building: This location was included in the shortlist as a back-up option as through visiting the different locations, the project team realised they did not want a readymade office, as in this way the impact they could make would be limited. Even if a readymade office would suit the ambitions and requirements, RHDHV wanted to be part in the development as this was in their practice (Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020; Facts, 2018) and they could fulfil their ambitions better in an undeveloped location (Business Developer RHDHV, 2020).
2. A church: The church was already built into an office space (Director Procurement & FM RHDHV, 2020; Facts, 2018) but needed some adjustments to make it into a suitable office for RHDHV. Nevertheless it was an inspiring space.
3. An old garage: This location was basically an empty shell in an undeveloped area, next to a homeless shelter (Bekkering, 2018; Business Developer RHDHV, 2020, Facts, 2018) and required transformation for RHDHV to be able to house its employees there. It was a large space (4000 sqm), well suited to improve collaboration between RHDHV's own employees as well as with others, that was also very important for RHDHV in line with enhancing society 'together' (Director Procurement & FM RHDHV, 2020; Facts, 2018).

Evaluating & Decision-making shortlist – cost estimations and analysis, stakeholder management

The Executive board was involved in evaluating the shortlist of building/location project concepts just before the summer of 2016. The three locations were visited together with the CFO and another board member (Bekkering, 2018). From the trade-off matrix, the project team recommended the old garage as the new office location in Amsterdam as the requirements and ambitions of RHDHV could be best realised there (Bekkering, 2018; Business Developer RHDHV, 2020) / the biggest impact could be made (Director Procurement & FM RHDHV, 2020). Besides, rough cost estimations and structural analysis were done for the church and garage. But in the end it was mostly a spatial choice instead of based on a development plan (Director Procurement & FM RHDHV, 2020).

“The own identity and thus the ‘developability’ of a location weighed heavily for us” (Director Procurement & FM RHDHV, in Facts, 2018, p. 1).

Although the project team recommended the old garage as the new location, the Executive board was unsure about it as it was an unusual and daring choice. Eventually, it was decided to involve the employees in the decision-making. The project team (represented by the Director Procurement & FM) presented the garage location to a group of 20 Amsterdam employees who were asked if they believed the garage could work as an office for them. As 18 out of 20 agreed with the project team, the Dutch director eventually supported its employees and the project team and it was decided to house the Amsterdam based employees in the old garage (Bekkering, 2018; Business Developer RHDHV, 2020; Director Procurement & FM RHDHV, 2020; Facts, 2018).

The Director Procurement & FM “recalls that on a Friday afternoon he went with two members of the Dutch board of directors to look at three options, including the church and the garage. He had forwarded photos of the three locations in advance. ... When we left, our CFO said ‘I don't know what you're up to, but I think you're completely wrong.’ The doubts remained even after the visit to the buildings. We therefore decided to present the locations to 20 representatives of the Amsterdam office and see how they would respond. 18 out of 20 turned out to be enthusiastic about the garage” (Director Procurement & FM RHDHV, in Facts, 2018, pp. 1-2).

Summarizing scheme and concluding notes

- **Activities in creating & deciding on project concepts:** Building/location project concepts were created through analysing available locations that fit within the criteria. Evaluation and decision-making between the different project concepts was based on the ambitions and requirements that were set in alignment with the organisation's and users' needs (strategy alignment). Weights were given to the different criteria (ambitions) to prioritize and create a shortlist (systematic approach) that were further explored through cost estimations and quick scans.
Wijngaarde had a large network within Amsterdam and dared to consider more unconventional building/location project concepts as this was possible by focussing on realizing ambitions instead of a long list of requirements.
- **Who is involved:** The facilitation process of KvE stopped and the responsibility for executing the project was transferred to a consortium of Wijngaarde (developer) and BAM & AM (construction firms). They led the selection of building/location project concepts and evaluated these with the internal project team of RHDHV.
- **Stakeholder involvement:** The project team recommended a daring and unusual location to the Executive board that were the ultimate decision-makers for the housing of the Amsterdam based employees. As the decision-makers were unsure, a group of employees was presented with this

location project concept and their reaction confirmed the recommendation and formed the ultimate decision-making. This again points more towards an involvement-oriented alignment strategy where the users are more than just informed.

- **Project owner:** Recommending the best project concept to the decision-makers, creating support by involving stakeholders on different levels in the organisation, both on a strategic level (decision-makers) as well as on an operational level (users).

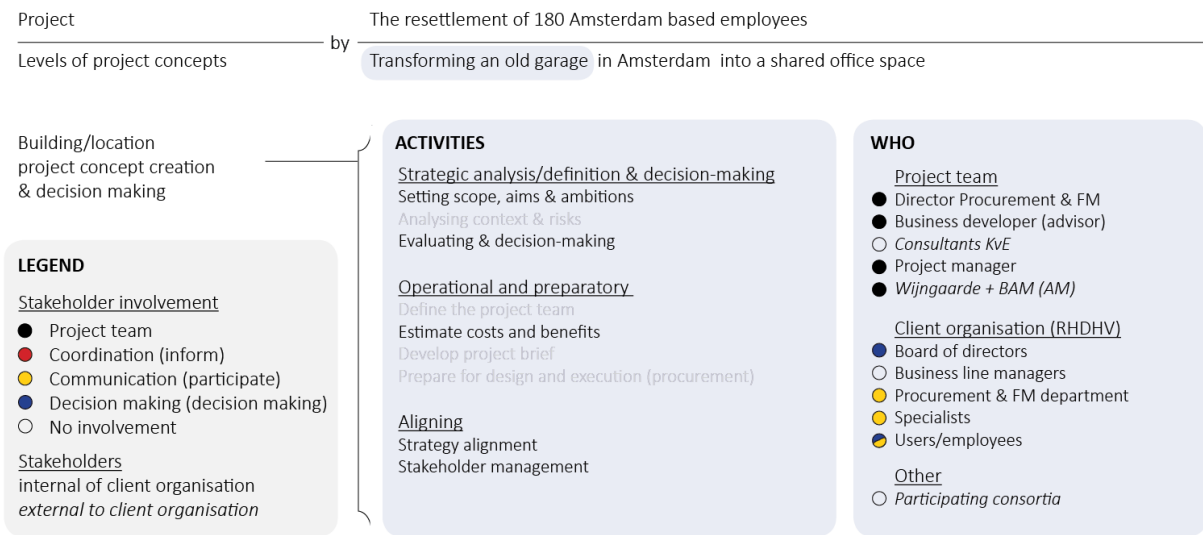


Figure 4.24 | RHDHV Building/location project concepts: Summarizing scheme of activities, who is involved & stakeholder involvement (own image).

Chapter 5

Cross-case analysis

5. Cross-case analysis

5.1 Differences

Core businesses – priorities and project missions

The first difference between the two cases is the core business of the RFH and RHDHV organisations, creating different project environments in which the project concepts were created and decided upon: RHDHV is providing consultancy services for the entire living environment in both public and private projects, a knowledge based business all about people in a competitive environment. *“We are a company of people and for people”* (Smedts, 2016). On the contrary, RFH is a marketplace for physical products (floriculture), and in a more monopolistic position. Flower auctions happen every day, which makes the processes very focused on time and efficiency and less people focused. These different core businesses result in different priorities for both companies and can be clearly recognised in the project mission that was set in both cases.

The project mission for RHDHV was to create a new showcase where they would realize the employees’ pride for the office environment again: *“We did not want to make a standard office, but an office where we could really show what we are capable of”* (Director Procurement & FM RHDHV, in Facts, 2018, p. 1). This is again in line with the company’s core business of being a consultancy company, where competing for work and standing out is part of daily practice. Instead, RFH wanted to improve its work environment, but not be a front-runner: *“And we also knew that we were starting from behind. And we also did not want to be totally in front again right away. With this program/project we would go quite a big step forward”* (Concern Manager RE&FM RFH, 2020).

This difference in project mission had several effects on creating and deciding on project concepts and on the project concepts that were created in both cases. Where joining the KvE program in case of RHDHV was a way for them to stand out and experiment with a new approach, as well as joining forces with a developer and construction company in the search for a location where ambitions could be realised, RHDHV aimed to innovate and create a showcase. Instead RFH stayed more within the already known that resulted in less out of the box ideas to arise. But these were nonetheless suitable to fulfill the project mission of largely improving the work environment of the office employees.

Reactive / proactive response towards changing the work environment

The difference in core business can also be recognised in the more reactive/proactive approach towards changing the work environment of their employees. RFH wanted to keep its operational costs down, due to the volatile market they are in. This led to more attention to the logistical process (the core business) instead of the offices supporting this, and thus resulted in a more reactive / ‘wait and see’ attitude towards changing the office environment. Instead, RHDHV’s core business is all about its employees, for whom a comfortable, inspiring office environment is seen as enhancing their performance and thus more of a priority. This can be recognised in the more proactive approach towards changing the office environment.

This difference is even stronger due to the fact that RFH owns its office buildings, while RHDHV is leasing. Leasing a building instead of owning it, automatically results in the Procurement & FM department of

RHDHV to reconsider the work environment every X amount of years. Instead, in a situation where real state is owned, this reconsideration is less pressing as there are no ending contracts.

Order of project concept levels

In the case of RFH, the creation and decision-making on the different project concept levels happened in parallel, covering most of the front-end. On the contrary, in the RHDHV case it was more consecutively, as can be seen in the timelines (figure 4.7 & 4.20). A lot of this had to do with the (formal) decision-making.

In the RFH case, no other project concepts were created in the development of the workplace concept SamenWerken, and the decision-makers were actively involved and regularly reported to. Only official decision-making was needed on portfolio (of locations) level and for the building/location project concepts, that required the involvement of the Supervisory board and thus happened at the same time. Moreover the workplace concept was elaborated on at the same time with the implementation of SamenWerken in the showcases.

In case of RHDHV, the different levels of project concepts followed each other more consecutively. The portfolio (of locations) level decision to stay in Amsterdam was first made internally by the Procurement & FM department in order to develop office concepts with KvE. The office concept was chosen by the project team and only presented to the Executive board when it was fully developed (together with the official portfolio (of locations) level decision). As this was approved by the Executive board, the procurement process took place and eventually the building/location project concept was chosen.

5.2 Similarities

Combination of triggers – timing & key individuals

In both cases it was a combination of triggers, timing, and a proactive approach of individuals that led to the project owners to gather a project team around themselves and perform analyses to discover the needs of the organisation and its users and get better insights into the problems and ambitions.

Although several attempts were made to improve the office environment of RFH, the new CEO was crucial in starting the SamenWerken program and the decision-making for its implementation, as upgrading the office environment was required essential for a modern organisation in the viewpoint of the CEO. As the CEO was really prioritizing changing the office environment, supported by the Concern Manager RE&FM, this created enough basis and urgency to start the development of the workplace concept, its implementation and necessary financial investments: *“I think those two [the CEO and Concern Manager RE&FM,] have ensured that the budget has been made available to improve the offices”* (RE&H Consultant RFH, 2020).

The same can be said for RHDHV: with the lease ending, and market demand for more knowledge about creating sustainable/energy neutral office environments, the Business Developer highlighted the KvE program to the Director Procurement & FM. This led to RHDHV taking the opportunity to create a new showcase office by participating in the KvE program. Multiple triggers and opportunities came together at the same time and together resulted in starting the project and creating office concepts.

Project concept levels & elaboration

In both cases, project concepts were created and chosen in multiple levels/phases. These levels and decisions that were made are comparable. These were portfolio (of locations) project concepts, workplace/office project concepts, and building/locations project concepts. As both cases concerned the office accommodation of a part of the company's employees, the project concepts that were created were very similar.

First of all, the portfolio (of locations) project concepts were either to stay within the existing portfolio (of locations) or to find a new location outside of it, setting the boundaries for building/location project concepts. Secondly, the workplace/office project concepts were more about the program that could be accommodated, the type of workplace and atmosphere. Lastly the building/location project concepts covered different interventions to existing buildings.

For both cases, the interviewees were in first instance discussing project concepts on a building/location level when they were asked about which project concepts were created in each project. After reading about portfolio (of locations) level project concepts in documents that were received, the interviewees were also specifically asked about project concepts on this level in the interviews that followed.

As in both cases the building/location level project concepts were most elaborated on (depth of detail is similar), the interviewees were most eager to talk about these and could also tell the most about these. The portfolio (of locations) level project concepts were mostly evaluated on the 'idea of what they could be', or shortly tested on the requirements and needs of users and the client organisation (strategy alignment).

Aligning activities: Strategy alignment and stakeholder management

In both cases, and in all of the project concept levels, strategy alignment and stakeholder management (aligning activities) were most prominent. These activities did not take place at one point in time but were more constant processes that were affecting the other activities and then required multiple iterations.

Moreover, aligning the ambitions and requirements for the project with the needs and business operations of the users and strategic goals of the Management team/Executive board (decision-makers) was considered very important by the interviewees. Because taking into account the needs of these stakeholders and involving them through participation and in decision-making, resulted in support for the project.

"The team that was working on the new office in Amsterdam, realized that internal support was of great importance. Therefore, interviews were conducted with business line managers" (Bekkering, 2018).

On a portfolio (of locations) level, the project concepts were evaluated based on the needs of the users (travel time) and strategic goals of higher management in relation to the history of both organisations. Here the core businesses of the organisations steered the decision-making, as staying at the auction site for RFH meant staying close to the logistical processes, and RHDHV evaluated the project concepts based on their employees, as providing consultancy services is done by people.

In case of RFH, the strategic goals that were set for the CRE, in line with the new corporate strategy, were incorporated by the project team as a way to create urgency and support for the project from the

Management team. *“We included those goals [of the new FH2020 strategy] because we also used them to convey the urgency of the project”* (RE&H Consultant RHF, 2020).

For creating the office/workplace project concepts, the current business operations were analysed and taken as a basis for developing ambitions and eventually the project brief. *“Those ambitions have to be very close to the people”* (Director Procurement & FM RHDHV, 2020). RHDHV did this by taking the Urban Challenge as a starting point. The project team of RFH analysed the demand for space for the different departments and their location preferences. Stakeholder management and strategy alignment formed the red thread in this process as gaining the support from both the employees as well as the decision-makers was considered essential for the project teams. The alignment between the office/workplace project concept and strategic goals and business operations also steered the decision-making.

Building/location project concept creation and decision-making was done by assessing what is possible within the requirements and most in line with the ambitions that are set in developing the office/workplace project concept. Based on the decision-making on the previous project concept levels, the building/location project concepts were created out of what was available on the market (RHDHV) or by logical thinking and within the existing locations (RFH). Decision-making was based on costs and on strategic alignment, where the different project concepts were visualised to give a better idea to decision-makers about what the different project concepts could lead to. For RHDHV, where the ambitions were used as criteria to systematically score the possible locations with needed interventions, the budget were already decided upon beforehand and thus formed a boundary conditions for all of the building/location project concepts.

5.3 Partly similar, partly different

Project owners

In both projects, the project owner role was fulfilled by the head/main person responsible for real estate and FM within the FM departments, carrying the responsibility within the client organisation for the project, having to ensure that the project’s objectives are met and ambitions are realised.

Throughout the project concept levels, the project owners recommended what project concept to choose, but the final decision-making required the approval of the Management team/Executive board (or even the Supervisory board in the RFH case). Moreover, the project owners focused on creating support for the project. This was done through showing how the project contributed to achieving the strategic goals (strategy alignment) and stakeholder management that also included involving competencies that were not in house.

What is different between the cases is that in the RFH case, also the RE&H consultant is considered to be project owner, carrying responsibilities on behalf of the Concern Manager RE&FM. This might be because the project (program in first instance) of changing the workplace environment of RFH as a whole was a large undertaking, focusing on more than one location, or because RFH can be classified as a more novice client. Instead, RHDHV’s project was only concerning the Amsterdam office, resulting in a smaller scope and RHDHV is a more experienced client.

Stakeholder involvement (alignment strategies)

In both cases it was recognised that the ‘feeling of ownership’ (support) that is created through actively involving (through more than just informing) stakeholders works well to create support for the project (concepts). Only the stakeholder involvement was done was differently in both cases.

RFH mainly focused on involving the decision-makers by employing a more control-oriented alignment strategy, regularly reporting to higher management and keeping the users informed. Users also participated in part of the implementation of SamenWerken, but this was on a small scale concerning the look and feel and way of working together in the showcases. Nevertheless this created the required support from the users. *“The showcases really promoted the program and made it possible to move it into the right direction”* (Concern Manager RE&FM RFH, 2020).

Instead RHDHV, participated more with employees (users) earlier on through involving specialists (experts), *“We had already convinced the employees. The internal experts we employed played an important role in this conviction”* (Verhoeven, in Bekkering, 2018). Besides, a group of employees were presented the preferred building/location project concept. Their positive response regarding the old garage confirmed the project team’s recommendation and steered the decision-making. RHDHV applied thus a more involvement-oriented alignment strategy. But in both cases, higher management was the ultimate decision-makers for the whole project.

These different alignment strategies are also characterised by where the CRE strategies originated from, which are the starting point for operating solutions. In case of RFH, the new CRE strategy concerning the modernisation of offices and increasing collaboration throughout the organisation was fed from the strategic level with the introduction of a new corporate strategy. These strategic goals were a trigger for the program SamenWerken to start.

In the RHDHV case, the Procurement & FM department re-evaluated its approach towards its CRE after the merging and moving of many offices due to the merge between Royal Haskoning and DHV in 2012. In the new CRE strategy, the corporate goals were incorporated by implementing ‘practice what you preach’. But also the employees (people) were put in a more prominent position, in line with RHDHV’s core business which is all around people, instead of focussing mostly on costs and ‘bricks’. This resulted in a more bottom up approach/involvement-oriented alignment strategy compared to RFH.

These different alignment strategies could also indicate different amount of hierarchy in the organisations. Where the project team of RFH regularly reported to the Management team, RHDHV’s project team showed more autonomy in their approach, pointing towards a less hierarchical organisation.

Internal / external stakeholders

In both cases, the portfolio (of locations) project concepts were developed internally and more external stakeholders were involved in the development of the project concepts on the other levels. In the development of the office/workplace project concepts, a broad group of stakeholders participated in both cases. Here RHDHV actively involved two external consultants of KvE to facilitate the development of the office concepts. Instead RFH only hired an external consultancy firm to guide the implementation of SamenWerken in the showcases.

For the building/location project concepts, RFH hired an architect and cost specialist to elaborate on the different project concepts that were created, as these were competencies that were not in house. RHDHV contracted Wijngaarde and BAM (AM) for executing the project before the creation of building/location project concept was started. Here RHDHV applied a procurement strategy that included a dialogue phase where the project brief was discussed together with market parties. RFH only started a procurement process to select an architect after the building/location project concept decision was made. RHDHV thus involved more external stakeholders and also earlier on, making them part of the project team. RFH did involve external parties, but more for elaboration of the project concepts.

Chapter 6

Discussion of findings

6. Discussion of findings

6.1 Project concepts

As stated in the introduction, little research has been performed around creating and deciding on project concepts in the front-end phase of projects in general. This made it challenging to get a good understanding about what project concepts are, but also highlights the scientific relevance of studying the creation and decision-making of project concepts. By using the systematically found literature, the definition of a project concept as set for this thesis is that: **the chosen project concept is the initial idea which sets the project in motion: the conceptual solution chosen to satisfy the need of the client/owner organisation or solve their problem** associated with accommodating their organisation (scope of this research).

Although this definition could be set, it remained vague what a project concept included from the literature found in the theoretical background. The empirical research provided more depth in this definition as it was found that in case of projects related to accommodating an organisation, project concepts have been created and decided upon on different levels/in phases:

- Portfolio (of locations) project concepts
- Office/workplace project concepts
- Building/location project concepts

The case studies have been analysed up until the creation and decision-making of the building/location project concept because after a choice was made on this level, the projects really moved into the design phase and it became mostly elaboration of the chosen building/location project concept.

Whether multiple levels of project concepts are also created for other type of projects cannot be concluded through the research performed and could be further investigated by performing a similar study on a different kind of projects (other than projects related to accommodating an organisation). But having different 'levels' of project concepts in other projects is expected as different 'levels' can be recognised in the front-end activities of construction projects as discussed by Gibson Jr. et al. (1995) and Pilanawithana & Sandanayake (2017): Where Gibson Jr. et al. (1995) discuss the development of the initial project concept into a workable concept and further on in the front-end discuss evaluating 'alternative sites' and 'site selection', Pilanawithana & Sandanayake (2017) discuss several interventions such as constructing new building facilities or instead to renovate or expand the existing buildings, that are recognised in the cases as building/location project concepts.

Similarly, when looking outside of the systematically found literature, these building/location project concepts / interventions are recognised in CRE literature. Here, Vijverberg, in De Jonge et al. (2009) summarizes these (object) interventions as accommodating scenarios on a building level, including:

- Conversion / upgrading (function extension)
- Extension (function extension)
- Redeployment (function change)
- Consolidation
- Sale / disposal
- Demolition (function termination)

While these building/location project concepts, also called (object) interventions or accommodating scenarios, are mentioned in CRE literature, De Jonge et al. (2009) concluded, through analysing several strategy design methods, that “most methods focus on outlining an accommodation strategy on portfolio level” (De Jonge et al., 2009, p. 82). Although some methods translate this into object interventions, it could be established that in the CRE field, the focus lies on the portfolio level.

Comparing this to the literature from the project field, it is most likely to assume that here the building/location project concept level is discussed when referring to project concepts, as the project literature is written from the ‘execution parties’ side. In the case studies it was namely found that executing parties were only involved at building/location project concept level after procurement. Both fields of literature thus have a different focus in their research. As in this study a mostly ‘project perspective’ has been taken the case study findings are further discussed from a CREM perspective in section 6.5.

Following this line of thinking, the interviewees mostly discussed the building/location project concepts when they were asked which project concepts were considered. Therefore it is established the interviewees also viewed project concepts more from a project perspective. Only when more detailed questions were asked about what was already decided before the building/location project concepts, after reviewing documents, the interviewees discussed more about the portfolio (of locations) project concepts.

6.2 Project owner

The terminology on the project owner was found to be inconsistent (Hjelmbrekke et al., 2014; Hjelmbrekke et al., 2017; Olsson, 2018; Zwikael & Meredith, 2018) and who fulfils this role within the client organisation is dependent on the type of organisation, complexity and size of a project (Gibson Jr. et al., 1995; Herazo et al., 2012).

In both cases, the projects concerned the accommodation of part of a company’s employees. While the Management team/Executive board functioned as the ultimate decision-makers of the projects on a strategic level in the organisation, the head/main person responsible for real estate & FM within the FM departments were considered project owners in this graduation research as they were responsible for realising the project within the client organisation and were to ensure that the project’s objectives were met and ambitions were realised.

In the RFH case, the Concern Manager RE&FM was accompanied by the RE&H Consultant as project owner in carrying the responsibilities for realising the project. Although also in this case, the Concern Manager RE&FM carried the ultimate responsibilities, having this role represented by multiple people, at different levels in the organisation (by some labelled as the project sponsor role) is discussed by Hjelmbrekke et al. (2014) as a way to increase value creation, and thus project success, as it “will improve the necessary two-way communication between the strategic and operational levels in projects” (Hjelmbrekke et al. 2014, p. 675).

The need for having good communication between the different levels in the organisation about the project’s ambitions and progress is recognised in the case studies as multiple interviewees highlight the importance of creating support among both the decision-makers (strategic level) and employees (operational level). Having the project owner represented on multiple levels in the organisation could thus work advantageous for creating support for the project (concepts).

Hereby it is not said that the project owner role should be fulfilled by multiple people, but who the project owner is, is considered an important decision as it can largely affect the support that is created for the project through the different levels / stakeholders (within the client organisation). Depending on the kind of project and hierarchy of the client organisation, it could either work well to have a project owner in the strategic levels of the organisation – close to the decision-makers, as support from these is found necessary. Instead, in a situation where communication and participation with end-users is deemed important, having a project owner that is closer to the operational levels could be more beneficial for the project and realising its outcomes. As long as the responsibilities are clear for the project owner(s) within the client organisation itself then that is the most important.

Choosing the project owner in that sense also has to do with stakeholder management/involvement and strategy alignment. Where for stakeholder management the stakeholders have to be identified and managed, and for strategy alignment the needs of the users' needs and the strategic goals determined in order to align these with the project objectives/ambitions. Who is identifying these needs and in what way (through performing interviews, discussing priorities or active involvement in decision-making, i.e.) should be thought of and can be planned.

In case of a more novice client organisation or due to the particular features of a project, an external consultant could advise a client organisation on what competencies should be present within a project owner, or the project team in general, to best involve the stakeholders and incorporate their needs. Especially in case of a complex client, when a variety of stakeholders has to be represented, who is/are responsible for the project as project owner(s) and part of the project team should be well considered. "The project team, including the owner, can [namely] significantly contribute to identifying and aligning users' needs and owner's strategies based on their experience and knowledge" (Haddadi et al., 2017, p. 95). Here, having someone with much experience and good and/or many connections throughout the client organisation can also be a valuable criteria in case a project is in need of a project owner.

6.3 Creating and deciding on project concepts

Procurement

In both cases, the portfolio (of locations) level project concepts were created internally, while for the office/workplace project concepts and building/location project concepts, external expertise was involved. This was done to perform activities that required expertise that was not present in the client organisations themselves.

As each project has particular features, it is important that the people involved in front-end planning have complementary skills and competencies that fit the project, its size and its complexity (Aritua et al., 2011; Gibson Jr. et al., 1995). Reflecting upon on who was involved in creating and deciding on project concepts in the two cases, different approaches concerning procurement were taken, in line with the project missions of the projects.

Where RHDHV did a procurement process to find collaboration partners for developing building/location level project concepts and executing the project, RFH only started with a procurement procedure after the building/location project concept was already decided upon. Connecting this to the project missions, RFH definitely wanted to improve its office environment, but not be a frontrunner. Instead, RHDHV really wanted to create a showcase project and worked together with KvE aiming to

learn more about energy neutrality. RHDHV's aim of innovating is in line with the integrative procurement strategy that was adopted, as long-term commitments and early involvement, as was the case for Wijngaarde and BAM (AM) at RHDHV, are favourable ways for innovation (Eriksson et al., 2019).

The choice for the procurement strategy may be drawn from the previous experience of individuals or capabilities of members of the client organisation/project team (Plantinga et al., 2019). In the RHDHV case, KvE proposed having a dialogue phase to strengthen the project brief and prioritize the ambitions in communication with market parties. This dialogue phase led to a building/location project concept creation and decision process that was different than initially planned. In first instance, the participating consortia namely had to propose a building/location project concept with their propositions, but after the dialogue, they were asked to sketch out the process of how to get to a suitable location. Eventually, a systematic approach to weighing alternatives based on the ambitions was adopted. In this way, procuring market parties early on brought new ideas to the table and broadened the project concepts that were considered and thus definitely influenced project concept creation and decision-making in a positive way.

Nonetheless, it is good to note that integrating executing parties early on is not automatically the 'better' way of doing procurement. First and foremost, it should fit with the particular features and ambitions of a project and also with the individuals who are part of the front-end planning team as who is part of the project team largely shapes the front-end planning process and thus also the creation and decision-making of project concepts as this takes place in the front-end phase (Tzortzopoulos et al., 2006). But it is good to realise that by integrating construction input in the front-end phase of a project, the workability of plans increases as well as the chance of project success (Oh et al., 2016).

Decision-making

Decision-making, as well as strategy alignment (to formulate objectives and priorities) should be done by the project team in participation with others, following both theory as well as the case study findings. First of all, participation is necessary in decision-making due to decision-making structures that include involvement of the Management team/Executive board for official decision-making. Here the project owner is said to provide guidance and information about the different project concepts in the decision-making by recommending the best project concept (Beckers et al., 2015; Pilanawithana & Sandanayake, 2017). Recommending the most suitable project concept is recognised in the case studies, where the project owners, as part of the project team, have to report to the Management team/Executive board (the ultimate decision-makers).

As Shiferaw et al. (2012) highlight, when front-end decisions are made without active participation of users or the wider community (especially in public projects), these stakeholders could miss the 'feeling of having an ownership for the project', which negatively impacts the sustainability of the project's effects, and thus a project's strategic success.

The importance of creating this 'feeling of ownership' was confirmed in the case studies as the interviewees largely discussed the involvement of the stakeholders as crucial to create and sustain support for the project. This was not only done by for example involving users, in case of RHDHV, in the decision-making but also by taking the business operations and users' needs (in terms of location preference and travel time) into account in the project's ambitions and decision-making as part of strategy alignment as discussed next.

Strategy alignment through stakeholder involvement

Lacking “satisfactory communication ... to identify the owner’s strategies and users’ needs is suggested as one of the major obstacles in achieving desired outputs” (Haddadi et al., 2017, p. 94) of the front-end, such as clear objectives and priorities (Haddadi et al., 2017). Following this obstacle, participation with the decision-makers (Management team/Executive board) and users is deemed necessary for identifying the strategic goals and users’ needs. Having these clear at the initiation and during the project development is considered best practice as it will increase value creation and thus the project’s success (Cooke-Davies, 2009; Hjelmbrække et al., 2017; Project Management Institute, 2013; Williams & Samset, 2010).

Reflecting on the case studies, the owner’s strategies and users’ needs were identified for creating project concepts and incorporated to create urgency and support for the project. This was not done once, but an iterative process requiring communication skills. Here RFH adopted a more control-oriented alignment strategy, where mostly through communication with the Management team (decision-makers) the project was aligned with the strategic goals of the new FH2020 strategy that also affected the CRE strategy (Beckers et al., 2015).

RHDHV started from the company’s mission (Enhancing Society Together) and focused more on the business operations of the Amsterdam based employees from there. Due to the expertise present within RHDHV itself, the project team participated with a broader group of employees. This involvement was largely done in the activities of defining requirements, ambitions and decision-making of the location/building project concept. This approach of participating more with users and also convincing the Executive board by showing how this project would be a showcase of what the employees were working on, thus more bottom-up, resulted in more involvement-oriented alignment strategy (Beckers et al., 2015).

Ownership / support

Both for decision-making as for strategy alignment, it could be discussed what this participation should/could look like, which all comes down to ‘the feeling of ownership’ and amount of support that is created for the project within the client organisation and by the external parties involved. Here questions arise such as how actively do you need to involve stakeholders to create this feeling of ownership? And how much ownership do you want? Moreover, is making stakeholders ‘feel’ as if they are able to influence the decision-making enough? Or should they really have the power? On what project concept level and on what aspect (scale/object) should this involvement be?

Where RHDHV more actively involved end users through performing interviews, employing internal expertise and a vote amongst employees to confirm the recommended building/location project concept, RFH mostly showed how the needs of the users and strategic goals were incorporated in the project concepts through highlighting this in presentations. Although having a brainstorm session with a large representation of the client organisation was considered a good idea by the RE&H Consultant of RFH (2020), striving for more active user involvement: *“Get more people involved ..., I would now also include a broader range of people within the organisation to help think about this in a brainstorm”* (RE&H Consultant RFH, 2020).

The Director Procurement & FM of RHDHV highlighted how the ambitions that were formulated should really come from the employees (users) themselves. It could be considered if the users should

participate in formulating the ambitions, instead of ‘checking’ or asking whether the defined ambitions are in line with their needs. But involving the users can be very intense and time consuming. Moreover, there can be a generous amount of time between developing ambitions and acting on them through creating and deciding on project concepts, making it a long process of user involvement (Director Procurement & FM RHDHV, 2020).

But to conclude, having more active participation with users is favourable for the relevance and sustainability of projects, and thus a project’s strategic success (Shiferaw & Klakegg, 2013). From the two case studies, the project team of RHDHV participated more with employees in creating and deciding on the different project concept levels compared to RFH. This could be because RHDHV is a less hierarchical organisation compared to RFH, or due to the core business of RHDHV that is also all about their people. Judging from this aspect, the RHDHV case thus created higher chances for strategic success. Although in the RFH case, the project team focused largely on the decision-makers, the need for more active participation of users and a wider variety of people within the organisation is shared by the RE&H Consultant RFH (2020). This shows that the importance of active user involvement is recognised in creating and deciding on project concepts.

6.4 Project owner capabilities

From the findings as discussed in the sections above, and in the cross-case analysis, a comparison is made with a conceptual framework developed by Winch & Leiringer (2016) on the owner project capabilities in the transportation infrastructure sector (table 6.1). This framework was developed to stimulate further research on the owner role in project organising. The framework is considered to be applicable outside the transportation infrastructure sector, for a wide variety of physical infrastructure by owners both in the public and private sector (Winch & Leiringer, 2016), which makes it applicable for this graduation research.

Strategic capabilities	Commercial capabilities	Governance capabilities
Project selection	Packaging	Assurance
Project mission definition	Contracting	Project coordination
Capital raising	Relational	Asset integration
Stakeholder managing		
Project portfolio managing		

Table 6.1 | Owner project capabilities (Winch & Leiringer, 2016, p. 273) - edited.

The conceptual framework lists strategic, commercial and governance capabilities. Where the strategic capabilities are most present in the front-end (internal to the client organisation), the commercial capabilities are required when external stakeholders are involved (Winch & Leiringer, 2016). Thirdly, “there is a set of governance capabilities which support the interface between the permanent owner organisation and the temporary project organisation” (Winch & Leiringer, 2016, p. 276). These are thus especially relevant when a temporary project organisation is formed after procurement.

As the strategic capabilities were most present within creating and deciding on project concepts in the front-end, these are discussed in more detail:

- Firstly, project selection is about selecting the most beneficial project, which is largely recognised in the case studies where the project owners (together with the project team) recommended the best project concept to the decision-makers based on the selection criteria.
- Secondly, the project mission definition is about why the project is done. In the case study findings this is about highlighting the urgency, related to the combination of triggers and strategic goals and users' needs. This requires the project owner to clearly articulate why the project needs to be done (Winch & Leiringer, 2016).
- Thirdly, capital raising is essential because in case there is no investment, there is no project (Winch & Leiringer, 2016). In the RFH case, where multiple attempts were made to improve the office environment, a combination of triggers eventually led to creating a budget.
- Fourth, stakeholder management, was clearly found in the cases studies as critical in creating and deciding on project concepts, and is largely discussed in the previous sections. Here, Winch & Leiringer (2016) state how managing stakeholders "can only really be handled effectively from the owner side" (p. 274), making it even more important for project owners to focus on, by representing the client/owner organisation.
- Then lastly, there is managing the project portfolio. "Project portfolios are projects sponsored by the same owner which share scarce resources, but do not have any technical dependencies" (Winch, in Winch & Leiringer, 2016, p. 274). Here, the principal resource is capital. In both cases the budget was a boundary condition, important in the decision-making. This resulted in it being even more important for the project owners (project teams) to highlight the urgency of the project and gain and maintain support within the client organisation.

Comparing the findings of the case studies with this conceptual framework of Winch & Leiringer (2016) thus confirms the strong owner capabilities. Where for creating and deciding on project concepts, stakeholder management and strategy alignment are determined as the most important activities - corresponding mostly to the strategic capabilities. The commercial and governance capabilities are more required when external parties are involved, especially in the design and construction phase. But as was found that procurement can also be done for the creation and decision-making of building/location project concepts, these capabilities may also be required earlier on.

6.5 Theoretical perspective

Terminology

The literature that was found via the systematic search is largely from the project studies field, where the client organisation and its front-end activities are viewed as external from the temporary project organisation. On the contrary, CRE literature focusses on the internal client organisation. This results in the CRE literature using different terminology. CRE literature for example does not discuss a CRE department as the 'client' when it discusses its own processes. Moreover, CRE managers do not talk about the 'front-end' of projects, but about managing the CRE portfolio that includes actioning real estate interventions (building projects).

Because CRE literature does not use terms such as 'client (organisation)' or 'front-end', only a few studies from the CRE field of literature were found via the systematic search. For the theoretical

framework (created based on the literature from systematic literature search), the literature on alignment strategies, as discussed by Beckers et al. (2015) and Rytönen et al. (2017), were practically the only literature sources from the CRE end. This resulted in mostly having a project perspective in analysing the cases. But the front-end phase of a project could be considered as overlapping the two fields of literature, making it relevant to reflect on the theoretical framework (figure 2.3) and findings of creating and deciding on project concepts in practice from a CREM perspective.

CREM perspective - alignment

Heywood & Arkesteijn (2017) looked into the concept of alignment in the field of CREM, where “aligning corporate real estate (CRE) and corporate strategies for organisational value is a longstanding issue” (p. 16). Alignment is often defined using dictionary definitions as ‘harmony’, ‘agreement’ or ‘consistency’. But by executing a meta-study of twenty existing alignment models, it was found that alignment is more complex and pluralistic than is portrayed by the individual models. The complexity was pinned down into four distinct things, explaining alignment to be: (1) a multi-valent (value) relationship; (2) in multiple alignment forms (process- and behaviour-based); (3) in having multiple cognitive objects to align; and (4) alignment in multiple directions, which means there is alignment “iteratively vertically between the organisational and functional levels, horizontally across the business units and the corporate infrastructure functions, and between demand and supply” (Heywood & Arkesteijn, 2017, p. 155).

These dimensions of alignment are recognised in the project concept creation and decision-making processes in the case studies. First of all, in both cases there were multiple objects to align. The strategic goals with the CRE goals, with the project goals. There was iteratively vertical alignment between strategic goals and users’ needs. And horizontal alignment between the different business units (such as ICT, HR and Commerce) and FM. Moreover, in both cases the CRE strategy strengthened the corporate strategy, and the other way around, showing alignment as a multi-valent relationship (Heywood & Arkesteijn, 2017).

In this thesis, alignment was only studied vertically through how the strategic goals and users’ needs (strategy alignment) were incorporated in the CRE strategy implementations (project concepts). But as the aligning activities of strategy alignment and stakeholder management were found to be present in all of the project concept levels, forming the red thread in the project concept creation and decision-making process, the importance of studying also the other dimensions of alignment in more depth is established.

CRE alignment Building Blocks

Furthermore, the process of creating and deciding on project concepts can be viewed from a CREM perspective by comparing the theoretical framework (figure 2.3) of this thesis and the case study findings with the four Building Blocks of CRE alignment. These Building Blocks were mapped by Heywood & Arkesteijn (2018) by performing a meta-study of fourteen CRE alignment models to develop understanding of the models’ constituent parts and provide a complete picture of modelling CRE alignment (Heywood & Arkesteijn, 2018). The four Building Blocks and their components (figure 6.1) are shortly discussed below in relation to the theoretical framework and case study findings.

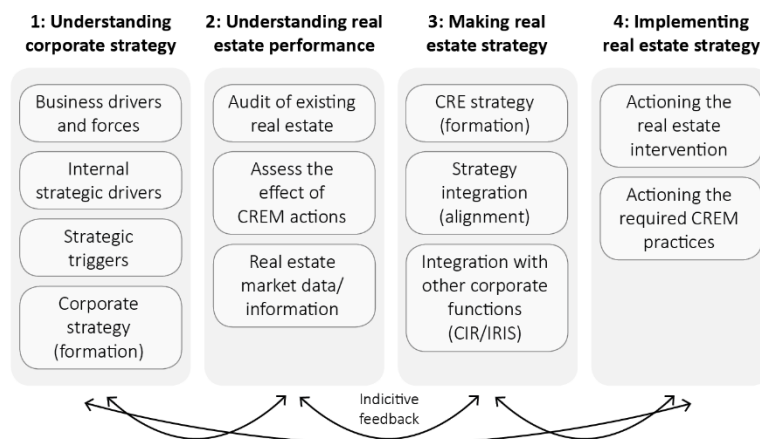


Figure 6.1 | CRE Alignment, the Building Blocks and components (based on fig. 1 & table 1 in Heywood & Arkesteijn, 2018, p. 17&20) - edited.

1. Understanding corporate strategy

The first Building Block is called ‘understanding corporate strategy’ and includes the *business drivers and forces*, *internal strategic drivers*, *strategic triggers* and *corporate strategy (formation)* (Heywood & Arkesteijn, 2018). The triggers and response to triggers as part of the theoretical framework (figure 2.3) are recognised in these components. In the case studies, both internal and external triggers were identified, as well as strategic triggers that cover an “organisation’s operating context that creates organisational change” (Heywood & Arkesteijn, 2018, p. 29), these triggers were classified as organisational change. Lastly corporate strategy (formation) was not explicitly included in the theoretical framework of this thesis but was found in both of the case studies as impacting the CRE strategy and working through to creating and deciding of the project concepts on the different levels.

2. Understanding real estate performance

The second Building Block (understanding real estate performance) includes the *audit of existing real estate*, *assess the effect of CREM actions* and *real estate market data/information* (Heywood & Arkesteijn, 2018). This Building Block corresponds with the strategic analysis/definition and decision-making activities in the theoretical framework.

In the case studies, the audit of existing real estate is clearly recognised in the RFH case where both the quantitative and qualitative supply and demand of space were mapped and compared with benchmarks on the workplace and building/location level. In the RHDHV case, the project concept of building something new was excluded because of real estate market data/information of the large amount of vacant office spaces (and this is not enhancing society together). This led to the project team choosing to only focus on existing buildings. These components are thus besides understanding real estate performance also resulting in requirements or boundaries for project concepts that are created.

The third component (assess the effect of CREM actions) is usually done post alignment but as “pre-knowing the effects of CREM actions helps decide the CRE strategies in Building Block 3, and Building Block 4’s interventions to use” this component is part of the second Building Block (Heywood & Arkesteijn, 2018, p. 30). From the description of this component, the importance of evaluation of different CRE strategy implementations (project concepts), can be derived. This thus again corresponds with the strategic analysis/definition and decision-making activities in this thesis’ theoretical framework.

This third component raises questions around the amount of elaboration that was done for the different project concepts, as more elaboration can create a clearer idea of the consequences of choosing a certain project concept. Reflecting on the cases, RFH made a decision of a portfolio (of locations) level without developing the project concepts in any way. Whether the different project concepts on the portfolio (of locations) were all taken as seriously could therefore be asked. In the RHDHV case, the workplace concept was decided upon quite quickly as well, resulting in only developing the chosen project concept without genuinely considering the other project concepts.

3. Making real estate strategy

The components of the third Building Block form the actual CRE strategy making. Firstly, *CRE strategy (formation)* represents the strategy itself and its formation. Secondly, *strategy integration (alignment)* “recognises that CRE and corporate strategies need bringing to an actual alignment state (Heywood & Arkesteijn, 2018, p. 31). Lastly, *integration corporate functions (CIR/IRIS)*, “recognises that CRE strategy is rarely enacted alone and often requires other corporate functions, like HR and Finance to achieve desired strategic outcomes” (Heywood & Arkesteijn, 2018, p. 31).

First of all, CRE strategy (formation), was included in the theoretical framework as part of the triggers, but as in both cases the projects were implementations of new CRE strategies, these strategies especially evolved by the creation and decision-making of the project concepts on the different levels. Having different levels (portfolio, building, and workplace) as part of the CRE strategy is recognised in several strategy design methods that are discussed by De Jonge et al. (2009). These strategies at the different levels feed/form the requirements/boundaries that are set for the different project concept levels, where project concepts are possible ways to implement the CRE strategy.

Secondly, bringing the CRE and corporate strategies in an alignment state corresponds with the aligning activities in the theoretical framework. Here, strategy alignment includes identifying the strategic goals, and also users’ needs. In the case studies, achieving and maintaining this alignment was found to be a continues and iterative process in creating and deciding on project concepts in the front-end. As aligning the project (concepts) with the strategic goals was a way for the project team/owner(s) to create support for the project in the strategic levels of the organisation.

The third component (integration corporate functions (CIR/IRIS)), is not specifically recognised in the theoretical framework of this thesis. But it is recognised in the case studies. In both cases, for creating the workplace concepts, a broad representation of the organisation namely participated (HR, ICT, marketing departments).

4. Implementing real estate strategy

The fourth Building Block includes *actioning real estate intervention* and *actioning the required CREM practices* and “is about changing real estate objects, the portfolio and CREM practices to deliver aligned strategies” (Heywood & Arkesteijn, 2018, p. 32). Here, assessing the effects of CREM actions, as discussed before, is necessary for the implementation. This is also recognised in the feedback that is depicted with the arrows in figure 6.1.

The components in this fourth Building Block cover all three of the activity categories that part of the theoretical framework of this thesis with activities such as evaluation, strategy alignment (interventions should align with strategies) and preparing for execution with procurement etc.. But besides these front-end activities, this Building Block also covers the design and execution of interventions through projects.

To conclude, the process of creating and deciding on project concepts as discussed in the case studies is recognised in all of the CRE alignment Building Blocks. Where the front-end activities and triggers are recognised in the first three Building Blocks, the implementation (Building Block 4) does not end with the project concept decisions but also includes the execution of the projects. The Building Blocks thus not only cover the project front-end but also include the whole project life cycle.

Although both fields of literature thus clearly overlap, the perspective of a CRE department is much more long-term than that of a temporary project organisation, as these dissolve after a project is finished. Instead a CRE department is part of the permanent 'client' organisation themselves (see figure 1.2). After a project is finished, the CRE manager is still part of the permanent (client) organisation as the real estate that is aligned moves into the use phase. Therefore it is believed that project people can learn on the strategic perspective from CRE people, increasing the chances for strategic success and thus more sustainable and relevant projects and built-environment. This makes it especially interesting for researchers in the front-end to immerse themselves more into the CRE literature.

Chapter 7

Conclusions & recommendations

7. Conclusions & recommendations

7.1 Conclusions

The main aim of this graduation research was to explore the project concept creation and decision-making process to identify critical aspects for project owners to focus on in creating and deciding on project concepts in practice for projects related to accommodating organisations. This provides the opportunity for project owners to plan/prepare better for project concept creation and decision-making, as these are fundamental choices that have to be made in the front-end phase of projects.

To achieve this aim, five objectives were set. These objectives are met through answering their corresponding sub questions and the main research question of this research. These answers both cover the theoretical and empirical findings on the process of creating and deciding on project concepts. Moreover, the answers to the research sub questions also stimulated thinking about the critical aspects for project owners to focus on in creating and deciding on project concepts in practice for projects related to accommodating organisations.

Sub question 1: What is studied on the project owner in the project front-end and in relation to strategy alignment?

Research to date on the project owner has focussed mainly on client activities, emphasising especially procurement strategies and value creation through strategy alignment. The importance of the front-end is highly stressed in relation to a project's success, where the project owner is said to be responsible for the project within the client/owner organisation and is/are to ensure that the project's objectives are met and ambitions are realised. Hjelmbrekke et al. (2014) even stress that "the first priority should be to ensure that relevant project concepts are chosen" (p. 663) for a project's relevance, associated with the strategic success of a project. But what project concepts are / include remains vague, as the literature concerning project concepts is very limited.

From this theoretical background, a theoretical framework was made and used to analyse the empirical part of this research.

Sub question 2: What does the process of creating and deciding on project concepts in response to triggers look like in practice?

Creating and deciding on project concepts in practice happens on different levels / in different phases during the front-end phase. These levels/phases take place consecutively or in parallel, covering most of the front-end. This depends on whether decision-making takes place before the new level/phase is started. These levels are labelled as portfolio (of locations) project concepts, office/workplace project concepts and building/locations project concepts for projects related to accommodating organisations. Moreover, what the process of creating and deciding on project concepts looks like is dependent on the scale/size/particular features of the project and the core business, culture and hierarchy of the client organisation.

In general it is concluded that creating and deciding on project concepts is a constant stakeholder management and strategy alignment process. The main activities that creating and deciding on project concepts contains are identifying both the strategic goals of the organisation and the needs of the users

(business operations) and translating these into ambitions and requirements that set the boundaries for project concepts (conceptual solutions) and steer the decision-making on them.

The process starts with a combination of triggers that come together at the same time. Key individuals start acting on these triggers, either proactively or reactively. The problems/needs are analysed and ambitions and requirements that function as selection criteria are formed in line with the needs and requirements of users and strategic goals of the organisation.

Depending on whether a decision is first made on portfolio (of locations) level or concerning office/workplace project concepts, the objectives and ambitions are further developed into a project brief. Developing this brief requires multiple iterations to stay aligned with the strategic goals and users' needs and includes participating with stakeholders. The further the project concepts are developed, the more preparatory/operational activities (such as preparing for project execution and cost estimations) and iterations between the activities are performed as this comes with elaboration.

Decision-making on project concepts is based on the culture and history of the organisation as well as on the organisation's strategic goals and users' needs (strategy alignment). Evaluating/selection criteria are formed by the ambitions and requirements (also concerning costs) for the project. These thus form the boundary conditions the project concepts should meet. Evaluating and decision-making can be done systematically by scoring the project concepts on the set selection criteria and happens in phases.

Sub question 3: Who is involved in creating and deciding on project concepts in practice?

Who is involved in creating and deciding on project concepts in practice is very dependent on the features of the particular project, opportunities that arise and expertise present within the client organisation. Generally it is concluded that the more elaboration is required on a project concept level to make a decision, the more external parties are involved and the wider the variety of internal stakeholders become part of the creating and deciding process.

- Portfolio (of locations) level project concepts are developed internally within the client organisation, in line with the corporate goals that are translated into a CRE strategy. This is happening by an FM or CRE department, and approved by the Management team/Executive board (decision-makers) of the internal (client) organisation.
- The creation of office/workplace project concepts is done by a broader group of representatives within the client organisation. It can involve external consultants to support this process and broaden the project concepts that are created. Users and decision-makers can be involved to create support and urgency for the project.
- Creating building/location level project concepts can be done internally. But as it requires the project team to elaborate more, external parties are part of this level of project concept creation to provide the required expertise. Procurement can be done before the building/location project concept is decided upon or afterwards. Here it is a choice of whether the client organisation wants to have a more integrative approach or traditional procurement strategy. This depends on the type of project and experience/capabilities of project the team members. With early and long-term involvement in more integrative procurement strategies, innovation can be enhanced. But when the aim is to increase efficiency, shorter durations of involvement of design and executing parties is more suitable.

Sub question 4: How is the alignment with the owner's strategies and users' needs incorporated in creating and deciding on project concepts?

Achieving and maintaining alignment with the owner's (organisation) strategies and users' needs is a continuous and iterative process in creating and deciding on project concepts in practice. Where the triggers for a project include both strategic goals as well as users' needs, these are part of the project concept development from the start.

Strategic goals and users' needs (business operations) form the basis in setting ambitions, objectives and requirements, setting the boundaries for the project concepts that are created. These ambitions and requirements then form the basis for evaluating and deciding on the project concepts. As the boundaries set on a portfolio (of locations) level limit the building/location project concepts, the strategy alignment thus works through the different project concept levels.

Both a more involvement- or control-oriented alignment strategy can be adopted in aligning the users' needs and strategic goals of the organisation with CRE. But generally users are more informed about the project (concepts) and the Management team/Executive board on a strategic level in the organisation are more involved in the decision-making.

From the case studies it is concluded that active user involvement increases to communication (participation) instead of coordination (informing) when office/workplace and building/location project concepts are created/elaborated upon. The creation and decision-making on portfolio (of locations) level project concepts does not include active participation of users. This is done by a CRE/FM department in communication with the Management team/Executive board (decision-makers). Users can be involved in the decision-making on the other project concept levels, but this is very dependent on the culture and hierarchy of the organisation.

Main RQ: What are critical aspects for project owners to focus on in creating and deciding on project concepts in practice during the front-end phase of projects related to accommodating an organisation?

From the cross-case analysis, discussion of findings and answers to the research sub questions, the main research question is answered by providing three critical aspects for project owners to focus on in creating and deciding on project concepts in practice. These are the following:

- 1) Understanding the hierarchy, culture and history of the client organisation
- 2) Strategy alignment requires project owners to be translational and communicative
- 3) Active stakeholder management/involvement: Who to involve, how and when

These aspects all revolve around creating and maintaining the urgency and support for the project (concepts) within the client organisation (from users to decision-makers) and project organisation. The aspects are not ranked or provided in a particular order, as they all offer different ways to create and maintain urgency and support for the project (concepts). These critical aspects are discussed in more detail below.

1) Understanding the hierarchy, culture and history of the client organisation

First of all, it is important for project owners to understand the culture and motivations of the client organisation as creating and deciding on project concepts is largely influenced by the culture and history of the client organisation. Moreover, the hierarchy and decision-making procedures within the client organisation create a social environment in which the project owner (project team) has to operate. Having a good understanding of where an organisation comes from and what its values are helps to comprehend what the problems/needs/triggers are, and where these come from. As project concepts respond to these triggers, having a good understanding of these is essential to create suitable project concepts that are supported by different levels in the client organisation.

Moreover, some boundary conditions (ambitions and requirements) for creating and deciding on project concepts may already have been set before a project is started, again based on the culture/history of the client organisation. Being aware of these boundary conditions is important, as these impact the project concepts that can be/are created.

2) Strategy alignment requires project owners to be translational and communicative

As the boundaries for creating and deciding on project concepts are set by the ambitions and requirements, it is important that these are aligned with the organisation's strategic goals and users' needs. Developing these ambitions and requirements, requires many iterations where staying aligned with the needs of the users and strategic goals is key. Because when this alignment is sustained, the project (concepts) will gain and keep support from the stakeholders. This support is critical for a project as it enhances long term strategic success as the project will be of relevance for the client organisation as a whole and has a more sustainable impact.

In creating project concepts it is important that the strategic goals and users' needs are clearly identified. This requires project owners (and the project team) to communicate well with stakeholders on strategic, tactical and operational levels in the organisation and be able to translate their needs/requirements into the project. The ambitions and requirements can also be set based on what is expected that the users want, but consulting them (representatives) is stronger.

Project owners (the project team) recommend the preferred project concept to the decision-makers. Moreover they have to ensure decision-making is taking place. Showing how in the evaluation of different project concepts the strategic alignment is incorporated is a strong way to convince the decision-makers of the project concept. The story that can be told in this way will feel like it 'fits'.

3) Active stakeholder management/involvement: Who to involve, how and when

A third way to increase the chances to create support for the project (concepts) is through active stakeholder management/involvement. There are a number of aspects that can be taken into account in planning how to manage/involve stakeholders through the different levels of project concept creation and decision-making in practice.

First of all, the different stakeholders and also the hierarchy in the client organisation, in relation to decision-making, have to be identified/determined. Secondly, knowing what expertise is in house or whether external advisors or specialists should be attracted should be determined, for each project concept level. Here, attracting people with specific expertise can also be a way to increase support for

the project as it can provide trust in the project team. Thirdly, whether procurement should be done before the building/location project concept must be decided upon. This is also dependent on the particular features of the project and the expertise present within the client organisation. Nonetheless, early involvement of executing parties is favoured as this increases the chances for project success.

As creating and deciding on project concepts happens in different levels/phases, for each of these levels a plan for stakeholder involvement can be made, and evaluated in the process. Dependent on the particular features of a project and the client organisation, how active the involvement of especially users is should be considered. In general, more active user involvement, through more than just informing them on the project (concepts), is favourable. Whether active user involvement is advantageous on a portfolio (of locations) level can be questioned, as the project is still very abstract in this phase. With more tangible things, concerning for example requirements or prioritizing ambitions in office/workplace and location/building project concepts, it becomes easier to discuss impacts and alternatives with users (representatives). What this more active involvement should look like should be thought of by the project owner and project team, where performing interviews, brainstorm session or workshops could be possible options.

7.2 Recommendations

7.2.1 Recommendations for practice

Several recommendations can be given to practice. First of all, the front-end is often discussed as being this 'fuzzy' thing, but the findings of this study show that the front-end can also be planned to a certain extent. As creating and deciding on project concepts takes place in different levels/phases, and each level might require different stakeholders to be involved. This can be thought of in advance.

Moreover, a way to approach this process more planned could be by defining beforehand how much elaboration will be done on each project concept level before making a decision. On the other hand it could also be good to just evaluate a number of times whether already enough elaboration/details are known and the different project concepts can thus be evaluated and decided upon. Hereby it is worth to note that more information is not always better (Williams & Samset, 2010).

It is advised to not rush creating and deciding of project concepts in the front-end. Although logical thinking was applied in the cases, taking a step back and thinking about the big picture and impacts of each project concept is worthwhile since it concerns fundamental decisions for a project. These impacts could be spatially, on the business operations, etc.. Here, developing multiple building/location project concepts for different portfolio (of locations) level project concepts could give more insights into the impacts of the portfolio decision. This will also help to prevent making very fundamental decisions 'unknowingly'.

Moreover, letting go of the current situation could be done as an experiment. What if everything was possible, would other project concepts be created then? Working with extremes, as was done in the RHDHV case, could also be a good way to create different project concepts as it forces to consider opposites and think about what could be in between.

Finally, when a consultancy company is asked to support/guide a project concept creation and decision-making process, it is important for the consultants to be aware of the history and way of working/culture of the client organisation. Knowing with what 'mindset' or frame of thought the organisation is thinking

could help asking questions to get to boundary conditions that have been set for project concepts, without the client organisation even realising, or explore alternative project concepts. *“In the front-end phase, you get closer to organisations. You have to understand much better what the organisation needs”* (Manager RE&L RFH, 2020).

Moreover, a consultant could advise on who should be the project owner(s) - at what level in the organisation, also in relation to strategy alignment and stakeholder management/involvement. It is about being in a position where both a good relation with the decision-makers as well as with the users is established. Whether this requires a project sponsor or a second project owner (more on an operational level) to be installed, this is project specific. It depends on the scale of the project as well as how familiar/experienced the project owner is within the organisation. Here it is not one size fits all, also because different levels in the organisation might require different ways of communication, as long as the responsibilities are clear. Having a project owner that is for example very familiar with the organisation will have shorter lines in some instances and knows the culture of the organisation better than a new employee. On the contrary, someone who has been working in the same environment for a long time already could be (implicitly) limited in thinking about possible project concepts. It might therefore be more difficult to think outside of the box or let go of the known/existing.

7.2.2 Recommendations for further research

Moreover, several recommendations for further research can be given. First of all, what the consequences are of choosing a certain project concept was outside of the research scope of this thesis. But this connection would be very interesting to study, also in relation to the conceptual model of this graduation research (figure 1.4), where the connection between the project concept and strategic success of a project is sketched.

Secondly, an ongoing case could be interesting to research as this makes the practitioners more aware of the steps they are taking, activities they are performing and who they do or do not involve and how active this involvement is. When an ongoing case is studied, the outcomes of certain activities could be determined and documented, providing more accurate data of how the process of creating and deciding on project concepts is taking place in practice.

Thirdly, whether multiple levels of project concepts are also created for other type of projects cannot be concluded through the research performed and could be further investigated by performing a similar study on a different kind of projects (other than projects related to accommodating an organisation).

Then lastly, the theoretical framework that was developed in this thesis was mostly formed by project literature. As the front-end phase of project is also studied in CREM literature (although different terminology is used), this is where project studies and CREM studies overlap. In the discussion of findings, the CREM perspective is briefly discussed. Here it became clear that the perspective of a CRE department is much more long-term than that of a temporary project organisation, as these dissolve after a project is finished. Therefore it is believed that ‘project people’ can learn on the strategic perspective from ‘CRE people’, increasing the chances for strategic success and thus more sustainable and relevant projects and built-environment. This makes it especially interesting for researchers in the front-end (from the project field) to immerse themselves more into the CRE literature.

An example for this concerns ‘alignment’. In this thesis, alignment was only studied vertically through how the strategic goals and users’ needs (strategy alignment) were incorporated in the CRE strategy

implementations (project concepts). But as the aligning activities of strategy alignment and stakeholder management were found to be present in all of the project concept levels, forming the red thread in the project concept creation and decision-making process, the importance of studying also the other dimensions of alignment in more depth is established.

Researching which form of alignment or objects are most important to align in creating and deciding on project concepts, using CRE literature, is therefore found to be valuable to be able to provide detailed recommendations to practice on how to best approach achieving CRE alignment and ultimately strategic success through projects.

7.3 Limitations

Like every research, this graduation research has limitations which are shortly discussed. First of all, due to time constraints it was only possible to study two cases, although it is recognized that the value of the findings would have been greater with more case studies. The cases took place in different contexts, which was taken into account in the analysis, increasing the generalizability of the findings. While creating and deciding on project concept happened on several levels (in phases) within each case, still a better understanding of the process could have been realised by studying more cases in other contexts. Moreover, the initial plan was to use the RFH case as more of a test case, to practice the interviewing and evaluate the interview questions. But due to time limitations and circumstances, this case was included for the final study.

Secondly, the data collection was based on historical observations. In both cases, the project concepts were created and decided upon for at least four years at the time of interviewing. This raises questions as to whether the interviewees reported about the process as it really happened, as their memory might be lacking and they were unsure about certain aspects while they stated how the creation and decision-making on project concepts took place.

Thirdly, the amount of interviews and with whom these were performed are a limitation. Where for the RFH case, four interviews were performed, for the RHDHV only three interviews were conducted, although more documents were received to review for RHDHV. The interviewees did not cover any of the decision-makers (Management team/Executive board) or users, although their experience might have been valuable to dive deeper into the cases and study the project concept creation and decision-making process from more perspectives.

Moreover, in performing a qualitative study, it is about reaching data saturation. But as the researcher has no experience in practice and also limited research experience, the researcher got saturated after performing seven interviews and receiving around twenty documents. More experienced researchers (with more time) would have performed more interviews, increasing the viability of the findings.

Lastly, as highlighted before, analysing the project concept creation and decision-making processes from a more CREM perspective would have strengthened the findings and increased the scientific relevance of this study, as the two fields of literature (real estate studies & project studies) would be more combined. Due to the systematic literature search that was chosen for the theoretical background, this CREM perspective has been more limited in this study.

7.4 Validity and reliability

In conducting case studies, four tests are considered relevant to judge the quality of a research design. These are the construct validity, internal validity, external validity and the reliability (Yin, 2018). Each of these are discussed separately below. Internal validity is not discussed, as this is not of relevance for a descriptive case study research as this is.

7.4.1 Construct validity

Construct validity is about “identifying correct operational measures for the concepts being studied” (Yin, 2018, p.42). In this research, the creation and decision-making on project concepts in practice is researched by analysing the response to triggers, activities and process, who is involved and how strategy alignment is incorporated. These are definitely not the only possible measures that could be taken to find out what the process of project concept creation and decision-making looks like in practice, and derive critical aspects for project owners to focus on from. But to increase the construct validity of the findings, the interviewees were asked general questions about critical aspects in creating and deciding on project concepts, and they were asked to discuss what the organisation was like at the time of project concept creation and decision-making, and whether other aspects influenced the process. These questions enabled to increase the construct validity of the findings.

Moreover, the construct validity is enforced by using multiple sources of evidence (Yin, 2018): Multiple interviews were performed and a variety of documents was reviewed to add to and verify the data of the interviews. Another tactic to increase the construct validity is to establish a chain of evidence. This was done by using quotes (mostly) in the case study chapter and providing a list of the interviewees and documents received. The interview transcripts and documents are saved in a database by the researcher, but only accessible by the research team and made anonymous to prevent possible harm or deception of the interviewees. The codes (inductive & deductive) are described in the methods chapter and are taken from the theoretical framework (figure 2.3). Lastly, the interview protocol (Appendix I) was used as a guideline in each interview where also the date and time (circumstances) of the interviews are stated, making it possible to trace back the data collection process.

7.4.2 External validity

For the external validity of the research, it is about whether the case study findings can be generalized beyond the immediate study (Yin, 2018). While this research of creating and deciding on project concepts was specifically focused on projects to accommodate organisations, the critical aspects for project owners to focus on in creating and deciding on project concepts can be recognised in the conceptual framework of Winch & Leiringer (2016) on owner project capabilities based on the transportation sector. This is an indication that the findings are applicable beyond the specific contexts of the case studies.

Here again it should be said that performing more case studies in similar and different contexts would increase the validity and generalizability of the findings.

7.4.3 Reliability

The reliability of a research is about whether the same results would be found in case another researcher would perform the described methodology again (Yin, 2018). To increase the reliability of this research, the theoretical framework that was used as a basis for the deductive coding was presented as well as the coding procedures. As the theoretical framework was developed from the literature discussed in the theoretical background, this is also very traceable. Secondly, the interview protocol that stood as a basis for performing the interviews is included in Appendix I, increasing the reliability of the study (Yin, 2018). Although this interview protocol was used as a basis and more specific questions were asked in the interviews, these were the main questions. Thirdly, the documents that were received were listed as well as the interviewees' function titles at the time of project concept creation and decision-making. In the case studies chapter, these documents and interviewees are referenced, to maintain a chain of evidence (Yin, 2018).

Chapter 8

Reflection

8. Reflection

8.1 Position of research

This graduation thesis is done within the Design & Construction management (D&CM) chair in the Management in the Built Environment (MBE) department. D&CM focuses on management issues in the development and realization phase of the construction process of buildings. Herein special attention is given to construction process innovation (Design & Construction Management, n.d.). “The department of Management in the Built Environment (MBE) works towards a sustainable built environment where the interests of the end user and other stakeholders are key” (Management in the Built Environment, n.d.).

As active stakeholder management/involvement was identified as one of the critical aspects for project owners to focus on in creating and deciding on project concepts in the front-end phase, this thus clearly fits within the MBE department.

In creating and deciding on project concepts, the project team has to take into account many factors and plan for the future with little information available and high uncertainties. This requires analytical skills, creativity and design capabilities which lay at the heart of the faculty of Architecture and the Built Environment and the master program.

As in the front-end phase, fundamental choices are made under high uncertainties, it is of societal relevance to study the processes in the front-end to increase the chances of making the right choices for a more sustainable future of the built-environment which is essential in the world we live in today.

Lastly, as the findings of this study are based on both theoretical and empirical findings, it is expected that the results are transferable to practice.

8.2 Method & scientific relevance

With the main aim of this study being to explore the project concept creation and decision-making process to identify critical aspects for project owners to focus on in creating and deciding on project concepts in practice for projects related to accommodating organisations, a case study method was adopted as this would allow to study the project concept creation in its real-world context.

This approach worked because through conducting interviews with people from practice, the real life context could be studied. By investigating multiple cases, the findings have become stronger and the analytical generalization was increased (Yin, 2018). But as due to time limitations it was only possible to include two cases, the extent to which the findings can be generalised is limited.

The case studies included both interviews and document analysis. Reflecting on the interviews, I must say most conversations went smoothly. Only sometimes it took some time for me to get across what I meant with my question or to get ‘on the same level’ as to both understand that we were addressing the same things. I think that as I did not have any experience with interviewing before, this is something you get better at each time. And also as I started to know more about the different projects, I could ask more targeted questions which resulted in more detailed data about the processes. Moreover, as I do not have any experience in practice concerning the processes that are studied, it took longer for me to understand what the interviewees were actually discussing.

For scientific relevance, as little is known about how project concepts are created this research aimed to provide more insight. But as highlighted before, analysing the project concept creation and decision-making processes also from a more CREM perspective could have strengthened the findings and increased the scientific relevance of this study, as the two fields of literature (real estate studies & project studies) would be more combined. Due to the systematic literature search that was chosen for the theoretical background, this CREM perspective has been more limited in this study.

8.3 Ethical concerns

For this graduation research, none of the participating interviewees were particularly vulnerable and all interviewees agreed with the informed consent (Appendix II) and signed these before an interview was started. At the start of each interview, the interviewees were asked whether they still had questions regarding the informed consent and permission to audio record the interview was asked and granted.

As described in the informed consent, the interviewees had the possibility to withdraw from participating in the research at any moment, which would mean the data collected from that interview would be destroyed and thus not used for the research purposes. No interviewees used this possibility to withdraw.

It could be considered an ethical concern that the data gathered for the case studies is available for the graduation (study) team as a whole. But as this was mentioned in the informed consent and the transcripts were anonymised, possible harm was limited and the privacy of the interviewees was protected as much as possible. To conclude, no ethical concerns have been encountered during the research process.

8.4 Graduation process

Towards the P2

Towards the P2, I stayed a bit too long in the 'reading what I found interesting phase', which resulted in me postponing the systematic literature review study. My mentors told me to only focus on one thing at the same time, and finish the literature review part before working on the other elements. This helped me focus and actually get things done for the P2 report.

At first I wanted to write everything in a presentable way immediately but this is not very time efficient. I like to work systematically, but when this means I want to write everything in the final version the first time I start writing things down, this is not really effective. Splitting up the work in smaller parts, first stating what I want to talk about in bullet points, and then making a story of it, resulted in a better way of writing for the P2 report as advised by my mentors.

Towards the P4

After the P2, the literature review needed a lot more work which resulted in starting the data collection almost a month later than initially planned. Also the coding process took more time than anticipated. Eventually, there was not enough time to write the P4 report and compare the two cases with each other and relate it back to literature for the first P4 try in May 2020.

Apart from still missing the cross-case analysis and discussion of findings, the feedback of the mentors mostly focused on creating more coherence through the report. Having the P4 retake in September provided enough time to go back to the literature and create more coherence in the report from there. From trying to write a literature review, the literature that was found via the systematic literature search that was now used as a theoretical background to create a theoretical framework. This framework was used for the deductive coding and in the data analysis to describe the findings from the case studies.

An external factor that influenced the graduation process was the COVID-19 pandemic. Just shortly after I started my graduation internship at Royal HaskoningDHV, everybody was obliged to work from home as much as possible. This affected my graduation research process in multiple ways. First of all, the interviews had to be conducted via Teams or Skype. This made it more difficult to interpret the interviewees as body language was hard to read through a webcam. Moreover it resulted in less informal conversation or interaction with the interviewees which made the interviews quite formal and targeted. This may have resulted in the interviewees not feeling completely at ease or the other way around resulted them in talking more freely about the process of project concept creation and decision-making as they could 'hide' behind their screens.

The second effect of COVID-19 was that the moments of interactions with graduation mentors and fellow students were limited. A quick chat over a coffee or bumping into each other in the hallway was not possible anymore, making the graduation process even more individualistic than it already is. In this period I learned that it is very important to ask questions, and reach out to people when you are stuck, although I have found this difficult as it was sometimes hard for me to formulate why I could not work something out on my own.

I found it difficult to put my thoughts and analysis on paper sometimes, especially because the research topic is really about practice, and I do not have any experience in practice myself in this area. Moreover, the definitions from literature were vague and differed from each other, making it hard for me to grasp.

Having performed the interviews in Dutch and having gathered a lot of information, I found myself unsure about how to structure the description of the cases, putting more time and effort into the coding helped by categorizing the data. The coding approach of open coding, finding themes and aggregate dimensions was found to be a useful way to really get into the data and could by suggestion of my mentors be used to structure the case studies. Now things seem logical but it was definitely a process to get to there.

What I have learned from my own work

In these past fourteen months I did not only learn about the research topic, but more and more about communication and the importance of conversational skills. Asking for help, is something which I found difficult sometimes as I had difficulty with putting into words why I could not work something out.

Secondly I learned that I can work well on my own but in the current circumstances and with a project that is so individual it would have helped me to be able to work together with my fellow students.

Thirdly, I realized even more that I like to dive deep into a project, get to the details to figure something out. But although I make many notes, I want to have a picture in my head before I can really start writing.

Lastly, the process has been different than I first thought it was going to be. It was definitely more difficult than I expected. Especially since I like things to be linear, but doing research is an iterative process. It is going back many times to eventually go forward.

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Appendix I | Interview protocol

INTERVIEW PROTOCOL (Dutch)

Of the Graduation Research of Esther Arensman about the role of the client (owner) in the creation of project concepts in practice of projects in the built environment.

Datum: _____

Locatie: _____

Geïnterviewde: _____

Organisatie: _____

Project: _____

Duur interview: _____

ALGEMEEN: Introductie

- Graag vraag ik bij deze uw toestemming voor opname van dit interview.
- Start opname.
- Herhaling: Graag vraag ik bij deze uw toestemming voor opname van dit interview.
- Dan zullen we nu beginnen met het interview.

DEEL I: Profiel en positie

- Wat is uw **huidige functie** binnen [organisatie]?
- Wat is uw **ervaring** binnen [organisatie]?
- Hoe zou u **[organisatie] omschrijven als organisatie**?

Hints: betrokken, vooruitstrevend, conservatief? Soort organisatie

- Kunt u een korte **omschrijving** geven van het project?
 - Hoe is het project **begonnen**?
 - Hoe raakte u **betrokken** bij het project?
- **Vanaf wanneer (en tot wanneer)** raakte u betrokken bij de ontwikkeling van [project]?
- **Vanuit welke positie(s)** bent u betrokken (geweest) bij de ontwikkeling van [project]?
 - Is uw rol veranderd gedurende het project?

DEEL II: HOE

OBJECTIVE: Illustrate and evaluate the process of the creation of project concepts for the case studies performed and compare the findings.

► *Hoe worden conceptuele oplossingsrichtingen gecreëerd? (EN: How are project concepts created?)*

- Wat was de **aanleiding** voor het project?

Hint: probleem / behoefte

- Welke **doelen** zijn er helemaal aan het begin van het project gesteld? (goals)
 - Wat moet het opleveren?
 - Is vooraf vastgesteld wat het project moet opleveren?
 - Hoe passen deze doelen binnen de doelen van de organisatie?

- **Welke oplossingsrichtingen** zijn er overwogen om in de behoefte van [organisatie] te voldoen/het gegeven probleem op te lossen?
 - Is er vooraf een plan gemaakt om verschillende oplossingsrichtingen te onderzoeken?
- Wat verstaat u onder een **oplossingsrichting**?
 - Wat is hier onderdeel van? / wat omvat dit?

Hints: conceptuele oplossing, doelen, risico's, financieel plan, economisch plan, etc.? planning?

- Is er vooraf vastgesteld wat een oplossingsrichting moet omvatten?

Hint: aanbestedingsplan, planning, kostenplaatje (linken naar capabiliteiten)

- **Hoe zijn ideeën/oplossingsrichtingen** voor het project **ontstaan**?
 - Wie kwam er met ideeën/oplossingsrichtingen? (staat ook al bij wie)
 - Ontstonden de ideeën/oplossingsrichtingen op hetzelfde **moment**?
 - **Wat is er gedaan** om verschillende oplossingsrichtingen te creëren?

Hint: brainstormsessies / meetings / eerdere projecten reviewen / bepaalde mensen inhuren (WIE)

- **Hoe ver** zijn de verschillende oplossingsrichtingen **uitgewerkt** tot er één werd gekozen?
 - Zijn alle oplossingen even ver uitgewerkt?
 - Is dit vooraf vastgesteld?
 - Zijn er (met opzet) bepaalde alternatieven **niet** eens **overwogen**? Waarom? (Scope)

DEEL III: WIE

OBJECTIVE: Report and illustrate who is involved in the creation of project concepts for the case studies performed and compare the findings.

► *Wie is er betrokken in het creëren van conceptuele oplossingsrichtingen? (EN: Who is involved in the creation of project concepts?)*

- **Wie (functies)** is er **intern** betrokken in het creëren van conceptuele oplossingsrichtingen?
- Zijn er **externen (functies)** betrokken in het creëren van conceptuele oplossingsrichtingen?
- Zijn er mensen (functies) met opzet **uitgesloten** van betrokkenheid in het creëren van conceptuele oplossingsrichtingen (en het ontwikkelen ervan)?
- **Wie** kwam er met ideeën/oplossingsrichtingen? (staat ook bij HOE)
- Was er **onigheid** over de oplossingsrichtingen / was men het met elkaar eens?
- Wat waren **knelpunten / uitdagingen**?
- Wat was **uw bijdrage** aan het creëren van verschillende oplossingsrichtingen?

DEEL IV: STRATEGIE

OBJECTIVE: Report and illustrate if, and if yes how the alignment between the owner's strategy and the project concepts is incorporated in the creation of project concepts for the case studies performed and compare the findings.

► *Is, en zo ja hoe is, de aansluiting tussen de conceptuele oplossingsrichting en de strategie van de organisatie meegenomen in het creëren van conceptuele oplossingsrichtingen? (EN: Is, and if yes how is, the alignment between the owner's strategy and project concepts incorporated in the creation of project concepts?)*

- Wie is er **verantwoordelijk** voor het **implementeren** van de **organisatie strategie** in projecten?

- **Hoe** is dit [project] gelinkt aan de doelen/strategie van de organisatie?
Hint: missie – visie – strategie
 - Hoe zijn deze doelen/de strategie meegenomen in het creëren van oplossingsrichtingen?
 - Zijn de strategische doelen aan het begin van het project duidelijk gemaakt?
 - Vanaf wanneer werd de strategie meegenomen?
- Is dit een verhaal dat naar de buitenwereld wordt opgehouden? Of hoe gebeurt dit nu **echt**?

Afsluitende vragen

- Als je terug kijkt, wat had je **anders gedaan**? Of wat zou je een volgende keer anders aanpakken? (In het proces van het creëren van conceptuele oplossingsrichtingen)
- Wat ging er **goed**?
- Wat waren **uitdagingen** in het proces?
 - Wat waren cruciale punten die de uitkomst hebben beïnvloed?
- Zou je een volgende keer bepaalde **mensen** nog extra willen **betrekken**?
- Hoe zou je in je rol **ondersteund** kunnen worden?

ALGEMEEN: Afsluiting

- Dat was de laatste vraag van het interview, is er nog iets dat u zou willen toevoegen?
- Heeft u aanbevelingen voor met wie ik nog meer interviews kan houden met betrekking tot het creëren van oplossingsrichtingen in de initiatiefase van [project]?
- Zijn er documenten of verslagen die ik zou mogen raadplegen die me helpen in mijn onderzoek?
- Hartelijk bedankt voor uw tijd en deelname!
- Einde opname.
- Gevolgen: de interview resultaten zullen worden gebruikt voor de beantwoording van drie deelvragen (zie blauw gemarkeerd)
- Uitwisseling van contactgegevens (e-mailadres en telefoonnummer) als dit nog niet gebeurd is, voor het geval er aanvullende informatie beschikbaar komt wat nuttig kan zijn voor het onderzoek.
- Wanneer mijn afstudeeronderzoek is voltooid, deel ik de resultaten.

Note: The objectives and research questions that are provided in this P5 report differ from what is stated here. This is because these changed since the interview protocol was created.

Appendix II | Informed consent

For the interviewees in the Graduation Research of Esther Arensman

CONCISE INFORMATION SHEET

First of all, thank you very much for participating in my research. My name is Esther Arensman and I am a graduate student of the master Management in the Built Environment at the TU Delft. My graduation research focusses on the initiative (front-end) phase of a project, where multiple (conceptual) solutions (project concepts) can be considered to solve a certain problem or need of the client (owner) organisation regarding their accommodation.

Research Background

In the front-end phase, freedom to choose is at its optimum and the costs related to making major changes are minimal. The fundamental choices are made, with the greatest consequences when uncertainty is at its highest and little information is available. One of these fundamental choices is the choice of the project concept, which highly influences the rest of the project.

Research Method

To explore how project concepts are created in practice, multiple cases are studied by performing interviews with clients and members of the client organisation who were involved in the creation of project concepts. By comparing the findings of the different case studies, the role of the client in the creation of project concepts in practice will be sketched.

A list of predefined questions is made for the interviews, however there is room for additional questions which may arise during the interview. Whether you as an interviewee do not understand a question, require further explanation on a topic or if you have a question yourself, please do not hesitate to ask during or after the interview. Lastly, you are not obliged to answer all the questions because of confidential/personal reasons without any explanation.

Data processing

The interview will be audio-recorded in order to make a transcript after the interview and not interrupt the conversation due to writing down the answers. The audio-recordings (raw data), will be stored offline and will be accessible for the researcher only. The raw data will be deleted once graduated. Interview transcripts will be made where personal information will be anonymised. The transcripts will be uploaded in the data processing program Atlas.ti and coded with the aim to find patterns in the results and compare the different cases. The transcripts will be accessible for the researcher, and by the mentors on request and stored in a protected Storage Folder from the TU Delft. The anonymised interview transcripts will be deleted one year after graduation.

The interview results will be used for research purposes only. The answers will remain private and will be processed anonymously: personal information such as name and contact details will not be used. Instead, your function title and the organisation you work(ed) for are used in the graduation report to refer to the interviewees. If this is not possible, another appropriate way to reference the interviewee will be determined.

Withdrawal

You are free to withdraw your consent at all time, without providing any reason. All obtained data will then be destroyed.

Contact details for further information

Student / Researcher:

E.C.W. (Esther) Arensman

Mentor team Delft University of Technology:

P.W. (Paul) Chan

M.H. (Monique) Arkesteijn

Mentor Royal HaskoningDHV:

R. (Réne) Karreman

INFORMED CONSENT FORM – INTERVIEWEE

This informed consent form is meant for the interviewees that are participating in the graduation research of Esther Arensman. Please tick the appropriate boxes.

	Yes	No
Taking part in the study		
I have read and understood the study information dated [09/03/2020], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>
I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without giving a reason.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that taking part in the study involves an audio-recorded interview which will be transcribed as text. The recording will be destroyed once the graduation thesis is finished and the subsequent transcript will be destroyed one year after the graduation thesis is finished.	<input type="checkbox"/>	<input type="checkbox"/>

Use of the information in the study

I understand that information I provide will be used for the graduation thesis and the corresponding presentation, unless indicated that certain information is confidential.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that personal information collected about me that can identify me, such as my name and contact details, will not be shared beyond the study team.	<input type="checkbox"/>	<input type="checkbox"/>
I agree that my information can be quoted (anonymised) in research outputs.	<input type="checkbox"/>	<input type="checkbox"/>

Future use and reuse of the information by others

I give permission for the use of the graduation thesis results, that are partly based on the anonymised interview transcripts, to provide to be archived in the TU Delft educational repository, so it can be used for future research and learning.	<input type="checkbox"/>	<input type="checkbox"/>
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Signatures

Name of participant

Signature

Date

INFORMED CONSENT FORM – RESEARCHER

	Yes	No
Information sharing		
I have accurately read out the information sheet to the participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.	<input type="checkbox"/>	<input type="checkbox"/>

Name of researcher

Signature

Date

