

# Corporate Real Estate Alignment in Practice

A study on how corporate real estate is aligned by multinational corporations in different industries in practice and its relation to theory



*Figure 1: Corporate Real Estate (Harrison, 2015)).*

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## Colophon

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## Foreword

With pleasure and excitement, I present to you my graduation thesis, within the Real Estate Management graduation lab of the department Management in the Built Environment at the Faculty of Architecture and the Built Environment at Delft University of Technology.

This graduation research presents the work I have done since February 2016. The graduation research is about Corporate Real Estate (CRE) Alignment. The reason for choosing this graduation topic is because ever since the Real Estate Management course in the first semester of the master track Management in the Built Environment, where an accommodation strategy for a multinational corporation had to be designed, I have been interested in how corporate real estate is aligned to the needs of the core businesses of a company. This in combination with what I have experienced at my internship at the real estate department of a day-care organisation, I noticed that my interest lies in the management of corporate real estate. Specifically, with an interest in how the CRE strategy and the corporate strategy are connected: CRE alignment. How is it done in practice? And what can we learn from theory? This graduation thesis will touch upon the relationship between both.

Writing this graduation would not have been a success without my mentors. First, I would like to thank my first mentor, Monique Arkesteijn. Your knowledge of corporate real estate and corporate real estate alignment in specific, has helped me a lot to understand the problem of this research better. Pushing me to take better conclusions and to write this down is something that I have become better in because of you. Also, getting me in contact with the people from practice is something that I would really like to thank you for.

I also would like to thank my second mentor, Leentje Volker. Thank you very much for your criticism and helping me to be more critical on my own work. Your precision and knowledge on how to conduct academic research has helped me a lot during my own research.

Besides my mentors, I would also like to thank the people from the multinational corporations who were willing to share their story and knowledge on corporate real estate alignment. It was a pleasure to interview you all for my graduation research and I learned a lot from you. So, thank you all!

Finally, I would like to thank my sister, Lisette. You have always been a big support to me, and helped me a lot during my thesis. Since your expertise is in such a different industry, you were the perfect person to thoroughly read my thesis, to see if people without a background in real estate could understand it.

The report that lies in front of you is something that I am proud of. I hope you enjoy reading my graduation thesis as much I enjoyed writing it.

## Executive summary

### Problem analysis

Corporate Real Estate Management is “the management of a corporation’s real estate portfolio by aligning the portfolio and services to the needs of the core business, in order to maximize the added value for the business and to optimally contribute to the overall performance of the corporation” (Dewulf, Krumm, & de Jonge, 2000). For instance, when a multinational corporation wants to increase their revenues and wants to grow, one of the things that could be done is to increase the value of assets, by selecting suitable locations for a new office building (Lindholm, Gibler, & Leväinen, 2006). It is the task of the corporate real estate manager to develop a certain real estate strategy that will increase the revenue and the grow of the corporation; making sure that the strategy contributes to the core business of the corporation.

Over the last 25 years a lot of research has been conducted to analyse how corporate real estate could or should be aligned with the corporate strategy. This started with a research of Veale (1989). He mentioned that despite the potential great value of real estate assets, the assets were undermanaged and they therefore did not maximize the added value. Furthermore, he mentioned that one of the factors that lead to this under-management were the corporate real estate managers who did not maintain adequate information about their real estate assets. Veale therefore argued that corporate real estate management had to develop a more proactive and comprehensive decision making process. From that moment on more and more research has been done within the field of corporate real estate. Amongst other subjects in this research field, research has been done on corporate real estate alignment over the past 25 years.

According to Joroff et al. (1993) corporate real estate can be seen as the fifth business resource, next to human resources, IT, finance and research & development. This means that corporate real estate is increasingly integrated in the business strategy and therefore corporate real estate managers have the task to align the corporate real estate strategy to the corporate strategy to add value to the entire corporation.

Today’s world is dealing with global competition. In order to be unique and to operate, this global competition forces corporations to focus more and more on production and quality (Oluwoye, Karantonis, & Fakorede, 2001), and that corporations need to be open for changes (Karaköse & Demir, 2011). Within this global competition, multinationals play a key role. Internationalisation of the market makes it more necessary that corporations are expanding across the world. However, to compete in a global competition as a multinational, this means that productivity and quality are major issues. However, providing space is sometimes seen as a cost issue, but it can be seen as an investment in production (Oluwoye et al., 2001).

A problem arises if corporate real estate is seen as nothing more than a cost to business. According to Then (2005), many corporations see it as “an overhead that does not need serious management” and corporations are mostly interested in reducing their costs. However, since corporate real estate nowadays can be seen as one of the five important business resources (Joroff et al., 1993), it must be seen as something more valuable that can contribute to an organization.

As mentioned before, in the past 25 years many models have been found within corporate real estate management literature. In the research from Heywood and Arkesteijn (in press) twenty CRE alignment were analysed, to understand the CRE alignment phenomenon. Also, the theorisation of the models was

analysed. The research showed that all models have a different scientific basis. 60% of the models have an empirical basis, 60% of the models are a result of reflective practice and 70% have a normative basis (Heywood & Arkesteijn, in press). Of the twenty models, 55% have been validated empirically. This means that at the time the model was created, the model was tested in practice. Yet, as models have developed over the years, and the models which have been developed at last do not refer to earlier literature on models on CRE alignment (Heywood & Arkesteijn, in press), it might be questioned whether the validated models are still use in practice. Also, the practice of CRE alignment has developed as well.

Since the models that are identified in literature are mostly derived from and or tested in practice, this suggest that there is a link between theory and practice. Though, a remark should be made to clarify the difference between theory and models in this research. According to CambridgeDictionary (2017b), a theory is “a formal statement of the rules on which a subject of study is based or of ideas that are suggested to explain a fact or event or, more generally an opinion or explanation.” A model on the other hand, can be defined as “something that a copy can be based on because it is an extremely good example of its type.” (CambridgeDictionary, 2017a). As 55% of the models from literature have been validated Heywood and Arkesteijn (in press), it can be said that these models at that time could be seen as a theory, as they explain their opinion on how to do CRE alignment. Since the rest of the alignment models have not been validated, these models cannot be seen as a theory. It is therefore unclear if and to what extent these alignment models are used in practice. The possible reason for a low take-up of the use of the alignment models in practice can be explained by the fact that each author that developed an alignment model, has developed their own explanation for alignment but did not used or referenced to previous developed alignment models (Heywood, 2011). Another argument that Heywood (2011) mentions is that the reason for variety in the alignment models can be explained by the emergent nature of the discipline.

The implementation of corporate real estate alignment seems to be going well since many of the corporate real estate managers can say whether their corporate real estate portfolio is aligned with their corporate strategy or not (Bon, Gibson, & Luck, 2002; McDonagh, 2008). Gibler and Lindholm (2012) moreover mention that corporate real estate strategy is increasingly more and better aligned with corporate strategy.

Carrying out corporate real estate alignment is very important, because it adds value for the overall business, which is why corporations do not need to see it as a cost of doing business. It is however unknown how multinational corporations align their corporate real estate portfolio to their business needs. The theory on corporate real estate management provides alignment models that describe how one could align their corporate real estate. In practice, corporate real estate managers indicate they know how to align their corporate real estate portfolio. It is however not known if parts of the alignment models from theory are used in practice.

Therefore, the main problem to be solved is to find out how multinational corporations in different industries align their corporate real estate in practice. Besides, it is important to compare the results of these findings with the alignment models derived from the literature, to find out how practice and theory relate to each other.

## Research questions

*“How is corporate real estate alignment by multinationals in different fields of expertise done in practice and how does this relate to the alignment models found in theory?”*

Sub research questions:

1. What is the current state regarding corporate real estate management?
2. What is the current state regarding corporate real estate alignment models?
3. How can the type of alignment be defined?
  - What is the relationship between the corporate strategy and the corporate real estate strategy?
  - What is the form of alignment?
  - What are the cognitive objects in corporate real estate alignment?
  - How can the directionality be explained in corporate real estate alignment?
4. Which components are present within the corporate real estate alignment process?
5. Is the alignment process at the multinational corporations more control-oriented or more involvement oriented? What kind of perspective do they have?

As mentioned before, there is difference between theory and model. The main research question is all about how practice on CRE alignment relates to theory. Although not all alignment models which are analysed in the papers of Arkesteijn and Heywood (2013) and Heywood and Arkesteijn (in press) have been validated, the models that have been validated in the past will also be part of this research as it will be tested whether parts of these models are used in practice, as they have been categorized in the articles of Arkesteijn and Heywood (2013) and Heywood and Arkesteijn (in press). Therefore, when a reference is made to the relation between theory and practice, by theory is meant all CRE alignment models which have been found in the literature on CRE alignment.

## Research objective

This research focuses strongly on the relation between practice and theory of corporate real estate alignment. In this research project, the main objective is to find out how corporate real estate alignment is done in practice at multinational corporations in different industries. Subsequently, the aim is to find out how the practice of corporate real estate alignment relates to the theory on corporate real estate alignment. Both researchers and corporations from practice can learn from this research, as it might give them new insights on how to incorporate theory and multinationals' experiences into best practices.

Besides that, another objective of this research is to create a better understanding of aligning corporate real estate with business needs, for both theory and practice. To create this better understanding, the result of this graduation research aims to give an overview of how corporate real estate alignment is done in practice by different multinational corporations, but also to show the relation between practice and theory.

## Research methodology

To answer the main research question and the sub research questions, multiple types of research methods have been used. The answers to the first two questions of the research have been retrieved from the literature, by conducting a critical literature review. In the next chapter, the current state of literature will be discussed, which is the result of the literature review. Subsequently, the third research question required conducting interviews and document analysis to research the practice of CRE alignment. Also, a cross case analysis was done to see differences and similarities between CRE



alignment at different corporations. These approaches both have a qualitative approach, since data was collected to understand the phenomenon of CRE alignment in practice. A qualitative approach is hard to measure and is therefore more likely to be subjective. Finally, the last research question is answered by comparing the results of the literature review with the results of the single cases and the cross-case analysis. In this way, the difference between practice and theory can be described and explained. The section below describes the research methodology and its process further in detail.

**Case study based research and selection**

After the literature review was executed and a theoretical framework was created, the interviews and document analysis at the multinational corporations were conducted. In these cases, the corporate real estate alignment in practice was intensively analysed in detail, to get more in-depth information on how multinational corporations align their corporate real estate in practice.

The corporations that were selected for this research are all corporations that have their own in-house real estate department, of which real estate is not their core business and these multinationals operate in the Netherlands. The multinational corporations that have been studied are active in the consumer goods industries, chemical industry and oil and gas industry. The corporations have been selected in agreement with the first mentor through the CoreNet Global Network, which is a global network for multinational corporations. Different corporations and several CRE managers were asked which corporations they think might be interesting for this research because their CRE alignment is successful. Besides that, the selection of the corporations for the case study was also based on the size of the corporations and turnover per year.

All CRE managers that were interviewed for this research have a different background and position, but the responsibilities that they have in common is that they are accountable for corporate real estate and setting up the CRE strategy. The difference lies in the fact if they are responsible globally or for a region. The table below shows the different positions of the CRE managers that were interviewed.

Corporation	Function CRE manager	Regional / Global
A	Global Facilities Manager	Global
B	Manager Real Estate and Facilities	Regional
C	Global Facilities and Real Estate	Global
D	Property Manager Europe and South Africa	Regional
E	Global Real Estate Portfolio Asset Manager	Global
F	Global Corporate Real Estate, Facilities Director	Global

All corporations that have been studied are for-profit multinational corporations. Since interviews could

*Table 1: Functions of the interviewed CRE managers (own table)*

be done over the phone or through Skype, it was not necessary that these CRE managers operate in the Netherlands. However, it made it easier when the CRE department is located in the Netherlands, since it made it possible to conduct the interviews in person. This was more personal and more information could be provided and asked.

**Data collection**

The process of the case based studies started with the search for the annual report of the corporation. This was done to understand the business characteristics of the corporation and therefore the annual report has been analysed before the first interview was conducted. After analysing the annual report, interviews were conducted with the CRE managers of the multinational corporations, to obtain more information about the CRE alignment process for the actual analysis. The first interviews were conducted according the general interview protocol, so the questions in the first interview were the same. The questions during the second interview were different, depending on what type of information



was missing to complete the case study analysis. More in-depth questions were asked to understand certain aspects better.

During and after the first interview, the CRE managers were asked to share additional documents for document analysis, in case they were available and if the multinational corporation agreed to share them for this graduation research. In preparation for the interviews, the annual reports needed for the analysis were searched up online. Other documents needed for document analysis needed for document analysis were:

- Board documents, explaining the organisational structure of the corporation and the position of each department within the corporation, but also the corporate strategy: what are their aims, mission and objectives?
- CRE strategy documents; explaining the strategy of CRE, but also the mission, vision and plans for the CRE portfolio and buildings
- Documents on CRE alignment, explaining how are strategies and plans accepted.

**Data analysis and process**

The analysis of the transcripts of the interviews held with the CRE managers is a long process. Below, the process of this analysis is described to understand how the results have been derived from this analysis.

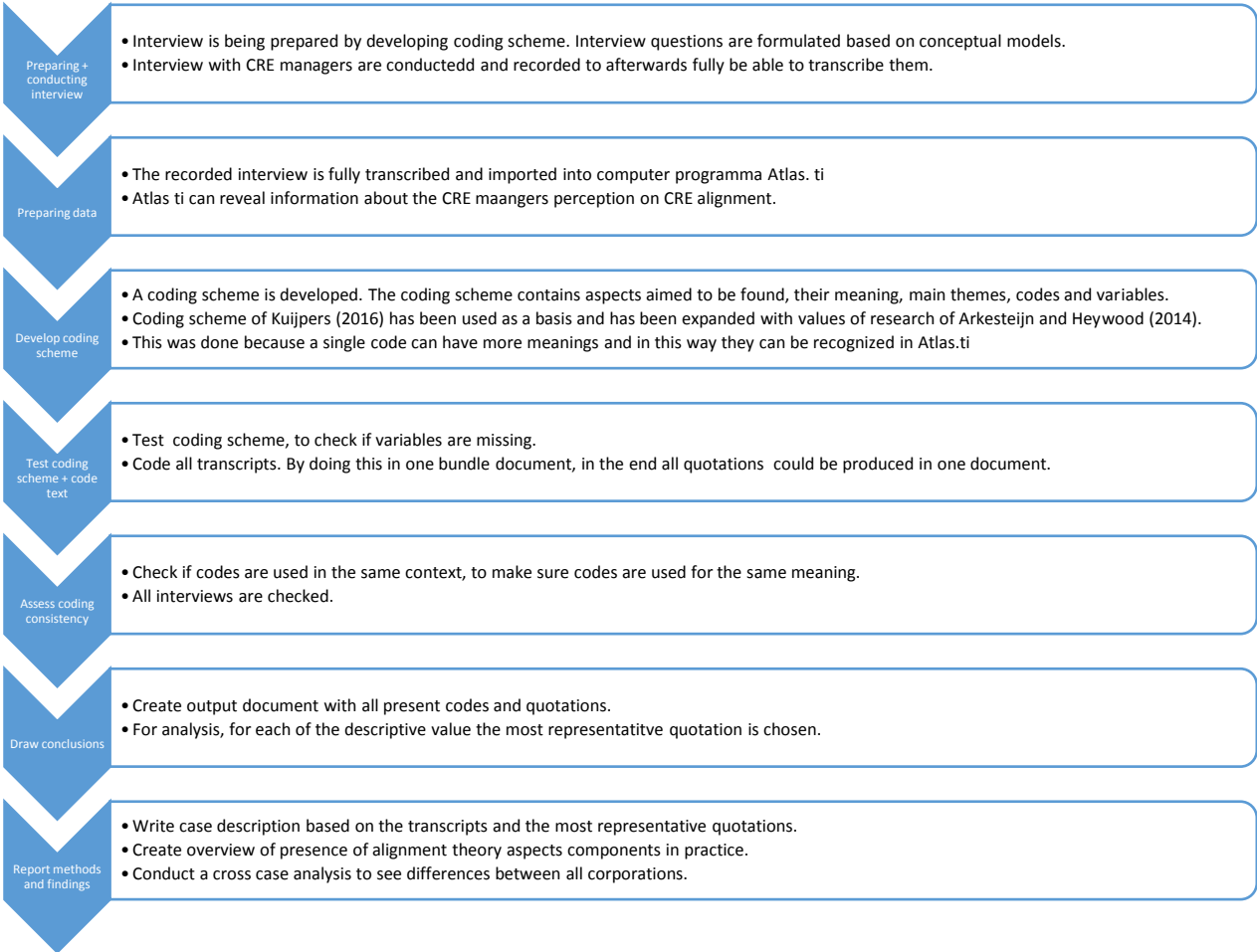


Figure 2: data analysis process (own figure)

## Theoretical framework

A literature review has been done to answer the first two sub-research questions. By doing a critical literature review, using the database Scopus, the current state of theory on corporate real estate management and corporate real estate alignment have been described. In this section, the articles of Heywood and Arkesteijn (in press), Arkesteijn and Heywood (2013) and Beckers and van der Voordt (2014) will be described, as they are used for the empirical part of this research.

Since the 1980's, many models have been discussed in the literature on how to align corporate real estate strategy with corporate strategy. In this research three articles have been used as a basis to research the CRE alignment in practice. The reason for choosing these three articles is that the first two do not come up with a new alignment model, but rather give an overview of the models that have been developed over the years. The third article has been used for defining the scope as it involved management approaches and in the end come up with two different alignment strategies, which might be interesting to test whether multinational corporations also use this in practice, instead of higher education.

The first article is of Heywood and Arkesteijn (in press) in which they provide an overview on the alignment models from literature, with the aim to better understand corporate real estate alignment as a phenomenon.

By analysing different corporate real estate alignment models, it was suggested that corporate real estate alignment can be characterized by four different dimensions, which define the type of corporate real estate alignment (Heywood & Arkesteijn, in press). The type of corporate real estate alignment can be analysed based on the four perspectives, as seen in Figure 3: CRE alignment and its four perspectives (Heywood & Arkesteijn, in press).

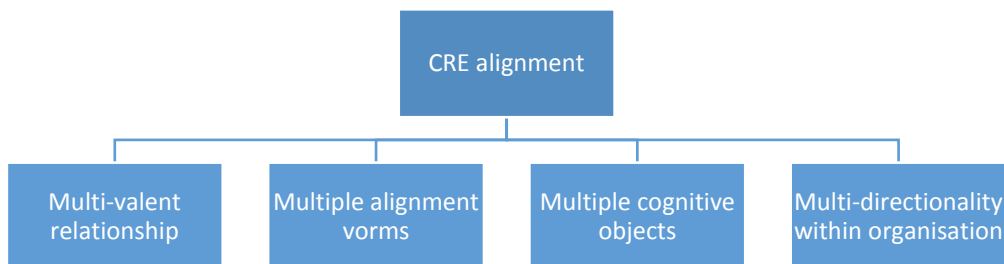


Figure 3: CRE alignment and its four perspectives (Heywood & Arkesteijn, in press)

To establish an overview of what type of corporate real estate alignment is used, it is important to look at the relationship between corporate real estate strategy and corporate strategy, since it can show how close the two are connected. Another important aspect of defining the type of alignment is analysing what the form of alignment is. This can be either a strategy or plan, process, state or behaviour. Based on analysing different alignment models and defining which forms of alignment were present, it was discovered that multiple alignment models suggested to have two forms of alignment (Heywood & Arkesteijn, in press). The first is a process-based type of alignment, which results in an actual plan. The other type, the behaviour-based form, has a more flowing process and has a more strategic mind-set compared to the other form. Looking at the different cognitive objects, they show what is being aligned to each other. Finally, the directionality of alignment is being analysed. The directionality shows whether the alignment is external or internal, horizontal or vertical.

The conclusion of Heywood and Arkesteijn (in press) is that corporate real estate alignment is something complex, because it involves many aspects at the same time. An important remark is that the models

are not knowingly used by corporate real estate managers in practice, which provides a gap for further research (Heywood & Arkesteijn, in press).

The second article that has been used for this research is from Arkesteijn and Heywood (2013). Based on previous literature, Arkesteijn and Heywood (2013) divided the alignment process in four main building blocks and multiple components as seen in Figure 4. They defined the following four building blocks of corporate real estate alignment: understanding corporate strategy, understanding real estate performance, making real estate strategy and implementing real estate strategy. The four building blocks represent the main processes, which according to theory are present in corporate real estate alignment. In their work, Arkesteijn and Heywood (2013) analysed sixteen alignment models on the presence of the components within the building blocks, to give an overview of the alignment processes of the different alignment models. Since it is unknown how multinational corporations align their corporate real estate strategy in practice, it is also not known if the components in the building blocks will fall under the same building block of the model of Arkesteijn and Heywood (2013) and if all components are present. It can also be the case that a corporation has more actions within a building block, or that some of the components overlap in the different building blocks.

However, to be able to identify if certain actions relate to components of the building blocks, it is important to define what can be understood by the different components. The elaborated DAS-frame of Van der Zwart, Arkesteijn, and Van der Voordt (2009) can be used to understand this. Van der Zwart et al. (2009) continue with the development of the DAS-frame of De Jonge et al. (2009). They created an elaborated DAS-frame, based on six different models which can be used for corporate real estate strategies. According to Kuijpers (2016b) multiple values can be derived from this elaborated DAS-frame, which are then related to the different components in the building blocks, which will be used for the conceptual model (see end of this chapter). Also the work of Arkesteijn and Heywood (2014) has been used to expand the different values under components of the building blocks. Based on the research of Kuijpers (2016a), also the evaluation, learning and re-initiation of the process has been added to the model of Arkesteijn and Heywood (2013).

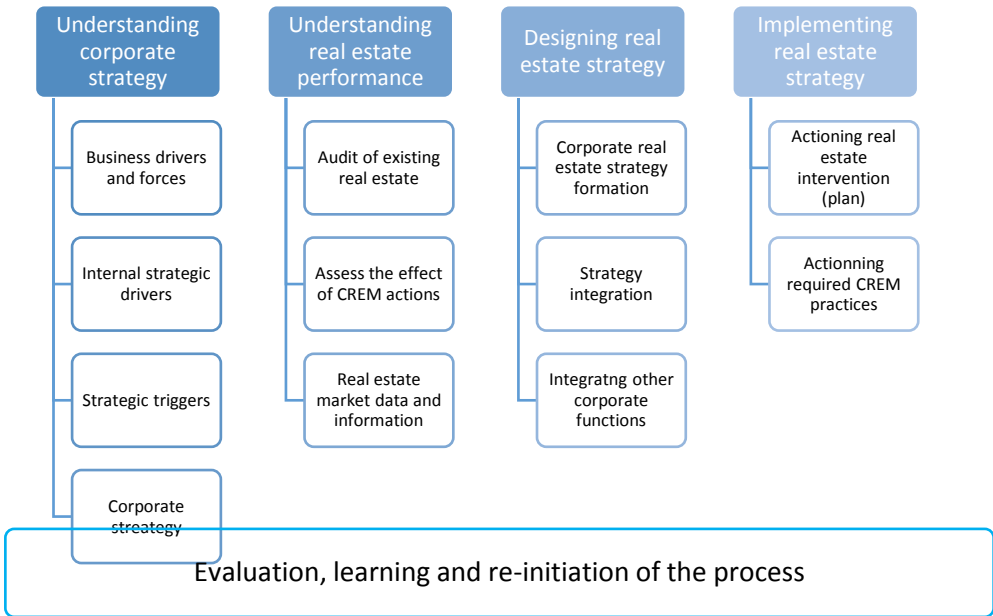


Figure 4: Building blocks and their components within CRE alignment (Arkesteijn & Heywood, 2013)

The last article that has been used as a basis is from Beckers and van der Voordt (2014). Beckers and van der Voordt (2014) aimed to explore management approaches that are concerned with corporate real estate alignment. Beckers and van der Voordt (2014) concluded that there are two hypothetical extreme strategies for corporate real estate alignment as seen in Figure 5. The first one is a control-oriented strategy (A), which can be compared with a top-down approach. The involvement-oriented strategy (B) on the other hand, is a more bottom-up approach, in which stakeholders are more involved in decision making. Although both strategies are quite extreme strategies, it might be interesting to conduct further research on the use of these strategies for corporate real estate alignment in practice. It might give insights on the relationships within a company and how responsibility is allocated. The distinction between the two strategies are based on the following management approaches: stakeholder management, change management, information management, relationship management, power distribution and precondition management. Each of the six management approaches have different aspects on which they can be analysed. The two strategies which seems to appear present in the research of Beckers and van der Voordt (2014) have different approaches within these types of management. This makes it able to indicate differences within corporate real estate alignment approaches.

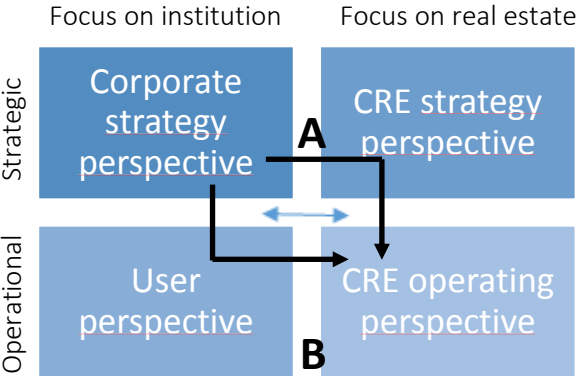


Figure 5: Two extreme strategies for the CRE alignment processes related to four perspectives of CRE alignment (based on Den Heijer (2011) and Beckers and van der Voordt (2014))

Based on the research of Arkesteijn and Heywood (2013); Beckers and van der Voordt (2014) and Heywood and Arkesteijn (in press) three conceptual models have been developed which summarize the main findings from the literature. The conceptual models can be seen on the next two pages. These models show the current state of CRE alignment theory identified during the critical literature review and the articles that were provided by the first mentor.

To explore the current state of practice, the conceptual models are used to study CRE alignment in practice. Six multinational corporations in different industries have been engaged in this graduation research. By analysing transcripts of interviews with the CRE managers of the multinationals and by conducting a document analysis of documents provided by the corporations, the practice of their CRE alignment has been analysed.

The concepts mentioned in the conceptual models in figure 6,7 and 8 are used as main themes and codes, to analyse the transcripts with the use of the computer programme Atlas.ti. This has been done to determine whether these aspects are present in the practice of CRE alignment and are used by the multinational corporations. By doing this, the current state of practice can be explained and be compared with the current state of literature on CRE alignment.

Conceptual model 1: type of alignment

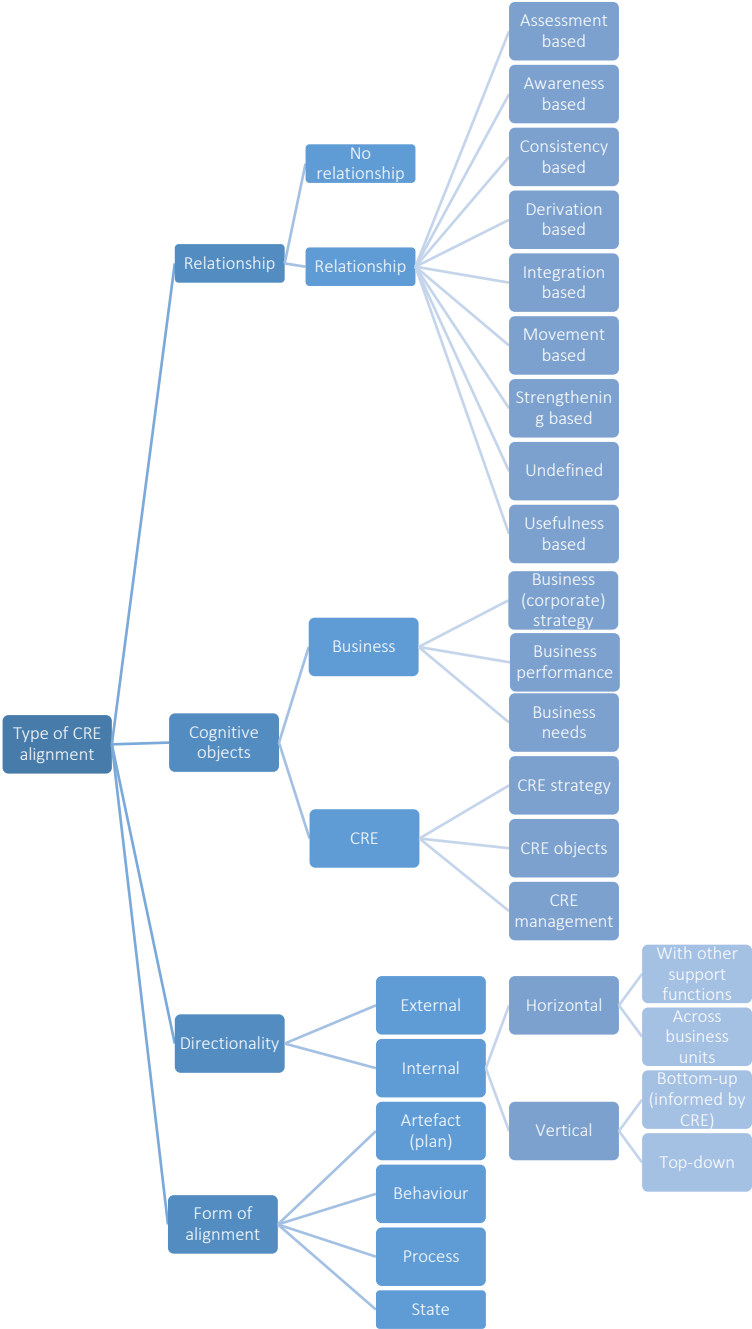


Figure 6: First conceptual model, type of corporate real estate alignment (Heywood & Arkesteijn, in press)

### Conceptual model 2: building blocks and components

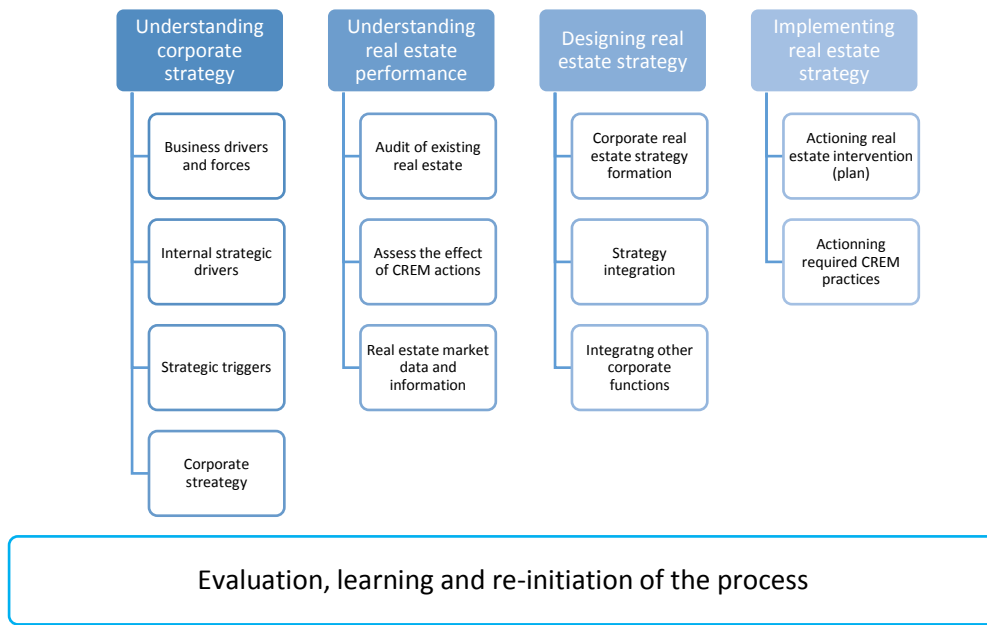


Figure 7: Building blocks and their components within CRE alignment (Arkesteijn & Heywood, 2013)

### Conceptual model 3: alignment strategies and management aspects

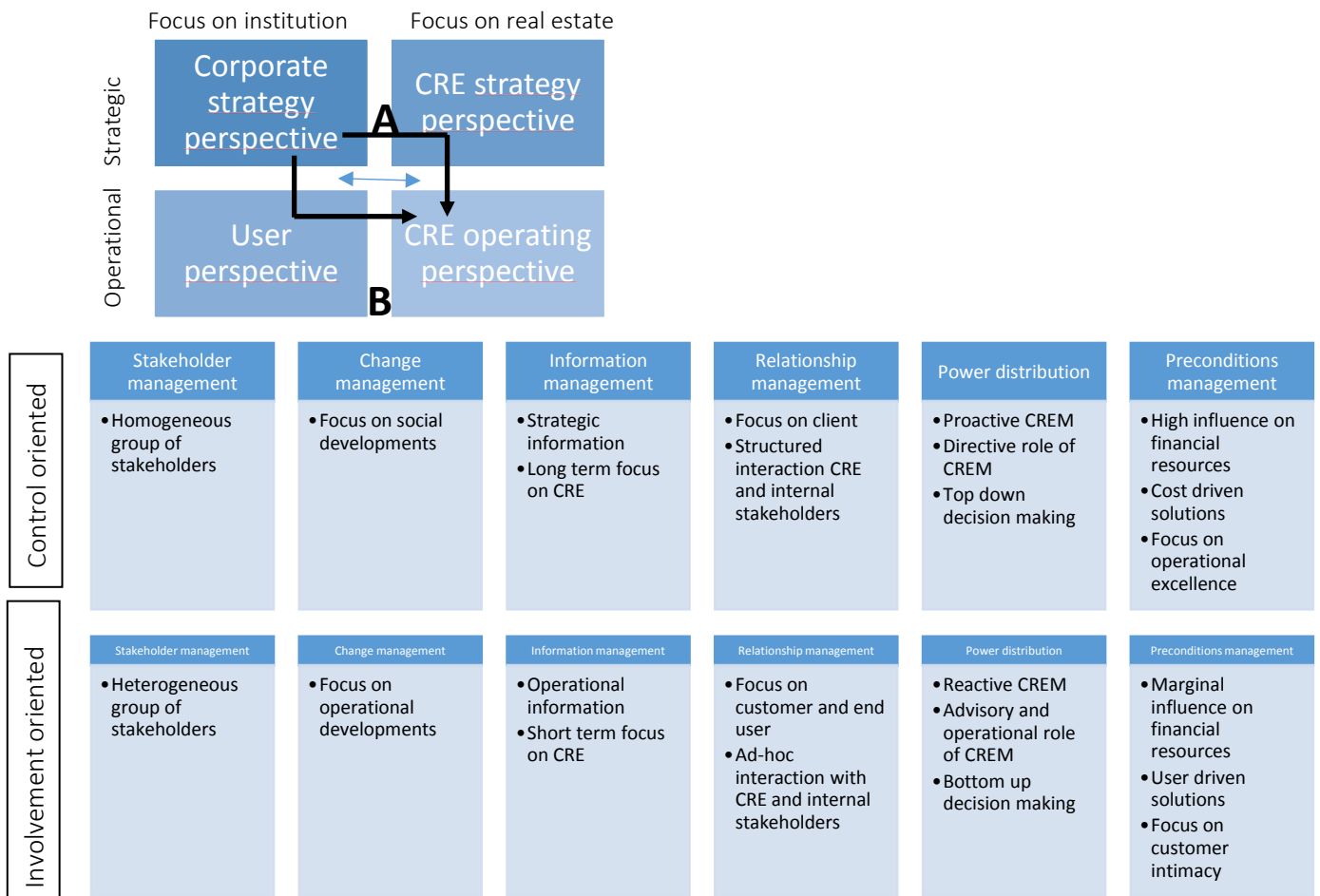


Figure 8: The control-oriented strategy (A) and the involvement-oriented strategy (B) and their components from (Beckers & van der Voordt, 2014)

## Findings

The findings of this research are based on the empirical research. Based on the cross-case analysis, the following findings have resulted from this research.

For the model of Heywood and Arkesteijn (in press) most of the aspects are recognized in practice. The components that are not recognized in practices are all from the relationship between the corporate strategy and the corporate real estate strategy.

In the model of Arkesteijn and Heywood (2013) also almost every aspect and building block has been recognized in practice. Except for the 'strategic integration' component and the 'evaluation, learning and re-initiation process', all building blocks and their components are recognized in practice.

Regarding the last model of the empirical research, which is based on the model of Beckers and van der Voordt (2014), it can be said that all of the management aspects they came up with are used in practice.

## Conclusions

The aim of this graduation research was to answer the following research question:

*"How is corporate real estate alignment by multinationals in different fields of expertise done in practice and how does this relate to the alignment models found in theory?"*

As is can be remarked, this main research question contains to separate questions. One of them is related to fining out the practice of CRE alignment and the second is how it relates to theory. Both questions will be discussed in the section below. Main conclusions will be given in the end.

### **Cross case comparison**

By doing the interviews and document analysis at the six different multinational corporation, it can be concluded that all corporation derive their corporate real estate strategy from the corporate strategy. The corporate strategy is leading and all corporations adapt their corporate real estate strategy when changes are made in the corporate real estate strategy

When the different corporate real estate strategies are compared to each other, it can be noticed that they all have a different set up and have a different focus. This can be explained by the fact that since the corporate strategies differ from each other, the translation to the corporate real estate strategy is also different.

A similarity between all different corporations is the way in which the real estate departments are organised. All real estate department are part of a larger supporting department, under which also functions as IT, Finance and HR are organised. Also, all real estate departments have a global real estate level and regional real estate levels, depending on how the worldwide division is made. Although each corporation operates worldwide, the regions are divided differently by each corporation. Also the number of regions differs, from three to five regions.

Since there are four different industries that have been studied, it can be expected that there are differences in the way they to their business and which aspects they think could be more important. As seen in table 2, the most important and recognized findings are summarized below.



Sector	Global / Regional focus	Connection with the business	Role of real estate department	Use of benchmarks	Real estate plans
A	Global focus	Once a year communication from corporate level on corporate strategy	Proactive role, initiative is expected from CRE department	Benchmark against themselves	Before implementation, approval needed from corporate level if plan has a large impact on the way of working.
B	Mainly regional focus due to origin of corporation	Other department which is closely connected to business. This department then reports their findings to real estate department.	Reactive role, mostly advisory role	Benchmark against market, done by external party	Initiative may come from business, therefore B provides information after which the higher level makes final decision
C	Global focus	Quarterly webcast with CEO.	Proactive role	Benchmarking against market, done by external party	Regions are responsible for implementing. Approval is done by regional and global real estate boards.
D	Global focus	Work direct for the business so therefore have a close relationship	Proactive role, initiating plans	Benchmark against themselves	Plans are made on regional level and have to be approved before implementation implementation always in cooperation with local levels.
E	Global focus	Update on corporate strategy when something changes. Each year strategy is updated	Proactive role	Benchmark against themselves	Plans are approved based on the impact they have on the business
F	Global focus	Quarterly update from business on corporate strategy, direct connection with business	Proactive role, challenging the business	Benchmark against themselves	There is an approval process for plans, same structure is used, decisions are made in agreement with most important stakeholders

Table 2: Most important finding per corporation (own table)

### Conceptual model type of alignment

In the research of Heywood and Arkesteijn (in press), twenty models on CRE alignment have been compared. It was found out that the corporate real estate alignment type can be defined based on: the relationship, the form of alignment, the cognitive objects which are being aligned and the directionality of the alignment. For analysing corporate real estate alignment in practice, the conceptual models which was described in chapter 2, was used to analyse whether aspects of the research of Heywood and Arkesteijn (in press) are present in practice.

Although that most of the codes were found in the coding process of the interviews, 'integration', 'movement', 'derivation' and 'useful' were not mentioned in practice. For determining whether a relationship was present, at least five out of six corporations should have said something about that

relationship. For these relationships, they were only mentioned once or twice, and therefore it can be said that these relationships are not present in practice.

Not having found 'movement' in practice, may be explained by the fact that this relationship is only used in theory and not in practice. Since the corporate real estate managers were specifically asked about how they see the relationship between the corporate real estate strategy and the corporate strategy, each corporation mentioned something about their view on the relation. This may be either directly or indirectly, as some of the corporate real estate manager found it hard to describe the relationship.

Another reason for not having found the 'movement' code, is that it might be common knowledge for the corporate real estate managers. The movement relationship can be defined as 'being flexible or changing of position'. Since it is about the corporate strategy and the corporate real estate strategy, it might be the fact that when something changes in the corporate strategy, it is normal for the corporate real estate manager that it is then their task to change the corporate real estate strategy. Therefore, it could be so that they do not specifically see this change and movement as a relationship, but a result of a change in the corporate strategy.

The other codes, such as the cognitive objects, form and directionality have been found during the coding process. This means that for this graduation research, it can be stated that the type of alignment Heywood and Arkesteijn (in press) is mostly found in both literature and also present in practice. The conclusion of this is therefore that both practitioners and researchers perform corporate real estate alignment according to the framework of Heywood and Arkesteijn (in press).

### **Main building blocks and components**

In the research of Arkesteijn and Heywood (2013), as described in chapter two, different alignment models have been analysed, in which the model is divided into four main building blocks and twelve components. The four main building blocks show the processes which can take place in corporate real estate alignment. Within these four main building blocks, there are twelve components which describe the processes in these building blocks. This framework has been used to analyse whether the main building blocks and their components are used in practice.

Based on the presence of quotations at all corporations, it can be remarked that all building blocks are present in practice. However, when looking more into the different components of the building blocks, not every corporation mentions each component. For example, the strategic triggers are not mentioned by corporation F, and barely by corporation B. An explanation for this can be that since the corporate real estate managers mostly are responsible for understanding the real estate performance and designing the real estate strategy, they pay less attention to the strategic triggers.

Based on the analysis of all six multinational corporation, it can be concluded that all components are mentioned by the corporate real estate managers. All the corporations measure the performance of their real estate, measure if certain actions they took had a positive influence and they also used real estate market data and information. The last component was either done by an external party, or the corporation used data to compare themselves to and to adapt their benchmarks.

The component corporate real estate strategy (formation) is one of the codes that has been used the most in this research. The reason for this is that most of the things the corporate real estate department is responsible for has to do with the corporate real estate strategy, which has been remarked by the corporations during the interviews. All corporations mentioned where their corporate real estate

strategy is focussed on and how and when they will change it. The component strategy integration has only been mentioned by half of the corporations. The integration has the definition that it is bringing into agreement of the corporate real estate strategy and the corporate strategy. Although all the six corporations mention that they are aligned, they do not all specifically mention that they bring the two strategies into agreement. For this reason, this code is not present at all corporations. The code integration of other corporate functions has been mentioned by all corporations.

The components of the last building blocks are all related to actions and executing the plans of the corporate real estate strategy. All the components were retrieved from the data analysis and therefore appeared in the practice of corporate real estate alignment of all six multinationals. The two components are closely related to each other, since they both suggest a certain action which needs to be executed. The difference however is that the first one is really naming the action, while the second component is only referring to that something is being done.

### **Types of strategy and management approaches involved**

The research of Beckers and van der Voordt (2014) relates corporate real estate alignment to different types of management. Based on three key process activities and six types of management approaches, the empirical research of Beckers and van der Voordt (2014) suggest that there are two extreme corporate real estate strategy for corporate real estate alignment. They suggest that there is a control-oriented strategy and an involvement-oriented strategy. For analysing the possible two present strategies, the different management approaches have been used as codes, to see whether they were present.

What can be concluded from the coding process is that all types of management approaches are used in practice. However, the difference between the corporations lies in the way they use the management approaches. When a look is taken at the type of strategy, corporation A has most of the aspects of the control oriented strategy. This means that the CRE department has a lot of power and has a lot of influence on what is happening regarding the real estate. Corporation B on the other hand, has a lot less influence. Therefore, their approach is more involvement oriented. Their role towards the business is more advisory and there is a lot more top down structure from the top of the organisation. Corporation C has just as A a control oriented approach. For corporation D, it is hard to determine which of the two strategies is used, as aspects of both strategies are mentioned at the same amount, so it is not clear which strategy is used here. Corporation E on the other hand is control oriented, like A and D. In the end for corporation F it is no clear which strategy is used. It is the same as for corporation D, as aspects of both strategies are mentioned at the same amount.

What can be concluded is that both strategies from theory are indeed present in practice. A remark that should be made, is that although one approach can lean more to either one of the strategies, none of the corporations had only aspects of one strategy. It is therefore recommended that more in depth research can be done to find out when it can be said if a corporation really uses one of the strategies. This is also remarked by Beckers and van der Voordt (2014), who mention that both strategies are extreme CRE alignment strategies and that the reality will be in between the two described strategies.

## **Final conclusions**

This graduation research has been conducted to find out the relation of corporate real estate alignment in practice and theory. Literature has provided a lot of models on how corporations can align their real estate to the organisational objectives, to obtain added value. It is however unknown if these models are used in practice. Therefore, the practice of corporate real estate alignment has been studied at six multinational corporation in different industries. All six corporations have their own CRE alignment process, in which it is explained where they focus on in CRE alignment. What can be concluded from this research is that all six of the multinational corporations use the aspects which are mentioned in the models from literature. Therefore, it can be suggested that there is a relation between theory and practice of corporate real estate alignment.

## Readers guide

This graduation research is divided into eight chapters. In chapter one the problem of this graduation research is analysed and explained. Also, the research questions and research objectives are formulated, which is why chapter one can be seen as the basis of the research.

Chapter two describes the theoretical background of this graduation research and is based on a critical literature review. As this graduation research is focussed on CRE alignment, most of this chapter is about that topic, but also other important topics within CRE management are analysed and explained, as they are a part of CRE alignment. Chapter two ends with three conceptual models, which resulted out of the literature review. The three conceptual models are the basis for the rest of the graduation research, as they contain the information that needs to be analysed in the interviews with different CRE managers from multinational corporation.

Chapter three describes how the graduation research has been done in detail. The overall process will be described. All the steps that have been undertaken to answer the main research questions are explained in detail. In this chapter, an overview will be given of the multinationals which have been interviewed.

Chapter four describes the main findings from the empirical research. First the business organisation and the CRE alignment processes of the six multinational corporations are described. After that, chapter five gives a cross case analyse analysis between the six multinational corporation which have been interviewed. By doing this differences and similarities can be discovered. In chapter six the comparison of CRE alignment in practice and CRE alignment in theory will be made. Based on the interviews, it has been analysed whether parts of the models from theory are present in the practice of CRE alignment at multinationals.

This graduation research will be ended with the conclusions in chapter seven. What can be concluded on CRE alignment and CRE alignment in practice? Also, recommendations will be given for further research in chapter eight.

Enjoy reading!

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# 1. Introduction

## 1.1 Problem analysis

Corporate Real Estate Management is “the management of a corporation’s real estate portfolio by aligning the portfolio and services to the needs of the core business, in order to maximize the added value for the business and to optimally contribute to the overall performance of the corporation” (Dewulf et al., 2000). For instance, when a multinational corporation wants to increase their revenues and wants to grow, one of the things that could be done is to increase the value of assets, by selecting suitable locations for a new office building (Lindholm et al., 2006). It is the task of the corporate real estate manager to develop a certain real estate strategy that will increase the revenue and the grow of the corporation; making sure that the strategy contributes to the core business of the corporation.

Over the last 25 years a lot of research has been conducted to analyse how corporate real estate could or should be aligned with the corporate strategy. This started with a research of Veale (1989). He mentioned that despite the potential great value of real estate assets, the assets were undermanaged and they therefore did not maximize the added value. Furthermore, he mentioned that one of the factors that lead to this under-management were the corporate real estate managers who did not maintain adequate information about their real estate assets. Veale therefore argued that corporate real estate management had to develop a more proactive and comprehensive decision making process. From that moment on more and more research has been done within the field of corporate real estate. Amongst other subjects in this research field, research has been done on corporate real estate alignment over the past 25 years.

According to Joroff et al. (1993) corporate real estate can be seen as the fifth business resource, next to human resources, IT, finance and research & development. This means that corporate real estate is increasingly integrated in the business strategy and therefore corporate real estate managers have the task to align the corporate real estate strategy to the corporate strategy to add value to the entire corporation.

Today’s world is dealing with global competition. In order to be unique and to operate, this global competition forces corporations to focus more and more on production and quality (Oluwoye et al., 2001), and that corporations need to be open for changes (Karaköse & Demir, 2011). Within this global competition, multinationals play a key role. Internationalisation of the market makes it more necessary that corporations are expanding across the world. However, to compete in a global competition as a multinational, this means that productivity and quality are major issues. However, providing space is sometimes seen as a cost issue, but it can be seen as an investment in production (Oluwoye et al., 2001).

A problem arises if corporate real estate is seen as nothing more than a cost to business. According to Then (2005), many corporations see it as “an overhead that does not need serious management” and corporations are mostly interested in reducing their costs. However, since corporate real estate nowadays can be seen as one of the five important business resources (Joroff et al., 1993), it must be seen as something more valuable that can contribute to an organization.

As mentioned before, in the past 25 years many models have been found within corporate real estate management literature. In the research from Heywood and Arkesteijn (in press) twenty CRE alignment were analysed, to understand the CRE alignment phenomenon. Also, the theorisation of the models was analysed. The research showed that all models have a different scientific basis. 60% of the models have an empirical basis, 60% of the models are a result of reflective practice and 70% have a normative basis

(Heywood & Arkesteijn, in press). Of the twenty models, 55% have been validated empirically. This means that at the time the model was created, the model was tested in practice. Yet, as models have developed over the years, and the models which have been developed at last do not refer to earlier literature on models on CRE alignment (Heywood & Arkesteijn, in press), it might be questioned whether the validated models are still use in practice. Also, the practice of CRE alignment has developed as well.

Since the models that are identified in literature are mostly derived from and or tested in practice, this suggest that there is a link between theory and practice. Though, a remark should be made to clarify the difference between theory and models in this research. According to CambridgeDictionary (2017b), a theory is “a formal statement of the rules on which a subject of study is based or of ideas that are suggested to explain a fact or event or, more generally an opinion or explanation.” A model on the other hand, can be defined as “something that a copy can be based on because it is an extremely good example of its type.” (CambridgeDictionary, 2017a). As 55% of the models from literature have been validated Heywood and Arkesteijn (in press), it can be said that these models at that time could be seen as a theory, as they explain their opinion on how to do CRE alignment. Since the rest of the alignment models have not been validated, these models cannot be seen as a theory. It is therefore unclear if and to what extent these alignment models are used in practice. The possible reason for a low take-up of the use of the alignment models in practice can be explained by the fact that each author that developed an alignment model, has developed their own explanation for alignment but did not used or referenced to previous developed alignment models (Heywood, 2011). Another argument that Heywood (2011) mentions is that the reason for variety in the alignment models can be explained by the emergent nature of the discipline.

The implementation of corporate real estate alignment seems to be going well since many of the corporate real estate managers can say whether their corporate real estate portfolio is aligned with their corporate strategy or not (Bon et al., 2002; McDonagh, 2008). Gibler and Lindholm (2012) moreover mention that corporate real estate strategy is increasingly more and better aligned with corporate strategy.

## 1.2 Problem statement

Carrying out corporate real estate alignment is very important, because it adds value for the overall business, which is why corporations do not need to see it as a cost of doing business.

It is however unknown how multinational corporations align their corporate real estate portfolio to their business needs. The theory on corporate real estate management provides alignment models that describe how one could align their corporate real estate. In practice, corporate real estate managers indicate they know how to align their corporate real estate portfolio. It is however not known if parts of the alignment models from theory are used in practice.

Therefore, the main problem to be solved is to find out how multinational corporations in different industries align their corporate real estate in practice. Besides, it is important to compare the results of these findings with the alignment models derived from the literature, to find out how practice and theory relate to each other.

## 1.3 Research questions

Based on the problem analysis and the problem statement that resulted out of that, the main research question is as follows:

*“How is corporate real estate alignment by multinationals in different fields of expertise done in practice and how does this relate to the alignment models found in theory?”*

### 1.3.1 Sub questions

1. What is the current state regarding corporate real estate management?
2. What is the current state regarding corporate real estate alignment models?
3. How can the type of alignment be defined?
  - What is the relationship between the corporate strategy and the corporate real estate strategy?
  - What is the form of alignment?
  - What are the cognitive objects in corporate real estate alignment?
  - How can de directionality be explained in corporate real estate alignment?
4. Which components are present within the corporate real estate alignment process?
5. Is the alignment process at the multinational corporations more control-oriented or more involvement oriented? What kind of perspective do they have?

As mentioned before, there is difference between theory and model. The main research question is all about how practice on CRE alignment relates to theory. Although not all alignment models which are analysed in the papers of Arkesteijn and Heywood (2013) and Heywood and Arkesteijn (in press) have been validated, the models that have been validated in the past will also be part of this research as it will be tested whether parts of these models are used in practice, as they have been categorized in the articles of Arkesteijn and Heywood (2013) and Heywood and Arkesteijn (in press). Therefore, when a reference is made to the relation between theory and practice, by theory is meant all CRE alignment models which have been found in the literature on CRE alignment.

## 1.4 Research objective

This research focuses strongly on the relation between practice and theory of corporate real estate alignment. The main objective is to find out how corporate real estate alignment is applied in practice at multinational corporations. Subsequently, the aim is to find out how the practice of corporate real estate alignment relates to the theory on corporate real estate alignment, since many models on corporate real estate alignment exist but it is not clear to what extent these are taken up in practice. Are there differences between theory and practice? And why? This research aims at bringing theory and practice closer together.

Another objective of this research is to create a better understanding of corporate real estate alignment, for both theory and practice. To create this better understanding, the result of this graduation research will provide an overview of how corporate real estate alignment is done in practice by different multinational corporations and also show the relation between practice and theory.

This leads to another objective for this research. It is aimed to be a starting point of a new approach in aligning corporate real estate. If it can be explained on how corporations in practice align their corporate real estate, both researchers and corporations from practice can use this knowledge. Researchers can learn from practice by applying this knowledge in new research and multinational corporations can use the knowledge from literature to perhaps use this in aligning their corporate real estate with another approach.

At last, more corporate real estate managers might see the importance of aligning the corporate real estate strategy with corporate strategy, since it can have a positive influence on the corporate image and in this way also benefits the revenue of the corporation.

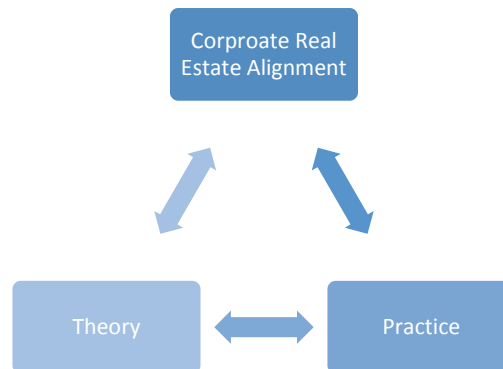


Figure 9: Main objective: what is the relationship between theory and practice of CRE alignment at multinational corporations in different industries? (own figure)

## 1.5 Relevance

### Scientific relevance

This graduation research falls under the domain of Real Estate Management. Within this chair, one of the focus points is corporate real estate portfolios. Examples that could be thought of are: the portfolios of education institutions, or government institutions, but also the portfolio of multinational corporations. The aim of corporate real estate alignment is to manage the real estate portfolio of a corporation by aligning the portfolio and services to the needs of the core business. This to maximize the added value for the business and to optimally contribute to the overall performance of the corporation' (Dewulf et al., 2000). Examples of added value are profitability, productivity and competitive advantage (De Vries, 2007). However, corporate real estate management is not only focussing on integrating different points of view of involved stakeholders when matching the supply and demand on portfolio level, but also on building- and workplace level (De Jonge et al., 2009).

Since this research specifically focuses on corporate real estate strategies in practice, the main scientific domain is Real Estate Management. One of the graduation research labs within the department of Management in the Built and Environment is 'Successful corporate real estate strategies in practice'. Since the aim of graduation research is to explore how corporate real estate alignment is done by multinationals in practice, which is related to corporate real estate strategies, this graduation project suits within the above-mentioned graduation research lab.

Moreover, the knowledge gained in this research project is also applicable to be used within the domain of Design & Construction Management. If for example a multinational corporation is constructing a new office building for their own portfolio or refurbishing an office building, the multinational corporations can use the knowledge on corporate real estate alignment. In designing that new office building, knowledge of building technology, maintenance, use and management is involved at an early stage. The office building should meet certain requirements to make sure that the building will have a long lifespan, will satisfy its own employees and will contribute to the overall performance of the corporation. Therefore, the knowledge gained in this graduation research can be also be applicable in the domain of Design & Construction management.

The focus of this graduation research is to analyse the relationship between theory and practice of corporate real estate alignment. Current knowledge available through Scopus, and the graduation repository of Delft University of Technology have been used in the first phase of this project to identify what research has already been conducted and what is still missing or is recommended by other researchers within the field of corporate real estate management. The following articles have been used for defining the scope of this research:

Author	Title paper	Aim paper	Important conclusions
Dr. C. Heywood (2011)	'Approaches to aligning corporate real estate and organisational strategy'.	An overview of the analysis of 10 models, with an overview of 15 components that are present in these models.	There is not much empirical evidence if the models that were analysed are used in practice by corporate real estate managers.
M.H. Arkesteijn and C. Heywood (2013)	'Enhancing the Alignment Process between CRE and Organisational strategy'.	It presents the analysis of fourteen models on corporate real estate alignment	It continues on the work of Heywood (2011) and therefore expands the framework on analysing corporate real estate alignment in practice. Provides overview of four building blocks and twelve components in corporate real estate alignment.
R. Beckers and T.J.M. van der Voordt (2014)	'Corporate real estate alignment strategies in higher education'.	This paper provides an overview of different management approaches in the corporate real estate alignment process in higher education.	Six different management approaches, and eventually 2 alignment strategies.

Table 3: Papers used for defining scope of research (own table)

The reason for choosing these three articles is that the first two do not come up with a new alignment model, but rather give an overview of the models that have been developed over the years. The third article has been used for defining the scope as it involved management approaches and in the end come up with two different alignment strategies, which might be interesting to test whether multinational corporations also use this in practice, instead of higher education.

The added value of this research is that it continues on previous research. As Heywood (2011) stated, there is not much empirical evidence if the models that were analysed are used in practice by corporate real estate managers. Although practitioners can say whether their corporate real estate is aligned or not, they still see it as a complex process. It is therefore of great interest to analyse how corporate real estate is aligned in practice, to compare this with the current knowledge of body on corporate real estate alignment from scientific literature afterwards.

Societal relevance

The literature on corporate real estate management prescribes different approaches on how corporations could or should align their corporate real estate. Corporate real estate managers can most of the time say whether their corporate real estate portfolio is aligned with their business strategy, but at the same time corporate real estate alignment can be very complex. The aim of this research project is to find out how corporate real estate alignment is done by multinationals in practice. It summarizes the current state of theory and practice and afterwards aims to find out the relation between practice and theory. How does the theory relate to practice? What differences or similarities are present? By exploring this, a first explanation could be given on why differences or similarities between practice and theory exist. Both researchers and practitioners can learn from each other. The outcome of the research might affect the understanding on corporate real estate alignment, by both parties. It can improve the practice of corporate real estate alignment and increase the understanding of theories by practitioners. Researchers on the other hand can reflect on the results of corporate real estate alignment in practice and use this for further research.



### Utilisation potential

The result of this graduation can be interesting for three different groups: students, people from practice and researchers.

First, this research can be of interest for other students but also for teachers. The results of this research show the current state of theory, current state of practice and the relation between theory and practice, which everyone can learn from.

People from practice on the other hand, especially corporate real estate managers, can really use the findings of this research. This research will provide an overview of how corporate real estate alignment is done in practice by several multinational companies in different industries. Corporate real estate managers can use those findings to compare them with the alignment of their own corporation. Most importantly, it could affect their vision on corporate real estate alignment and lead to new, innovative insights.

Another important potential use of this research is that for corporate real estate managers it might lead to a better understanding of both theory and practice and the relationship between the two.

Finally, this research might also be interesting for researchers. It gives an overview of the current state of theory, which is used to create a theoretical framework for testing the corporate real estate alignment in practice. With the results that will come out of the case studies, researchers can further build on that. By relating theory and practice to each other, the theories and models on corporate real estate alignment can be developed further in further research.

### 1.6 Vision about the research subject

Based on my experiences during my internship and what I have learned the past few years at the Faculty of Architecture real estate is more than just bricks. Many people see real estate as a cost, but how I see it, real estate can contribute much more to the performance of a corporation than that many people think of. Since real estate often is seen as a cost, corporations are most of the time focussed on cost reduction, which for them might seem legit.

However, in my opinion real estate has much more to offer. I think it is the corporate real estate manager's job to manage the real estate portfolio of a corporation in such a way that it positively influences the performance of a corporation. This means that the corporate real estate strategy is very important, which is supported by the fact that corporate real estate management is more and more seen as one of the important resources within a corporation (Joroff et al., 1993).

A part of this corporate real estate management is corporate real estate alignment. In my opinion corporate real estate alignment is very important to the business because it adds value and therefore I think that other departments within a corporation, who are not directly involved with the alignment of a real estate portfolio do not need to see it as a cost of doing business.

## 2. Theoretical framework

To understand the topics that are studied in this research, the different concepts involved in this research are explained in this chapter, based on an extensive literature review. Therefore, this chapter provides a theoretical basis for the empirical research part of this research, as it is an overview on what has been found in literature on the different involved topics. In addition to that, the conceptual models which are used for the empirical research are derived from the literature review and are explained in this chapter.

### 2.1 Context of multinational corporations and globalisation

According to the Van Dale dictionary, a multinational has the following definition: “concern, corporation with establishments in several countries.” This means that a multinational corporation operates in business processes in several countries. Compared to national corporations, multinational corporation will have a different business model, since they are dealing with less different political, economic and social circumstances. However, apart from differing from national corporations, multinational corporations can also differ from each other. This difference may lie in the type of business, the type of industry, the size of the corporation, but also in how many countries and which ones they operate.

Since today’s world is a competitive world, a multinational corporation need to be aware of the globalisation and the increasing competition. According to White (1999), globalisation of businesses and an increasing competition lead to continual change, although White (1999) also mentions computing technologies as key drivers for corporations.

The continuing globalisation has consequences for multinational corporations. Too, Harvey, and Too (2010) mention that when corporations have several establishments worldwide, they need local and global knowledge for business planning, since these are not the same in all countries. Besides that, Too et al. (2010) mention that it is also very important to know the cultural and local circumstances a corporation is placed in. Cultural and local customs may differ, which makes it very important in doing business to know these differences.

The difference between local competition and global competition lies in the fact that the competition is on a different scale. Within local competition, the same economic situation is present and most likely there will be the same culture. Within global competition however, this can be completely different. There corporations have to deal with different cultures, different norms and values and therefore the competition will have a different character.

Within corporate real estate management, globalisation is also a very important aspect. According to Too et al. (2010), managers need to keep the globalisation in the back of their mind. Corporate real estate should be adapted to the local circumstances, while it also has to match the global network of the corporation. It is therefore of great importance that the corporation understands the local requirements, cultural practices and the local customs must be acknowledged (Too et al., 2010).

Multinational corporations have an important job with managing their businesses. It is of high importance that the way the organisation is structured fits the objectives the corporation has, otherwise the corporation cannot function properly. However, more important is that there is a structure in how the portfolio of a multinational corporation is being managed. Especially when mergers and acquisitions between corporations are happening, the portfolio can increase quickly. In this case, a situation can

occur where not all real estate from the portfolio seems interesting for the corporation, which makes it important that the right decisions are made by the corporation on how to deal with this.

## 2.2 Corporate strategy

According to Van der Zwart et al. (2009), “a corporate strategy addresses critical elements such as customers, employees and processes.” This has also been recognised by Roulac (2001). Roulac (2001) mentions that these three elements are much likely to be influenced by the environment in which the corporation operates, because an environment supports certain processes, interacts with customers and houses its people (Roulac, 2001). Roulac (2001) afterwards continues that these elements relate with the aspects of corporate real estate strategy. He therefore makes a relation between corporate strategy and corporate real estate strategy.

A corporate strategy aims at setting up long term visions and a planning, which is leading for the whole corporation. Objectives and deadlines are set, to stimulate employees to achieve this objective. The time frame for a corporate strategy can differ per corporation, which may be caused by the type of industry it operates in. Next to the objectives and deadlines, business drivers and forces are very important within a corporate strategy. Together with internal strategic driver and strategic triggers, enough information is available to set up a corporate strategy in the form of a business model.

Osgood Jr (2004) has another view on corporate strategy. Instead of naming it corporate strategy, Osgood Jr (2004) calls it ‘organisational strategy’. As Figure 10 shows, Osgood Jr (2004) suggests the following aspects under corporate strategy: mission & vision, customers & markets, products & services, distinctive competencies and values & culture. Compared to Van der Zwart et al. (2009) Osgood Jr (2004) addresses the components of a corporate strategy more explicitly, instead of only focusing on three aspects. This gives a corporation the opportunity to describe their organizational strategy more extensive, so it can become clearer what for example different business drivers and forces exactly mean.

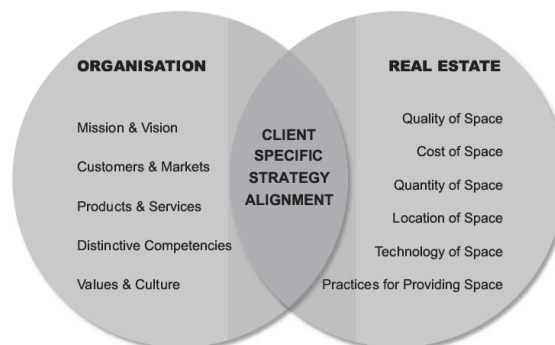


Figure 10: The strategy alignment models (Osgood Jr, 2004)

Arkesteijn and Heywood (2013) also give an overview on corporate strategy. According to their research, one of the four main building blocks in corporate real estate alignment is ‘understanding corporate strategy’. The components in this building block are: business forces and drivers, internal strategic drivers, strategic triggers and corporate strategy formation. These four components are important for understanding the corporate strategy, and are very important when a corporate strategy is changed or a new one is set up. So Arkesteijn and Heywood (2013) also describe corporate strategy as something that consist of multiple components.

For a corporation, there might be different business drivers and forces. Also, it is important to pay attention to strategic drivers, as they can cause for changes in an organisation's environment (Heywood, 2011). Triggers like market changes are also important to pay attention to within corporate strategy. Moreover, external drivers can be of importance in the corporate strategy (Heywood, 2011) and attention has to be paid to it. Porter (1980) appoints five of these external drivers: threat of a new entry, bargaining power of buyers, bargaining power of suppliers, threat of substitution and competitive rivalry. Multinational corporations do need to go into these external drivers, since they have a lot of influence on the formulation of the corporate strategy.

Corporate strategy obviously focusses on the overall strategy of a corporation, but most of the times corporate real estate is seen as a cost (Then, 2005). However, corporate strategy does not only contain information on the goals of the company, as corporate strategy also can be seen as part of the corporate identity. It can have a positive influence in the image of a corporation, which in the end can have a positive influence on the overall performance of the corporation (Appel-Meulenbroek, Havermans, Jansen, & Van Kempen, 2010).

### 2.3 Corporate real estate management

Corporate Real Estate Management is 'the management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business, in order to maximize the added value for the business and to optimally contribute to the overall performance of the corporation' (Dewulf et al., 2000). In other words, this means that it is all about finding a match between the demand side and the supply side of real estate. Besides finding a match between demand and supply, corporate real estate management is a form of real estate management that is steered by private organisations or businesses (De Jonge et al., 2009).

The need for corporate real estate management emerged in the 1970's, when the globalisation of markets started, the costs for accommodations raised and new business processes emerged (De Jonge et al., 2009) (15). Since then, the perception of what the role and function of corporate real estate management is has changed over the years (Krumm, 2001). Joroff et al. (1993) divided these changes over the years in five stages, which are shown in Figure 11.

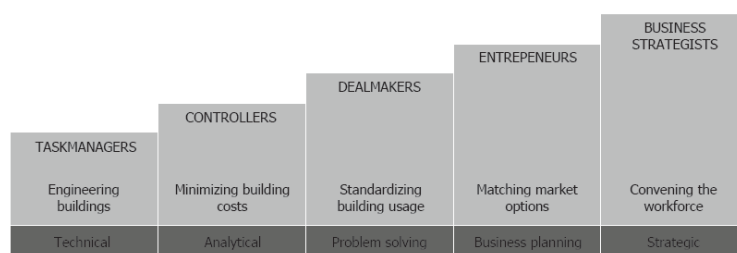


Figure 11: The changing role of corporate real estate management from Joroff, Louargand, Lamberts, and Becker (1993) in De Jonge et al. (2009)

Over the years, the role of corporate real estate management has shifted from a task manager, where the management had a technical focus, to a business strategic focus, where anticipating on business trends is central in the management of corporate real estate (De Jonge et al., 2009). Page III and Valenziano (2001) even state it as: "the role of corporate real estate was basic; it was to manage corporate facilities. It might be questioned why the role of corporate real estate management has changed over the years." One of the reasons according to Krumm (2001) is that the changing role of

corporate real estate is triggered because the position of a corporate real estate management department has changed.

Not only the role of corporate real estate management has changed. The expectations of corporate real estate have also changed. Where in the first place corporate real estate was seen as a necessity to accommodate a company, corporate real estate nowadays also needs to be effective for the business as a whole (De Jonge et al., 2009). This means that it should add value to the overall business.

When looking at corporate real estate management, corporate real estate management can be divided into four different domains: general management, asset management, facility management and project management. The domains can be distinguished from each other based on the type of level and the type of focus of the management. On the one hand, two domains are on an operational level, while the two other domains are on a strategic level. The other distinction between the domains is that two of the domains have a focus on the institution, while two other domains have a focus on real estate.

This division of the four different domains is not the only division that is made within corporate real estate management. As seen in Figure 12, Den Heijer (2011) linked the different stakeholders to the domains of corporate real estate management. Within this graduation research, the focus will be on the strategic level.

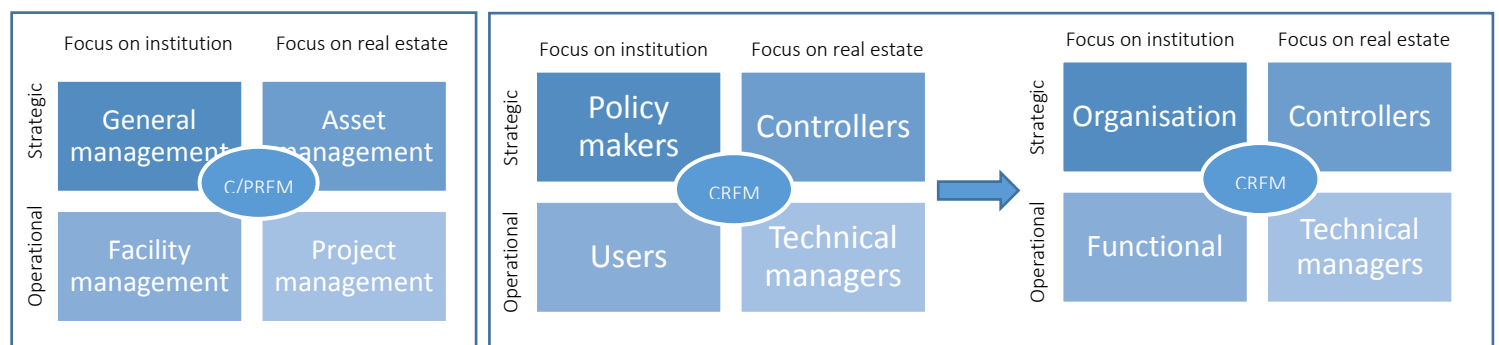


Figure 12: (left) Four different domains within corporate real estate management (from De Jonge (1997) in De Jonge et al. (2009)) and (middle and right): Stakeholders linked to perspectives of CREM (Den Heijer, 2011)

The fact that the role of corporate real estate management changed to 'business strategists', has also been remarked by Gibson and Luck (2006) and Heywood and Kenley (2007). They all mention that corporate real estate management nowadays has a more strategic approach and corporate real estate managers have to make strategic decisions regarding their real estate. Abatecola, Caputo, Mari, and Poggesi (2013) also recognized this, but in a slightly different way. They describe it as the fact that corporations are paying increasingly more attention to the management of their real estate assets, which caused that corporate real estate is becoming a formal research area.

The literature review papers, of which the themes are displayed in Table 4, in general cover the same subjects. Since the paper of Abatecola et al. (2013) is the most recent paper, it seems logical that this paper gives the most recent overview on corporate real estate management. However, the study has been conducted is primarily based on scientific papers that are written in the United States of America. It can therefore be argued that the conclusions they take might not be applicable in corporate real estate management in for other continents.

Krumm (2001)	Page III & Valenziano (2001)	Oluwoye, Karantonis & Fakorede (2001).	Gibson & Luck (2006)	Heywood & Kenley (2007)	Abatecola, Caputo, Mari & Pogessi (2013)
<b>CRE role</b>	Formalisation CRE	CRE role	CRE role	CREM role	CRE role
<b>CRE strategy</b>	De-centralisation	-	CRE strategy	CREM strategic management framework	CRE strategy
<b>CRE department</b>	Re-centralisation	Organisation of CRE function	New working principles	CREM practice	-
<b>CRE perspective</b>	Outsourcing	Outsourcing	Outsourcing	CREM body of knowledge	CREM based performance
<b>CRE portfolio</b>	-	Technology	Technology infrastructure	-	Project management

Table 4: Overviews of themes within literature review papers (own table)

According to Krumm (2001) a lot has changed over the years. First of all, it is mentioned by Krumm (2001) that “the existence of centralised corporate real estate management leads to more efficient use of the portfolio and it increases the profitability of the corporation”. He also mentions that the initial role and position of a corporate real estate department still influences the structure and strategies within corporate real estate management.

Besides the influences on the strategies within corporate real estate management, more changes have been identified over the past few decades. A more common used corporate real estate management policy is the new ways of working: a policy where workplaces are shared (Gibson & Luck, 2006). Also, Gibson and Luck (2006) remark that the management of corporate real estate is increasingly having a more strategic approach. Another important change is that more and more corporations are outsourcing their corporate real estate functions and activities. This can be either by developing an in-house real estate department, or outsource the activities to another company who is specialised in it. This is also remarked by Page III and Valenziano (2001), who mention that there are corporate real estate organisations providing a centralised platform who have the skills for managing a real estate portfolio. Oluwoye et al. (2001) also see the change of outsourcing appearing more within corporate real estate management. However, the studies where this conclusion is based on are mostly from the United States of America, Australia and Asia, which makes it questionable if outsourcing is something that is happening worldwide.

Abatecola et al. (2013) mention the same changes as the other researchers do, but they also appoint corporate real estate management-based performance and project management as changes that have occurred over the years. The impact of corporate real estate management on corporate performance is increasingly tested, but also theoretical aspects associated with corporate real estate are researched (Abatecola et al., 2013). This gives corporations more insight in their performance and is therefore a useful tool to improve their corporate real estate management.

From all the literature review papers mentioned before, amongst others Abatecola et al. (2013) mention the topic of models on corporate real estate alignment, as they refer to the model developed by Lindholm et al. (2006). The paper of Heywood and Kenley (2007) also mentions the need for corporate real estate alignment, but no theories or models on corporate real estate alignment are mentioned in this paper. The other papers from Table 4 do not specifically address corporate real estate alignment.

In the end the most important changes that have happened within corporate real estate management is the changing role and function of corporate real estate management, but also the positioning of a corporate real estate department within a company.

## 2.4 Corporate real estate strategy

It has been discussed in the literature that corporate real estate can, according to Joroff et al. (1993), be seen as the fifth business resources, next to human resources, IT, finance and research & development. This means that corporate real estate is increasingly more integrated in the business strategy and therefore corporate real estate managers have the task to align the corporate real estate strategy to the corporate strategy. This to make sure that corporate real estate strategy adds value to the entire corporation. This is also recognized by Dewulf and van der Schaaf (1999) who mention that *“a corporate real estate strategy has to link real estate with the strategy and the goals of the corporation”*. Before directly defining what corporate real estate alignment is, it is important to define corporate real estate strategy.

A real estate strategy has the aim to make sure that the future supply can accommodate future demand. The positioning of corporate real estate is on three different scale levels: portfolio level, building level and workplace level (De Jonge et al., 2009). This means that also on these three scale levels real estate strategies can be applied. Corporate real estate is often confronted with changing demands and a changing target group. The demand of corporate real estate can be influenced by organisational goals, but also by economic and political developments (De Jonge et al., 2009, 40). Besides that, realising a new accommodation takes a long time, which makes it hard for real estate to adapt to changes. Therefore, a real estate strategy is needed. This strategy can function as a guideline when decisions have to be made (De Jonge et al., 2009, 23), on the long term but also on the short term.

The purposes of the real estate strategy are different within the different scale levels. On portfolio level, the real estate strategy is mostly focussed on strategic and financial goals. On a building level, the corporate real estate strategy has a different purpose. Within this scale level, it is important that the technical and functional requirements are met (De Jonge et al., 2009). The workplace level also has a different strategy, since on this scale level employee satisfaction is important. This research will focus on the portfolio and building level, since these levels are under the responsibility of the corporate real estate manager. The strategies on workplace level are under the responsibility of a facility manager.

According to Roulac (2001) decisions by corporations on which corporate real estate strategy should be used and how they are used by them, “have profound implications for their overall business”. Besides that, he argues that corporate real estate strategies are developed based on the choices corporations make concerning the places and spaces in which they choose to conduct their businesses (Roulac, 2001). The corporate strategies Roulac (2001) defines eight strategies, which are also used by Lindholm et al. (2006), to create a model to see the relationship of corporate real estate strategies and real estate operation decisions to corporate strategy. According to Roulac (2001) there are eight strategies:

- Minimize occupancy costs
- Increase flexibility
- Promote human resources objectives
- Promote marketing message
- Promote sales and selling process
- Facilitate production, operations and service delivery
- Facilitate managerial and process and knowledge work
- Capture the real estate value creation of businesses

On the other hand, Gibler and Lindholm (2012), come up with seven strategies: increase value of assets, promoting marketing and sales, increase innovation, increase employee satisfaction, increase

productivity, increase flexibility and reduce costs. Although Gibler and Lindholm (2012) describe the strategies in a different way, when comparing the strategies they more or less mean the same.

By focussing on these different corporate real estate strategies, corporations can attain competitive advantage and core competencies by “creating and retaining customers, attracting and retaining outstanding people, contributing to effective business processes to optimize productivity, promoting the corporations values and culture, stimulating innovation and learning, and enhancing shareholder wealth” (Roulac, 2001).

Since real estate is often faced with rapid changes, corporate real estate strategies can also change, even if it was not intended. White (1999) mentions that “managers are operating in an increasingly dynamic corporate environment where rapid change makes forward planning extremely difficult and this invariably leads to reactive rather than strategic decision taking, particularly in relation to real estate” (White, 1999, 64-65). This is recognized by Idenburg (1993) as well. Idenburg (1993) calls the reactive strategy a combination of an intended strategy which is influenced by certain incidents, which leads to an emergent strategy.

However, a corporate real estate manager can prepare on the attuning the supply and demand. This can for instance be done by using the DAS-frame. De Jonge et al. (2009) developed a framework which can be used for designing an accommodation strategy. This framework is also called the ‘DAS-frame’. The DAS-frame forces a corporation to think about their demand, as well as their supply. The DAS-frame has four main steering elements. The framework first starts with determining the mismatch between the current demand and the current supply. An important thing in determining this match is that stakeholders within a corporation might have different opinions on what the mismatch actually is (De Jonge et al., 2009, 38). After determining the mismatch, the next step is to determine what is needed in the future and compare this with the current supply, to define the future (mis-)match. The main question to answer in this phase for a corporation is how they are planning to deal with uncertainty. By analysing the changes in requirements future space requirements can be predicted (De Jonge et al., 2009). Subsequently, it is necessary to design, evaluate and select solutions for the mismatch. At last, a step by step plan needs to be created for transforming the current supply into the future supply. In the end, using the DAS-frame can be seen as a form of corporate real estate alignment, since the business strategy and the corporate real estate strategy are being aligned to each other.

## 2.5 Alignment

Since this graduation research is about corporate real estate alignment, it is important to also research alignment on its own. The reason for this is that alignment is not only present in corporate real estate. Also, other departments within a corporation are dealing with alignment. According to the Cambridge dictionary, alignment can be defined as follows:

Alignment:

- (1) An arrangement in which two or more things are positioned in a straight line or parallel to each other.
- (2) An agreement between a group of countries, political parties or people who want to work together because of shared interest or aims.

The articles from literature on alignment focus on different departments. The following departments are most present in literature when the search focusses on corporate strategy and alignment:

- Corporate Real Estate:



- Human Resources
- Information Technology
- Research & Development

Since this paragraph is to understand that corporate real estate alignment can appear also in other departments, this paragraph will not focus in corporate real estate alignment.

Ghinea and Moroianu (2016) refer to alignment as 'vertical integration'. By this they mean that the business units of a corporation and the operational strategies are integrated with the corporate strategy. In other words, Ghinea and Moroianu (2016) define vertical integrations as the connection of the organisation to all business units, from top to bottom (Ghinea & Moroianu, 2016). According to Ghinea and Moroianu (2016) it is important for corporations to have a holistic view of their organisation and look for integrating business drivers, processes, technology, knowledge and human and organisational factors. their paper focusses on the alignment of the human resources department.

Human resources is also a department which is dealing with alignment. In the handbook of Human resource management practice, Armstrong (2006) describes that according to The Harvard school HRM has the characteristic that managers accept more responsibility for ensuring alignment of competitive strategy and personnel (p.7). Moreover, Armstrong (2006) moreover mentions that one of the important aims for HR is to align the HR strategy to the organisational culture and the business strategy. He therefore also mentions that the development of the HR strategy is a process, of which the strategy is a translation of the corporate strategy.

Also within R&D departments alignment is present. Kivisaari (1991) mentions that often alignment of R&D with the overall corporate strategy will benefit the growth of the corporation. What is described is that top management reviewed its control and initiated the alignment of R&D operations with the corporate strategy. Another important remark Kivisaari (1991) made is that having alignment of R&D with the corporate strategy increased the demand of interaction between different management levels. This means that corporations need to make sure that what they do is structured, so it contributes to the performance of the organisation.

Andolsen (2007) also mentions that alignment is present within all departments of a corporation. His definition of alignment is in contrast with the definition of Ghinea and Moroianu (2016). Andolsen (2007) refers to alignment as strategic alignment and defines it as: *"strategic alignment is the link between an organisation's overall goals and the goals of each of the units that contribute to the success of those overall goals"* (Andolsen, 2007). Although the focus of Andolsen (2007) research is in the technology sector, it shows that it's important that other departments of a corporation have to align their strategy to the corporate strategy as well to be successful. Within the technology sector, Andolsen (2007) points out that aligning the goals of the IT department with the organisational goals can be a challenge, but there are developed approaches that can help with aligning the goals to each other. This suggests that there are multiple models for aligning strategies within the IT departments of a corporation. Mohamed, Kaur, and Singh (2012) on the other hand do not create a framework for alignment, but they do mention that IT governance is a strategic issue. In the literature review they did, they remarked that the governance of IT is related to decision making and that several mechanisms result in alignment between business and IT. Alignment in IT has also been researched by Gendron, Banks, and Miller (2009) in which they mention that in order to align IT, the organisation and industry in which it operates has to be understood. In their research, they provide a model which shows the process of alignment. They also mention that it is recognized that there is a need for IT that generated

business value. In their model, Gendron et al. (2009) refer to alignment as Strategic Alignment of Information Technology. By focussing on shared language, values and purpose, but also shared processes and tools, the business and technology can be aligned to each other (Gendron et al., 2009), which in the end should create business value.

Although a lot has been written on IT alignment, Reynolds and Yetton (2015) stress out that previous researchers have said that there is little guidance on how to perform alignment between the IT strategy and the corporate strategy. They also mention that alignment has become more complex, as business are moving to be multi-business organisations. Based on literature review, Reynolds and Yetton (2015) find three different types of alignment: functional alignment, strategic alignment and dynamic alignment. Within these three types of alignment, they found seven IT alignment models in total. Just as in corporate real estate alignment models, these models have a different scientific basis. In the end Reynolds and Yetton (2015) show an alignment model in which the three types of alignment have been incorporated. Remarkable is that the model look similar like one of the alignment models in corporate real estate of Beckers and van der Voordt (2014), which will be explained later in this chapter. In contrast to Reynolds and Yetton (2015), Brockway (1996) does not provide a model on alignment, but only mentions that 'companies need to ensure that their strategy, organisation, processes, culture, and systems remain aligned rather than in conflict.' According to Brockway (1996) information technology could be a powerful tool to have that alignment.

When the literature on IT alignment is compared with literature on CRE alignment, a few things are noticed. First, literature on IT alignment provides much less models on alignment than in corporate real estate alignment literature. Also, the year when this IT alignment literature was published, was later than when literature on CRE alignment was published. A possible explanation for that could be that the information technology has been developing since then and therefore was a relatively new sector and therefore less models have been developed. Only two of the five articles which have been found in the literature review provide a model on how to do IT alignment. The other three only stress out that IT alignment is important for corporations. When looking more detailed at the alignment models, they are less detailed and specific as the ones in CRE alignment. They provide basic overviews on what should be done for IT alignment.

There are still some similarities within IT alignment and CRE alignment. When looking at the understanding of the alignment aspect, this mostly is the same. All see IT alignment is needed as it can add value to the organisation. They also see it as bringing the two different strategies together to create that added value.

## 2.6 Corporate real estate alignment

There are different thoughts and definitions on what corporate real estate alignment is. According to Osgood Jr (2004), corporate real estate alignment requires a continuous process of matching supply to the strategic objectives of an organisation. Heywood (2011) on the other hand, defines corporate real estate alignment as 'bringing things together, by making them consistent or in agreement with each other and removing the inconsistencies, either adapting the corporate real estate strategy or the corporate strategy'. Heywood and Kenley (2007) mentions that currently corporate real estate management is in a field of management that aims to align the corporate real estate strategies and the corporate real estate decisions and activities with the strategic goals at the corporate level (Heywood & Kenley, 2007). This is also recognized by Osgood Jr (2009) who appoints that aligning corporate real estate and business strategies is increasingly seen as the key task of the corporate real estate manager (Osgood Jr, 2009). Then, Tan, Santovito, and Jensen (2014) also has his own view on corporate real

estate alignment. In his paper, he describes corporate real estate alignment as: *“alignment implies moving in the same direction, supporting a common purpose, being synchronized in timing and direction, being appropriate for the purpose and in a passive sense, the absence of conflict”*. The definition of Then et al. (2014) on alignment is based on Kaplan and Norton’s (2006) definition. They describe alignment as: *“alignment is not a one-time event”* (Kaplan & Norton, 2006, p. 245) and *“by its very nature, alignment requires cooperation across organization boundaries, and therefore the process must be managed proactively”* (Kaplan & Norton, 2006, p. 257).

Not every researcher has the same perception on what corporate real estate alignment is. According to Heywood and Arkesteijn the authors, of the models they analyse in their paper, indirectly describe what their definition of corporate real estate alignment is. The perception on corporate real estate alignment for this graduation research is that CRE alignment is a combination of different point of views from the literature and my own experience. In this view, corporate real estate alignment is to attune the corporate strategy with the corporate real estate strategy. This might seem as a top-down strategy, but corporate real estate alignment is also a bottom-up strategy. Both the top-down strategy and the bottom-up strategy represent corporate real estate alignment. The reason for this is that all buildings in the real estate portfolio of a multinational corporation are being monitored. When the lease period of a building will end within a few years, the corporate real estate manager should think of different options of what to do in the future. In this way, the initiative of from their side, and this can be presented towards the department that is responsible for the corporate strategy. The other way around it is the same. The corporate strategy can point out objectives for the future, which are leading for the corporate real estate strategy, and in this way, it is a top-down initiative.

Since the 1980’s, many theories and models have been discussed in the literature on how to align corporate real estate strategy with corporate strategy. Though the approaches eventually have the same goal, they differ substantially from each other since they have a different basis and content (Arkesteijn & Heywood, 2013).

But how can theory be defined? And what exactly is a model? As well as with the definition of corporate real estate alignment, there are different opinions on what a theory is. A theory can contain someone’s interpretation on something, whether scientifically tested in a research or not, but most of the time they are written down in a scientific article. Besides that, a theory can be used to clarify things.

According to the VanDale (2016b) a theory can be defined as:

- (1) knowledge that is not connected with practice or
- (2) the doctrine of ground rules and principles of science

But then how does a theory emerge? When looking at the first definition of the Van Dale dictionary, theory is knowledge. Knowledge develops when research is done and when new things are being discovered.

Within this research, the theory has a slightly different background, since it is not completely focused on theory. In this research, the focus is on the relationship between the theory and the practice of corporate real estate alignment. For the theoretical part, different models on corporate real estate alignment have been analysed. A model is an example to which something is being created (VanDale, 2016a). These models represent the ways in which corporations can perform corporate real estate alignment.

According to Heywood (2011), there are two main approaches in corporate real estate alignment: alignment on a single corporate real estate factor and models for alignment processes. Although one

approach is the use of a single corporate real estate factor, Heywood and Arkesteijn (in press) argue that this approach does not seem realistic in practice. The reason for this is that corporate real estate alignment is a multi-dimensional field, so only using one factor is not realistic.

Besides the two main approaches mentioned, Heywood (2011) also mentioned three other approaches: heuristics, wicked problems and game theory. Heuristics, are judgements which emerge from and are applications within professional practice (Heywood, 2011). Wicked problems can be defined as problems where every implemented solution in decision-making processes are consequential (Rittel & Webber, 1973). This means that wicked problems are ongoing problems, while there is no definitive formulation of the problem and a final definitive solution is never reached (Heywood, 2011). Game theory can be seen as an approach where trade-offs are involved (Heywood, 2011). Although these three approaches do not clearly appear in corporate real estate management literature, they contain useful aspects for corporate real estate alignment (Heywood, 2011).

The question that arises here, since wicked problems are ongoing problems, how can one see if the alignment process is a wicked problem? The article does not describe what it might look like or how someone can recognize it. This makes it hard to determine if a corporation has this approach on corporate real estate alignment. As it is not clearly described in corporate real estate management literature, it might be interesting to search for more information on wicked problems and its relationship to corporate real estate alignment. By doing this, the understanding of corporate real estate alignment can be expanded.

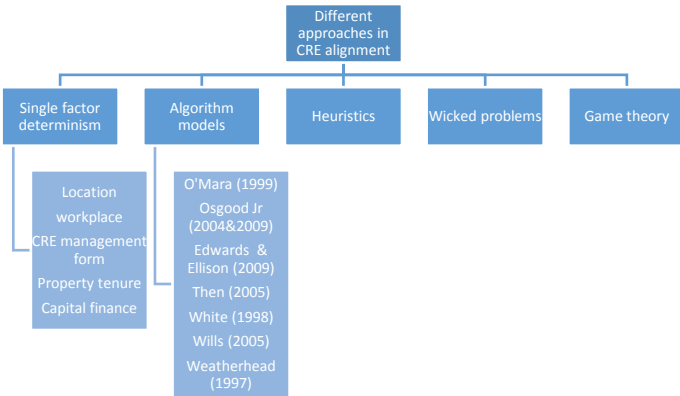


Figure 13: Approaches to corporate real estate alignment (derived from Heywood (2011)).

In his research, Heywood (2011) analysed ten alignment models. To analyse which components are variously present. The fifteen components that were present many times in most of the alignment models can be seen in Figure 14.

<ul style="list-style-type: none"> <li>- Strategic triggers</li> <li>- Corporate strategy formation</li> <li>- Business market data</li> <li>- External business factors</li> <li>- Strategic drivers with CRE consequences</li> <li>- Non-CRE strategic drivers</li> </ul>	<ul style="list-style-type: none"> <li>- Audit of existing real estate</li> <li>- Performance evaluation</li> <li>- Real estate market data/information</li> <li>- CRE strategy formation</li> <li>- Strategy integration (alignment)</li> <li>- Integration with other functions</li> </ul>	<ul style="list-style-type: none"> <li>- Real estate operating decision (strategic implementation)</li> <li>- Directionality</li> <li>- Feedback</li> </ul>
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Figure 14: Components within corporate real estate alignment models (Heywood, 2011).

A problem that Heywood (2011) mentions is that researchers have developed their own theories and models for corporate real estate alignment, without referencing to previous theories and models. This has led to many different theories and models which all prescribe how to align corporate real estate.

But is this bad? It can be argued that it is not possible to only have one model on corporate real estate alignment. Corporations have different corporate strategies and different ways in which they create their corporate real estate strategy. As mentioned before, the different researchers have different opinions on corporate real estate alignment but they are pretty much the same. So, the basis for all these theories and models is partly the same. It is therefore questionable whether it is a problem that there are different alignment models.

Another thing Heywood (2011) points out is that there is not very much evidence in literature that the developed models are used in practice. An explanation for this might be the fact that because the models differ so much, it can be difficult to use them in practice.

Osgood Jr (2004) mentions that the organisational context is closely related with the alignment of corporate real estate strategies with corporate strategy. Within scientific literature, this relationship is recognised by Arkesteijn and Heywood (2013), which continues on the research of Heywood (2011). Based on previous research, Arkesteijn and Heywood (2013) divided the alignment process in four main building blocks and multiple components. They defined the following four building blocks of corporate real estate alignment: understanding corporate strategy, understanding real estate performance, making real estate strategy and implementing real estate strategy. The four building blocks represent the main processes, which according to theory are present in corporate real estate alignment. In their work, Arkesteijn and Heywood (2013) analysed sixteen models on the presence of the components within the building blocks, to give an overview of the alignment processes of the different alignment models. Since it is unknown how multinational corporations align their corporate real estate strategy in practice, it is also not known if the components in the building blocks will fall under the same building block of the model of Arkesteijn and Heywood (2013) and if all components are present. It can also be that a corporation has more actions within a building block, or that some of the components overlap in the different building blocks.

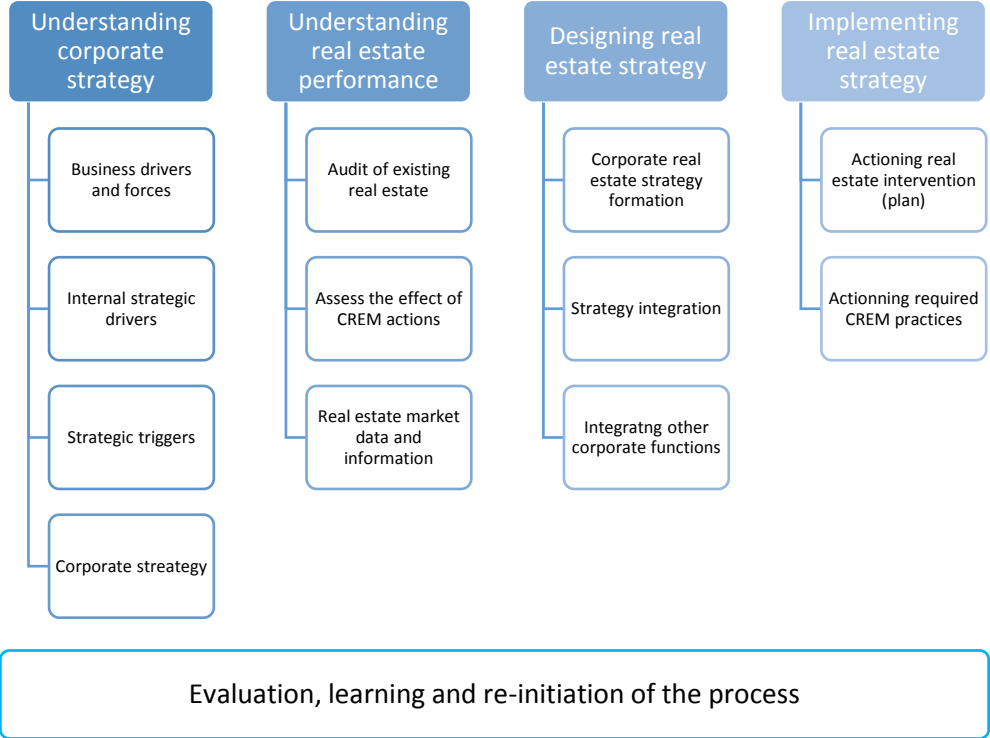


Figure 15: Building blocks and their components within CRE alignment (Arkesteijn and Heywood, 2013).

However, to be able to identify if certain actions relate to components of the building blocks, it is important to define what can be understood by the different components. The elaborated DAS-frame of Van der Zwart et al. (2009) can therefore be used. Van der Zwart et al. (2009) continue with the development of the DAS-frame of De Jonge et al. (2009). They created an elaborated DAS-frame, based on six different models which can be used for corporate real estate strategies. According to Kuijpers (2016b) multiple values can be derived from this elaborated DAS-frame, which are then related to the different components in the building blocks, which will be used for the conceptual model which can be found in the end of this chapter. Based on the research of Kuijpers (2016a), also the evaluation, learning and re-initiation of the process has been added to the model of Arkesteijn and Heywood (2013).

Appel-Meulenbroek, Brown, and Ramakers (2010) also analysed different alignment models. An important remark is that they have a different view on the definition of corporate real estate alignment. They do not explicitly describe what they think is corporate real estate alignment, but indirectly they show it by the way they search for the 'best' real estate strategy. What appears from the article is that they see corporate real estate alignment as the aspect of the corporate strategy and needs to have a direct link with the aspect of the corporate real estate strategy to be aligned. Carrying out the certain action of the strategy is the only way to achieve the goal of the strategy. Other researchers also see corporate real estate alignment as the fit of the corporate strategy with the corporate real estate strategy, but they do not explicitly say what action will lead to the alignment of the two strategies.

By analysing eight models on what aspects of corporate strategy and real estate strategies were present, Appel-Meulenbroek, Brown, et al. (2010) give values to the different alignment models. This was done to select the 'best' strategy. However, the way this is done is questionable. First, it is mentioned that the clearest alignment process will be used for empirical research. By the definition of Appel-Meulenbroek, Brown, et al. (2010) on corporate real estate alignment, the clearest alignment process is where the actions of the corporate strategy need to be realized to achieve the goal of the corporate real estate strategy.

The clearest alignment strategy is chosen based on giving a value to the different model: ranging from 'best strategy' to 'has disadvantages' or 'not useful'. This suggests that value is based on intuition. Critique on this article is that although different models are analysed, it does not give a clear overview of the alignment models. It only gives them their value on whether according to Appel-Meulenbroek, Brown, et al. (2010) it is good or not. However, it does give an insight on what Appel-Meulenbroek, Brown, et al. (2010) see as alignment, since they only focus on one specific part of the alignment process of corporate real estate. In this way, a better understanding of the different alignment definitions can be acquired. As Appel-Meulenbroek, Brown, et al. (2010) have a different view on corporate real estate alignment, this article will not be used for other parts of this research.

The work of Heywood and Arkesteijn (in press) on the other hand provides an overview on the alignment models from literature, with the aim to better understand corporate real estate alignment as a phenomenon. By analysing different corporate real estate alignment models, it was shown that corporate real estate alignment can be characterized by four dimensions, which define the type of corporate real estate alignment (Heywood & Arkesteijn, in press). The type of corporate real estate alignment can be analysed based on the four following perspectives:

- Relationship between corporate real estate strategy and corporate strategy
- Form of alignment
- Cognitive objects
- Directionality of the alignment within the organisation

For establishing an overview of what type of corporate real estate alignment is used, it is important to look at the relationship between corporate real estate strategy and corporate strategy, since it can show how closely related the two are. Another important aspect of defining the type of alignment is analysing what the form of alignment is. This can be either a strategy or plan, process, state or behaviour. Based on analysing different alignment models and defining which forms of alignment were present, it was discovered that multiple alignment models suggested to have two forms of alignment (Heywood & Arkesteijn, in press). The first form is a process-based type of alignment, which results in an actual plan. The other type, the behaviour-based form, has a more flowing process with a more strategic mind-set. Looking at the different cognitive objects, they show what is being aligned to each other. Finally, the directionality of alignment is being analysed. The directionality shows whether the alignment is external or internal, horizontal or vertical.

The conclusion of Heywood and Arkesteijn (in press) is that corporate real estate alignment is something difficult, because it involves many aspects at the same time. An important remark mentioned is that the models are not knowingly used by corporate real estate managers in practice, which provides a gap for further research (Heywood & Arkesteijn, in press).

Beckers and van der Voordt (2014) continue on the definition of Heywood (2011) on alignment and the different domains of Den Heijer (2011). As seen in Figure 16, Beckers and van der Voordt (2014) see the arrow between the demand and the supply side as alignment. According to them, the process of aligning corporate real estate with the institution aims at analysing the corporate goals and the day-to-day operating activities to determine the right corporate real estate strategy and the operation solutions that fit with that strategy.

The research of Beckers and van der Voordt (2014) aimed at exploring management approaches that are concerned with corporate real estate alignment. Beckers and van der Voordt (2014) concluded that there are two hypothetical extreme strategies for corporate real estate alignment, as seen in Figure 16. The first one is a control-oriented strategy (A), which can be compared with a top-down approach. The involvement-oriented strategy (B) on the other hand, is a more bottom-up approach, in which stakeholders are more involved in decision making. Although both strategies are quite extreme strategies, it might be interesting to do further analyse on the use of these strategies for corporate real estate alignment in practice. It might give a view on the relationships within a company and how responsibility is allocated. The distinction between the two strategies are based on the following management approaches: stakeholder management, change management, information management, relationship management, power distribution and precondition management. The two strategies have different approaches within these types of management, which makes it able to indicate differences within corporate real estate alignment approaches.

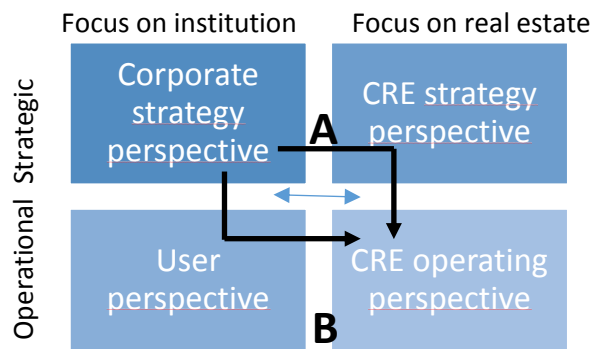


Figure 16: Two extreme strategies for the CRE alignment processes related to four perspectives of CRE alignment (based on Den Heijer (2011) in Beckers and van der Voordt (2014)).

The research of Beckers and van der Voordt (2014) is followed up by research of Beckers, van der Voordt, and Dewulf (2015). As they come to two different corporate real estate strategies in their research of 2014, in this research an analytical alignment framework was created. This analytical framework consisted of four different types of alignment (Beckers et al., 2015). Two of these types of alignment are between corporate strategy and the corporate real estate strategy, while the other two are alignment types within the corporate real estate domain.

The alignment types between corporate strategy and corporate real estate strategy are the alignment of espoused corporate real estate strategy with corporate strategy and the alignment of corporate real estate strategy in-use with corporate strategy.

Within the corporate real estate domain, the two types are the alignment of corporate real estate operating decision with the espoused corporate real estate strategy and the other is the alignment of the corporate real estate operating decision with the strategy in-use.

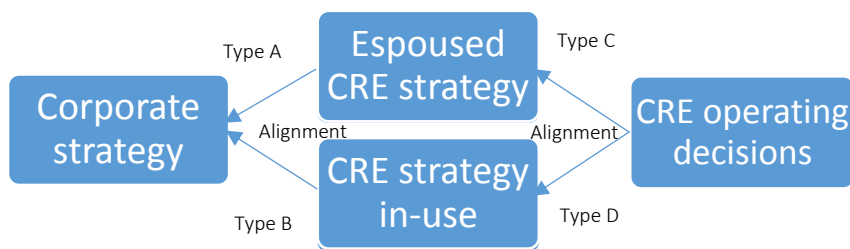


Figure 17: Four types of alignment (Beckers et al., 2015)

Heywood (2011) mentioned that although corporate real estate managers might think that alignment is present, there can be a difference within the strategy that is described in official report and the actual implementation of those corporate real estate strategies by employees in practice. The strategies that are written down in official report can be referred to as an espoused corporate real estate strategy, while the actual strategies that are implemented can be referred to as the corporate real estate strategy in-use. As Beckers et al. (2015) concluded from this research, it is interesting to find out which type of corporate real estate alignment strategy is used by corporations, as it might show if corporate real estate managers are aware of the fact that real estate can be more than a support function and the necessity of how corporate real estate can add value to the entire corporation (Beckers et al., 2015).



However, in this research that is not the purpose. This research aim is to find out how corporate real estate alignment is done in practice, instead of finding out whether the espoused strategy is being used or a CRE strategy in use. By doing this, a comparison can be made to conclude whether what is done in practice is also what has been written down in the espoused CRE strategy documents. Although the espoused CRE strategy documents will be asked for analysing the CRE strategy of the multinational corporations, this research of Beckers et al. (2015) will not be used further in this research.

Based on the literature review on corporate real estate alignment, the following things can be concluded. First, researchers have different definitions of what corporate real estate alignment is. While Appel-Meulenbroek, Brown, et al. (2010) only see one step as the actual alignment, Arkesteijn and Heywood (2013); Heywood (2011); Heywood and Arkesteijn (in press); Beckers and van der Voordt (2014) and Beckers et al. (2015) have a much more extended view on corporate real estate alignment. Secondly, the literature prescribed different ways in which corporate real estate alignment can be put in context. As Heywood and Arkesteijn (in press) appoint four aspects which can define the type of corporate real estate, Heywood (2011) looks at five approached which can define what kind of approach a certain alignment is. Beckers and van der Voordt (2014) on the other hand define two different strategies that can be used for corporate real estate alignment, which can give interesting insights in possible management approaches that can be used. It can give an insight in what corporations find important in their process of corporate real estate alignment.

The conceptual models that are presented in the next paragraph, are related to the ones from Kuijpers (2016b), but the above mentioned conclusions will be added, which is why one conceptual models is added for this graduation research.

## 2.7 Conceptual models

### 2.7.1 Defining type of alignment

As identified in the literature review (Heywood & Arkesteijn, in press) there are different concepts which can be used to determine the context of corporate real estate alignment in practice. With the conceptual model from Figure 18, the type of alignment can be determined. By defining the relationship, form of alignment, cognitive objects and the directionality, the context of the alignment in practice can be determined.

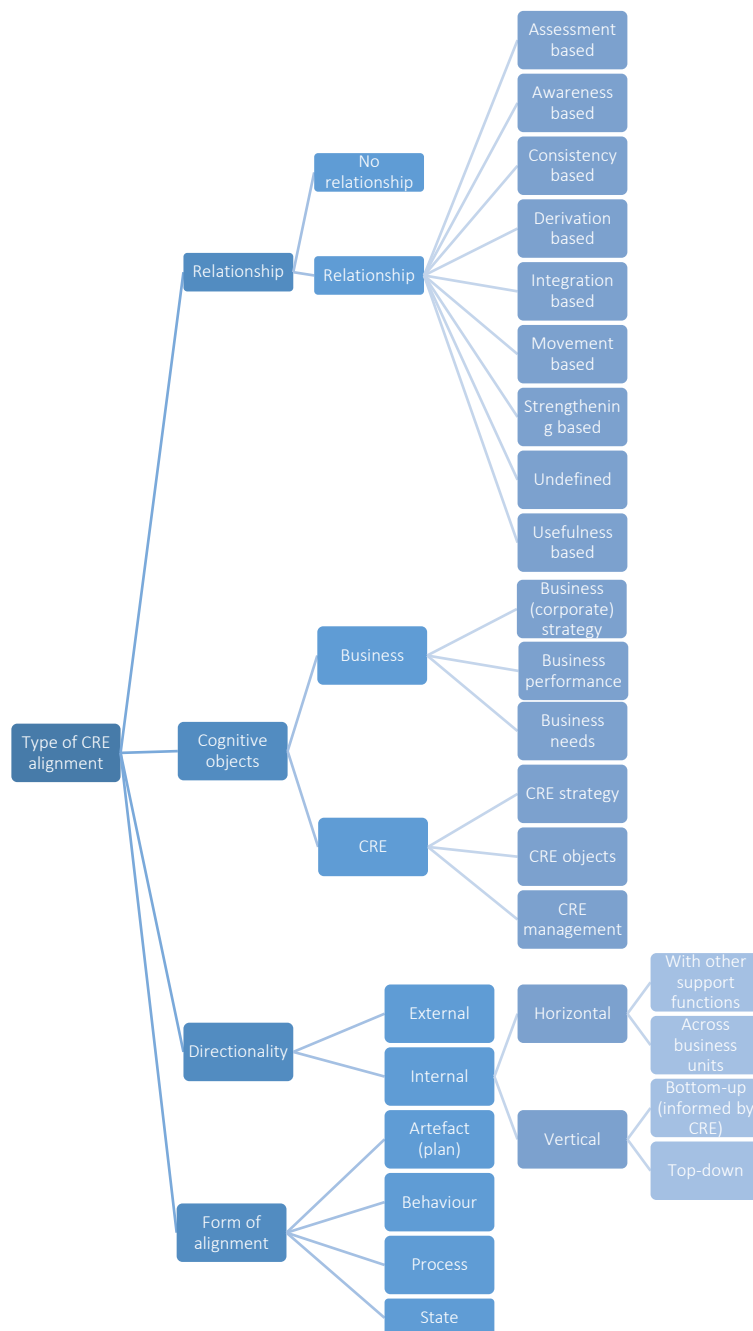


Figure 18: First conceptual model: type of corporate real estate alignment (Heywood & Arkesteijn, in press)

### 2.7.2 Building blocks and components

As Arkesteijn and Heywood (2013) described, the alignment process can be divided into four building blocks and twelve different components, which is based on analysis of the most important corporate real estate alignment models from literature. The four building blocks represent the main processes, which according to theory are present in corporate real estate alignment. The twelve components which can be seen in the figure below, can subsequently be expanded descriptive values.

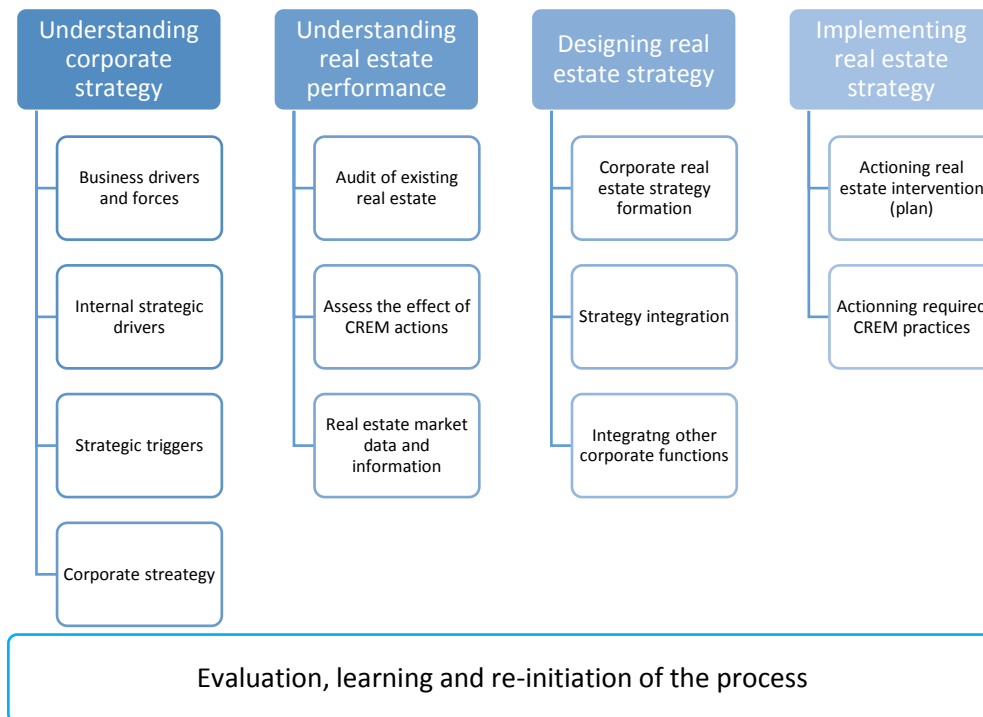


Figure 19: Building blocks and their components (Arkesteijn & Heywood, 2013; Heywood & Arkesteijn, in press)

The sub-components that can be recognized all have its own meaning and synonym. To recognize the components of the building blocks, descriptive values have been developed to recognize the components. Since this research continues on the research of Kuijpers (2016a), the descriptive values that Kuijpers defined have been used as a basis and broadened with descriptive values of the research of Arkesteijn and Heywood (2014). The descriptive values that have been used can be seen in appendix 2.

### 2.7.3 Two different strategies for the alignment process

The conceptual model in Figure 20 and Figure 21 are based on the research of Beckers and van der Voordt (2014). Beckers and van der Voordt (2014) find three main processes that are used in alignment. Based on empirical research, they find the two strategies for corporate real estate alignment. Although the empirical research is done within higher education, it might be interesting to see whether these strategies are also used by multinational corporations.

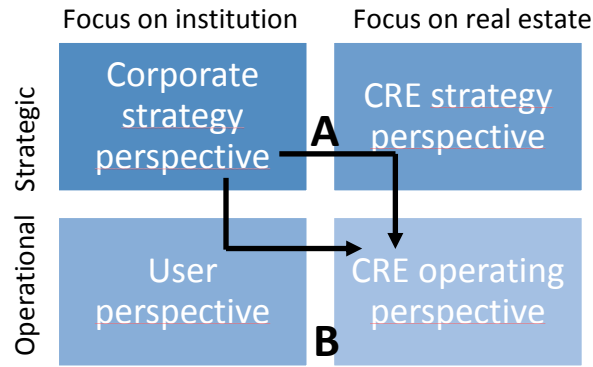


Figure 20: The control-oriented strategy (A) and the involvement-oriented strategy (B) from Beckers and van der Voordt (2014).

	Stakeholder management	Change management	Information management	Relationship management	Power distribution	Preconditions management
Control oriented	<ul style="list-style-type: none"> <li>• Homogeneous group of stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on social developments</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic information</li> <li>• Long term focus on CRE</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on client</li> <li>• Structured interaction CRE and internal stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Proactive CREM</li> <li>• Directive role of CREM</li> <li>• Top down decision making</li> </ul>	<ul style="list-style-type: none"> <li>• High influence on financial resources</li> <li>• Cost driven solutions</li> <li>• Focus on operational excellence</li> </ul>
Involvement oriented	<ul style="list-style-type: none"> <li>• Heterogeneous group of stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on operational developments</li> </ul>	<ul style="list-style-type: none"> <li>• Operational information</li> <li>• Short term focus on CRE</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on customer and end user</li> <li>• Ad-hoc interaction with CRE and internal stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Reactive CREM</li> <li>• Advisory and operational role of CREM</li> <li>• Bottom up decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Marginal influence on financial resources</li> <li>• User driven solutions</li> <li>• Focus on customer intimacy</li> </ul>

Figure 21: Management types and their components (Beckers & van der Voordt, 2014)

## 3. Research design and research methodology

### 3.1 Research design

The research design provides a framework for the collection and analysis of data needed for the research (Bryman, 2012). This graduation research has been approached with a qualitative perspective. According to Bryman (2012, p.380), qualitative research is a research strategy that is mainly concerned with words rather than with numbers. The graduation research consists of four phases. At the end of each phase, a presentation was held to show the progress and results. These presentations were evaluated by both mentors and the external examiner and a GO or NO GO was given to continue the graduation research.

The first phase of this graduation process (P1) was all about the definition of the scope of this research. In this phase, the basis for the entire research project was made. The problem of the research, the problem statement and main research question were formulated. Also, a lot of literature has been read to understand the research problem.

The second phase of the research (P2) consisted of developing the theoretical framework. This phase started with a critical literature review. More in-depth research was done, to answer the first two sub research questions. This resulted in the current state of theory and the basis of the theoretical framework. Most of the literature review was done during the first six months of the graduation process, the P1 and P2 period. Although most of the literature review was done during the first six months of the graduation process, it continued during the P3 and P4 phase to improve and update the theoretical framework and find additional literature in case this was necessary.

In the third phase (P3), the empirical research data was collected based on case studies. Bryman (2012, 66) defines a case study as something that entails a detailed and intensive analysis of a single case. However, a case study should not be mistaken with a research method, because a research method is simply a technique for collecting data (Bryman, 2012, 46). Although there are multiple corporations which are being analysed, they cannot be called case studies. Since only one employee of the corporation is interviewed, the findings are based on the interviews conducted with that person. In this research, it will be referred to as 'case based studies'. For the selection of the corporation for the case based studies, case selection criteria were formulated, to be able to argue why certain multinational corporations have been chosen. The case based studies consisted of conducting interviews and doing a document analysis. After the corporations were selected, interview protocols were made to conduct interviews with the corporate real estate managers of the multinational corporations. The interview protocol contained the key research questions that were asked and the possible follow up questions. Another part of case studies was document analysis. Documents that were provided by the multinational corporations, for example corporate strategy documents and annual reports, were analysed and summarized in the case study descriptions of the corporations.

The last phase of the research (P4) is the synthesis. This is where everything came together. In this part, the outcomes of the empirical research were analysed extensively to draw clear conclusions. Also, a cross-case analysis was conducted to compare the results of the different case studies to see if there were differences and/or similarities in the way the multinational corporations align their corporate real estate. After that, the findings of the single case based studies and the cross-case analysis were compared with the results of the literature review. This was done to see what the relation of the alignment in practice is with the alignment that is prescribed in models from theory. This comparison led to conclusions about corporate real estate alignment in practice.

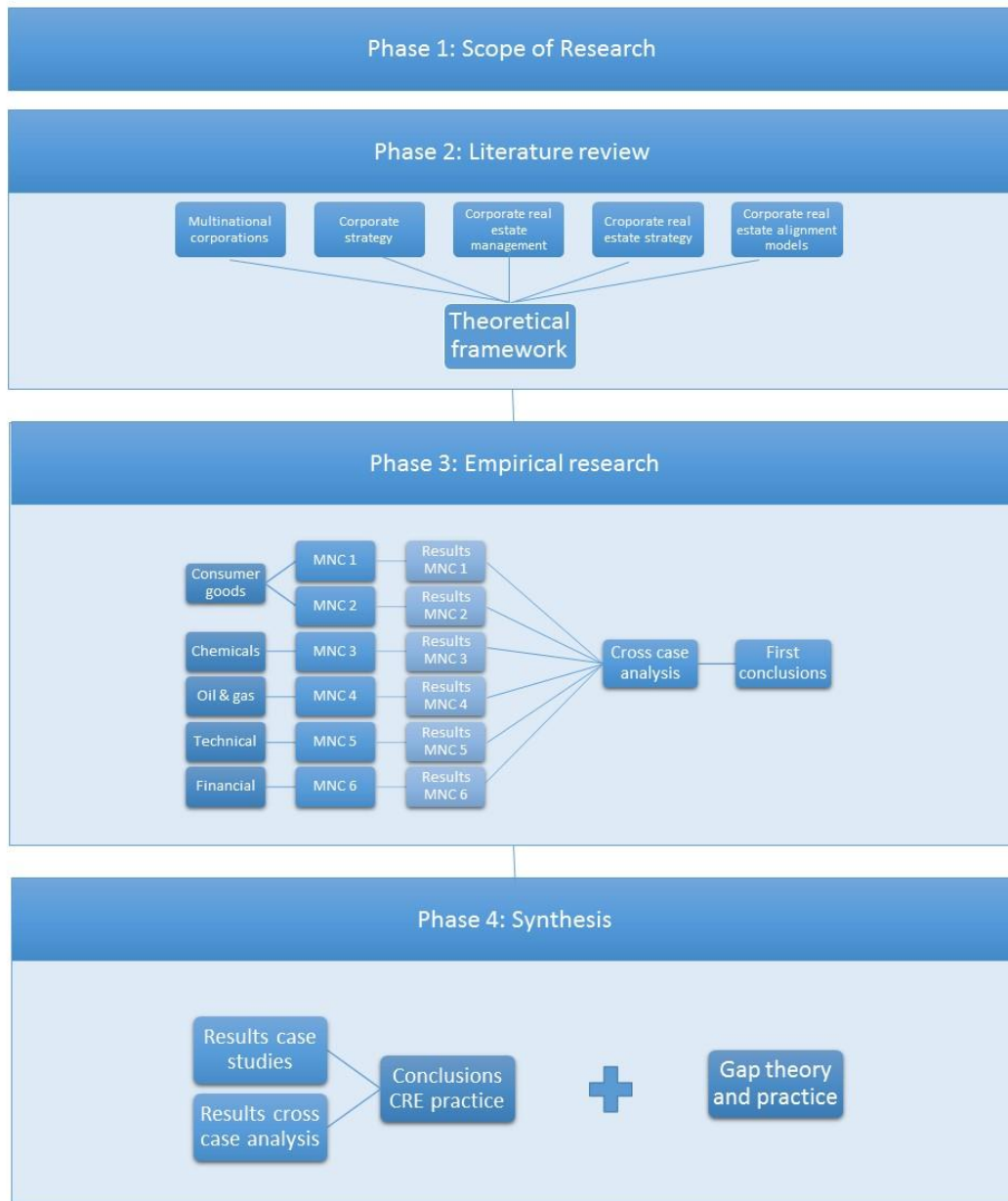


Figure 22: Research design (own figure)

### 3.2 Research methodology

To answer the main research question and the sub-research questions, multiple types of research methods have been used. The answers to the first two questions of the research have been retrieved from the literature, by conducting a critical literature review. Chapter two discussed the current state of literature, which is the result of the literature review. Subsequently, the third research question required conducting interviews and document analysis to research the practice of CRE alignment. Also, a cross case analysis was done to see differences and similarities between CRE alignment at different corporations. These approaches both have a qualitative approach, since data was collected to understand the phenomenon of CRE alignment in practice. A qualitative approach is hard to measure and is therefore more likely to be subjective. Finally, the last research question is answered by comparing the results of the literature review with the results of the single case based studies and the cross-case analysis. In this way, the difference between practice and theory can be described and explained. The section below describes the research methodology and its process further in detail.

### 3.2.1 Case based studies and case based study selection

After the literature review was executed and a theoretical framework was created, the interviews and document analysis at the multinational corporations were conducted. In these cases, the corporate real estate alignment in practice was intensively analysed in detail, to get more in-depth information on how multinational corporations align their corporate real estate in practice.

This graduation research continues on the graduation research of Kuijpers (2016b). In the research of Kuijpers (2016b), interviews with multinational corporations in two different industries have been conducted: in the finance and the technology sector. To contribute to the scientific field and to practice with this graduation research, it is from great interest to analyse other industries than Kuijpers (2016a) did. By doing so, different industries can be compared to each other and a more complete picture of corporate real estate alignment in practice can be created. The industries that were analysed are: consumer goods, chemicals and oil & gas. However due to time restrictions, also two corporations in another field of industry were included, because these corporations could be contacted easily and were willing to contribute to this graduation research. These two industries were Financial services and Technology services. Therefore, five different industries were included in this research.

The corporations that were selected for this research are all corporations that have their own in-house real estate department, are for-profit multinational corporations, of which real estate is not their core business and these multinationals amongst others operate in the Netherlands. The corporations were selected in agreement with the first mentor through the CoreNet Global Network, which is a global network for multinational corporations. Different corporations and several CRE managers were asked which corporations they think might be interesting for this research because their CRE alignment is successful. Besides that, the selection of the corporations for the case based studies was also based on the size of the corporations and their turnover per year.

All CRE managers that were interviewed have a different background and position, but the responsibilities that they have in common is that they are accountable for corporate real estate and setting up the CRE strategy. The difference lies in the fact if they are responsible globally or for a region. The table below shows the different positions of the CRE managers that were interviewed.

Corporation	Function CRE manager	Regional / Global
A	Global Facilities Manager	Global
B	Manager Real Estate and Facilities	Regional
C	Global Facilities and Real Estate	Global
D	Property Manager Europe and South Africa	Regional
E	Global Real Estate Portfolio Asset Manager	Global
F	Global Corporate Real Estate and Facilities Director	Global

*Table 5: Functions of the interviewed CRE managers (own table)*

Since interviews could be done over the phone or through Skype, it was not necessary that these CRE managers operate in the Netherlands. However, it made it easier when the CRE department was located in the Netherlands, since it made it possible to conduct the interviews in person. This was more personal and more information could be provided and asked.

After all interviews were conducted and the document analysis was done, a cross-case analysis was conducted. Cross-case analysis entails the collection of data on more than one case, which afterwards are compared to each other to detect patterns of association (Bryman, 2012, 58). In this way, the different case studies could be compared to each other to find similarities and differences. Therefore,

the same structure was used to analyse the different case based studies, since this made it easier to compare the case studies. The structure that was used was based on the theoretical framework of the literature review. It was the theoretical framework that defined what and how the case studies were analysed. In the end, the results of the single cases and the cross-case analysis led to the current state of practice on corporate real estate alignment.

### 3.2.2 Case based study process

The process of the case studies started with the search for the annual report of the corporation. This was done to understand the business characteristics of the corporation and therefore the annual report has been analysed before the first interview was conducted. It was remarkable that almost no information about corporate real estate was shown in the annual report. It was all about the finances of the corporation. After analysing the annual report, interviews were conducted with the CRE managers of the multinational corporations, to obtain more information about the CRE alignment process for the actual analysis. The first interviews were conducted according the general interview protocol, so the questions in the first interview were the same. The questions during the second interview were different, depending on what type of information was missing to complete the case study analysis. More in-depth questions were asked to understand certain aspects better.

During and after the first interview, the CRE managers were asked to share additional documents for document analysis, in case they were available and if the multinational corporation agreed to share them for this graduation research. In preparation for the interviews, the annual reports needed for the analysis were searched up online. Other documents needed for document analysis were:

- Board documents, explaining the organisational structure of the corporation and the position of each department within the corporation, but also the corporate strategy: what are their aims, mission and objectives?
- CRE strategy documents; explaining the strategy of CRE, but also the mission, vision and plans for the CRE portfolio and buildings
- Documents on CRE alignment, explaining how are strategies and plans accepted.

## 3.3 Data collection

### 3.3.1 Literature review

Chapter two describes the theoretical framework of this graduation research. It forms the scientific basis, which is the basis for the rest of the graduation research. The theoretical framework is based on a critical literature review of scientific sources. The scientific sources were found in Scopus and some in the graduation repository of Delft University of Technology, but some papers were also identified in literature review analysis matrix of other graduation researchers (Gupta, 2016; Kuijpers, 2016c).

To find the right articles for this research in Scopus, specific search items were used. These search items were used in combination with each other, to explore the concepts and their possible interrelationships. By using OR and AND, the Scopus search engine selects all the papers that have the search items in the title, abstract and/or in the keywords.

For this literature review, the following search items were used:

1. Corporate real estate OR office buildings OR corporate property
2. Corporate real estate management OR CRE management OR CREM
3. Corporate real estate OR office buildings OR corporate property OR CRE OR portfolio
4. Corporate strategy OR business strategy OR organizational strategy



5. CRE alignment OR corporate real estate alignment OR strategy alignment
6. Corporate real estate strategy OR CRE strategy

Besides only looking at the single terms used, also combinations of the terms above were used to identify relevant literature. Table 6 shows the number of hits that resulted out of the document search in Scopus.

Term/term	1	2	3	4	5	6
1	134	60	84	32	2	36
2	60	209	93	60	6	60
3	84	93	193	64	6	63
4	32	60	64	17453	6	121
5	2	6	6	6	6	6
6	36	60	63	121	6	121

*Table 6: Number of hits of the combination of search items (own table)*

Table 6 shows that the Scopus search results in many scientific references. For this research graduation, search items number 2, 5 and 6 were the most important search items. The combination of search items number 2,5 and 6 lead to 72 papers. For this literature review, a total of 72 papers were identified via the searching in Scopes. After removing 10 duplicates, 62 papers were screened to identify the most relevant papers to build the theoretical framework of this graduation research. Besides that, a few papers appeared in all the results of the search query were titles from book chapters. These book chapters have been left out of the literature review, since it was not available online for research.

To identify the relevant publications for this research, four scans were undertaken.

In the first scan, the articles and book chapters that were identified via Scopus, were screened on title, type of journals and keywords used. If the papers did not seem relevant, they were left out for the next scan. After the first scan, 24 papers were not useful for further scans. The reason for this was that many papers were focussed on the investor perspective of real estate, facility management, sustainability, spatial change, operation management, risk management and on ethical business.

During the second scan, the papers and book chapters were screened on title, author and abstract. After reading the abstract, only the articles that were identified as relevant were selected to be read in the third scan. After the second scan, six papers were excluded. The main reason for this was that they either focused on facility management, not on a strategic level, too much focused on sustainability, urban strategies, building efficiency and too much focussed on operational decision making.

In the third scan, the main results and conclusions of all papers were obtained from the full text and were summarized. If, after that, these papers seemed to be relevant for theoretical framework, the papers were analysed in a fourth scan. After the third scan, ten papers were excluded for this research, because either they were too much focussed on a certain market, too much focussed on performance management or focussed on investment.

In the fourth scan, the articles that were left were read thoroughly to find out the problem, research aim, outcome, conclusions, gaps and recommendations of that paper. Besides, while reading the papers relationships between the selected publications were tried to be identified. Of all relevant papers that were of interest for the fourth scan and used for the theoretical framework, three papers were alignment model review papers, six papers described an alignment model and six papers appeared to

be literature review papers. These papers have been analysed and the following aspects in these papers have been defined: themes, scientific gaps and structural changes in use value.

After defining these aspects, the papers that focused on other topics, were analysed and compared to the content of the six literature review papers. Differences, similarities and new gaps and conclusions resulted out of this, which is described in the theoretical framework in chapter three. Also, references from other students' literature review matrix' that were of interest were used for creating the theoretical framework. Both the results from the Scopus search and the other literature used, is documented in a literature review matrix.

The papers from Arkesteijn and Heywood (2013), Heywood (2011) and Heywood and Arkesteijn (in press) were the main articles, the basis, for this research. Of all articles, these articles provide a clear and complete comparison of different alignment models and theories. Still, to ensure that this research covers all relevant available evidences, the theoretical basis of this research was complemented with literature identified via the critical literature review. By doing this a broader view on CRE alignment was given and more definitions on what CRE alignment is was discussed.

Besides literature on CRE alignment, also literature was searched on the presence of alignment in other departments of a corporation. It is understandable that this alignment can also be important, so also alignment in other departments were studied.

For this part of the literature, the following combination of search items was used:

- Corporate strategy OR business strategy OR organizational strategy
- Alignment
- Organisation OR corporation
- Business

The combination of this search query, by using AND and OR in Scopus, this resulted in 146 documents. In these results, also conference reviews were included. These however did not contain useful information, so these results were excluded for further analysis. The following document types were used for further analysis:

- Article
- Review
- Book chapter
- Conference paper

After limiting the results to these four types of documents, 134 papers remained left. Since the aim of this part of the literature review was to find out more about alignment within a corporation, the papers were limited to the subject area 'Business, Management and Accounting'. After limiting the research to these papers, 87 papers remained. Therefore, the following search formula was used:

*"TITLE-ABS*

*KEY (corporate strategy OR business strategy OR organizational strategy AND alignment AND organisation OR corporation AND business) AND ( LIMIT-TO ( DOCTYPE , "ar" ) OR LIMIT-TO ( DOCTYPE , "cr" ) OR LIMIT-TO ( DOCTYPE , "re" ) OR LIMIT-TO ( DOCTYPE , "ch" ) ) AND ( LIMIT-TO ( SUBJAREA , "BUSI" ) ) "*

From these 87 papers, first the titles and the abstract were read to determine whether the papers were relevant for further research. This was decided based on whether the aspect of alignment was present,

but also if it had to do something with the organisational aspect of a corporation or a certain department. When looking at the abstracts and checking freely accessibility of articles online, it was observed that conference papers were not accessible online and therefore 6 papers were excluded. Of the 81 papers that remained left, 58 papers were not useful. The reason for this was that most papers were either too focussed on a single case study, focussed on performance measurement, were focussed on leadership, too much focussed on a specific industry and therefore 33 papers remained left for further reading.

Then, the introductions of the 33 papers that were left were read, to find out whether they were relevant in terms of whether alignment is present in a corporation. Of the 33 papers, 18 focussed on alignment and were therefore used for the theoretical framework in chapter three. The other papers were more focussed on just having the alignment there, and not explaining in which part of the organisation this was. Another reason for leaving papers out is that after reading the introduction, it did not explain anything more on what the perception was of alignment. The notion of corporate real estate alignment was made, the rest of the article focused on either testing something of developing a framework. So, for that reason if the articles did not contain a substantial literature overview on the theory on alignment in different departments, but had another focus they were left out of the research.

While observing the 19 articles, it was observed that there were four types of departments that were dealing with alignment. The following departments are dealing with alignment, according to literature:

- Corporate Real Estate (6 articles)
- Human Resources (2 articles)
- Information Technology (5 papers)
- Research & Development (2 articles)
- Other: sustainability, leadership, social, corporate responsibility (4 papers)

### 3.3.2 Interview protocol

To collect data for the case studies, interviews were held with the CRE managers of the to be studied multinational corporations. The interviews that were held, were semi-structured. The reason for choosing a semi-structured interview method is because it gave the interviewer the opportunity to create a list with topics that need to be covered. Since the definition of CRE alignment and how it is done is very broad, it gave the interviewee the flexibility to explain how CRE alignment is done at their corporation. In this way, it was more likely that the CRE manager would be able to answer the questions, because the CRE manager might have a different definition for the same concept. The importance of a semi-structured interview is that it shows what the interviewee's perception is on the topic and what the interviewee thinks that is important (Bryman, 2012, 471). For the interviewer to be in control of the interview, follow-up questions were formulated. The reason for doing this is that it might help an interviewee to be more specific on a certain topic if the previous answer was not detailed as expected or if the interviewee did not understand the question. The topics that resulted from the literature analysis were intended to be mentioned by the interviewee in the answers that have been asked during the interview. At the end of the interview the needed documents for document analysis were asked, if the corporation was willing to share them. Together with the results from the interviews, these two analyses gave an overview of how multinational corporations see and apply corporate real estate alignment in practice.

The interview protocol that was used is shown in appendix 1. The interview protocol contains partly the same questions as the interview protocol of Kuijpers (2016a), since this research continues on Kuijpers'

research. Still, more questions were added based on the theoretical framework, which is discussed in chapter 2.

The first column of the interview protocol shows the research questions that were also sent to the CRE managers a week before the interview was held. The second column shows the follow-up questions, in case more information was needed. The third column shows the information that was the aim to be gathered during the interview, which was also part of the conceptual models of the theoretical framework.

### 3.4 Data analysis

To make it possible to analyse the interviews and gather data, with approval of the interviewees, the interviews were recorded and transcribed afterwards. After that, the interviews were coded in the program Atlas.ti, which is a computer programme that helps to structure and analyse a transcript of an interview. By using codes for a certain theme or subject, core themes could be recognized in the transcripts and the documents from document analysis. Bryman (2012, 13) refers to data analysis as: *“coding is a process whereby the data are broken down into their component parts and those parts are then given labels”*. Atlas.ti has the ability to manage transcripts and helps to make sense of data.

For the interviews and document analysis, different codes were used for analysis in Atlas.ti. Most of the codes are based on the results of the literature review, which is summarized in the conceptual models. Since the conceptual models were tested in the case studies, the concepts that appear in these conceptual models were coded for Atlas.ti. The coding scheme is presented in appendix 2.

#### The data analysis process

The analysis of the interviews held with CRE managers from the different multinational corporations is a long process. Below, the process of this analysis is described to understand how the results have been derived from this analysis.

##### **Step 1. Preparing the interview and conducting the interview**

To be able to conduct the actual interview, the interview was prepared by developing interview questions. Based on the result of the theoretical framework and its conceptual models which are shown in chapter 2, interview questions were formulated. An interview protocol was made and sent to the CRE manager of the corporation a week before the interview. The interviews with the CRE managers of the corporations were recorded with their permission. With each of the CRE managers, two interviews were held.

##### **Step 2. Preparing the data**

The recorded interview was fully transcribed and imported in the computer programme Atlas.ti. This programme was used as a tool to analyse interview transcripts, with the aim of revealing information about the CRE managers' perception of CRE alignment and how it is done at their corporation.

##### **Step 3. Develop a coding scheme**

To be able to analyse the transcript which is imported in Atlas.ti, it was necessary to develop a coding scheme. A coding scheme shows the aspects which are aimed to be found in the transcript, but also their meaning, the main themes, main codes and variables are set out. The main themes and main codes were derived from the conceptual models that were constructed based on the theoretical framework. For this graduation research, the coding scheme of Kuijpers (2016) was used as a basis. Since the research covers the same topic and partly the same conceptual model, Kuijpers (2016a) coding scheme was a good example to start off with. The variables in the coding scheme were complemented with

variables of Arkesteijn and Heywood (2014). In this way, more variables could be related to one single code. It was therefore easier to recognize in the interview transcript if a certain code was present. Appendix 2 shows the coding scheme which is used to code the transcripts in Atlas.ti. The first column shows the main theme, the second column shows the codes that belong to this main theme. The third column shows the variables of the code and those variables are searched for in the interview transcripts. The last and fourth column shows the meaning of the code, derived from the literature review.

#### **Step 4. Test the coding scheme and code all text**

The coding scheme was tested with first two interview to make sure that the coding scheme was detailed enough, to check if variables of codes were missing. If it was the case that codes seemed to be missing, they were added to the coding scheme. After that, that coding scheme was used for analysing the other interviews. Only two interviews have been used to test the coding scheme, otherwise the process of redoing the coding of a transcript would take too much time.

Then, all the transcripts of the interviews were coded. To get an overview of the differences in presence of codes, all transcripts were combined in one Atlas.ti document, which is also called a bundle. The benefit of that is that in the end the output is a list with the quotation count in each interview. Also, it gives a document in which all quotations and associated codes are categorized per code. This gives the interviewer the ability to compare the result of a single code at all corporations.

#### **Step 5. Assess coding consistency**

It was important to check if codes were used in the same context, to make sure that the same codes were used for the same meaning. Therefore, all interviews were checked and compared to each other to assure consistency. By creating consistency between the interviews, the results can be compared.

#### **Step 6. Draw conclusions from the coded data**

After the coding was finished, the output documents with all present codes and quotations were analysed to see how CRE alignment in practice is done, where they focus on and to see if the aspects from literature were present in practice. To be able to draw conclusions from all the quotations, for each of the code the most representative quotation was chosen. The reason for this is that most of the time quotations can overlap, as it might be the case that the interviewee repeats what they say. Also, it made it easier to do a cross case analysis to see differences and similarities between corporations. First, an overview was made with general information of the corporation. For example, in which year was the corporation established, in which industry are they active, in how many countries do they operate, what are their financial results of the last year and more information regarding their own real estate. Secondly, a table with the most representative quotations was used to make a comparison between the corporations. For each conceptual model the findings were compared and it was described in which way the corporations had similarities or differences.

After the cross-case analysis, the comparison of the presence of models with practice was made. Based on the quotations which resulted from the coding process and the cross-case analysis table with the most representative quotations, an overview was made of the present codes of CRE alignment in practice. The boundary for concluding if a certain part of the conceptual model was present in practice, at least five of the six corporations had to say something about that specific code. When three to four corporations mentioned something about a certain code, it was concluded that the code was identifiable, but not mentioned enough to say it is used in practice. If zero to three corporations mentioned a certain topic, it could be concluded that that code was not present in practice.

#### **Step 7. Report methods and findings**

The last step of the data analysis process was writing the description of business organisation and the CRE alignment process of the corporations. Besides that, by having the quotation-code document and the quotation count document, it was possible to determine which aspects of the conceptual models rare present in CRE alignment in practice.

This results in an overview per conceptual model which shows which aspects have been found during coding, but also how many times it was mentioned. This can be seen as the current state of practice.

### 3.5 Corporation descriptions

For this research, six multinationals have been interviewed on their CRE alignment process. As part of analysing the six corporations, documents have been analysed to make an overview of the corporations, to understand the company and the environment in which they operate. Therefore, for each of the six multinational corporations a description is made, in which general facts are given.

#### 3.5.1 Corporation A

##### Introduction

Corporation A is an American multinational chemical corporation, which is listed on the New York Stock Exchange (A, 2016a). As a chemical corporation, A wants to innovate essential things for humans, but also address many challenges there are still in the world (A, 2016a). Examples of that are clean water, clean energy generation and conservation. Corporation A serves their customers around the world in approximately 180 countries (A, 2016a).

In 2015, corporation A counted 49,500 employees worldwide. 2015 was a transformation year for A, as they received six 2015 R&D 100 awards (A, 2016a). One of the most important changes in the corporation has been the definitive agreement for an all-stock merger of equals with company X, also an American chemical corporation. The combined company is afterwards supposed to split into three new companies: a world-leading agriculture company, a material science company and a technology-driven, innovative specialty products company (A, 2016a). The intent for these three different companies is for each to have a clear focus and that they are focused on investments for innovation, with the aim to deliver better solutions and choices for their customers (A, 2015).

##### Corporate strategy, mission and vision

A’s corporate strategy consist of five aspects, also seen in Figure 23. A’s intent is to invest in a portfolio which is driven by the market, but also create value for all stakeholders (A, 2016a). They also strive for a combination of low-cost and value-add products that enables superior value creation throughout the cycle.

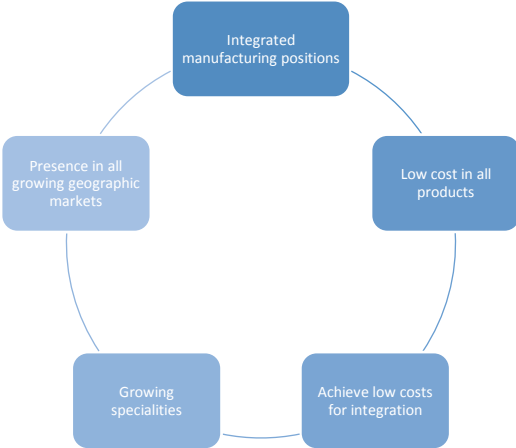


Figure 23: Fivefold corporate strategy of A (A, 2016a)

The mission of A is to passionately create innovation for their stakeholders at the crossing point of chemistry, biology and physics. The vision on the other hand is to maximize long term value per share by being the most valuable and respected science company in the world. With this mind-set, A has strategically adapted to meet the needs of the current macroeconomic environment and positioned the company for sustainable growth. A has three values which they hold on to: integrity, respect for people and protecting the planet. Together, the mission, vision, values and corporate strategy described who A is, what they intend to do and how they want to do it.

**3.5.2 Corporation B**

Introduction

Corporation B is a banking organisation which was founded in the Netherlands, but also re-established after the merger of the former holding of this organisation with another banking organisation (B, 2016). Corporation B is listed on the Euro Next stock exchange and the headquarter of B is located in the Netherlands. The banking organisation sees itself as the bank of today and it is a full-service bank (B, 2016). The main focus of the corporation is in the Netherlands, but they also operate internationally (B, 2016).

This is also remarked by the operating income of the corporation. In 2015, 80% of the operating income was generated in the Netherlands, 11% in the rest of Europe and 9% in the USA, Asia and the rest of the world. Compared to the year before, corporation B generated 5% more operating income (B, 2016). The fact that corporation B is mostly focussed on its operations in the Netherlands, can also be seen in the number of employees working in the Netherlands. In 2015, corporation B Group counted 22.048 employees (B, 2016). Of these 22.048, more than 80% is working in the Netherlands. (B, 2016).

Corporate strategy, mission and vision

Since corporation B is mostly focussed on operations in the Netherlands, the corporate strategy of B is also mainly focussed for the Netherlands. The corporate strategy of B contains five strategic priorities, which can also be seen in Figure 24.



Figure 24: Five main strategic priorities of corporation B (B, 2016).

In their corporate strategy, corporation B also describes the mission of the company. The mission of the corporation is to be successful through the success of their clients, to strongly commit themselves to medium risks and to be positively recognized by their position on sustainability. Besides that,

corporation B wants to be an organisation that has the best talent and where people can develop themselves. (B, 2016)

The vision of corporation B is mostly focussed on their role in the Dutch market. They want to be a full-service bank with a leadership role. Internationally, the vision of B is to be a capability-led bank in selected businesses and geographies.

#### Corporate sustainability

Corporation B has also formulated goals regarding sustainability. The sustainability strategy of B is based on two pillars. Corporation B wants to be a better bank, but also wants to have a better world. These two pillars are translated into four strategic pillars with their own goals. (B, 2016)

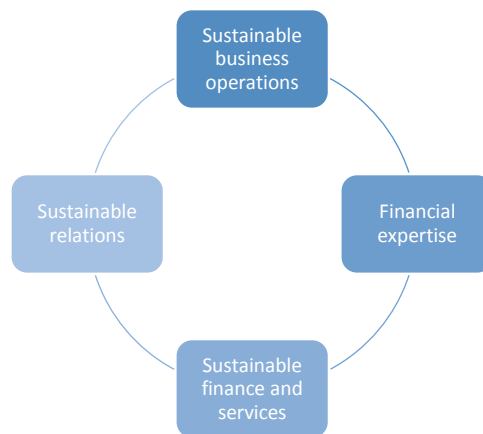


Figure 25; Strategic pillars of the sustainability strategy of corporation B (B, 2016).

In 2015, corporation B translated the sustainability strategy into goals and different metrics. Corporation B aims to measure the progress by using different metrics. The sustainability strategy of today commits the corporation to obtain a positively recognised position on sustainability (B, 2016).

### 3.5.3 Corporation C

#### Introduction

Corporation C is an American multinational consumer goods corporation which is listed on the New York Stock Exchange (C, 2016). Their purpose is to make and sell products that improve the lives of their customers (C, 2016).

In 2015, C had over 100,000 employees working worldwide. 2015 was a year of change for C, as the corporation adapted their corporate strategy to enable higher growth and increased profits. In 2015, Corporation C generated around \$70 billion of sales, of which 40% was generated in North America and 26% in Europe. The other 34% of sales was spread over Asia Pacific, Greater China, India the Middle East and Africa (IMEA) and Latin America.

#### Corporate strategy

Corporation C's purpose is to provide products and services of excellent quality and value that have a positive influence on the lives of customers, today but also in the future. The main corporate strategy of C is to build a better company. In their corporate strategy, C focused on five aspects: innovation, productivity, changing the brand portfolio, creating value and increase shareholder return (C, 2016).



These aspects of the corporate strategy can also be seen in the core strengths of C. These six core strengths are shown in Figure 26.

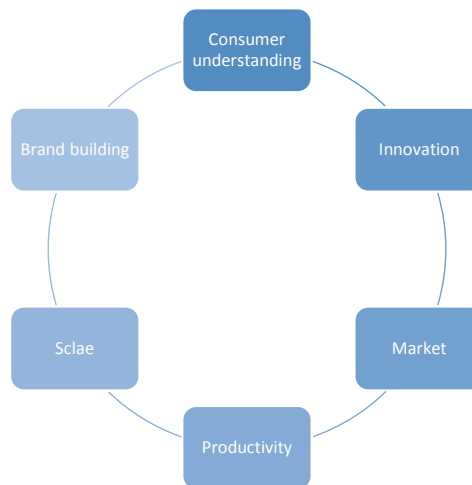


Figure 26: Six core strengths (C, 2016)

### 3.5.4 Corporation D

#### Introduction

Corporation D is a corporation in the oil & gas industry. The company has its headquarters in London and are also listed of the London Stock Exchange. The company delivers energy products and services all around the world. They deliver products such as fuel, lubricants and petrochemicals. Besides that, corporation D also generates renewable energy in some parts of the world. With this renewable energy, D is focussed on biofuels and onshore wind. As corporation D operates worldwide, they operate in more than 70 countries. Although corporation D offers three different products, their main operating income in 2015 were from fuel sold. (D, 2016)

#### Corporate strategy, mission and vision

The aim of corporation D is to create value for their investors, but also to create benefits for the communities and societies the organisation operates in (D, 2016). The corporate strategy of D is that they prioritize value over volume. They are doing this by actively managing their upstream and downstream portfolio. Besides that, they will invest in places where they can apply their distinctive strengths, capabilities and technologies they have developed over the past years. The main aim of D is to create shareholder value. They aim to do this by growing free cash flow and distribution over the long term (D, 2016).

Corporation D has described how they want to achieve their objective and how they want to pursue their strategy. For pursuing their strategy, corporation D focusses on three aspects:(D, 2016)

- Having clear priorities
- Manage a quality portfolio actively
- Make use of the distinctive capabilities

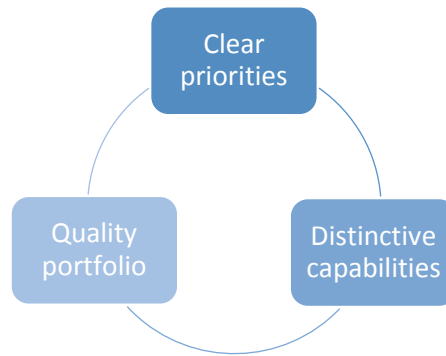


Figure 27: The corporate strategy of corporation D (D, 2016)

### 3.5.5 Corporation E

Due to confidential information in the description of corporation E, this paragraph is excluded in the public report.

### 3.5.6 Corporation F

Due to confidential information in the description of corporation F, this paragraph is excluded in the public report.

## 3.6 The next step in this graduation research

As was explained in chapter one, the research question of this graduation research is: *“How is corporate real estate alignment by multinationals done in practice and how does this relate to the models found in theory?”*. The aim of this research is to find out how corporate real estate alignment is done in practice. However, multiple sub-research questions are needed to answer the main research question, which are the following:

1. What is the current state regarding corporate real estate management?
2. What is the current state regarding corporate real estate alignment models?
3. How can the type of alignment be defined?
4. Which components are present within the corporate real estate alignment process?
5. Is the alignment process at the multinational corporations more control-oriented or more involvement oriented? What kind of perspective do they have?

The first and second sub-research questions have been answered until so far, as it has been summarized by doing the literature review. The conceptual models, which have been explained in chapter two, are the conclusions of the literature review on corporate real estate alignment and therefore displays, together with the answer on the first sub-research question, the current state of theory.

In the next chapter, the findings on CRE alignment in practice will be discussed. After that, it will be discussed whether the alignment from theory are used in practice. Also, the cross-case analysis will be explained, to see differences and similarities between the multinationals. In the end, the findings of practice should result in the answers on sub research questions 3,4 and 5.

## 4. Findings of empirical research

This chapter describes the main findings from theory. For all six corporations, the business organisation is described and an overview of the CRE alignment process is given.

### 4.1 Findings corporation A

#### Business organisation

Corporation A organizes their firm in four global regions. These regions are: Europe, the Middle East, Africa and India (EMEA), North-America, South-America and the Asia Pacific area. Within these four global regions, A operates in different markets: five different operating segments (A, 2016a).

Besides the five operating segments corporation A operates in, there is a supporting service department. This supporting service department is called Business Services and in this department all the supporting services are located, such as IT and Purchasing. The Business Services has been developed for the organisation to be able to offer their service to all customers on a global scale (A, 2017). Because the Business Services is one organisation, information will be received at one point. This makes it able to build more strategic relations which helps the Business Services to stay aligned with the business.

The Business Services is responsible for the day-to-day operational activities, so customers can focus on their own operating activities. The department who is responsible for the corporate real estate management of A's property portfolio operates under the function of Workplace Services and is part of the Business Services. As Figure 28 shows, the Business Services is a horizontal business that works for the different business units of the operating segments of A.

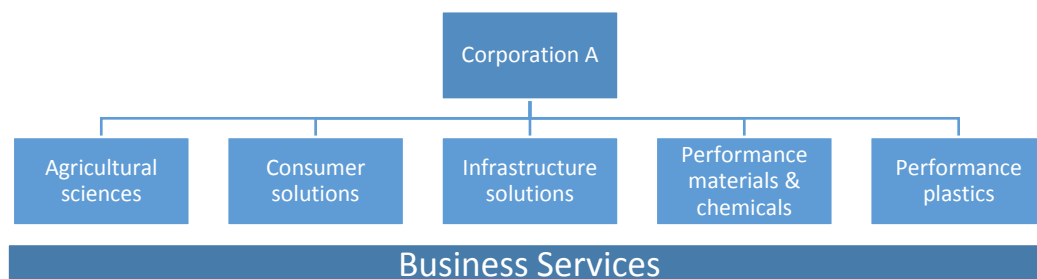


Figure 28: Operating segments of corporation A (A, 2016a, 2017)

The CRE department, the Workplace Services is a supporting function which operates in all operating segments of A. Part of their job is that they deliver solutions for efficiency and productivity, and thereby help the organisation to stay ahead of the competition (A, 2017).

Since the Workplace Services operate in all segments of A, they also operate worldwide. A's Workplace Services is divided into four regions. These four regions all have a Regional Workplace Services Manager, who is responsible for their business. The workplace service department is not purely focussed on corporate real estate management, but also parts of facility management and IT are incorporated (A, 2016b). The effect of the merger between IT and CRE is that within CRE corporation A is earlier involved when new investments are made, since the business or client always needs IT and IT is always involved from the first moment a new request is made.

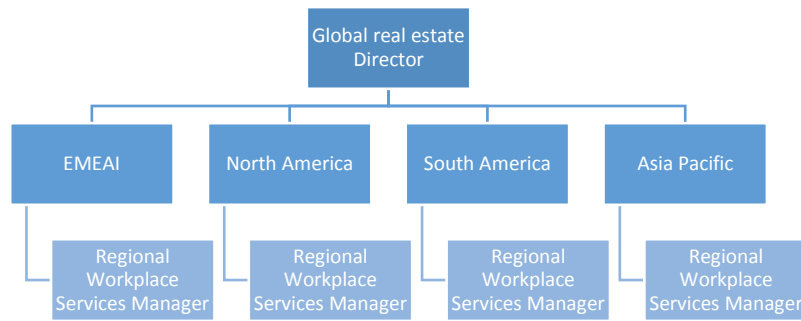


Figure 29: CREM department of A (A, 2016b).

As Figure 29 shows, there is a global real estate director which is the leader of the four regional workplace services managers. This global real estate director is globally responsible for the real estate portfolio of A (A, 2016b). Each region there are CRE specialist and therefore corporation A works with large CRE consultancy organisations for large projects. These specialists report to both the Global Real Estate director and the Regional Workplace Services Managers.

### CRE alignment process of corporation A

The process described below is based on the two interviews held with the corporate real estate manager of A (A, 2016b) (A, 2016c).

Once every year, or sometimes twice a year, a corporate mail is sent to all business units and departments of the organisation, in which changes in the corporate strategy and goals are mentioned. This is what they call the communication line within the organisation. The Regional Workplace Services Manager of corporation A mentions that as an employee it is important to really understand the corporate goals and the corporate strategy. After changes in the corporate strategy are communicated through the corporation, the global CRE director translates the corporate strategy and the corporate goals into specific goals and a specific strategy for CRE. Most of the times however, the CRE strategy is written for a longer term. This means that the overall strategy remains the same, but the priorities can change based on what is happening in the organisation. Having a yearly update on the corporate strategy, also leads to an annual revision of the corporate real estate strategy.

The initiative for a new or updated CRE strategy always comes from the workplace services department, as they know what is going on in each region. So, since they have the knowledge and are supposed to be the owner of that knowledge, they are expected to come with these initiatives when it is necessary. They know what has to be changed in order to contribute the overall objectives of the corporation. An important aspect of the CRE strategy of corporation A is that it has two main pillars, savings costs and offering quality, and that is something that has to be hold on to in the longer term. Although the goals and priorities of the corporate real estate strategy may change, it is important to watch over the strategy and keep doing that, which is the responsibility of the global CRE director. In the end, as the workplace services departments knows what is going on in each region, they are also responsible to make sure that the regions hold on to the new or updated CRE strategy.

In the case of a radical new or updated CRE strategy, the vice president of the Business Services has to approve the new CRE strategy. The new CRE strategy will be sent back to the global CRE director for the last revisions. After that, the plan will be sent to the CEO for approval, which is quite unique. After the CEO has approved the new CRE strategy, the global CRE director will receive this approval, and that person will afterwards update the regional workplace services manager about the new CRE strategy.

The workplace services is divided into four geographical areas, and these regions all have a regional workplace services manager who is responsible for the CRE portfolio of that region. After the new CRE strategy is approved, the regional workplace services managers are from then on responsible for implementing the new CRE strategy.

New plans for new offices most of the times come from the regions itself. It is then the responsibility of the regional workplace services managers to make a business opportunity plan, which has to be approved by the global CRE manager. When the global CRE director decides that the plan fits within the CRE strategy, the plan will be sent back to the regional workplace services manager who is then responsible for implementing the plan. This means that the global CRE director has the governance and that the regional workplace services managers are responsible for implementing new plans.

To keep alignment with the corporate strategy, the regional workplace services managers are responsible to stay in touch with the businesses. When a change in the business is recognized, they need to ask the business what the impact is for real estate and they have the responsibility to report that back to the global CRE director.

An important aspect what is being recognized by the CRE manager of the corporation is that the workplace services departments needs to anticipate in their daily work. This means that the workplace services department always needs to check whether what they do is directly connected to what has been written down on paper. They know in which direction they want to go, and they have an idea about what they are doing. It is easy to write down goals and objectives, but when new plans are implemented, often the CRE strategy and its goals self are not kept in mind. According to the Regional Workplace Services manager of corporation A, it is important to always look back at the CRE strategy and think for yourself: are we doing what we have agreed on before? As it has been said: *"implementation is 80% of the success"*. So, everything the workplace services department does needs to be aligned according to what is written down.

## 4.2 Findings Corporation B

### **Business organisation**

Corporation B is active in three different operational fields: retail banking, private banking and corporate banking. Besides that, there is a part of the corporation which functions under the name 'Group Functions'. The departments under Group Functions supports and controls all group-worldwide business activities. Group Functions is organised into four different main departments. Each of the department has a member of managing board on top of that department. The different departments under group functions are: finance, Technology, Operations & Property Services (TOPS), Risk Management & Strategy and People, Regulations and Identity.

The TOPS department is responsible for anything related to IT, operations, facility management, information security, procurement and programme or project management. The organisation of TOPS is the same for the Netherlands as worldwide. Within TOPS there are three main different departments: Business Services, TOPS IT and Chief Architecture & Data Management. (B, 2011)

The real estate department of corporation B is organised under the Business Services department. Within Business services there is a department named Facility Management. In this department, the Global Property team is responsible for setting the policies and standards. Therefore, this Global Property team is structured within Portfolio Management. Portfolio Management is responsible for the real estate portfolio of corporation B. The Global Property team is located in the Netherlands and is the

leading real estate department, who also provide consultancy to other local facility services upon request (B, 2011). This means that if there is a situation in which for example the local real estate department in the USA is making a decision that will have a large impact on the business, they will have to seek advice from the facilities and real estate team which is based in the Netherlands. (B, 2011)

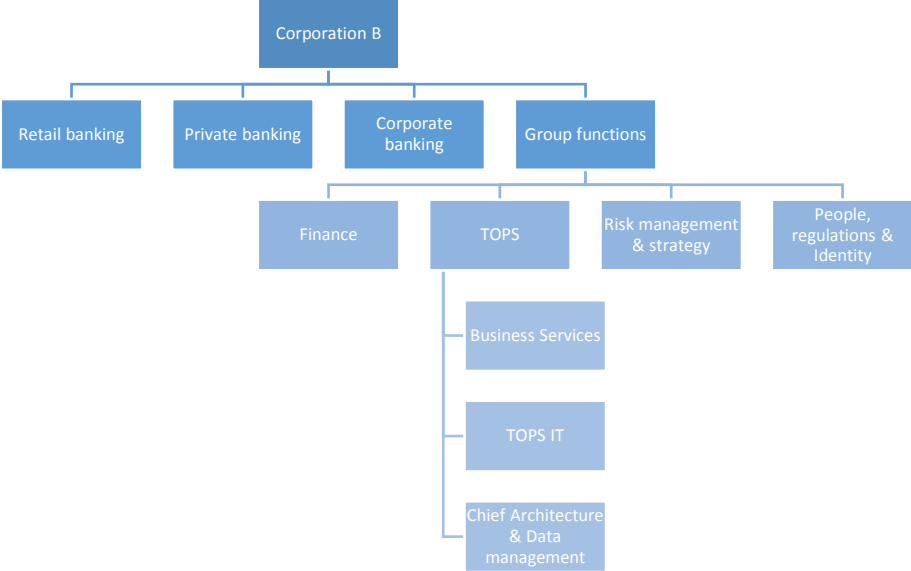


Figure 30: Business organisation of corporation B (B, 2016).



Figure 31: CRE organisation of corporation B (B, 2004, 2017a, 2017b)

**CRE alignment process corporation B**

The process described below is based on the two interviews held with the corporate real estate manager of B (B, 2017a, 2017b).

According to the CRE manager of corporation B, it is very important for the CRE department to have connection with the business developments. The CRE alignment process therefore starts with the so-called business outlooks. The business outlooks can be seen as the demand side of the corporation and consist of about twenty different sub entities of the corporation. They come together with the account management department, which is related to the CRE department of corporation B. On a regular basis, these parties discuss what is going on in the business and regarding to real estate. This information is

included in the strategic accommodation plan, which is a document developed by the CRE department and describes the focus of the strategic plans. There is also a business and information management team which monitors the occupancy rates of the buildings of the CRE portfolio. Together with the account management department and the business and information management team, the real estate department comes together every quarter to ensure alignment between the supply and demand of the real estate and to make sure that the strategic accommodation plan fits the goals of the businesses. At least once a year, the account management department makes a facility outlook. This is a document in which is described what the account management department discussed with business counterparts within the corporation. This document gets shared with the real estate department. Since B's main operations are in the Netherlands, the real estate department of B makes its own CRE strategy. In this strategy the mission, core values and the strategy are described. Since the real estate portfolio of corporation B is shrinking, they are not changing much in the ratio of rental buildings versus owned buildings, since in terms of P&L-effects they calculated that there was no significant difference. However, it is the responsibility of the real estate department to keep the strategy up to date and to make changes if necessary. If they think something can be improved, they need to communicate this with the managing board. In the case of a strategy which has large impact on the whole organisation, the communication of that goes outside of this real estate department, they will be updated later about this.

When the situation occurs that a change in the CRE strategy is necessary, it is the responsibility of the real estate department to implement that change. However, before implementing the new CRE strategy, the managing board has to approve the strategy and they make the final decisions. The reason for this approval is also that the real estate department has back-up of the leader of the TOPS department, if other departments do not agree with the change in the CRE strategy. The leader of the TOPS department is also a member of the managing board and has therefore authority to approve such strategies. Eventually, besides changing the CRE strategy, the real estate department is also responsible for implementing the new CRE strategy.

Besides the fact that the real estate department can change the strategy when that is needed, sometimes it is also the situation that there is a demand from higher up in the corporation, for example from the managing board, for a new office. In this case, the real estate department is asked to deliver the needed information for the managing board to make a decision on where and how a new project will be developed. In this situation, it is the responsibility of the real estate department to deliver the right information and to give the opinion on whether it is a good proposal to continue with.

When there are changes in the corporate strategy, the real estate department uses the corporate strategy as the guiding line to translate the corporate strategy into the CRE strategy. The reason for doing that is that they have to be aligned. Besides that, the performance of real estate is measured by the business information management department and the result of that will be reported back every month to the real estate department. In the case that the managing board comes up with a new plan, the real estate department makes sure that they have the information about the performance ready before decisions are made. The information they share also gets shared with the business outlooks, which suggests that in that way all information is aligned.

### 4.3 Findings Corporation C

#### Business organisation

Corporation C operates worldwide in approximately 70 countries and sells products in more than 180 countries. Corporate C is organized around four main business segments while their selling and market operations are divided into six different areas: Asia Pacific, Europe, Greater China, India the Middle East and Africa (IMEA), Latin America and North America. As Figure 32 shows, the business organisation of C also consists of a shared service organisation and other corporate functions. The shared service organisation supports the overall Corporation and its employees and includes departments such as IT, facility management and employee services The corporate functions include Accounting, HR, Legal, Tax and Treasury. (C, 2010)

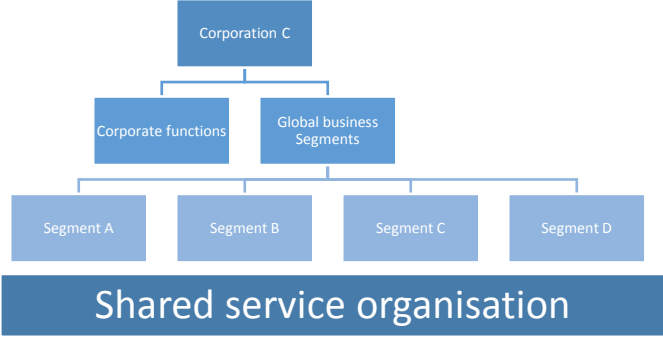


Figure 32: Business organisation of corporation (C, 2010, 2016)

Corporation C’s real estate department is located under this shared service organisation and is called Facilities and Real Estate. Under the Facilities and Real Estate of Corporation C, parts of the work are outsourced to a real estate services company. The facilities operations, portfolio strategy, occupancy planning, transaction management and lease administration are outsourced. Facilities and Real Estate of Corporation C is responsible for strategy and supplier governance, while the real estate service company delivers their services to C. The Facilities and Real Estate department is a global centralized organization with regional resources.

The Facilities and Real Estate team works closely with a global real estate board to align on real estate strategy and major real estate investments. Facilities and Real Estate also works closely with regional real estate boards to plan and execute real estate strategies within their respective regions. Facilities and Real Estate has portfolio owners that work closely with the respective real estate boards. The global real estate boards consist of the CFO, the global HR office, and the leader of the shared service organisation. The regional real estate boards serve as the company’s governance and portfolio alignment within each region.

Although the real estate services company is responsible for the operational work which is outsourced, each region still has its own employees of the corporation to perform budget forecast and to oversee the outsourcing relationship. The external real estate services company on the other hand is responsible for the day-to-day management of the facilities according to agreed performance standards.



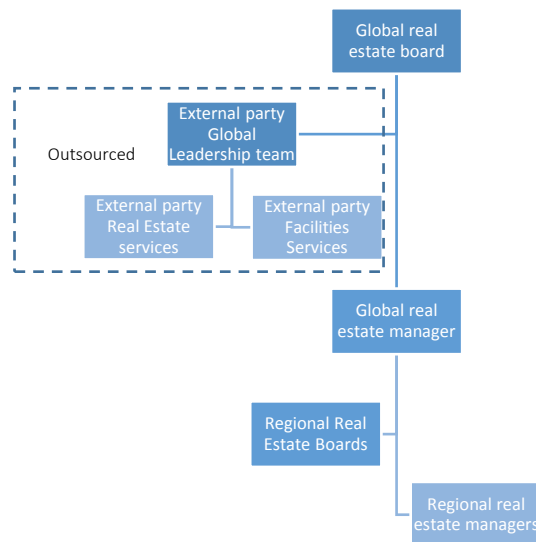


Figure 33: C's Real Estate Organisation (C, 2013, 2017a, 2017b)

### CRE alignment process corporation C

The process described below is based on the two interviews held with the corporate real estate manager of C (C, 2017a, 2017b).

The strategy document for CRE is established each year. The CRE strategy is directly linked to overall Company and business unit strategies and plans. After the fiscal year ended, a discussion will take place to define what the strategy should look like the following year and what the metrics should be. A couple of months after the fiscal year ended, the new strategy document is finalized. A few months later, before the first half of the fiscal year ends, each service within the global business service is asked to update their specific service line strategy, which includes a lot of the CRE strategy which was made in the beginning of the fiscal year. The service line strategy describes the plans for the next years, what they are really trying to drive, it talks about budgets and how to get there. It also describes the organisation structure and the strategic real estate portfolio planning, employee experience and key initiatives that will be implemented. This document is shared with the leadership team. The reason for setting up this document is that based on the service line strategy, the leadership can review the performance. This helps them determining what the budgets for the rest of the year should be and which budget challenged the corporation is facing. At the end of the year the process of making and updating the CRE strategy will be repeated and a new document for the CRE strategy is made.

After the CRE strategies are approved and made, the regional real estate manager is responsible for implementing the new plans of the CRE strategy. Though, the Facilities and Real Estate team is involved in making these plans and is responsible to make sure that the plans are aligned with the business. In the end, the Facilities and Real Estate team needs to make sure that what the regions are implementing is in agreement with the CRE strategy.

When something is changing in the business of corporation C, the global real estate manager will be updated by the global real estate board. On the other hand, changes in the corporate strategy can also come to light at the quarterly webcast with the CEO of the corporation. It is then the responsibility of the Facilities and Real Estate department to anticipate these changes but also to acknowledge these changes in the strategy to meet the corporate strategy changes. On the other hand, changes in de business may also come from the regional real estate boards. The global real estate board is expecting a regional president to be managing their business and the direction may come from the CFO down to

the regional vice president and that regional vice president is one of the people that sits on the regional real estate boards. So, in the end the global real estate manager will be updated by changes through either the global real estate board, through the CEO or directly through the regional real estate boards.

Each real estate region reports back to the global real estate manager on a quarterly basis. Each quarter the global real estate board is updated by the global real estate manager on how the regions are doing and what is going on in the different regions. As the global real estate manager of corporation C explains it, the Facilities and Real Estate team is the connection between the global real estate board and the regional real estate boards. The Facilities and Real Estate teams have regular meetings with all boards and are therefore up to date on what is going on in each region and what is going on in the business. By making sure that both the regional boards and the global board is up to date about all information, the global real estate manager of C thinks they are doing a strong job on connecting with the business, but acknowledges there are always opportunities to improve.

#### 4.4 Findings Corporation D

##### Business organisation

The business of corporation D is divided into two segments: upstream and downstream. In the upstream operation, the right places where hydrocarbons can be found will be acquired. Followed up by that hydrocarbons will be brought to surface. In the downstream operations, the hydrocarbons which were brought to the surface in the upstream operations, will be transported through pipelines, ships, trucks and trains for manufacturing. In those factories, the hydrocarbons are refined, processed and blended to make fuels, lubricants and petrochemicals. In the downstream operations, the fuels, lubricant and petrochemicals will be sold to customers of corporation D.

Corporation D also has a Global Business Services department, who operates in the business processes in support of their own employees. This global business services department supports employees in both upstream and downstream operations. Departments under this global business services are functions as Finance, HR and IT.

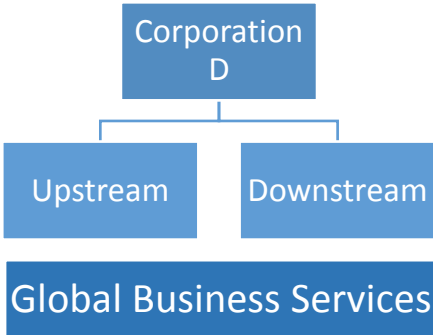


Figure 34: Business organisation of corporation D (D, 2016)

The operations of the Global Business Services are divided into three regions: Europe and South Africa, the America’s and Asia Pacific. Part of the Global Business Services are two departments which are responsible for the corporate real estate. One of these departments is the property management department, which has its own regional team in each region. These regional teams work directly for the businesses and global business services, but only operate in downstream operations (D, 2017d). These departments are responsible for all aspects related to their real estate, to projects and to facility management. In the Upstream, the global business services has a supporting function.

Another department related to real estate is the Group Real Estate Department. This department has a global focus and operates in both upstream as downstream operations, although in downstream Group Real Estate does not work directly for the Downstream business and Global Business Services (D, 2017a, 2017b).

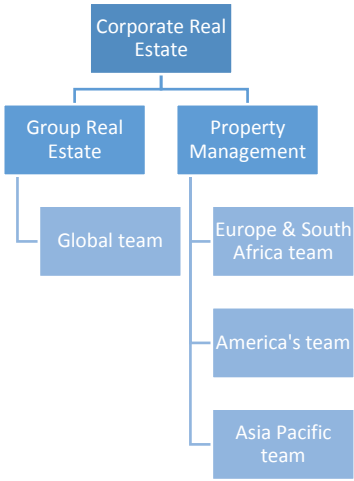


Figure 35: Real Estate organisation of corporation D (D, 2017b)

As the Property Management department focusses on the three regional areas, each property management team has a real estate manager who is responsible for the real estate portfolio of that region, but also responsible for all new projects in that region.

The difference between the group real estate and the property management department is that the group real estate has the unique authorities to sign lease contracts above 500 m<sup>2</sup>. The property management department of Europe and South Africa on the other hand, has to obtain approval when signing a lease contract above 500 m<sup>2</sup>. Another difference between the two real estate departments has to do with how the property management teams work in each region. The European and South African property management department has a very clear organisational structure. In the other two regions, the America’s team and the Asia Pacific the organisational structure is different than in Europe and South Africa. Therefore, in those two areas the Group Real Estate team is more involved in managing the real estate portfolio. In Europe and South Africa, the role of the Group Real estate is that they deliver the support when signing a new lease contract. They have contact with the real estate broker. The property management team on the other hand is responsible for drawing up the CRE strategy and making sure that all plans and projects are connected with this CRE strategy (D, 2017b, 2017d).

**CRE alignment process corporation D**

The process described below is based on the two interviews held with the corporate real estate manager of D (D, 2017a, 2017b, 2017c, 2017d).

The corporate real estate department at corporation D is split into two departments: group real estate and property management. The property management department works directly for the business, and therefore they mention that they are aligned with the business. Since they come up with the CRE strategy and are responsible for the budget, they mention they are aligned all the time. Once a year a roadmap will be made which describes which projects will be implemented that year, on the short term but eventually also on a longer term. This roadmap also contains the goals of the CRE strategy and the KPI’s that need to be achieved for that year. The property management department is responsible for drawing up the CRE strategy. Since the CRE strategy has been focussed on flexibility for the past ten

years, corporation D mention that the CRE strategy will probably be the same for the next ten years because of the business they are in.

In the case that there will be a change in the corporate strategy, the property management department will be updated about these changes in a very early stage. This gives them the opportunity to give input if there is a business case for a new plan. The most important question then is: what is the impact on real estate? The property management department is therefore highly interested in the business strategy for the coming five years, since they adapt their actions and plans on this strategy.

The initiative for new plans comes from the business as well from the regions itself. The property management department mostly has a proactive role, which means that they anticipate and know when something might happen. However, sometimes the real estate department is reactive, as they respond to changes in the business and are therefore subjected to match their real estate plans to that change.

When there is a new plan ready for implementation, the real estate manager of the property management department prepares these plans. It is expected from the company that the strategic mindset for the plan comes from that real estate manager. The real estate manager draws up the plan and that will be sent the boss of that person to check. It then gets reported back to higher in the corporation for approval. After the approval, it gets sent back to the real estate manager, who is then responsible that the plan will eventually be implemented. During the implementation of a new plan, there will be a monthly call with the governance board. In this call the governance board is updated on the project, to make sure everything goes according to plan.

After a certain plan is implemented, there will be an evaluation. However, the results of this evaluation are not written down and therefore could be improved, which is something that is recognized by the CRE manager of corporation D.

#### 4.5 Findings Corporation E

Due to confidential information in the findings of corporation E, this paragraph is excluded in the public report.

#### 4.6 Findings Corporation F

Due to confidential information in the findings of corporation F, this paragraph is excluded in the public report.

## 5. Cross-case analysis

In the cross-case analysis, the findings all the interviewed corporations will be compared to each other. The cross-case analysis will be done at different subjects. First, the corporations will be compared to each other based on general facts of the corporation. After that, for each conceptual model used in the empirical research will be used to compare the practice of corporations with each other.

### 5.1 General facts of the corporations

As Table 7 shows, the interviewed multinational corporations all operate in different industries. Corporation A operates in the chemical industry, while C and E both operate in the consumer goods industry. Corporation B is active in the financial services industry, corporation D in the oil and gas industry and corporation F is active in the technology services industry. This means that four different industries can be compared to each other. Corporation C is the oldest company, while corporation F is the youngest. The last one can be explained by the fact that from then on the technology services started to develop. What also can be remarked is that all corporations are active in many countries. Corporation A, C and E are almost present in 200 countries, while B, D and F are present in around 100 countries. When looking at the development stage of the corporations, four out of six are focussed on growth, which is also mentioned in their corporate strategy.

As these corporations are all listed on a variety of stock exchanges, it is also possible to compare them on their financial performance. The corporations have been compared based on their revenues, price of shares and the earnings per share. Looking at the revenues, what can be immediately remarked is that all the corporation generate mostly billions of dollars or euros revenue. Corporation C produced the most revenue, around \$76 billion euros, followed by €53 billion by corporation E, \$48 billion by corporation A, \$43 million by corporation D, €8 billion by corporation B and €1 billion by corporation F. A fact that can be noticed is that the consumer goods industries produce the highest revenue, followed by the chemicals industry.

Another interesting aspect to compare are the earnings per share and the price of a share. What can be seen is that the price of a share is the highest at corporation C which is almost \$80, and then followed by corporation F €75, A \$45, E €32, B €26,67 and D \$5.83. While at corporation D the price of the share is the lowest, this corporation also has the lowest earnings per share, which are \$0,35 per share. The highest earnings per share are generated by corporation A, where the earnings per share are €6.15. All the other corporation have earnings per share between \$3 and \$1 per share.

Since this research is all about real estate, it is also interesting to look at the facts about the real estate of the corporations. Something which indicates this is the expenses on property, plant and equipment. These expenses are the highest at corporation D and the lowest at corporation F. Corporation A, C, and E all spent between the \$11 and \$50 billion euros, while B and D spend more than €100 billion euros on it. Corporation F spends around €135 million euros on property plant and equipment. A reason for F to have the lowest expenses is that they are still a quite young organisation compared to the other five, and therefore are still growing.

	A	B	C	D	E	F
<b>Main characteristics</b>						
Industry	Chemicals	Financial services	Consumer goods	Oil & gas	Consumer goods	Technology services
Global presence	180 countries	100 countries	180 countries	70 countries	190 countries	140 countries
Number of employees	49.500	22.048	110.000	59.400	171.000	11.422
<b>Financial performance</b>						
Revenue (rounded)	\$48 billion = € 44 billion	€ 8 billion	\$76 billion = € 69 billion	\$43 billion = € 39 billion	€53 billion	€ 1 billion
Share price (rounded)	\$ 44 = € 40	€ 26	\$ 79 = € 72	\$ 5 = € 4	€ 32	€ 75
Earnings/share (EPS, rounded)	\$ 6,1 = € 5.6	€ 2,0	\$2,4 = € 2.2	\$ 0,3 = 0,3	€ 1,7	€1,5
<b>Corporate real estate</b>						
Property, plant and equipment (PPE, rounded)	\$ 50.8 billion = € 46 billion	€ 231 billion	\$ 20.2 billion = €18 billion	\$ 129 billion = €118 billion	€ 11 billion	€ 135 million

Table 7: General facts of the multinational corporations (A, 2016a; B, 2016; C, 2016; D, 2016; E, 2016; F, 2016)

## 5.2 Type of alignment comparison

Based on the three conceptual models which are explained in chapter 2, each of the conceptual model will be used to explain how the corporations differ from one and another. For this cross-case analysis, the most representative quotations of the coding process have been selected and placed in a table, as seen in appendix 5. However, the quotations can be very detailed, which is why for in this paragraph the quotation will be summarized. Based on these summaries of these quotations, the four aspects of defining the type of alignment will be compared of each multinational corporation.

	A	B	C	D	E	F
<b>Alignment relationship</b>						
<b>Assessment</b>	What is being assessed is reported 3x a year. Saving are measured, to see the progress. Will be showed on story board.	We have challenge banks. We are big and bureaucratic. The idea was: we make some small identity within the organisation as a whole. The can operate in a specific segment. We will look if they do it faster, better and more successful than the organisation itself. But the question is: how long will you assess this? After two years it will be decided whether it is viable or not	Project managed on budget compliance metrics. Progress is measured, based on the metrics.  Assessment before and after the project.	Occupancy rate is measured, of workstations, meeting rooms and visitors per location. Costs are also measured.	Impact is measured when strategy needs to be approved.	Different KPI's are measured. Every time they measure to identify what they really have and to understand it better.

	A	B	C	D	E	F
<b>Awareness</b>	Once or twice a year a corporate mail is sent, which is the communication line within the company.	Within that also the multi annual targets fit, that is how you need to see it. In the end we say: we think that the portfolio will develop as follows, the coming years, on basis of what we know, of the building and a retail organisation like that will say for example, 'we think'.	There real estate strategy is informed by our business units' strategies and shared service strategy, and those are all informed by corporate strategy.	Both. I would say that the strategy is related to change. We want to know what the business strategy is for the coming five years. If someone says to us: save 30%, then we will look at our portfolio and know that we will get the same question. But looking at the operational level, the occupancy rate is something very operational. So, operational information that influences your strategy.	It is always a test: what are your options, what is the context, what is the business doing, what are the changes they foresee, of do they not know it at all? Reacting to that by building in flexibility, but most of the times they do not know it.	Being a business enabler is important since it is your task to understand what the business wants and to be aware of this.
<b>Consistency</b>	We have to be aligned with the corporate strategy, which we are.	I think the large movements are strategic movement. So, there is a sort of correlation between value at stake and a strategic level of changes.	And then we can compare that information with what we are hearing from the global real estate board or the regional real estate board on what they expect from top down. And we try to make sure that there is consistency there.	We are aligned with the business. Moreover, we control the budgets for the business.	The workplace, our strategy is also tested in a business case and all proposals we do will be tested on which impact it will have on the business. So, if we do not know the impact the proposals will not be approved. So, if we want to renew a lease or we want another location or more square meters, it will always be correlated to what is the impact of it on the business.	-
<b>Derivation</b>	The relation is that it is a derivation from the corporate strategy.	-	-	-	-	
<b>Integration</b>	-	-	It all comes together and in the end of the day, you know, shared service strategy, the BU strategies better be connected to the corporate strategy or something involved. So, we will take inputs from all of those help and build our strategy.	-	-	-
<b>Movement</b>	.	-			-	-

<b>Strengthening</b>	That is therefore also out added value of course.	-	One thing I think we could to better to insure alignment or just strengthen our overall approach is to just have better documents in process.	Together definitely not, so it is more a cooperation between two different department. While you have to deal with each other a lot. We set out the strategy for the business and they deliver the support for that.	It is a process, and you can increase your chances by becoming more and more a part of the corporation and in that constantly keep demonstrating what kind of added value and what kind of impact you realise.	What I call business enabler is to say when some says come back to me with such a commitment, I consider that we are able to challenge the business.
<b>Usefulness</b>	The overall strategy shows that we can save a lot and that we offer quality.	-	This project contributed to an x percent increase, NPV is predicted to be 3 million dollars. One thing we can do is I think we can go back into the a better job of tying out the NPV's, and saying okay we going to have a NPV of x million, but is it 3 million.	-	-	-
<b>Undefined</b>	-	It touches each other on a couple of things.	I think corporate strategy, I think there is a layer in between them. Our real estate strategy connected, there are multiple factors, not just corporate strategy.	-	How is the alignment between the business units versus what we are doing. And that can be on a local level, but it can also be on a global level. What is the contribution of what we do? Our targets are linked to that one by one.	It is, I would say, a win-win mode. But for sure it is also a negotiation and really because what you are currently dealing with is not potentially what the business wants to understand.

When comparing the relationship between the corporate strategy and the corporate real strategy, it can be remarked that each corporation mentions four or more relationships. The relationship that are mentioned the most are the 'awareness' and 'assessment' relationship. A reason for this could be that for assessment, each of the corporation measures the performance of their real estate and assesses whether a certain action has a positive effect. The definition of the assessment relation is therefore closely related, which is why all six corporations mention the assessment relationship. Another important relationship which can be found is the awareness relationship. This means that people know that something exist. For this relationship, also all corporations say something about awareness. Corporation C mentions the most relationships, while corporation B and F mentions four types of relationships. Corporation B mention awareness, assessment, consistency and undefined. Corporation F only mentions, awareness, assessment, strengthening and undefined.

	A	B	C	D	E	F
<b>Form of alignment</b>						
<b>Artefact (plan)</b>	The workplace strategy is focused to convince managers that more open space is needed and that the interior needs to change. It is an implementation plan.	-	And that the output is a real estate portfolio plan, talking about: here are our different sites, sites that are core, non-core, here are our sites that have investment needs, need to be prioritized, so we are investing in the right places.	It is expected that the strategic thinking comes from me, so I need to write something down about this on paper.	It is really a plan. So, plans are made for the fiscal year.	We have a global approval process. So, we follow the same process everywhere with the same format of presentation.



	A	B	C	D	E	F
<b>Behaviour</b>	Anticipating is very important.	We try to connect things. So, for employees to say how they experience the working environment	I want my team to be really understanding what is going on in their region about the business strategy standpoint and the current business climate standpoint.	The outcome is cooperation.	-	I would say I have an important network around our company, which enables me to really understand how the business is going and what are the trends that we want to after.
<b>Process</b>	The person who is responsible for the CRE strategy since halve a year, she will be busy with giving that more body but also to say that there needs to be a clear list with plans for the corporate level. One thing we have been busy with is having more assurance and that it will be more part of the approval process.	We have a lot of influence on that. In the sense that we make the proposals for the budgets on the short and long term. Each year we have a heavy budget process and we will talk about the five year plan, which is less detailed. Basically, we make them ourselves. We deal with opposing opinions of course, but it has to fit within the bigger picture.	The initiatives we undertake, the focus areas may be a little different year to year based on the business units, means, lease expirations, investments we need to make etc. But there is not a significant change in our strategy here so it just comes to life and some information shared in our teams, maybe not that itself but high level, but it reinforces what our strategy is. And I would say that it gets shared with our teams most directly including the external company in that process.	Of each project you try to learn. It is not the case that of each project you make a total new strategy. Flexibility has been our strategy for the past ten years. And since our business will be that for the next ten years, that will not change. Moreover, supported on costs by flexibility. Workplace has been become more important in the past two to three years, as a driver of the whole story. So that does not change much. We try to change things, to improve and adapt after each project.	Each year it will be reassessed. For each fiscal year we have a jobs to be done list. Each sub department within workplace has a description of the projects which are related to that and what the business impact is. So, it can be a process but it can also be a very hard measure, as: we must give in a number of square meters.	We have a global approval process. So, we follow the same process everywhere with the same format of presentation. So after the process can be different depending on the cases we have to address.
<b>State</b>	So we measure all three aspects, but costs per occupant is number one. That is what we really measure.	The connection is that we measure how we score on certain lists.	But there is also a section of measures and goals which talks about there is controls, compliance, audit types and stuff and there is value creation and savings type metrics, operational metrics and there are some specific metrics around are our workplace.	By measuring the performance and keeping that up to date, by using the KPI's and score the locations on that KPI's, your work will be appreciated.	We change the target and that will not be changed over the year, it will only be tracked.	First, we present the current situation. We present what we target, what we want to do and what the proposal is. So here is currently the status. So, what we show here is an extract of our tools, to where we have the performance of all sites.

Regarding the form of alignment, it can be noticed that the process and state are the most mentioned forms of alignment, as all corporations name them. Five of the corporations described the behaviour, of which they expect something from their real estate employees or as corporation C mentions that they are looking for cooperation. As corporation A describes that they need to anticipate, corporation C and F's behaviour is about understanding the business. Corporation B's behaviour related to measuring what the end user thinks of the working environment.

The state is mentioned by all corporations. What they all mention is that they measure the performance, which is the audit of the real estate. All corporations except for corporation E explain which KPI's they measure. The artefact form of alignment is also mentioned in most of the interviews. Except for corporation B explain what they are looking for as an output of the alignment process. For corporation A, they see the artefact as the implementation plan of the strategy. Corporation C on the other hand talks about a real estate portfolio plan, in which they describe when they are going to do what. It is about the implementation, but it is more detailed than the explanation of A. Corporation D talks about the artefact as the strategic thinking of the CRE manager, which has to be written down. So they see the document of the CRE strategy as the artefact. Corporation E's perception of the artefact is similar to the one from A. They also describe

that the artefact is an overview of the plans for the fiscal year. F on the other hand talks about the artefact as a document which is used to present initiatives for new projects. Next to the state, the process is also named by each of the corporations.

	A	B	C	D	E	F
<b>Business strategy</b>						
<b>Business strategy</b>	Costs reductions have to be made. This is communicated through a corporate mail. The corporate goals have to be taken in mind when making your own goals.	An important aspect are the sustainability goals. These are quite heavy.	We also want to continue to look at our business models and how we partner with external companies, to continue to drive value.  Again, you asked about company strategy, every year the company will sent a list of company priority programs, and some of those are real estate related, some are not, many are not. But we want to ensure that those are top focussed.	The strategy is related to change. We want to know what the business strategy will be for the next five years.	There is a vision, mission and statement of the company, which is a global vision. The CRE strategy is connected one on one to is. Specific goals have been developed regarding sustainability.	We have a quarterly call with the manager of the company as a quarterly call with the boss. With the boss of the company. Where he delivers to us the strategy, the things he wants to address.  So since 2012, as a company we are stuck. We are obliged to publish a sustainability report. And since 2012, we are currently measuring CO2, carbon.
<b>Business performance</b>	The global person looks at the business performance.	On a regular basis, there is contact with the business units in which the business performance is discussed.	We also want to continue to look at our business models and how we partner with external companies, to continue to drive value.	-	The economy and the currency fluctuations have impact on the corporation. That can be seen in the results of the corporation. It has effect on the business performance.	I would say an important network around the company, which enables me to really understand how the business is going and what are the trends that we want to after.
<b>Business needs</b>	We have business units, but also functions like us, Hr and finance. There are 6 business units. It is a business model which does not change a lot.	On the demand side, there is an account management department which communicates with the corporate level. There is regularly contact with the business units.	There is real estate strategy is informed by our business units' strategies and shared service strategy, and those are all informed by corporate strategy.  First off, we work with the business to understand size requirements, business requirements they have.	The corporation is divided into two sectors: upstream and downstream.	ETS is the department with all supporting functions. They have their own data base with inputs which you need from the organisation.	But most of the time when you are dealing with the business, the business says to you I want this. I want to be located in such an area, I want to find a surface like 100 m2, I have this capacity and I don't want it to cost me more than that.
<b>CRE strategy</b>	Our CRE strategy is a workplace strategy. The overall strategy shows we can save a lot of money. And that we offer quality. Those two pillars need to be kept in mind at all times.	In terms of rental versus owned buildings there is not really a strategy.  We want to have a high position regarding sustainability.	Where to play, we want to be strategically managing our real estate portfolio. We want to be providing a quality employee experience. We want to leverage	Flexibility is the key word of the CRE strategy. We have to save costs and that is the key. Workplace is very important in that. We try to make that more important and to be leading of	The cre strategy is focused on efficiency, in costs and space. Sustainability is also very important. Guidelines have been draw up to become more	We want to make sure that we have the right place at the right time at the right location. The second one, it related to great place to work. We want to make our

		Projects like an energy neutral office, which are talk of the town are projects we aim at.	business intelligence, use analytic tools to drive our business.	the strategy.	energy neutral.	company's location the best place to work. The third one, is about reducing the carbon footprint. Because in my organisation I have also the sustainability topic.
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>CRE objects</b>	We are responsible for the real estate portfolio.	Offices can be used for marketing. It is becoming less important than it used to be, since technology is innovating and people do not need to go to a banking office anymore.	And that the output is a real estate portfolio plan, talking about: here are our different sites, sites that are core, non-core, here are our sites that have investment needs, need to be prioritized, so we are investing in the right places.	There is an accommodation guideline, in which guidelines for offices are explained. However, not everything is applicable everywhere because the real estate portfolio is divers.	Offices, factories, distribution centres supply chain, warehousing, and storage.	Sometimes we think it is important to be located to our customer. To develop a strong partnership and relationship. And I think at that time it was important to be located in the customer, and maybe in the same area or the same building
<b>CRE management</b>	Our CRE organisation is young, only eight years old.	Technology, Operations and Property Services. Part of that is business service and that is where facilities and real estate management is located under.	So we have these regional real estate boards. Latin America, North America, Europe, IMEA and Asia. And then we also have a global real estate board for all of our R&D sites.  We are calling out specific strategies within strategic real estate portfolio planning.	Our department works directly for the business. There is another CRE department, which operates on its own.	There are different clusters, regions. In those clusters representatives of the workplace services departments are located, who carry the financial responsibility and the responsibility of the portfolio.	It is Worldwide Real Estate and Facilities department.  In addition to that, my team is connected every time with the business, with the people who are leading the business in different countries, what we call in our language, geo managing director.

What can be concluded from the cognitive objects is that all corporations say something about each of the six cognitive objects. When looking at the business related cognitive objects, all corporations mention the business strategy itself. They want to know it. Corporation C on the other hand goes more into detail about what they want to know from the corporate strategy. Another interesting fact is that when the business strategy is mentioned, it is mostly about how the business strategy is communicated to the real estate department. This is mentioned by all corporations except for corporation B. They only state that there are sustainability aspects which have quite heavy. Also, corporation B, E and F all three mention that there are sustainability goals which will have influence on the CRE strategy. This is not mentioned by corporation A, C, D as they only talk on a general level of the business strategy. Five out of the six corporations mention something about the business performance. This is only very limited. Corporation A, B, E and F mention that they actually look at the business performance and that that has an impact on real estate. Corporation C also addresses the business performance, but only as part of what they are aiming to do. Corporation B does not mention the business performance at all. The business needs are also mentioned by all corporations. The things that are mentioned about the business needs have most of the time to deal with the organisation itself and how departments are located. The departments can be seen as what they need to be able to operate. All six corporation talk about the organisation and the different business units. The real estate related cognitive objects are mentioned many times. All corporations address their CRE strategy. All strategies are different from one another. A focusses on the workplace strategy and reducing the costs. This is the same for corporation D. Corporation C on the other hand, really explains the goals they have as the real estate department, which is strategically manage their portfolio. B does not specifically mention what they are aiming for, but they mention that sustainability is part of their strategy and they want to have a high position in sustainability and have projects which aim to be an energy neutral office. E's CRE strategy is focussed on efficiency, both in costs and space. Just as C, F formulates specific goals they aim after. Here also sustainability is an important part of the CRE strategy.

Regarding the CRE objects, all corporations talk about offices and their portfolio. A mentions that they are responsible for the portfolio, while D even explains some guidelines for the portfolio. C on the other hand describes that there is a real estate portfolio plan in which projects are described they are going to do. The last real estate cognitive object is CRE management. Just as with the cognitive object business needs, this cognitive object is related to the real estate organisation by the different CRE managers. All explain something about their CRE organisation. C, E and F address that there are regions in which the real estate organisation is divided.

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
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Alignment directionality						
<b>Internal horizontal: with other support functions</b>	Business services works for the business, so it is a horizontal function. Here IT, FM and CRE are included.	There is a connection with HR when reorganisations take place. Also, there are connections with IT.	We are part of the IT function, so we have IT functional meetings, that we might hear about. We may hear about a change in, maybe not necessarily corporate strategy, but maybe regional strategy or R&D strategy through those boards.	Finance is supporting. Legal is also supporting when contracts have to be signed.	Under the ETS department also HR, IT and our department are located. All non-core departments are located under ETS and work closely together.	I am reporting to the guys who are in charge of the operation of the department we have including HR, management, IT and information systemes, facilities and real estate for sure. It is an organisation function support we have, including everything related to the people. HR IT and facilities.
<b>Internal horizontal: across business units</b>	We have multifunctional teams for each project.	The demand side sits together with the different business units to talk about the strategic accommodation plan, which is also discussed with us.	But the expectation is that each of our real estate teams in a region are interacting with their products supply VP and their team, to align on warehouse requirements, lease expirations etc.	When implementing new plans project teams are set up in which all kinds of departments are included, also locally present departments. And business units.	We communicate with the logistics, warehouse and distribution centres about the targets.	In addition to that, my team is connected every time with the business, with the people who are leading the business in different countries, what we call in our language, geo managing director. People are connected and my team are connected to the geo managing director.
<b>Internal vertical: bottom-up (informed by CRE)</b>	The initiative is always from our side. It is expected from us.	We analysed the occupancy rate. We want to make some statements about this on whether we accept the differences in occupancy on certain days. We create a tick the box document which has to be approved by the board, in which we describe what we initiate and want to do.	We provide an update on performance of, financial performance of what we have done, in terms of meaning, targets and said what we are going to do in terms of portfolio performance in terms of occupancy rates and use of our space.	We measure and update the KPI's and the performance. we know what is going on and therefore business cases we initiate are rarely not approved.	We track how the portfolio performance and where there are opportunities. Therefore, we initiate new projects, and describe what we want to do and why and we come up with some scenarios.	What I call business enabler is to say when some says come back to me with such a commitment, I consider that we are able to challenge the business. So it means that maybe it is not a good idea to be located here, maybe at that number you may not find this, maybe you should wait one, two, six months.
<b>Internal vertical: top-down</b>	The VP of business services has to approve the plan.	The client is the organisation, so we do everything for them. If they do not approve, or we do not do the things they want, we don't deserve the right to exist.	And then we can compare that information with what we are hearing from the global real estate board or the regional real estate board on what they expect from top down.	Someone from the business makes the decision. In projects, you need to obtain approval if you want to execute certain actions.	De strategy is tested in business cases. If we do not know the impact, the proposals will not be approved.	But most of the time when you are dealing with the business, the business says to you I want this. I want to be located in such an area, I want to find a surface like 100 m2, I have this capacity and I don't want it to cost me more than

						that. Mostly and I want to have this site operating in 5 months, 6 months from now. So most of time when people say business partner, it means most of them say, okay: we will deal with what you are requesting and we will keep doing for. That is what I call a business partner.
<b>External</b>	We collected data with CoreNet but also with other institutions.  We also use real estate brokers.	We have an external party who is responsible for the benchmarking and measuring the performance.	So high level things like that and then we have various metrics across our entire facilities real estate scope. Things from you know, high levels metrics that we track with our global facilities and real estate partner.	There is a quarterly performance review, in which we discuss all projects with our supplier, the real estate broker.	Logistics uses external benchmarks to see how their costs per pallets are related to the price of the market.	We do it at different stages. So we do it at global, we do country by country and we do it site by site. And this benchmarking performance is done compared to a list of competitors. And we ask an external company to update the benchmark every year.

When looking at the alignment directionality, it can be remarked that all corporations have internal and external directionality. Also, within the internal directionality, both horizontal and vertical are present. With internal horizontal with other support functions, it can be said it is very logical that this is mentioned by all corporations. All real estate departments are part of the supporting business and therefore are likely to work together with other supporting functions. A, B, C, E and F all mention IT as a function they work together with. Only D does not mention IT. Other department which are described as cooperation are FM and HR.

Business units are also worked with by the real estate departments. This can be explained by the fact that B, C, D, E and F all mention that there is contact with the local business units. It is needed to have contact with them, since they are the ones the real estate department is serving.

All corporation also mention that most of the time they come up with new initiatives. They measure the performance of the real estate and therefore know what is going on. F even calls it being a business enabler, which means they challenge the business.

Top down decision making is also mentioned by all corporations. They all mention that plans have to be approved from top down, as they are not able to make these decisions regarding real estate strategy themselves.

Also external parties are used for alignment. However, this does differ between the corporations. A, B, E and F mention that an external is involved for benchmarking. C and D on the other hand discuss that an external party is involved as a broker, so when new offices are needed. The difference is therefore in whether the external party is involved to audit the existing real estate, or when a new plan is executed.

Table 8: Most representative quotations (own table)

### 5.3 Main building blocks and components comparison

Based on the three conceptual models which are explained in chapter 2, each of the conceptual model will be used to explain how the corporations differ from one and another. For this cross-case analysis, the most representative quotations of the coding process have been selected and placed in a table, as seen in appendix 5. However, the quotations can be very detailed, which is why for in this paragraph the quotation will be summarized. Based on these summaries of these quotations, the four aspects of defining the type of alignment will be compared of each multinational corporation.

	A	B	C	D	E	F
<b>Understanding corporate strategy</b>						
<b>Business drivers and forces</b>	Two corporations will merge, which means you have to look more at the operational modus, You have to sell and compromise. The priorities change.	It is important to have the connection with the business developments. When there is growth or decline, we need to know that.	I think that certainly one of the big drivers is demand.	-	That there is a separate strategy for the country is much more fluid. It depends in the market, economic and political situation.	I can decide, to refresh a site in a country where the business is potentially not good. The great place to work is also not good. So I would prefer to take money and for this site in order to improve the great place to work. Because if think if we improve the best place to work, the business will be better.
<b>Internal strategic drivers</b>	There is a merger going on, this means that synergies need to be accomplished.	There might be growth, decline, centralisation or decentralisation. This together with legislation has a lot of influence on your CRE actions.	I would say that our strategy is, that this year's strategy is not very different from last year's strategy. The strategy elements, unless there is a significant change in the company focus, the strategy elements are going to be fairly consistent year to year.	The moment there is a reorganisation, we are already updated by this and we work on the input of the business case.	When there are changes in the organisation structure, changes have to be made in the workplace services guideline.	-
<b>Strategic triggers</b>	I try to collect market data to identify where we need to be more competitive and work to that. So that has influence on the strategy.	Real estate is long cyclic, which is hard to adapt in cases of growth and decrease.	well, I would say that our strategy is, that this year's strategy is not very different from last year's strategy. The strategy elements, unless there is a significant change in the company focus, the strategy elements are going to be fairly consistent year to year.	A reorganisation and change in headcount Can cause situation in which details are not know. So making predictions is hard then.	If the whole economy if growing and more people get access to your products, this will influence your strategy.	-
<b>Corporate strategy (formation)</b>	Costs reductions have to be made. This is communicated through a corporate mail. The corporate goals have to be taken in mind when making your own goals.	An important aspect are the sustainability goals. These are quite heavy.	We also want to continue to look at our business models and how we partner with external companies, to continue to drive value.  Again, you asked about company strategy, every year the company will sent a list of	The strategy is related to change. We want to know what the business strategy will be for the next five years.	There is a vision, mission and statement of the company, which is a global vision. The CRE strategy is connected one on one to is. Specific goals have been developed regarding sustainability.	We have a quarterly call with the manager of the company as a quarterly call with the boss. With the boss of the company. Where he delivers to us the strategy, the things he wants to address.  So since 2012, as a company we are

			company priority programs, and some of those are real estate related, some are not, many are not. But we want to ensure that those are top focussed.			stuck. We are obliged to publish a sustainability report. And since 2012, we are currently measuring CO2, carbon.
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Corporation A, B, C, E and F all take the external business drivers and forces into account in their real estate analysis. Examples of this are the economic, political and operational situation of a country or organisation. It is however not explicitly mentioned how they involve this.

Five of the six corporation mention something about the internal strategic drivers which drives them into a certain direction. A and D both mention that a merger will influence their CRE activities. C only mentions that if there is a change in the corporate strategy, they will have to adapt their strategy. However, it is not explicitly mentioned what the driver of the change could be. B on the other hand names four internal drivers which could influence the strategy: growth, decline, centralisation or decentralisation. E only calls out changes in the organisational structure as internal strategic drivers, but not what these are. F does not mention something about internal strategic drivers.

The strategic triggers for change are very different across the corporations. For A, the trigger can be the competition in certain areas or markets. For B, it can be the state in which the real estate is in and on what term the corporate strategy is focusing. For C on the other hand, they mention that the company focus is important as a strategic trigger. D suggests that reorganisations can have influence on their strategy and plans, as it might cause ignorance of details as they may not be known. E specifically calls out the economic situation as a trigger. The context of that is that when a local economy is growing and more people get access to your products, this will have influence on your strategy and plans.

When looking at the business related cognitive objects, all corporations mention the business strategy itself. They want to know it. Corporation C on the other hand goes more into detail about what they want to know from the corporate strategy. Another interesting fact is that when the business strategy is mentioned, it is mostly about how the business strategy is communicated to the real estate department. This is mentioned by all corporations except for corporation B. They only state that there are sustainability aspects which have quite heavy.

	A	B	C	D	E	F
<b>Understanding real estate performance</b>						
<b>Audit of existing real estate</b>	The basics that we measure are costs per occupant, costs per square meter, total square meters and square meters per person.  We collected data with CoreNet but also with other institutions.	We look at the costs we make per building.	Metrics for cost per person, per office building over our entire portfolio. Cost per person per R&D centre, over our entire portfolio, our overall annual budget, what is our capital budget that we have to hit, use your satisfaction scores.	There are KPI's which will be measured. Square meters per workplace, customer satisfaction, and occupancy rate.	KPIs related to finance, costs and space. Sustainability, energy, water use, waste processing.	We have three indicators related to occupancy. So I would square meter per headcount, square meter per workstation and headcount per workstations. And we have four related to finance. So costs per square meter, costs per headcount, costs per workstation and revenue of the facilities. And we have one indicator related to the best place to work.
<b>Assess the effect of CREM action</b>	Assess whether the occupancy rates increases. You have to keep assessing that.	After two years it will be discussed whether the action was right and it has a future. The same will be done for rental building. That does not require a lot of investment and offers flexibility.	Those are all I would say we would measure our progress on our strategy based on how we are doing our metrics in our budget being one of them, our metrics on strategy.	We measure the costs and the occupancy rate. There are targets for that, which we will track.	We have financial targets and the impact of that will be measured, for both expense and savings. Halfway through the year it will be measured what has been done and what effect these changes had.	For sure I measure the effect of the project at the end, one year after. So, most of the time we did it compared to the finance KPI's. but we can decide to do the project even if we know that the KPI will not be good. So, it is a matter of business. And so, we measure the effect based on the great place to work survey.



<b>Real estate market data and information</b>	We also use real estate brokers.	We have an external party who is responsible for the benchmarking and measuring the performance.	So, high level things like that and then we have various metrics across our entire facilities real estate scope. Things from you know, high levels metrics that we track with our global facilities and real estate partner.	There is a quarterly performance review, in which we discuss all projects with our supplier, the real estate broker.	Logistics uses external benchmarks to see how their costs per pallets are related to the price of the market.	We do it at different stages. So, we do it at global, we do country by country and we do it site by site. And this benchmarking performance is done compared to a list of competitors. And we ask an external company to update the benchmark every year.
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All corporations monitor the office buildings of their real estate portfolio. They all call out different KPI's and what is being measured. However, due to confidentiality, the metrics that E measures are more general mentioned, while the metrics of the other corporations are explained more in detail. All corporations look at the costs. Corporation A, D, E and F also look at the space and square meters.

Assessing the effect of certain actions the real estate departments undertook is also something that is being measured by all corporations. However, what they measure and where they focus on is different. Where occupancy rate is important for corporation A and D, the costs are being measured by corporation C, D, E and F.

Also, the corporations use real estate market data and information. However, this does differ between the corporations. A, B, E and F mention that an external is involved for benchmarking. C and D on the other hand discuss that an external party is involved as a broker, so when new offices are needed. The difference is therefore in whether the external party is involved to audit the existing real estate, or when a new plan is executed.

	A	B	C	D	E	F
<b>Designing real estate strategy</b>						
<b>CRE strategy</b>	Our CRE strategy is a workplace strategy. The overall strategy shows we can save a lot of money. And that we offer quality. Those two pillars need to be kept in mind at all times.	In terms of rental versus owned buildings there is not really a strategy.  We want to have a high position regarding sustainability. Projects like an energy neutral office, which are talk of the town are projects we aim at.	Where to play, we want to be strategically managing our real estate portfolio. We want to be providing a quality employee experience. We want to leverage business intelligence, use analytic tools to drive our business.	Flexibility is the key word of the CRE strategy. We have to save costs and that is the key. Workplace is very important in that. We try to make that more important and to be leading of the strategy.	The CRE strategy is focused on efficiency, in costs and space. Sustainability is also very important. Guidelines have been draw up to become more energy neutral.	We want to make sure that we have the right place at the right time at the right location. The second one, it related to great place to work. We want to make our company locations the best place to work. The third one, is about reducing the carbon footprint. Because in my organisation I have also the sustainability topic.
<b>Strategy integration</b>	We have to be aligned with the corporate strategy, which we are.	-	So having the CFO in that conversation, makes it sure that we are aligned with the corporate strategy.	We are aligned with the business. Moreover, we control the budgets for the business	-	-
<b>Integration corporate functions</b>	Business services works for the business, so it is a horizontal function. Here IT, FM and CRE are included.	There is a connection with HR when reorganisations take place. Also, there are connections with IT	We are part of the IT function, so we have IT functional meetings, that we might hear about. We may hear about a change in, maybe not necessarily corporate strategy, but maybe regional strategy or R&D strategy through those boards.	Finance is supporting. Legal is also supporting when contracts have to be signed.	Under the ETS department also HR, IT and our department are located. All non-core departments are located under ETS and work closely together.	I am reporting to the guys who are in charge of the operation of the department we have including HR, management, IT and information systemes, facilities and real estate for sure. It is an organisation function support we have, including



						everything related to the people. HR IT and facilities.
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All corporations address their CRE strategy. All strategies are different from one another. A focusses on the workplace strategy and reducing the costs. This is the same for corporation D. Corporation C on the other hand, really explains the goals they have as the real estate department, which is strategically manage their portfolio. B does not specifically mention what they are aiming for, but they mention that sustainability is part of their strategy and they want to have a high position in sustainability and have projects which aim to be an energy neutral office. E's CRE strategy is focussed on efficiency, both in costs and space. Just as C, F formulates specific goals they aim after. Here also sustainability is an important part of the CRE strategy.

The strategic integration is something that is only mentioned by corporation A, C and D. A said that it they have to be aligned and that they are aligned. C on the other hand points out that in the leadership team of the real estate department, the CFO is involved. According to them, having the CFO in that team makes it that they are aligned with the corporate strategy. D on the other hand only mention that they are aligned with the business because they work directly for the business and because they control the budgets for the business.

Integration with other corporate functions is also mentioned by all real estate managers. It can be said it is very logical that this is mentioned by all corporations. All real estate departments are part of the supporting business and therefore are likely to work together with other supporting functions. A, B, C, E and F all mention IT as a function they work together with. Only D does not mention IT. Other department which are described as cooperation are FM and HR.

	A	B	C	D	E	F
<b>Implementing real estate strategy</b>						
<b>Actioning real estate intervention plan</b>	When there will be a merger, you have to look more in the operational modus. You need to sell, and combine. The real estate manager and the project manager will work together and start implementing.	If we do new things we will rent, since we think that makes us more flexible. But sale and lease back options is not something we do with our owned building.	One of the things we are focused on is our annual expense budget glide path. And are we hitting our targets, annual budgets and often times to hit that budget we need to execute certain projects, certain savings projects to produce the metastases we have we do stuff on locations.	I manage all rental contract and set up the strategy. And for large projects like moving projects, it can be so that a renovation is needed or maintenance. Move people from locations is under my responsibility.	The impact of changes are tested in business cases. So when we want to lease a new office or we want to have more space, it is all related to what is the impact of that on the business.	The strategy can change where we may have bigger acquisition, or acquisition that can impact the strategy. That means for example, we may be deciding the strategy to relocate people where are currently located in two small sites, in a medium site. And then based on the acquisition we have a bigger fund that we can make one. So we decided the location on the acquisition.
<b>Actioning required CREM practices</b>	Regional teams are set up under our supervision, but also of the geographical VP. Together the roll out and implementation of the strategy will be done.	Money has a lot of impact on the decisions that are made. If an office is full and departments have to be move, it can be the case that on another place space has to be rented which causes vacancy in the other building. This has to be weighed in the decisions when actions are taken by the CRE department.	One of the things we are focused on is our annual expense budget glide path. And are we hitting our targets, annual budgets and often times in order to hit that budget we need to execute certain projects, certain savings projects to produce the metastases we have we do stuff on locations.	The real estate team can mention what the impact of a certain action can be. In some cases, this means that an office has to be closed if the impact does not stimulate the flexibility which is wanted from the CRE strategy.	There is an overall direction from the strategy which will be translated in to separate plans. There is a long list for workplace services and for everyone who made a proposal on how it can be implemented.	In Brazil, if it is the situation that it is not good for the business, we decided to do the project, because the great place to work was not good. And we got the result two months ago, and we saw that we increased the percentage of the great place to work survey from 73% to 84, 85%. So, we succeeded.

All the components were retrieved from the data analysis and therefore appeared in the practice of corporate real estate alignment of all six multinationals. The two components are closely related to each other, since they both suggest a certain action which needs to be executed. The difference however is that the first one is really naming the action, while the second component is only referring to that something is being done. Although the components are both used in practice, it was hard to really find certain actions, as the managers described that plans would be implemented, but they did not mention what then would be done. A reason for this could be that most of the corporate real estate managers are more focussed on the making the corporate real estate strategy and drawing up plans, rather than they are involved in the implementation, which is mostly on a local level.

Regarding auctioning a real estate intervention plan, all corporations say something about this. Corporation A is mentioning the merger, which forces them to look at the portfolio and make decisions on how to proceed with all buildings. B on the other hand, focusses on flexibility but does not specifically mention certain things they will do. C on the other hand mention that they will take actions based on their performance measurement, and that it depends on how

they score what they will do. D mentions that when projects come to light, it might be the case they need to be renovated and that is the only action they mention. This is also the case for E. They talk about leasing but do not describe a situation. F at last, describes the situation in which there might be a scenario in which they have to relocate employees and adapt their real estate portfolio, so that is an actual plan.

The auctioning of required CREM practices describes more how the organisation itself functions and when they will execute certain actions. A mention that regional teams will be set up when implantation of a new project starts. B only mentions that when something needs to happen, the CRE department is responsible for taking these decisions and they have to implement it. C mentions that the actions they do are based on the performance measurement and if they are hitting certain targets. D on the other hand, only addresses the fact that it is the task of the real estate the department to examine what the impact of a certain action can be, and that in the end the implementation is under the responsibility of the local managers. E describes how the strategy is translated into separate plans and says that there is a document which describes how these plans can be implemented. However, the actual how is not discussed. In the end F, describes a situation in which they decided to do something because they thought it was good.

	A	B	C	D	E	F
<b>Strategic momentum</b>						
<b>Evaluation, learning and re-initiation</b>	80% of the implementation is the success. You have to report back on what you do as it has to be aligned to what you discussed. Doing this is a learning process and makes sure that you explain why you are doing certain things.	Mention that you have to evaluate what you are doing; otherwise other people will dictate to you what you need to do. You have to assess how you are doing against the market.	One thing I think we could do better to insure alignment or just strengthen our overall approach is to just have better documents in process. We have a process, but the way we do it in north America might be different than Latin America, or Asia. They are generally the same but it is one thing we want to work on.	Showing what you have learned is not done. There is a lessons learned sessions after a project is finished. There is a discussion but there is no document in which this is reported. This can be improved.		-

The evaluation, learning and re-initiation is not something that is mentioned by all corporations. An explanation for this could be that most of the times the evaluation is closely related to the audit of existing real estate, which they already see as a learning process itself. Therefore, they might not specifically call it a learning process while it is one. A on the other hand, specifically mention that making sure that they know what they do is connected to what has been approved on is a learning process. B on the other hand, see it more as an examination of how you are performing against the market. C mentions that they need to make sure that they have better documents in process. Finally, D mentions that having a lessons learned session is useful, but they need to document it better.

Table 9: Most representative quotations (own table)

#### 5.4 Type of strategy and management approaches involved comparison

Based on the three conceptual models which are explained in chapter 2, each of the conceptual models will be used to explain how the corporations differ from one and another. For this cross-case analysis, the most representative quotations of the coding process have been selected and placed in a table, as seen in appendix 5. However, the quotations can be very detailed, which is why for in this paragraph the quotation will be summarized. Based on these summaries of these quotations, the four aspects of defining the type of alignment will be compared of each multinational corporation.

	A	B	C	D	E	F
<b>Coordination</b>						
<b>Stakeholder management</b>	Yes, for sure, As I mentioned, IT. We already merged a little bit with FM. Purchasing is also involved. That side of the organisation is very important to help us with implementing, with negotiations about contracts within a project. HR is also important, for sure when we talk about situations where mergers are involved. We need to have lists with amount of people that will remain. So those are important stakeholders.	We have to deal with the end users, but that is more about cleaning and whether the office opens early, if heating is working. Big decisions on real estate are made through the representatives.	And then if there is a particular project that budgets impact the actual users or consumers, we would have an engagement process with them, saying what's in our project now, we're moving from one location to another. And part of that upfront work is to have an engagement session with the leadership at that site and the employees at that site to understand how they do work, what they do with issues at the current facilities, what would they like to see in the new facility.	For sure, that can be in the form of an employees' council. We try to not let it be a 100% decisive, otherwise you will get discussions.	The stakeholders need to be informed, but most of the time these are also the people who endorse of approve. So it goes higher up, but it does not make sense to call each week. So there is a difference made in that.	We have people, all the stakeholders have access and as you can see we are totally transparent. They know the plan, they know what we are currently doing. This means that they can have the details and so.  Well, you know, it is online. So everyone can be connected online and can see the result automatically. For sure we do a formal presentation every quarter. We report to all the stakeholder. So to all the people from the business can have access to the performance. For sure we do it for finance and we do it for my boss.
<b>Change management</b>	We will look where we can reduce the operational costs, but that is something for the longer term, to look at the footprint. Costs per occupant, square meter per person. So when you change quickly you get a fast result, but that is not always the case.	We have an account management department. They have structural contact with all representatives of the relevant business lines. Once a year they make a facility outlook, which described where we are, where we think we are heading to. And they try to connect in a way that they speak these people regularly and know what is going on.	We may hear something about changes in strategy that we won't hear through that, that other people won't hear about. So there is confidential work that we would get involved in. If we are going to consolidate plans and we are going to get out of plans in one area and we are going to move to another and built new, that may not be something that is widely discussed. But we would find out about that through our connections with our supply chain people.	The question is what is the impact on real estate? We know the costs per workstation. Indeed, we can influence the impact on basis of real flexible contracts, which is an endeavour of us. We will pay a little more now to have that flexibility and to do these things. We can say what the impact will be. In some cases, this means closing an office. In some cases, it means merging offices	If the strategy changes from the business, everyone knows it. It gets widely communicated. Also because it does not happen over a day. As regards to the current strategy, it has been there for eight years. The basis stays the same, but how it is translated to plans, that is something which is reassesses each year and highlighted again where the focus points are. So those are changed each year.	In the way we work at our company, we have a quarterly call with the manager of our company as a quarterly call with the boss. With the boss of the company. Where he delivers to us the strategy, the things he wants to address. For sure. In addition to that, I would say it is part of your job to be connected to really understand how the business is going. And really make sure that the way you are currently leading on the topics you are committed is still valid.
<b>Communication</b>						
<b>Information management</b>	The thing that is important is the plans of de business and the regions.	Real estate has a long-life span, which makes it hard to grow and shrink.	And we need to prepare for growth and where to extent, how do we	Both, because strategy is related to change. We want to know what the	It comes down to that you use operational information. That is	Focus: It is both. Because it is important to learn from projects.

	Both. The growth plans. Basically their strategy.	Each month something happens, but the place we are heading to in terms of reduction is clear as well.  If you invest in something, you need to have a significant horizon. It should at least be there for 5 or 10 years. Otherwise you cannot earn it back.	do that. If we are going to reduce the number of people, do we have too much space, how do we get rid of that, we plan appropriately.  In an ideal world, it would be three to five years' projections, but that is not going to happen. And anybody who is trying to give you a three to five year projection is making it up any way. So ours is shorter term, and in our HR group, our real estate partner has people at each site which will be working with HR at that site, a sort of site bottom up kind of approach.	business strategy is for the next five years. So if we are told to save 30%, then we will have a look at the portfolio and we know we will get the same question. But operationally seen an occupancy rate is something very operational. So operational information that influences your strategy.	because asking something about a strategy is a very hard question. Not to ask, but to answer.  All businesses are requested to have a strategy, but not all local teams have a strategy to which we as workplace or real estate will link our strategy to.	When you take a decision, you take it for 3, 5 to 10 years. When you are currently dealing with real estate, if you are thinking short term you are dead. So I think it is really, if you took the decision, you need to know what will be the next step. And next until the end. That is important.
<b>Relationship management</b>	It depends on the size of the projects. But those people have to be involved from the beginning. You have to handle that, So the project manager and the operational manager will do that together. Boundaries have to be set. But you have to make the people feel at home, so you need to listen to them.	We have to deal with the end users, but that is more about cleaning, how late will the office open, it heating working. But the big decisions of which buildings we will address is based on the representatives of the relevant business segments.	I would say, that within alignment, no. In the sense that the end user. I would say we have customers and consumers. The customer is that real estate board. Because they are the ones who budget is being charged from the projects we are doing, or the costs that we have.	Yes, that can be in the form of an employees' council. We try not to let that be decisive for 100%.  But we will always include these people when there will be a move outside of a region.	We have looked for tools as leaseman, in which we place a large survey, where the efficiency is measured. So how content are the people, we do that twice a year. The stakeholders need to be informed, but that are most of the time also the people who endorse or approve.	But within this dashboard, on top, people can communicate. So the team communicates and provide information, the status on the project and where we are. And this dashboard is shared with all the stakeholders. So it is real time. If you can see, the different comments.  I would say we do not engage the end user always for sure, because it will take time. And sometimes that makes no sense to do it.
<b>Decision making</b>						
<b>Management of the power distribution</b>	I would say we have become more proactive. It can be better, but we are more proactive that in the past. We have to plan per	In the end, if they do not think that is okay, how we do that, then we do not earn to exist. In practice, the boss of TOPS, which we are	Our role should be proactive. There are times where something happens where we weren't aware of. But if we doing our jobs	It is expected from my role that the strategic thinking comes from me. And that has to be approved higher up in the company.	Traditionally that has always been reactive. We are trying to change that into proactive, but that is hard. It is a collective	I would say if I am reactive I am dead. So we try to be proactive.  It is a matter of influence. For us

	<p>year, describe per project what we are going to do and that goes back to the regional leader. That leader has to recognize that, and before implementation that goes back to our global real estate director.</p>	<p>a part of, will be responsible for the fact that things are aligned with the business.</p>	<p>correctly, we should be engaged, have the right connections with the leaders and with the real estate boards.</p> <p>But also, the final decision maker is the real estate board. They are the ones who have the money.</p>	<p>Sometimes we are reactive, but most of the time we are proactive.</p>	<p>decision. It is a decision of what we as workplace recommend versus what the local business needs.</p>	<p>what is important is the when we have to take a decision, we don't want to have any regrets. Sometimes finance, the final decision is coming from finance. Sometimes final is decision is coming from the business. Sometimes it is coming from us. And most of the time it is an agreement between all of us.</p>
<p><b>Preconditions management</b></p>	<p>Of course, we look at the needs of the end users, otherwise you will be finished very soon. But within these needs and within our office standards we have, we will try to be competitive.</p> <p>We control all budgets.</p>	<p>We have a lot on influence on that, in the sense that we make all the proposals for budgets for both short and long term.</p> <p>We have a few performance indicators and what the user thinks of the real estate is one of them. But our efficiency and benchmarks numbers are also important. So it will be between those two.</p>	<p>Well, our goal is to find the right balance between the costs and the user experience.</p> <p>Yeah, I would say have influence. In the end of the day if somebody says your target it this. We would go back and say: well, for us to do everything that we've been asked to do, we need this.</p>	<p>If someone asks for an office project what it will cost to move, we will have standard numbers to show what it will cost.</p> <p>It is a combination of both. If you can say to the end user, we will offer flexibility back, but then we will ask you to be more than three days present at the office. Then we can look for a permanent workstation.</p>	<p>We are mostly focused on the costs. A remark is that in some parts of the work this is more relative than in the other. That has to do with the percentage of costs compared to other costs made.</p>	<p>We share the indicator. So what is good is that in the system of finance, they have already got the benchmark. So that is totally transparent. So they know it, and they need it.</p> <p>It depends, I would say. But for me, most of the time it is not based on costs, it is based on the end user of the business. If you have saved in it, it is a good consequence.</p>

Table 10: Most representative quotations (own table)

As a summary on the quotations of the management approaches present in practice, the following can be concluded. As seen in Figure 21 on page 29, Beckers and van der Voordt (2014) defined multiple aspects which are related to the different management types to see which alignment strategy is present. Table 11 summarizes which types of these aspects are present for each corporation. This makes it able to compare the different corporations to each other and in the end to determine if they do use one of the extreme alignment strategies.

	A	B	C	D	E	F
<b>Coordination</b>						
<b>Stakeholder management</b>	Perception of a heterogeneous group of stakeholders.	Perception of a heterogeneous group of stakeholders.	Perception of a homogeneous group of stakeholders.	Perception of a heterogeneous group of stakeholders.	Perception of a homogeneous group of stakeholders.	Perception of a heterogeneous group of stakeholders.
<b>Change management</b>	CREM focus on operational developments.	CREM focus on operational developments.	CREM focus on operational developments.	CREM focus on operational developments.	CREM focus on operational developments.	CREM focus on operational developments.
<b>Communication</b>						
<b>Information management</b>	CRE information is strategic Long term focus on real estate	CRE information is operational Long term focus on real estate	CRE information is operational Short term focus on real estate	CRE information is operational and strategic Short term focus on real estate	CRE information is operational Short term focus on real estate	CRE information is operational and strategic Long term focus on real estate
<b>Relationship management</b>	Focus on client Structured interaction between CRE and internal stakeholders	Focus on client Ad-hoc interaction between CRE and internal stakeholders	Focus on client Ad-hoc interaction between CRE and internal stakeholders	Focus on customer and end user Structured interaction between CRE and internal stakeholders	Focus on client Ad-hoc interaction between CRE and internal stakeholders	Focus on client, customer and end user Structured interaction between CRE and the internal stakeholder
<b>Decision making</b>						
<b>Management of the power distribution</b>	Proactive CREM Directive role of CREM Top down and bottom up decision making	Reactive CREM Advisory and operation role of CREM Top down and bottom up decision making	Proactive CREM Directive role role of CREM Top down and bottom up decision making	Proactive CREM Directive role of CREM Top down and bottom up decision making	Proactive CREM Directive role of CREM Top down and bottom up decision making	Proactive CREM Directive role of CREM Top down and bottom up decision making
<b>Preconditions management</b>	CRE department has high influence on financial resources Cost driven solutions Focus on operational excellence	CRE department has high influence on financial resources Cost driven solutions Focus on operational excellence	CRE department has high influence on financial resources Cost driven solutions Focus on operational excellence	CRE department has high influence on financial resources Cost and user driven solutions Focus on operational excellence and customer intimacy	CRE department has high influence on financial resources Cost driven solutions Focus on operational excellence	CRE department has high influence on financial resources User driven costs Focus on customer intimacy

Table 11: Aspects of the management types present in practice (own table)

When a look is taken at the type of strategy, corporation A has most of the aspects of the control oriented strategy. This means that the CRE department has a lot of power and has a lot of influence on what is happening regarding the real estate. Corporation B on the other hand, has a lot less influence. Therefore, their approach is more involvement oriented. Their role towards the business is more advisory and there is a lot more top down structure from the top of the organisation. Corporation C has just as A a control oriented approach. For corporation D, it is hard to determine which of the two strategies is used, as aspects of both strategies are mentioned at the same amount, so it is not clear which strategy is used here. Corporation E on the other hand is control oriented, like A and D. In the end for corporation F it is no clear which strategy is used. It is the same as for corporation D, as aspects of both strategies are mentioned at the same amount.

## 6. Practice compared to literature

In this part the findings of practice, resulting from the interviews conducted with the corporate real estate managers from the different multinational corporations, will be compared to the conceptual models which have been made out of the results from the literature review. All interviews have been written down in transcripts and afterwards have been analysed in Atlas.ti. Each code represents one of the aspects of the conceptual models. After the transcripts were fully coded, a quotation count was available to see whether a certain code and phenomenon was present in the CRE alignment of a corporation.

Three conceptual models, based on research of Heywood and Arkesteijn (in press), Arkesteijn and Heywood (2013) and Beckers and van der Voordt (2014), will be discussed below to see the relation with practice of corporate real estate alignment.

### 6.1 The type of CRE alignment

In the research of Heywood and Arkesteijn (in press), twenty models on CRE alignment have been compared. It was found out that the corporate real estate alignment type can be defined based on: the relationship, the form of alignment, the cognitive objects which are being aligned and the directionality of the alignment. For analysing corporate real estate alignment in practice, the conceptual model which was created in chapter 3, was used to analyse whether aspects of the research of Heywood and Arkesteijn (in press) is present in practice. The quotation count table in appendix 3 shows which codes of this model have been mentioned during the interviews with the corporate real estate managers of the different multinational corporations.

#### Relationship

Figure 36 shows an overview of the finding of the analysis of all interview. What can be seen is four of the codes were retrieved from the coding process in Atlas.ti. The intention of analysing the relationship is that it suggest how close and if the corporate real estate strategy and the corporate strategy are related (Heywood & Arkesteijn, in press)

Although that most of the codes were found in the coding process of the interviews, 'integration', 'movement', 'derivation' and 'useful' were not mentioned in practice. For determining whether a relationship was present, at least five out of six corporations should have said something about that relationship. For these relationships, they were only mentioned once or twice, and therefore it can be said that these relationships are not present in practice.

Not having found 'movement' in practice, may be explained by the fact that this relationship is only used in theory and not in practice. Since the corporate real estate managers were specifically asked about how they see the relationship between the corporate real estate strategy and the corporate strategy, each corporation mentioned something about their view on the relation. This may be either directly or indirectly, as some of the corporate real estate manager found it hard to describe the relationship.

Another reason for not having found the 'movement' code, is that it might be common knowledge for the corporate real estate managers. The movement relationship can be defined as 'being flexible or changing of position'. Since it is about the corporate strategy and the corporate real estate strategy, it might be the fact that when something changes in the corporate strategy, it is normal for the corporate real estate manager that it is then their task to change the corporate real estate strategy. Therefore, it could be so that they do not specifically see this change and movement as a relationship, but a result of a change in the corporate strategy.

One could also suggest that the descriptive values were not enough to determine whether the code was present, but that can be contradicted because the descriptive values are based on multiple sources and therefore should capture the meaning of the code and its synonyms. What also can be concluded from the analysis on the relationship, is that all the six multinational corporation mention four of more relationships.

### **Cognitive objects**

The second part of the type of corporate real estate alignment is about the cognitive objects. The cognitive objects show what is actually being aligned to each other. As Heywood and Arkesteijn (in press) even mention it, it is important to know what is being aligned to each other. Three of the cognitive objects are business related, the other three are real estate related. What is also remarked by Heywood and Arkesteijn (in press) is that what is even more important is that these six objects need to be thematically linked with each other. So each of the business cognitive objects is linked to the real estate cognitive objects. This results in nine alignment actions, which have to be checked to ensure alignment. However, in this research the cognitive objects only have been used as codes to see whether they are used in practice. Therefore, the only conclusion that can be made is that all six multinational corporation have the six cognitive objects present in their corporate real estate alignment process. Which cognitive objects they align to each other, has not been researched and is therefore unknown. To draw more valuable conclusion on the cognitive objects in corporate real estate alignment in practice, it might be interesting to research what the actual process is of aligning the cognitive objects. This will give more information which aspects are being aligned to each other, and in which order this is done.

What can be concluded from the cognitive objects, is that they are mentioned many times by all corporate real estate managers. Although as also can be seen in the quotation count in appendix 3, is that the corporate real estate managers talk more about the real estate cognitive objects. This is not a surprise, since their job has everything to do with corporate real estate.

### **Directionality**

The directionality shows in which direction alignment can be done. What can be concluded from the data analysis is that all the codes are used by the multinationals in practice. The directionality is therefore both internal and external, as vertical and horizontal. The fact that the code 'internal horizontal: with other support functions' is mentioned a lot, can have to do with the position of the real estate departments within the organisations. All the six real estate departments of the multinational corporation are supporting function, and are organised together with other support functions. What also has been mentioned multiple times, is that to perform the job, the corporate real estate department has to work with other support functions, because they need information from them. An example of this is the following, from corporation B:

*"We have a connection with HR, where we say: if there will be reorganizations which HR knows about in an early stage, please give us a sign that that is coming. Then we know something is coming"*

The horizontal alignment across other business units is also mentioned by the real estate managers. The reason for this is that, as corporation C mentions, they have to know what is going on in the business, and are therefore regularly in contact with the business units in different regions.

*"But the expectation is that each of our real estate teams in a region are interacting with their products supply VP and their team, to align on warehouse requirements, lease expirations etc."*

Besides the horizontal directionality, the vertical directionality is also mentioned many times by the



multinational. This has to do with the fact that most of the plans that the real estate departments make, has to be approved by a board or by people from the business. This is therefore a top down structure, because without an approval, the plans cannot be implemented. An example of this is given by corporation F. They see the vertical alignment as being a business partner. They will do what is expected from the business.

*“But most of the time when you are dealing with the business, the business says to you I want this. I want to be located in such an area, I want to find a surface like 100 m2, I have this capacity and I don’t want it to cost me more than that. Mostly and I want to have this site operating in 5 months, 6 months from now. So most of time when people say business partner, it means most of them say, okay: we will deal with what you are requesting and we will keep doing for. That is what I call a business partner. “*

The vertical horizontal bottom up alignment is also very important for the corporate real estate managers. This depends however on the view the corporate real estate department has of themselves. They can be either proactive or reactive. Being proactive means that they have the initiative for new plans, which is therefore a bottom up approach. Being reactive on the other hand, means that the plans are more initiated by the business itself. Corporation D for example, has a very proactive approach. Although they do mention that they are very proactive, there are situations where they are reactive. But since they are involved in top down plans in an early stage, they can be proactive from then on.

*“The nice thing is that we can be proactive very quickly because we are involved in an early stage in the reactive process”*

Alignment from external is also present in practice. Corporation C even outsources a large part of their real estate and facilities work. The most external mentioned alignment is the use of a broker, in the case that the organisation is searching for a new office of when benchmarks need to be adjusted.

### **Form**

The form of alignment can also be recognized in practice. What can be concluded from the data analysis on the form of alignment, is that all real estate managers mentioned three or more forms of alignment. Four of the six corporations even mentioned all the forms of alignment. The fact that more than one form can be mentioned, is also remarked by Heywood and Arkesteijn (in press). They mention that corporate real estate alignment can have one or multiple forms at the same time. The combination which is recognized most, is process with state. The reason for this is that a plan of a process could lead to a change in the state. It is therefore likely that these three forms will occur together.

Corporation A, C, D and F all mention all forms of relationships. When looking at the State, all corporations mention that they track or measure something. An example is of corporation C.

*“But there is also a section which talks about measures and goals, audit types and stuff, operational metrics and there are some specific metrics around the workplace.”*

Corporation D is also very clear on the state.

*“By measuring the performance and keeping that up to date, by using the KPI’s and score the locations on that KPI’s, your work will be appreciated.”*

The form process is also mentioned by all six corporations. In their process, corporation F talks about an

approval process.

*“We have a global approval process. So we follow the same process everywhere with the same format of presentation. So after the process can be different depending on the cases we have to address.”*

In this approval process, a presentation is made which has the same structure for each project. Corporation A does something comparable.

*“The person who is responsible for the CRE strategy since half a year, that person will be busy with giving that more body but also to say that there needs to be a clear list with plans for the corporate level. One thing we have been busy with is having more assurance and that it will be more part of the approval process.”*

Corporation A describes that their global CRE director is more focussing on assurance and the approval process of projects.

The behaviour form is mentioned by five of the six corporations, only corporation E does not say anything about behaviour. Both corporation C and F have the expectation that they think it is really important to understand how the business is going.

*Corporation C: “I want my team to be really understanding what is going on in their region about the business strategy standpoint and the current business climate standpoint.”*

*Corporation F: “I would say I have an important network, which enables me to really understand how the business is going and what are the trends that we want to after. “*

The plan form is also mentioned by five of the six corporations, as only corporation B does not say something about the plan. Both corporation A and C clearly talk about a plan, whether it is a plan for implementation or priority plans

*Corporation A: “The workplace strategy is focused on convince managers that more open space is needed and that the interior needs to change. It is an implementation plan.”*

*Corporation C: “And that the output is a real estate portfolio plan, talking about: here are our different sites, sites that are core, non-core, here are our sites that have investment needs, need to be prioritized, so we are investing in the right places. “*

## **Conclusion**

Although each corporation has its own view on the different aspects of corporate real estate alignment and how it can be done, it can be concluded that based on the analysis of these six multinational corporation that what is being mentioned in theory is used in practice. Most of the aspects occur together and therefore is indeed suggests that alignment is multi-dimensional. It has multiple relationship, there are different directionalities, there are multiple cognitive objects used and all forms appeared in practice.

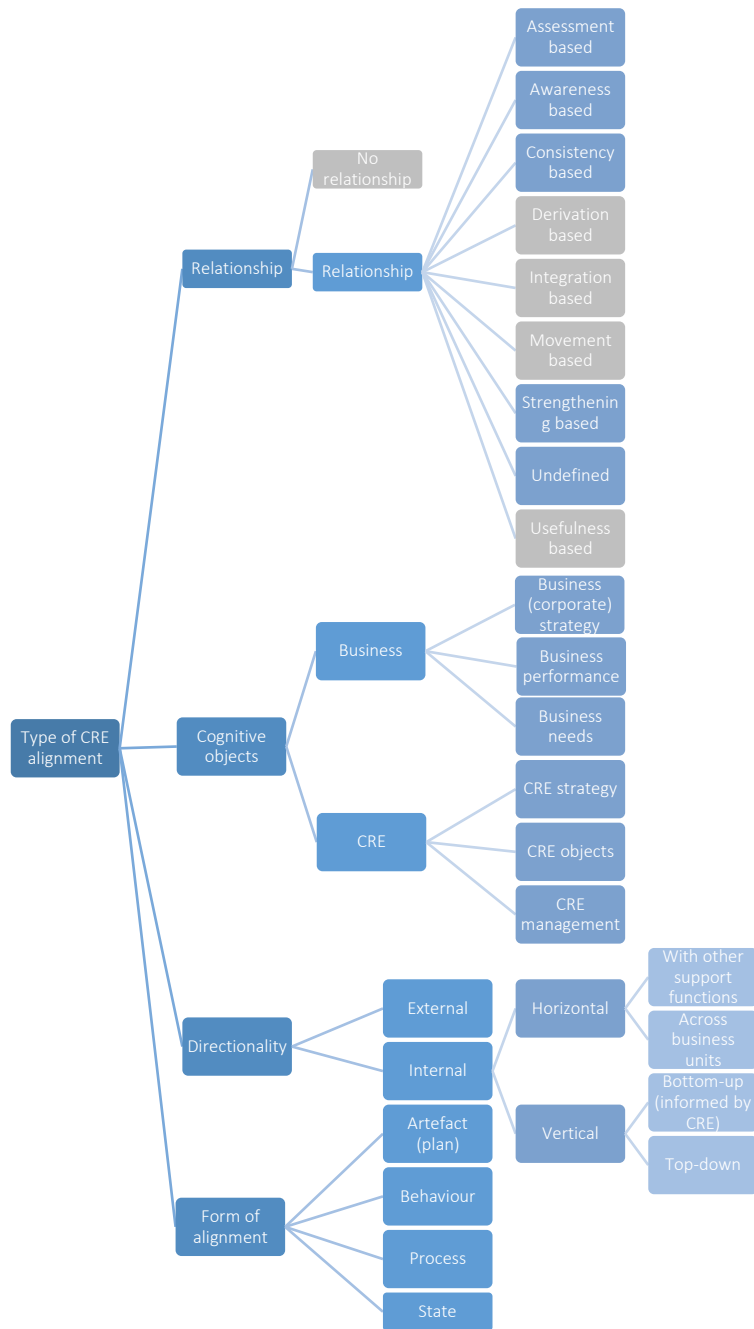


Figure 36: Used aspects of CRE alignment in practice (based on Heywood and Arkesteijn (in press))

## 6.2 The CRE alignment building blocks and components

In the research of Heywood and Arkesteijn (2013), as described in chapter three, different alignment models have been analysed to afterwards being divided into four main buildings blocks and twelve components associated. The four main buildings blocks show the processes which can take place in corporate real estate alignment. Within these four main building blocks, there are twelve components which describe the processes in these building blocks. This framework has been used to analyse whether the main building blocks and their components are used in practice.

### **Understanding corporate strategy**

This first building block is established as it is the start for the corporate real estate managers, since to correctly perform their job they have to understand the business and the corporate strategy. This is also something that is being recognized by corporation B. They mention it as:

*“It is important to keep that connection with the business developments. If we shrink or grow, centralize or decentralize, the we will try to plot that in a trimester, so we can say what will happen when.”*

When looking at the table with all representative quotations in appendix 5, it can be remarked that overall all building blocks, are present in practice. However, when looking more into the different components of the building blocks, not every corporation mentions each component. For example, the strategic triggers are not mentioned by corporation F, and also barely by corporation B. An explanation for this can be that since the corporate real estate managers mostly are responsible for understanding the real estate performance and designing the real estate strategy, they pay less attention to the strategic triggers. Most of the times they make the corporate real estate strategy as a translation of the corporate strategy and are therefore only focussed on the corporate real estate strategy. All other aspects were mentioned multiple times by all corporations.

### **Understanding real estate performance**

Understanding of the real estate performance is based on three different components: audit of existing real estate, assess the effect of CREM actions and real estate market data & information. By focussing on these three components, it enables the corporate real estate manager to really understand the performance of the real estate, and to identify if certain actions are needed to improve the performance of the real estate portfolio. This can also be seen as identifying the (mis-)match between supply and demand, as mentioned by De Jonge et al. (2009).

Based on the analysis of all six multinational corporation, it can be concluded that all components are mentioned by the corporate real estate managers. All the corporations measure the performance of their real estate, measure if certain actions they took had a positive influence and they also used real estate market data and information. The last component was either done by an external party, or the corporation used data to compare themselves to and to adapt their benchmarks.

### **Designing real estate strategy**

This building block is focussed on making the real estate strategy, strategy integration and the integration of other corporate functions. The component corporate real estate strategy (formation) is one of the codes that has been used the most in this research. The reason for this is that most of the things the corporate real estate department is responsible for has to do with the corporate real estate strategy. All corporations mentioned where their corporate real estate strategy is focussed on and how and when they will change it. The component strategy integration has only been mentioned by half of the corporations. The integration has the definition that it is bringing into agreement of the corporate

real estate strategy and the corporate strategy. Although all the six corporations mention that there are aligned, they do not all specifically mention that they bring the two strategies into agreement. For this reason, this code is not present at all corporations. The code integration of other corporate functions does have been mentioned by all corporations. As also mentioned in paragraph 10.1, all the six real estate departments of the multinational corporation are supporting function, and are organised together with other support functions. Therefore, they share and need information from each other, which is also the reason the corporate real estate managers mentioned this.

### **Implementing real estate strategy**

The components of the last building blocks are all related to actions and executing the plans of the corporate real estate strategy. All the components were retrieved from the data analysis and therefore appeared in the practice of corporate real estate alignment of all six multinationals. The two components are closely related to each other, since they both suggest a certain action which needs to be executed. The difference however is that the first one is really naming the action, while the second component is only referring to that something is being done. Although the components are both used in practice, it was hard to really find certain actions, as the managers described that plans would be implemented, but they did not mention what then would be done. A reason for this could be that most of the corporate real estate managers are more focussed on the making the corporate real estate strategy and drawing up plans, rather than they are involved in the implementation, which is mostly on a local level.

### **Evaluation**

A part which has been added by Kuijpers (2016a)) to the framework, is the evaluation, learning and re-initiation of the process. Although four corporations mention something they need to improve, they all have a very different perception of what they need to improve. Corporation A for example mentions that they need to warn more that what they do is what they determined before. Corporation C on the other hand, thinks that they need to have better document to write down the process. Two of the six corporation do not mention things about evaluation and things they need to improve.

### **Conclusions**

Based on the analysis of the six different multinationals, it can be concluded that all building blocks are used in practice and almost all components as well. The reason for not having all components present in practice, can be because of a different expectation or understanding of the component. However, since almost all components are used by these multinationals in practice, it can be said that Arkesteijn and Heywood (2013) provided a framework which can be used by corporate real estate managers in practice, as they already show the different steps a corporate real estate manager undertakes.

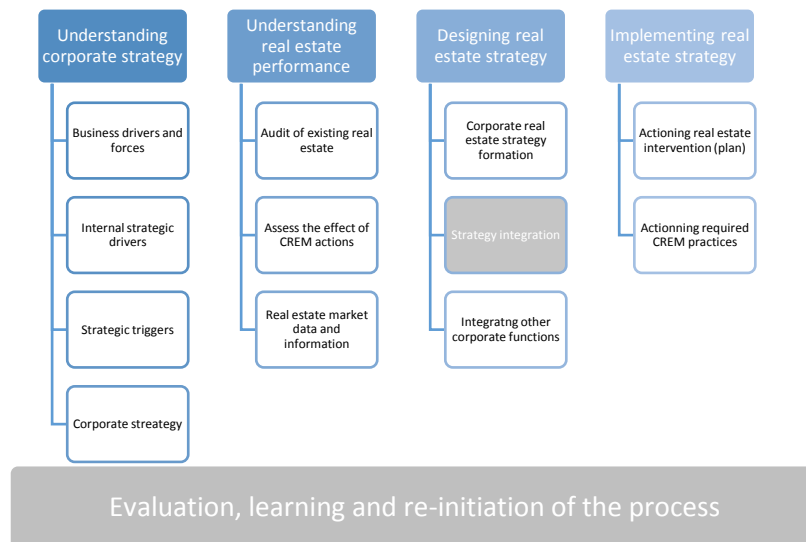


Figure 37: Present building blocks and components in practice.

### 6.3 Types of managing CRE alignment

The research of Beckers and van der Voordt (2014) relates corporate real estate alignment to different types of management. Based on three key process activities and six types of management approaches, the empirical research of Beckers and van der Voordt (2014) suggest that there are two extreme corporate real estate strategy for corporate real estate alignment. They suggest that there is a control-oriented strategy and an involvement-oriented strategy. For analysing the possible two present strategies, the different management approaches have been used as codes, to see whether they were present. A remark which has to be made is that with this framework, the main intention is to see which strategy fits best.

#### Coordination

When looking at the coordination aspect of corporate real estate alignment, there are two management approaches related: stakeholder management and change management. When looking at the results in appendix 3 and 5, it can be remarked that both approaches are mentioned by the corporate real estate manager. The stakeholder management is focussed on the coordination of the stakeholder representation and involvement of the client, customers and the end user. The change management is focussed on matching the corporate real estate interventions with changes in the core business. What can be concluded from the analysis is that all corporation say something about both aspects. A remark which has to be made that although they mention both aspects, the way they do certain things does differ between the corporations. Looking at the stakeholder management, some of the corporations have a different opinion on involving the end user. However, all corporation do mention that they involve different stakeholders, because they need them. Looking at change management, what can be remarked is that it is most of the time mentioned in the case that something changes in the corporate strategy, and the communication of this change to the rest of the organisation. Most corporations refer it to as a change in the corporate strategy, which makes it necessary for them to see how they are going to adapt their strategy and real estate related actions.

#### Communication

Under the communication two types of management are located: information management and relationship management. The information management describes what information is correct and relevant for the corporate real estate alignment process. The relationship management describes the

interactions between participants from supply and demand in order to align the corporate real estate with stakeholder requirements. Based on the analysis, it can be concluded that also here both management types are used by all corporate real estate managers. Regarding the information management, all corporate real estate managers explained specifically what type of information is relevant for them. Also, in context of their strategy and plans, they explained if they either have a long term or short term focus in real estate. Remarkable here was that this really differs per corporation. Some say that you are dead when you have a short term focus, while other say that they do not look ahead on a longer term, because they do not know what is going to happen.

When looking at the relationship management, all corporations talk about the way they communicate and with whom. Also, they explain the balance between the focus on the client and the focus on the customer and end user. This is really depending on the organisation and the way it is decided from top down. While some corporation organise engagement session to involve end users in new projects, other corporation do not specifically involve end users and only ask afterwards what they think of the project.

### **Decision making**

The last part of the model of Beckers and van der Voordt (2014) is dedicated to decision making. Within this part, there are two management approaches: management of the power distribution and preconditions management. The management of the power distribution has everything to do with the levels of influence of the different stakeholders involved in the decision making process. This part is closely related to the directionality alignment of Heywood and Arkesteijn (in press), as top down and bottom up decision making are part of the management of the power distribution. This is therefore something that all corporations mentioned. Another aspect related to this management approach is the role of the corporate real estate department. All corporations mentioned if their approach is proactive or reactive, but there is a distribution amongst the corporations on who is proactive or who is reactive. Some of them mention that they are both, while others say they really are proactive or reactive. Therefore, it can be concluded that this approach from theory is used in practice.

The preconditions management approach has everything to do with monitoring the balance between costs, time and quality. What was remarked during the analysis was that this management approach is really a balance. Are solutions user driven or costs driven? Do they have a large influence or marginal influence on financial resources? Do they have focus on operational excellence or customer intimacy? All corporate real estate managers mentioned that they have a focus on either one of the aspects, but they do not exclude the opposite aspect. For example, as corporation C explains it:

*“Well, our goal is to find the right balance between the costs and the user experience. By user meaning how much are we going for use. So, it is balancing act, it is part of our job that we need to find that sweet spot. And not everything that is focussed on a good quality user experience has to cost money. So it is services, how you deliver the services.”*

This shows that they focus on both, and that it is really a balance.

### **Conclusion**

What can be concluded from this conceptual model, is that all six of the management approaches used by Beckers and van der Voordt (2014) are used in practice by the six multinational corporation.

When a look is taken at the type of strategy, corporation A has most of the aspects of the control oriented strategy. This means that the CRE department has a lot of power and has a lot of influence on what is happening regarding the real estate. Corporation B on the other hand, has a lot less influence. Therefore, their approach is more involvement oriented. Their role towards the business is more advisory and there is a lot more top down structure from the top of the organisation. Corporation C has

just as A a control oriented approach. For corporation D, it is hard to determine which of the two strategies is used, as aspects of both strategies are mentioned at the same amount, so it is not clear which strategy is used here. Corporation E on the other hand is control oriented, like A and D. In the end for corporation F it is no clear which strategy is used. It is the same as for corporation D, as aspects of both strategies are mentioned at the same amount.

What can be concluded is that both strategies from theory are indeed present in practice. A remark that has to be made, is that although one approach can lean more to either one of the strategies, none of the corporations had only aspects of one strategy. It is therefore recommended that more in depth research can be done to find out when it can be said if a corporation really uses one of the strategies. This is also remarked by Beckers and van der Voordt (2014), who mention that both strategies are extreme CRE alignment strategies and that the reality will be in between the two described strategies.



## 7. Conclusions

The aim of this graduation research was to answer the following research question:

*“How is corporate real estate alignment by multinationals in different fields of expertise done in practice and how does this relate to the alignment models found in theory?”*

As is can be remarked, this main research question contains to separate questions. One of them is related to fining out the practice of CRE alignment and the second is how it relates to theory. Both questions will be discussed in the section below. Main conclusions will be given in the end.

### 7.1 Corporate real estate alignment in practice

By doing the interviews and document analysis at the six different multinational corporation, it can be concluded that all corporation derive their corporate real estate strategy from the corporate strategy. The corporate strategy is leading and all corporations adapt their corporate real estate strategy when changes are made in the corporate real estate strategy

When the different corporate real estate strategies are compared to each other, it can be noticed that they all have a different set up and have a different focus. This can be explained by the fact that since also the corporate strategies differ from each other, the translation to the corporate real estate strategy is also different.

A similarity between all different corporations is the way in which the real estate departments are organised. All real estate department are part of a larger supporting department, under which also functions as IT, Finance and HR are organised. Also, all real estate departments have a global real estate level and regional real estate levels, depending on how the worldwide division is made. Although each corporation operates worldwide, the regions are divided differently by each corporation. Also, the number of regions that they have can differ, from three to five regions.

Since there are four different industries have been studied, it can be expected that there are differences in the way they to their business and which aspects they think could be more important. As seen in Table 12, the most important and recognized findings are summarized below.

Sector	Global / Regional focus	Connection with the business	Role of real estate department	Use of benchmarks	Real estate plans
<b>A</b>	Global focus	Once a year communication from corporate level on corporate strategy	Proactive role, initiative is expected from CRE department	Benchmark against themselves	Before implementation, approval needed from corporate level if plan has a large impact on the way of working.
<b>B</b>	Mainly regional focus due to origin of corporation	Other department which is closely connected to business. This department then reports their findings to real estate department.	Reactive role, mostly advisory role	Benchmark against market, done by external party	Initiative may come from business; therefore, B provides information after which the higher level makes final decision
<b>C</b>	Global focus	Quarterly webcast with CEO.	Proactive role	Benchmarking against market,	Regions are responsible for implementing.

				done by external party	Approval is done by regional and global real estate boards.
D	Global focus	Work direct for the business so therefore have a close relationship	Proactive role, initiating plans	Benchmark against themselves	Plans are made on regional level and have to be approved before implementation. Implementation always in cooperation with local levels.
E	Global focus	Update on corporate strategy when something changes. Each year strategy is updated	Proactive role,	Benchmark against themselves	Plans are approved based on the impact they have on the business
F	Global focus	Quarterly update from business on corporate strategy, direct connection with business	Proactive role, challenging the business	Benchmark against themselves	There is an approval process for plans, same structure is used, decisions are made in agreement with most important stakeholders

Table 12: Most important findings per corporation (own table)

## 7.2 Relation to literature

### Conceptual model type of alignment

In the research of Heywood and Arkesteijn (in press), twenty models on CRE alignment have been compared. It was found out that the corporate real estate alignment type can be defined based on: the relationship, the form of alignment, the cognitive objects which are being aligned and the directionality of the alignment. For analysing corporate real estate alignment in practice, the conceptual models which was described in chapter 2, was used to analyse whether aspects of the research of Heywood and Arkesteijn (in press) are present in practice.

Although that most of the codes were found in the coding process of the interviews, 'integration', 'movement', 'derivation' and 'useful' were not mentioned in practice. For determining whether a relationship was present, at least five out of six corporations should have said something about that relationship. For these relationships, they were only mentioned once or twice, and therefore it can be said that these relationships are not present in practice.

Not having found 'movement' in practice, may be explained by the fact that this relationship is only used in theory and not in practice. Since the corporate real estate managers were specifically asked about how they see the relationship between the corporate real estate strategy and the corporate strategy, each corporation mentioned something about their view on the relation. This may be either directly or indirectly, as some of the corporate real estate manager found it hard to describe the relationship.

Another reason for not having found the 'movement' code, is that it might be common knowledge for the corporate real estate managers. The movement relationship can be defined as 'being flexible or changing of position'. Since it is about the corporate strategy and the corporate real estate strategy, it might be the fact that when something changes in the corporate strategy, it is normal for the corporate real estate manager that it is then their task to change the corporate real estate strategy. Therefore, it could be so that they do not specifically see this change and movement as a relationship, but a result of a change in the corporate strategy.

The other codes, such as the cognitive objects, form and directionality have been found during the coding process. This means that for this graduation research, it can be stated that the type of alignment Heywood and Arkesteijn (in press) is mostly found in both literature and also present in practice. The conclusion of this is therefore that both practitioners and researchers perform corporate real estate alignment according to the framework of Heywood and Arkesteijn (in press).

### **Main building blocks and components**

In the research of Arkesteijn and Heywood (2013), as described in chapter two, different alignment models have been analysed, in which the model is divided into four main building blocks and twelve components. The four main building blocks show the processes which can take place in corporate real estate alignment. Within these four main building blocks, there are twelve components which describe the processes in these building blocks. This framework has been used to analyse whether the main building blocks and their components are used in practice.

When looking at the table with all representative quotations in appendix 5, it can be remarked that overall all building blocks, are present in practice. However, when looking more into the different components of the building blocks, not every corporation mentions each component. For example, the strategic triggers are not mentioned by corporation F, and also barely by corporation B. An explanation for this can be that since the corporate real estate managers mostly are responsible for understanding the real estate performance and designing the real estate strategy, they pay less attention to the strategic triggers.

Based on the analysis of all six multinational corporations, it can be concluded that all components of understanding real estate performance are mentioned by the corporate real estate managers. All the corporations measure the performance of their real estate, measure if certain actions they took had a positive influence and they also used real estate market data and information. The last component was either done by an external party, or the corporation used data to compare themselves to and to adapt their benchmarks.

The component corporate real estate strategy (formation) is one of the codes that has been used the most in this research. The reason for this is that most of the things the corporate real estate department is responsible for has to do with the corporate real estate strategy, which has been remarked by the corporations during the interviews. All corporations mentioned where their corporate real estate strategy is focussed on and how and when they will change it. The component strategy integration has only been mentioned by half of the corporations. The integration has the definition that it is bringing into agreement of the corporate real estate strategy and the corporate strategy. Although all the six corporations mention that there are aligned, they do not all specifically mention that they bring the two strategies into agreement. For this reason, this code is not present at all corporations. The code integration of other corporate functions has been mentioned by all corporations.

The components of the last building blocks are all related to actions and executing the plans of the corporate real estate strategy. All the components were retrieved from the data analysis and therefore appeared in the practice of corporate real estate alignment of all six multinationals. The two components are closely related to each other, since they both suggest a certain action which needs to be executed. The difference however is that the first one is really naming the action, while the second component is only referring to that something is being done.

### **Types of strategy and management approaches involved**

The research of Beckers and van der Voordt (2014) relates corporate real estate alignment to different types of management. Based on three key process activities and six types of management approaches, the empirical research of Beckers and van der Voordt (2014) suggest that there are two extreme corporate real estate strategy for corporate real estate alignment. They suggest that there is a control-oriented strategy and an involvement-oriented strategy. For analysing the possible two present strategies, the different management approaches have been used as codes, to see whether they were present.

What can be concluded from the coding process is that all types of management approaches are used in practice. However, the difference between the corporations lies in the way they use the management approaches. When a look is taken at the type of strategy, corporation A has most of the aspects of the control oriented strategy. This means that the CRE department has a lot of power and has a lot of influence on what is happening regarding the real estate. Corporation B on the other hand, has a lot less influence. Therefore, their approach is more involvement oriented. Their role towards the business is more advisory and there is a lot more top down structure from the top of the organisation. Corporation C has just as A a control oriented approach. For corporation D, it is hard to determine which of the two strategies is used, as aspects of both strategies are mentioned at the same amount, so it is not clear which strategy is used here. Corporation E on the other hand is control oriented, like A and D. In the end for corporation F it is no clear which strategy is used. It is the same as for corporation D, as aspects of both strategies are mentioned at the same amount.

What can be concluded is that both strategies from theory are indeed present in practice. A remark that has to be made, is that although one approach can lean more to either one of the strategies, none of the corporations had only aspects of one strategy. It is therefore recommended that more in depth research can be done to find out when it can be said if a corporation really uses one of the strategies. This is also remarked by Beckers and van der Voordt (2014), who mention that both strategies are extreme CRE alignment strategies and that the reality will be in between the two described strategies.

### **7.3 Main conclusion**

This graduation research has been conducted to find out the relation of corporate real estate alignment in practice and theory. Literature has provided a lot of models on how corporations can align their real estate to the organisational objectives, to obtain added value. It was however unknown if these models are used in practice. Therefore, the practice of corporate real estate alignment has been studied at six multinational corporation in different industries. All six corporations have their own CRE alignment process, in which it is explained where they focus on in CRE alignment. What can be concluded from this research is that all six of the multinational corporations use the aspects which are mentioned in the models from literature. Therefore, it can be suggested that there is a relation between theory and practice of corporate real estate alignment. This is not surprising, as almost 55% of the alignment models derived from literature have been validated in the past and therefore already have been tested in practice.

## 8. Recommendations and limitations

### 8.1 Recommendations

Based on the findings of this graduation research, there are some recommendations for further research.

Within this research, corporate real estate alignment is studied at four different industries. Since Kuijpers also researched corporate real estate alignment in two different industries, it would be of great interest to study corporate real estate alignment at more corporations. Since in this graduation research only two corporations operate in the same industry, there are two other sectors where only one corporation was studied. Therefore, the findings of those industries are only based on one corporation and it therefore might be the question if the conclusions from that practice are valid.

Also, it might be interesting to see how corporations of a smaller scale perform corporate real estate alignment. For them the importance of corporate real estate alignment might also be there so it would be interesting to see how the practice of corporate real estate alignment is at smaller corporations.

Besides that, it might be interesting to look deeper into the model of Beckers and van der Voordt (2014). The descriptive values that have been used to see whether it was present in practice was limited and therefore some things might have been missed. As this framework has been used to study the practice in four industries, it might also be interesting to study the use of the management approaches at more corporations in other industries.

Instead of only focussing whether the alignment aspects are present in practice, for further research it might also be interesting to focus more on the practice aspect. To really find out how it is done in practice. Related to that is that to obtain more detailed information, also other employees of the corporation need to be interviewed. As now only one employee of each corporation has been interviewed, it is a single view which is represented. Therefore, by analysing more views, a more precise and overall view can be given of the corporation.

### 8.2 Limitations

There have been some limitations within this research. First, due to the time frame, the number of multinationals that have been studied is limited. To make a broader comparison and involve more corporations more time was needed. However, in this timeframe for the graduation process this was not possible. Therefore, only six corporations could be studied.

Six corporations were studied and only two of them were in the same industry. To generalize the results and to really make a comparison between the corporations, more multinationals in the same industries have to be studied. In addition to that, more different employees of the corporations have to be interviewed, as for now only the corporate real estate manager was interviewed. So therefore, the view presented in this research is based on one view.

Regarding collecting the data, there were also some limitations. For the document analysis, confidential documents needed to be studied. However, not all corporations were willing to share these. Therefore, the results in this graduation research are solely based on the interviews and the documents that were provided and found online. Another aspect which made it hard to compare the data was that the documents that were found online or provided by the corporations, none were similar.

Regarding the methods used in this research, there were also some limitations. In coding the transcripts of interviews, the developed coding scheme was used. Based on research of Kuijpers (2016a) this scheme has been expanded with more descriptive values. However, the way someone interprets a quote of the multinational can differ per person. This is a limitation as it can lead to different conclusions.

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### References findings: corporation description

The references used for the description of the corporations in chapter 3 and 4, will not be publicly accessible due to confidentiality of some of the sources.