

MASTER

Corporate real estate in Europe: sites, buildings and workplaces

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Eindhoven **tu** University of Technology

Corporate Real Estate in Europe

Sites, buildings and workplaces

Anne van Eldonk
4 December 1998

Corporate Real Estate in Europe

Sites, buildings and workplaces

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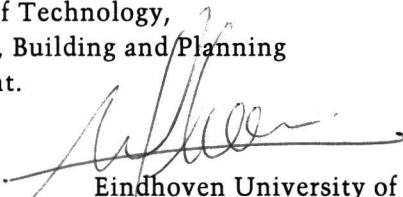
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Anne van Eldonk

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Summary

Since international competition is intensifying, the economy is subjected to a great strain. Consequently, planning and managing real estate (being one of a company's largest costs) is becoming increasingly important. Companies are slowly recognising the value of managing their real estate needs professionally¹ (Corporate Real Estate Management, hereafter: CREM).

Because this discipline is relatively young, still in its infancy, and (yet) undervalued within Europe, providing more insight into the field of CREM is required. Therefore the *research objective* of this study can be formulated as follows:

Improving definitions in the field of Corporate Real Estate Management (1) and providing insight into the involvement of Corporate Real Estate units (2) and the (future) choices which will be made at the site, building and workplace level within Europe (3).

The first part of this objective is mainly met by carrying out a literature search and interviewing experts in the field of CREM. The second and third part are mainly addressed by carrying out a survey a self-administered questionnaire among 125 European companies²) and interviewing representatives of four sectors of industry.

1. Improving definitions

The multi-disciplinary field of CREM can best be characterised with the following definition:

Corporate Real Estate Management

The management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (reviewing the CRE strategy), with the aim to contribute optimally to the overall performance of the corporation. In this process, the owned, leased or rented real estate portfolio is considered as a capital-intensive corporate resource.

¹ this does not directly implicate a financial context. Adding value to the total business performance through, for instance, creating an appropriate working environment is becoming more important.

² response rate: over one third.

The borderline between CREM and Facility Management (hereafter: FM) is quite vague, since both disciplines pursue the same (namely supporting the core business) and because of the fact that it depends on the organisational structure. In general, it is fair to state that the main differences between these two disciplines are:

- a CRE unit is entrusted with the management of (a part of) a real estate portfolio, whereas a FM unit is mostly involved in the management of a specific building, site or limited region
- CREM is operating from a strategic (corporate) long-term point of view, whereas FM is mainly focused on the users from a more short term point of view.

The differences between CRE units and real estate investors are more obvious. Although both speak the same language at some points (real estate market), the main difference is the fact that CRE units meet the real estate needs of known users (who are often forced to purchase services), whereas real estate investors provide accommodation to anonymous customers.

2. Involvement of the CRE unit

The results of the survey show that:

- the involvement of the CRE unit in managing the European real estate needs is mainly determined by the sector of industry and the development stage of a company
- high Technology and Financial Services companies show a more centralised approach toward CREM, because corporate alignment is highly valued. Companies with a smaller share of offices, like Manufacturing companies, show a more decentralised approach towards CREM. They recognise the value of managing their real estate needs professionally to a lesser extent
- in a maturity stage (centralisation), the CRE unit fulfils predominantly a controller function. Since efficiency is less important in an expanding phase (decentralisation), the CRE unit fulfils mainly a consulting function in which it is much harder to stand up for its importance. In a decentralised organisation an appropriate information infrastructure is needed.

- most CRE units are mainly involved at the tactical level. CRE units within the High Technology and Financial Services sector aspire to be at a more strategic level (CRE strategy). Operational activities are mostly carried out by local FM units in co-operation with external providers. However, this operational level is an important field for special attention. Most CRE units, especially within the High Technology and Financial Services sector strive for some management control by carrying out benchmarking activities at the building and workplace level and analysing the feedback given by local units
- although the focus of a CRE unit is in a state of flux (depending on the development stage), more and more CRE units are anticipating on and adding value to the business (pro active).

3. Choices of the CRE unit (the site, building and workplace level)

From the survey can be concluded that:

- Most choices are also mainly determined by the sector of industry and the development stage of a company. Companies with a small share of offices do recognise the value of a site selection, but recognise the value of a well-considered building and workplace selection to a lesser extent.
- Compared to Pan-European Back offices, National Sales & Marketing offices show more dynamics within Europe. The main market trend for establishing a National Sales & Marketing office is Eastern Europe. The findings do not show much differences in preferences of the companies surveyed for acquiring a Pan-European Back office.
- For establishing National Sales & Marketing offices, client adjacency is a crucial regional location factor. For establishing Pan-European Back offices the social environment (HR) is most important (qualified people, labour costs, etcetera).
- In a site selection for establishing a National Sales & Marketing office, visibility and car accessibility are important site factors. Concerning Pan-European Back-office, accessibility requirements are mainly employee driven.
- Besides the price/quality ratio of the building, flexibility requirements play an important role in selecting both a National Sales & Marketing office and a Pan-European Back office (floor dimension, grid, ICT infrastructure and zoning and control of the HVAC).

- In order to reduce the capital employed and to create more flexibility, most companies prefer to lease/rent their offices in the future (disposal and sale & lease back constructions).
- The majority of the CRE units expect more workplace changes within the next three years. They are actively integrating with business units and ICT (HR less strong), but lack performance measures to evaluate the benefits of innovative officing. Reducing costs, increasing flexibility and optimising space (all three more or less financially driven) are the most important drivers to implement alternative workplace solutions. These solutions should be based on the nature of work tasks and the occupancy patterns of the employees.

This survey provides more insight into the involvement and choices of CRE units within Europe. However, in order to recognise more significant trends within the field of CREM, this survey should be conducted periodically (on an annual basis). The most important adjustments that, in my opinion, have to be made are:

- *distinguishing centralised and decentralised management*
- *distinguishing office and non-office related questions*
- *using more univocal definitions.*

As stated before, the discipline CREM is still in its infancy. This survey can mainly be characterised as descriptive. In making CREM a more understood, acknowledged and professionalised discipline, research should be extended. The following issues would in my opinion be interesting to include in further research:

- *the governance model* (the impact of more stakeholders)
- *Corporate Infrastructure Resource Management* (the integrated management of the three supporting function, CRE, HR and ICT)
- *the business development vs. the development of the CRE unit*
- *the size (and tasks) of the CRE unit* (relation between the size of the corporation and the size and tasks of the CRE unit)
- *cost responsibilities* (clear distinction CREM vs. FM)
- *the possible determinant 'continent of the parent company'* (taking company culture into account)
- *performance measures* (both financial and non financial).

Contents

Acknowledgements

Summary

1	Introduction	1
1 .1	Background of the study	1
1 .2	Aims and objectives	4
1 .3	Organisation of the study	5
	Part A Theoretical framework	
2	Corporate Real Estate models	9
2 .1	Introduction	9
2 .2	Model 1: the triangular model	9
2 .3	Model 2: the matrix model	12
2 .4	Model 3: the pyramidal model	24
2 .5	Evaluation of the three theoretical models	27
2 .6	Definition CREM	30
3	Trends	32
3 .1	Introduction	32
3 .2	General business trends	32
3 .3	Trends within CRE units	36
3 .4	Conclusions Part A: Theoretical framework	42
	Part B Survey	
4	Survey methodology	48
4 .1	Introduction	48
4 .2	Methodological framework	48
4 .3	Survey background	53
5	Results of the survey	56
5 .1	Introduction	56
5 .2	Profile of the respondents	56
5 .3	Involvement of the CRE unit	63
5 .4	Choices at the site level	70
5 .5	Choices at the building level	74
5 .6	Choices at the workplace level	76
5 .7	Conclusions Part B: Survey	79

Part C Evaluation

6	Validation	84
6.1	Introduction	84
6.2	Importance of professional CREM within the sectors of industry	84
6.3	Importance of professional CREM in the development stages	87
6.4	Involvement of the CRE unit	88
6.5	Choices at the site, building and workplace level	95
6.6	Personal view	98
6.7	Summary	101
7	Conclusions and recommendations	102
7.1	Introduction	102
7.2	Overall conclusions	102
7.3	Recommendations	107

Glossary

List of abbreviations

Literature

Appendices

1. Appendix I
2. Appendix II
3. Appendix III
4. Appendix IV
5. Appendix V
6. Appendix VI
7. Appendix VII
8. Appendix VIII
9. Appendix IX

1 Introduction

1.1 Background of the study

International competition is intensifying as a result of developments in the field of information and communication technology. Due to this global (price- and time-based) competition, the economy is subjected to a great strain. As a result, current organisational structures come short and have to be (partly) reconsidered. Companies are creating integrated organisations, global networks, "leaner, meaner" corporate centers, etcetera. More than that, having only a strong marketing strategy, qualified personnel or a solvent financial basis are not sufficient to survive. A maximum effort is required with regard to cost control and handling time from every organisational discipline, the real estate department included (Meulenberg et al., 1997). In particular controlling and optimising real estate costs are essential. After all, real estate costs are the second largest cost factor (12-18%), after personnel costs being the largest one (40-50%) (Suyker, 1996).

Companies realised relatively late that the performance level of their real estate affects the total business performance. This does not directly implicate a financial context. On the contrary, adding value to the business results through for instance creating an excellent working environment, through intensifying the corporate identity and through offering the required flexibility has become highly important. As shown in Figure 1.1, besides capital, people, technology and information/communication, real estate has become a fifth corporate resource.

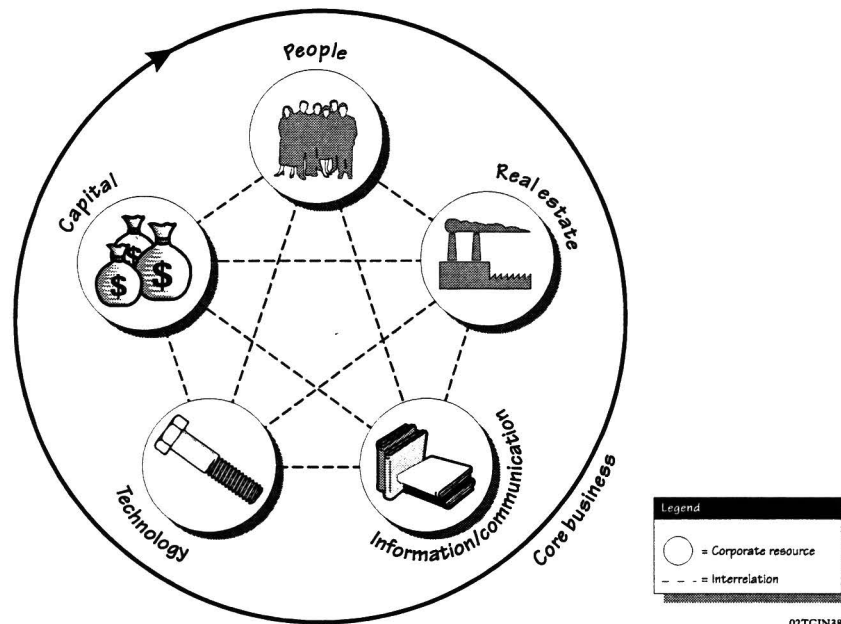


Figure 1.1 Five corporate resources

However, research has shown that this changed view on real estate is not being shared by everyone (Arthur Andersen, 1995). Five out of ten Dutch Corporate Real Estate units³ considered real estate as a cost of doing business: a necessary evil. Furthermore, the survey showed that out of seven listed aspects⁴, which could possibly determine the performance of a company, real estate was considered as less important. 'Customer service', 'Human Resources' and 'Information systems' were highlighted as respectively the first, second and third most important factor. However, the performance of all three factors depends on a clear vision on real estate. For instance, customer service is given by using ultramodern call centres, the performance of employees is affected by the working environment and the quality and costs of the infrastructure for information systems are influenced by the (im)possibilities of real estate.

³ the department(s) or person(s) who is/are responsible for the real estate needs of the company.

⁴ (1) customer service, (2) human resources, (3) information systems, (4) new products/services, (5) marketing, (6) finance (7) property.

A practical example of the Dutch tax department illustrates the possible interaction between real estate and information technology (Franckena et al., 1997). As a result of a growth in making a tax declaration by disk instead of by completing an income tax form, the business process of the tax department changes considerably which will effect the location choices and building lay-outs.

Real estate can only add value if the strategic corporate goals and the goals and activities of the Corporate Real Estate unit are linked up with each other. Since real estate is interrelated with the other four resources as pictured in Figure 1.1, real estate should be considered integrally at a strategic level. Consequently, a Corporate Real Estate unit should not only have technical knowledge, but also process and market expertise, financial knowledge and managerial skills. Suyker argues that "the management of a corporation's real estate portfolio (hereafter: Corporate Real Estate Management) is more than building, buildings and occupancy costs" (Suyker, 1996).

This leads to the **first reason** to carry out this study. Because of the multi-disciplinary character of Corporate Real Estate Management and the fact that this discipline is relatively young, its jargon can hardly be called univocal. Improving definitions in the field of Corporate Real Estate Management could lead to a further professionalisation of this discipline.

Since Corporate Real Estate Management is mainly involved in strategic and tactical activities, operational tasks and responsibilities will not be considered in this study. Not only have these activities been outsourced for the greater part, they are also part of the field of action of Facility Management. Facility Management as a discipline will only be discussed in this study to improve the definitions in the field of Corporate Real Estate Management. It will not separately be considered.

The frequent use of terms like 'unprofessional', 'ignorance' and 'unexplored field' in literature indicates the immaturity of Corporate Real Estate Management. As De Jonge stated in 1995 at a congress of 'Bouwfonds' in the Netherlands: "we still find ourselves in a stage in which we are only questioning". Besides this, the small number of studies in the field of Corporate Real Estate Management also indicates a rather unexplored field. Moreover, because of the dynamic environment in which most companies are working, the majority of the studies that have been carried out in both Europe and the United States of America are outdated.

Although more insight into the field of Corporate Real Estate Management in general is required, this discipline is acknowledged to a greater extent in the United States of America compared to Europe. By focusing on Corporate Real Estate Management within Europe, European companies might as well become more aware of the strategic value of their hidden asset real estate.

Besides a better understanding of Corporate Real Estate Management within Europe, providing more insight into the management of the real estate needs of multi-nationals would be desirable. After all, these corporations have to deal with real estate problems on multiple levels. Besides finding the appropriate balance between autonomy of and synergy between business units, these Corporate Real Estate units, working across boundaries, are confronted with the diversity of market conditions, attitudes, regulations and cultures that lie beneath a united Europe (Krumm et al., 1996). This raises questions like: does the involvement of a Corporate Real Estate unit depend on the organisation/sector of industry it is working for and/or the specific situation it is working in, because of the tight connection between real estate and the corporate goals, or do Corporate Real Estate units, in general, operate on a comparable level? Do most companies make similar choices with regard to sites, buildings and workplaces or do their drivers differ to a great extent?

The **second reason** for this study is that Corporate Real Estate is still in its infancy and undervalued within Europe. Providing a better insight into the way Corporate Real Estate is being managed within Europe, could possibly lead to a better understanding, acknowledgement and further professionalisation of this discipline.

1.2 Aims and objectives

The aim of this study is twofold. The **first main research question** covered by this study, can be formulated as follows:

1. In what way can the field of Corporate Real Estate Management clearly be described, without conflicting with the discipline Facility Management and acknowledging the differences with the field in which real estate investors operate?

The second problem stated in the previous section results in the **second and third main research questions:**

2. What is the involvement of most Corporate Real Estate units in managing the European real estate portfolio of their company?
3. What are the most important (future) choices with regard to sites, buildings and workplaces within Europe?

The general **research objective** can be formulated as follows:
improving definitions in the field of Corporate Real Estate Management and providing insight into the involvement of Corporate Real Estate units and the (future) choices which will be made at the site, building and workplace level within Europe.

As stated before, this study will more specifically focus on:

- Corporate Real Estate Management *within Europe*, because the profession is relatively new and undervalued compared to the United States of America. Besides, Europe is facing a lot of challenges the next couple of years. This because of its integration
- Corporate Real Estate Management within *multi-nationals*, given their multi-cultural and multi-disciplinary attitude. Compared to mono-nationals, these companies normally have to deal with a more complex process of alignment
- Corporate Real Estate Management at the *strategic and tactical level*, because nowadays most operational activities have been outsourced for the greater part. Furthermore, activities at this level are part of the field of action of Facility Management.

1.3 Organisation of the study

The general structure of this thesis is outlined in Figure 1.2. It presents an overview of the subjects that will be discussed in the subsequent chapters. It also reflects the various steps followed in the research approach.

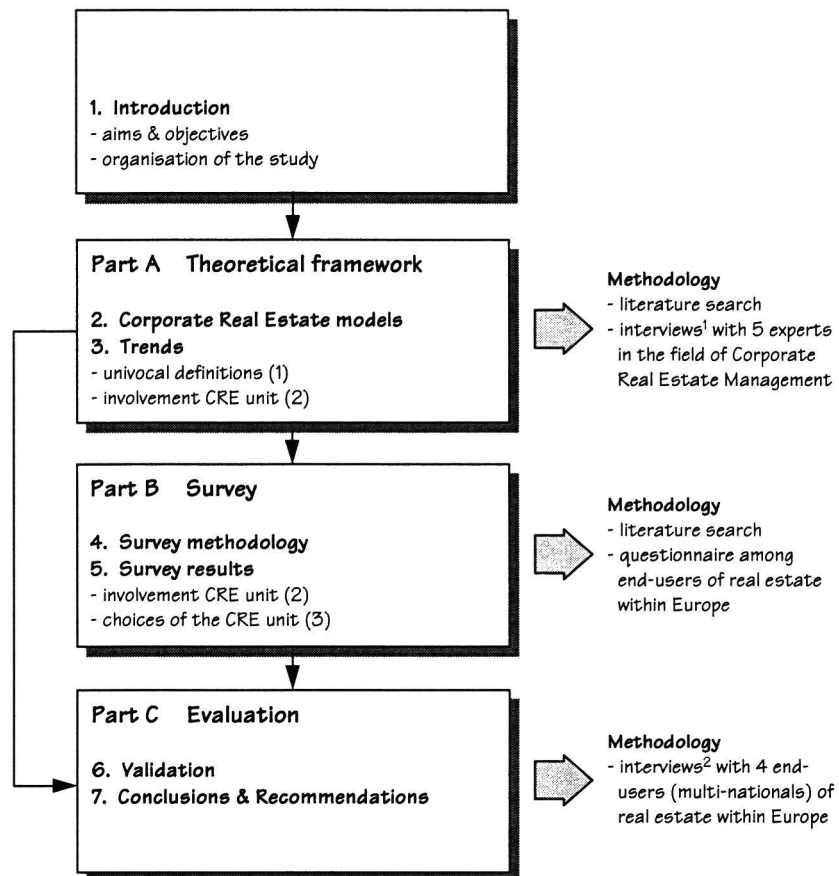


Figure 1.2 Outline of the thesis

To achieve the research objectives pointed out in this chapter, the remaining part of this thesis is structured as follows:

Part A focuses on various approaches of Corporate Real Estate Management (*Chapter 2*) and the most important trends (*Chapter 3*) in this field. This theoretical framework will meet the first part of the research objective, namely improving definitions in the field of Corporate Real Estate Management. It will also provide more insight into the involvement of the Corporate Real Estate unit as stated in the second research question from a theoretical point of view. The discussion is based on both the results of a literature search and interviews⁵ held with five experts in the field of Corporate Real Estate Management.

⁵ hereafter these interviews are called: interviews¹.

Part B consist of both the methodology and the results of the survey; a self-administered questionnaire among end-users of real estate within Europe. *Chapter 4* concentrates on the methodological framework and the survey background. The results of this questionnaire will be presented in *Chapter 5* and will mainly address the second part of the objective of this thesis and. Besides a better understanding of the involvement of CRE units within Europe (see also chapter 2), it also includes an overview of the most important choices and drivers at the site, building and workplace level.

Both part A and B will be evaluated in *Part C*. *Chapter 6* consists of a validation of the theoretical framework issued in chapter 2 & 3 and the results of the survey presented in chapter 4. This process of validation is partly based on interviews⁶ with representatives of four different sectors of industry: Manufacturing, High Technology, Financial Services and Business & Other Services. Finally, in the concluding *Chapter 7*, a summary of the main findings of this study will be presented and directions for further research will be recommended.

⁶ hereafter these interviews are called: interviews².

Part A Theoretical framework

Chapter 2 Corporate Real Estate models

Chapter 3 Trends

2 Corporate Real Estate models

2.1 Introduction

In the previous chapter a brief description is given of the dynamic field in which most companies are operating. As a result of the global competition they have to deal with, companies are more and more acknowledging the added value of planning and managing their real estate to its full potential. This chapter mainly concentrates on a better understanding of the Corporate Real Estate profession in order to answer the first research question, namely improving definitions. The findings are based on a literature search and five interviews with experts in the field of Corporate Real Estate Management (hereafter: CREM)⁷. The sections 2.2, 2.3 and 2.4 focus on respectively three theoretical models, namely: the triangular model, the matrix model and the pyramidal model. These three models will be briefly concluded with a personal view (section 2.5). Finally, in section 2.6 a definition of CREM will be introduced upon which the remaining part of this study is based.

Besides improving definitions in the field of CREM, this chapter will also provide more inside in the involvement of Corporate Real Estate units (hereafter: CRE units) in the management of a company's real estate needs. This framework will therefore also be used for setting up the questionnaire (see chapter 4).

2.2 Model 1: the triangular model

A CRE unit is confronted with three different, mostly conflicting, interests in real estate. Firstly, it has to deal with the overall policies of the company, which can put constraints on location, architecture, etcetera. Secondly, the interest of the users⁸, which means that real estate has to contribute adequately to the core business. And thirdly, the financial interest, which means that a CRE unit has to control the financial efficiency of real estate by minimising the accommodation costs.

⁷ see appendix I for an overview of the interviewees¹.

⁸ business units and/or departments.

Because these three interests do not always match, a CRE unit has to operate in a certain field of tension (Dewulf et al., 1997a).

This can be illustrated by a practical example of the Dutch Government Buildings Agency (GBA). The Dutch GBA wants to move the ministry of Education, Culture and Science⁹ out of Zoetermeer to the central station area of the Hague called "De Centrale", because it wants to concentrate all governmental buildings and stimulate architectural quality. However, the user is not willing to pay the required rental price.

Figure 2.1 is based on a recent scenario study by the Delft University of Technology and the Dutch GBA and visualises this area of tension. Because these tensions could also appear within every other CRE unit, Figure 2.1 can be used to express CRE units in general.

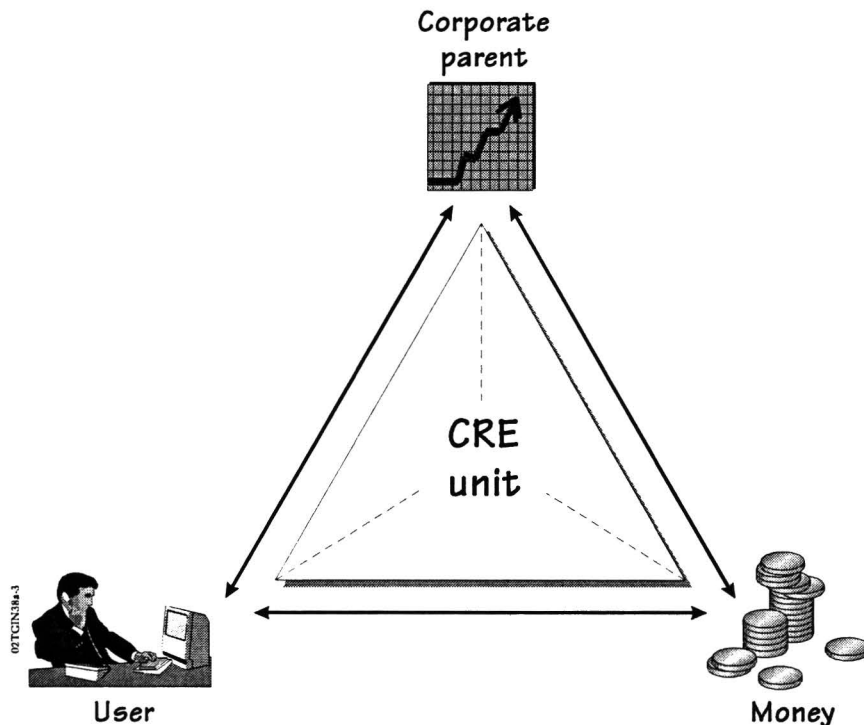


Figure 2.1 Position of the CRE unit in the 'triangle of tension'¹⁰

⁹ in Dutch: ministerie van Onderwijs, Cultuur en Wetenschappen (OC&W).

¹⁰ this is an adaptation of Dewulf et al. (1997a).

Within this model three rates of return can be distinguished as CRE unit's goals:

- *from a corporate point of view*
corporate identity, shareholder value, etcetera
- *from a user's point of view*
the user's benefits, how does real estate match the user's requirements?
- *from a financial point of view*
the (financial) return on investments which is connected with demand and supply in the real estate market.

According to Dewulf three possible strategies to manage the real estate portfolio can be distinguished:

- the first strategy is based on the opinion that usefulness to the organisation is more important than marketability. The CRE unit's goal is to optimise users' satisfaction by creating a portfolio which is completely based on users' needs. In this "*your wish is our command*"-strategy, users' satisfaction is the most important criterion for real estate decisions
- in the second strategy real estate decisions are taken on financial/economical grounds. Financial efficiency and reducing risks are the most important criteria. According to this "*money talks*"-strategy, marketability is more important than usefulness to the organisation. The CRE unit, acting like a real estate investor, strives for minimising the costs of real estate by creating a portfolio which have qualities asked for in the real estate market¹¹
- the third strategy can be characterised as the "*middle course*"-strategy: all stakeholders have to give and take to create a solution that is acceptable to all. This means that, theoretically speaking, every stakeholder is equally important.

¹¹ a portfolio which is in conformity with certain standards in the real estate market.

2.2.1 *Evaluation of the triangular model*

In my opinion, the triangular model provides a good insight in the area of tension the CRE unit is working in. I think the third strategy fits CRE practice best. The CRE unit has to find a balance between all viewpoints of the stakeholders with the intention to establish synergy. All stakeholders have to give and take to create a win-win situation. For example risks connected to users' needs have to be discounted in lease prices (element of the "*money talks*"-strategy) and have to be clarified to users. That way users can take their own decisions about costs and quality of accommodation and consequently users' satisfaction will increase.

2.3 **Model 2: the matrix model**

In the second model, developed by Suyker, the CRE unit can be characterised as a 'spider in the web' of CRE. This includes the involvement (to a greater or lesser extent) in the following issues:

1. strategy and decision process
2. analyses, transactions and contractual commitment
3. project development, co-ordination and realisation
4. building management and occupancy needs.

Figure 2.2 shows this central position (Suyker, 1996). A clear distinction is made between strategic issues and more operational issues. Besides this, the illustration shows a difference in focus: the left part (area 1 and 4) focuses on the business whereas the right part (area 2 and 3) has a clear focus on real estate related issues.

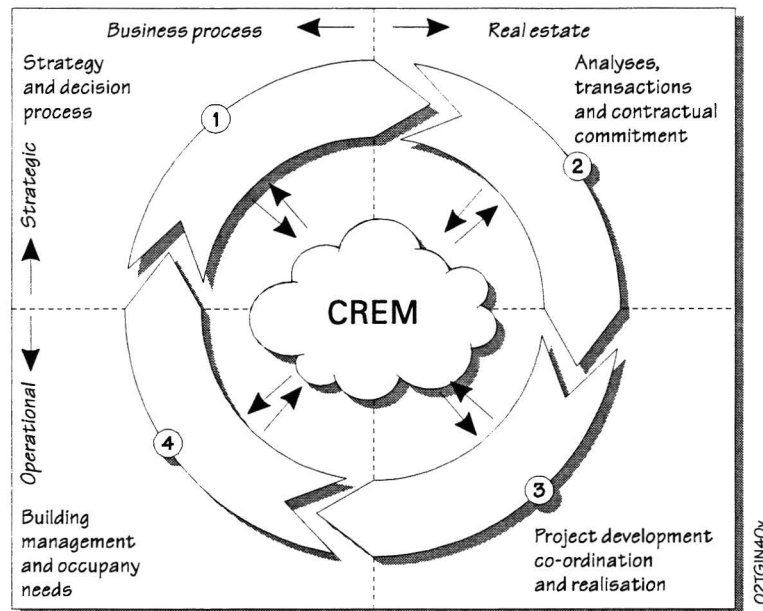


Figure 2.2 Building process from the CRE unit's point of view
 Source: Suyker, 1996.

Figure 2.2 can be seen as a building process from the CRE unit's point of view. In the first quadrant business plans are translated into for example a site selection or other accommodation needs. The CRE unit then takes a look at the financial and legal consequences of real estate decisions to determine the best scenario for each specific situation. At the operational level the CRE unit is co-ordinating in the project realisation process with connections in a network of external contacts (architects, developers, building contractors, property consultants, etcetera). In the entire operational process there is an intensive contact with local Facility Management units to meet the users' needs.

Figure 2.2 illustrates a cyclic process (and not a project); an idea which is born at the operational level and concerns an expensive investment has to be approved of at the strategic level. The process then restarts

Besides Suyker, these four quadrants to express the field of CREM are, for example, also used by Krumm et al. (1996). They all interpret this figure in a similar way. However, the quadrants are not likewise defined. This is partly a result of the use of both Dutch and English literature and partly a result of overlaps of the second and fourth quadrants with other disciplines.

According to Suyker, the four quadrants can be defined as follows (Figure 2.3):

1. General Management
2. Asset Management
3. Project Management
4. Facility Management

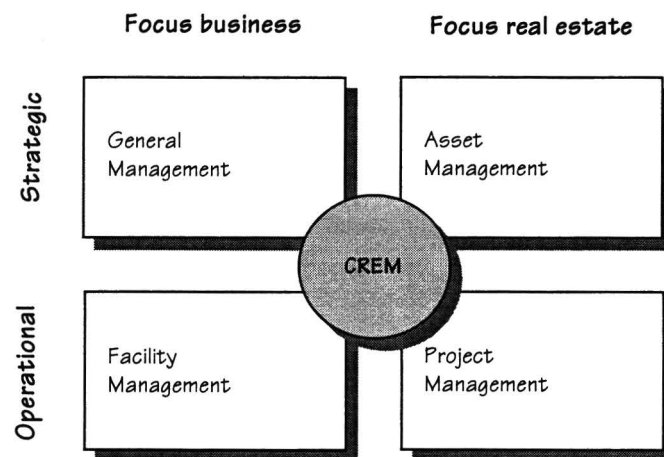


Figure 2.3 The matrix model (Suyker, 1996)

In the following sections each quadrant will successively be discussed to result in a univocal definition for each of them. Section 2.3.5 evaluates the Matrix model.

2.3.1 *First quadrant*

As shown in Figure 2.3, the first area for special attention is defined as General Management. At this level, strategic decisions address the five resources shown in Figure 1.1. In order to provide adequate and effective accommodation, a clear CRE strategy should be developed which is aligned to both business units' and (prime) corporate strategies without conflicting with the other four resources¹². This strategy should finally lead to an improvement of employee productivity, an optimisation of costs, a clear corporate identity and an improvement of the return on investment; it should make a valuable contribution to the (prime) business goals.

According to Suyker the following real estate related issues play an important role in the area of General Management (Suyker, 1996):

- linking property plan to business strategy
(= business unit and corporate strategy)
- location (criteria, selection, decision)
- budget and financial criteria
- approval procedure
- tax and legal aspects
- corporate identity.

Generally speaking, activities at this level are never outsourced because of their strategic value.

¹² the process of aligning the CRE strategy to the overall corporate strategy is also called *corporate alignment*. This can be seen in both a reactive and proactive context.

2.3.2 *The second quadrant*

As mentioned in the introduction of section 2.3, the second area for special attention shows an overlap with the field in which real estate investors operate¹³. In order to introduce an appropriate definition of the second quadrant, a more detailed description of this overlap is needed.

There are four possible reasons for this overlap:

- CRE units and real estate investors are tied together at some points because of their landlord/tenant-relationship
- CRE units and real estate investors operate quite similar. They both use the same kind of analytical frameworks, pursue a certain return on investment, use portfolio criteria to meet a certain quality and have to make decisions on sites, buildings and workplaces (real estate market). Especially when parts of the portfolio no longer meet the requirements of the prime process and disposing of or subletting (parts of) their surplus stock to other companies are under consideration, they start acting like real estate investors do. After all, the interest of optimising the indirect return on investment increases and the CRE unit has to negotiate commercially in the real estate market
- for some companies investing in real estate is part of the core business activities. Consequently, besides managing real estate for their own use, they also provide services to other companies.
Please note: this kind of CRE units will not be included in the remaining part of this theoretical framework. After all, they have an obvious one-single financial focus which makes it not easy to contribute optimally to the overall performance of the company (see section 2.2)

¹³ Real Estate Management (hereafter: REM) = all activities in order to optimally exploit the performance level of the concerning property as well as the real estate portfolio, reviewing the (potential) demand, market conditions and expected developments on the one hand and the specified aims and goals to optimise returns on the other hand (Keeris, 1997).

- today, shareholders look inside the company at strategic decisions of management and the resource allocation they practice. CRE is only one area of their focus, but it is an increasingly important one, because of its size and the important impact real estate decisions can have on the other elements of the firm (Joroff, et al., 1993). Because of this shareholders' pressure, some CRE units have to justify their return on investments just like real estate investors do (benchmarking).

As can be concluded from the above-mentioned overlap, CRE units and real estate investors speak the same language at some points, but the essence and focus of their profession is not the same. In the following, both disciplines will be considered in more detail.

CREM versus REM

In the field of CREM, the user is in the centre, whereas REM mainly focuses on real estate supply. Figure 2.4 shows the different viewpoints of professionals in the field of CREM and REM.

	CREM	REM
Aim	<ul style="list-style-type: none"> - contributing to the overall performance of the corporation - minimising costs 	<ul style="list-style-type: none"> - maximising direct and indirect return on investment for the benefit of shareholders - minimising costs
Investment criteria	<ul style="list-style-type: none"> - the quality of real estate should meet the users' requirements in terms of functionality - corporate identity 	<ul style="list-style-type: none"> - comparing return on real estate investments with returns on other assets (for instance shares)
Rating method	<ul style="list-style-type: none"> - based on original prime costs - depreciating / writing off 	<ul style="list-style-type: none"> - based on market value (benchmarking index) - reassessing instead of writing off
Calculation of rent	<ul style="list-style-type: none"> - covering prime costs, incl. service costs, excl. VAT 	<ul style="list-style-type: none"> - market rents, excl. service costs, in- or excl. VAT
Acquisition/ disposal	<ul style="list-style-type: none"> - aligned with the business - disposal of buildings itself is dealt with commercially 	<ul style="list-style-type: none"> - maximising return on investment by acquiring and disposing of buildings on the basis of economical, speculative reasons and risk attitude (capital return) - fitting portfolio policy
Social return on investment	<ul style="list-style-type: none"> - social investments out of a corporate point of view¹⁴ 	<ul style="list-style-type: none"> - social investments only if they provide financial value, stability and long-term client relationships

Figure 2.4 Differences in viewpoints between CREM and REM¹⁵

¹⁴ for example, the Dutch Government Buildings Agency tries to be a kind of role model in architecture out of "corporate" policy (see section 2.2).

¹⁵ this is an adaptation of Van Driel (1998) & Franckena, et al. (1997).

Many CRE units try to meet yield requirements like investors do. However, the difference is that a CRE unit meets the real estate needs of known users (who are often forced to purchase services), whereas a real estate investor provides accommodation to anonymous customers.

As a result of this tight customer relationship, a CRE portfolio mainly consists of real estate which is in conformity with the business¹⁶. In this respect a CRE unit does not have to strive for maximising return on investment like a real estate investor does. It tries to minimise occupancy costs (Dewulf et al., 1997b).

According to De Jonge, similarities are most apparent in the areas *Asset Management* and *Project Management* (Figure 2.5).

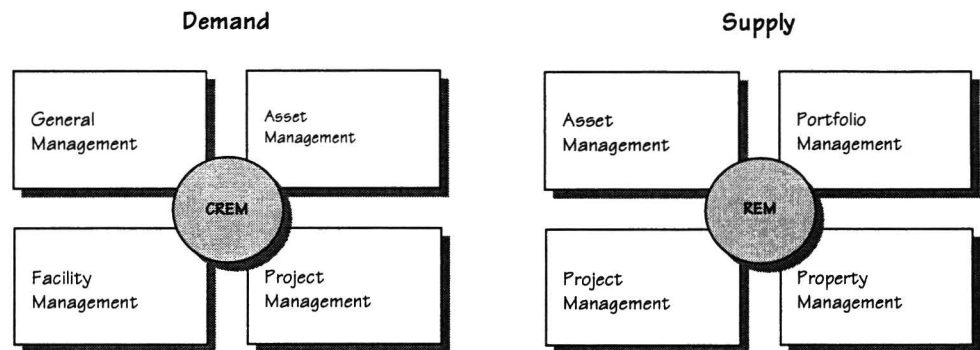


Figure 2.5 CREM versus REM
Source: Jonge de, 1997

¹⁶ not necessarily buildings which are in conformity with the real estate market (see section 2.2 “money-talks”-strategy). If the qualities are below standard according to the real estate market, the (future) value of a building will be lower (higher depreciations) (Uittenbogaard, 1997).

With *Asset Management* in this respect is meant, the process of optimising the value of real estate in order to improve return on assets. Krumm adds terms like *Portfolio Management* and *Facility Planning* to express this area (Krumm et al., 1996). Yet, the term *Asset Management* is also used to express the tactical level of REM and *Portfolio Management* is used to express its strategic level (Keeris, 1997)¹⁷. Because this is quite confusing, it is recommendable to introduce an other term to express the second quadrant. Van Driel suggests to use the term *Real Estate Management*. However, in my opinion this is also quite confusing given the fact that this term is also used to express the total discipline of real estate investors.

In the interview¹ with Buck (Buck Consultants International) a term was introduced which covers the second quadrant in my opinion best, namely *Financial & Legal Real Estate Management*¹⁸ (hereafter: *Financial & Legal REM*). It reflects all issues in the field of *analyses, transactions and contractual commitments*, i.e.:

- legal and contractual review
- negotiations on term and conditions
- property database
- property performance measures
- asset value and return on investment¹⁹
- lease and purchase policy
- due diligence.

Activities in the field of *Financial & Legal REM* mainly meet the “*money talks*”-*strategy* mentioned in section 2.2. Although financial criteria are set at the *General Management* level (see section 2.3.1) the activities are executed at a lower level. Most of them are undertaken by the CRE unit itself with or without assistance of internal departments (e.g. *Legal & Financial* department) or external providers (e.g. brokers).

¹⁷ see Glossary: *Asset Management* and *Portfolio Management* in investor jargon.

¹⁸ to Fritzsche’s opinion (interview¹ Tandem Computers) this term reflects the second quadrant in the right way. After all, *Asset (=possession) Management* is not an appropriate term for companies (especially within the *High Technology* sector) with a relatively small share of owned buildings.

¹⁹ from a investor’s point of view (e.g. *Internal Rate of Return*).

2.3.3 *The third quadrant*

Compared to the first and second area for special attention, the third quadrant is more operational. For expressing this quadrant, the term *(Construction) Project Management* (hereafter: CPM) is most appropriate. CPM stands for planning, co-ordinating and directing a project from the initiative phase up to the project evaluation (Regterschot et al., 1998). According to Suyker, the following issues play an important role in the area of CPM (Suyker, 1996):

- program of requirements
- selection of a project team
- new site and building development
- design/refurbishment and detailed plans
- tendering and contracting
- fit-out package
- execution
- handover process
- criteria: price/quality ratio
- control: time, budget, quality, organisation and information.

Although some CRE units do have professionals employed in this field, in general the CRE unit does not carry out these activities itself; most often it fulfils an intermediary role in a network of external contacts and local Facility Management units.

2.3.4 *The fourth quadrant*

Just like the third quadrant, the fourth is an operational area for special attention. As shown in Figure 2.2 this area has a strong focus on the users. According to Suyker this quadrant is called Facility Management (hereafter: FM). This could be quite confusing, because FM is often seen as a separate discipline. In order to create a clear definition of the fourth quadrant, a more detailed consideration is indispensable.

CREM versus FM

Both CREM and FM strive for creating maximum value to the prime business processes by integrally managing the supporting functions Real estate (e.g. buildings, sites and installations), Services (e.g. maintenance, landscaping and security) and Fit-out (e.g. furniture and telecommunications) (Regterschot, 1988).

CREM focuses mainly on Real estate from a strategic (corporate), long term point of view, whereas FM mostly focuses on all three functions from a more operational (users), short term point of view. Although responsibilities are demarcated differently and tasks are emphasised in an other way, CREM and FM pursue the same: supporting the prime goals of both the corporate parent and the users without conflicting with other supporting processes (Arkesteijn, 1998).

A real distinction between both disciplines is difficult to make, because the position and responsibilities of both the CRE unit and the FM unit depend on the organisational structure of a company and therefore differ. In literature both professions are pictured in the familiar four quadrants (Arkesteijn, 1998). Figure 2.6 makes clear that we should ask ourselves: what's in a name?

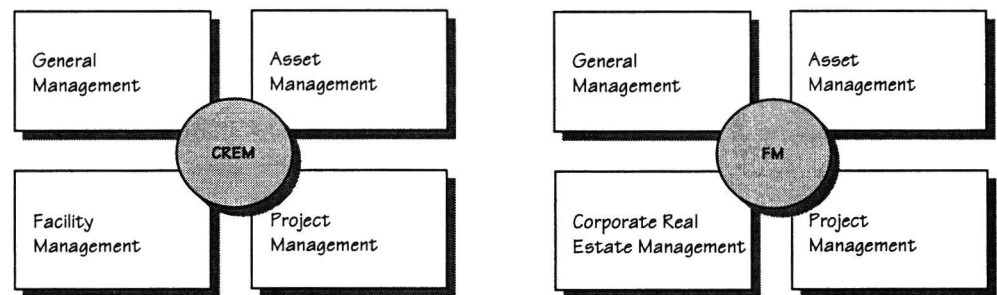


Figure 2.6 CREM versus FM, source: Arkesteijn, 1998

In the remaining part of the study, the term FM will be used to express both the discipline/profession FM as well as the fourth area for special attention of the CRE unit. The CRE unit is only to a certain extent entrusted with issues like (Suyker, 1996):

- occupancy costs accounting
- maintenance and purchase contracts
- technical services (maintenance, refurbishment and support)²⁰
- furniture
- workplace strategy performance
- control: time, budget, quality, organisation and information.

²⁰ fundamental refurbishments and redevelopments are part of the third quadrant CPM.

Just like CPM, the CRE unit not necessarily has to carry out all activities in the field of FM. These are mostly undertaken by local FM units which stay in close contact with the users, or by external parties, because of the ongoing trend of outsourcing non-core activities. Especially non-building related services (e.g. Repro and Catering) are in general not included.

2.3.5 *Evaluation of the matrix model*

The first model (triangular model) gives a good insight in the area of tension CRE units are working in (see section 2.2.1). The matrix model shown in Figure 2.3 adds more information with regard to the different areas for special attention. Especially the second and fourth quadrant can be quite confusing, because they respectively show a certain overlap with the disciplines REM and FM. Therefore all four quadrants should be interpreted as areas for special attention rather than disciplines. The operational areas are not necessarily carried out by the CRE unit itself; they are often undertaken by FM units. Nevertheless, the CRE unit should have certain corresponding (managerial) skills in order to understand, co-ordinate and /or control these areas.

Although this model does not show the tactical level, in my opinion it still gives a good impression. After all, it pictures the areas for special attention and not the tasks and responsibilities of the CRE unit.

Finally, in the remaining part of this study I will use the following terms to express the areas for special attention (Figure 2.7):

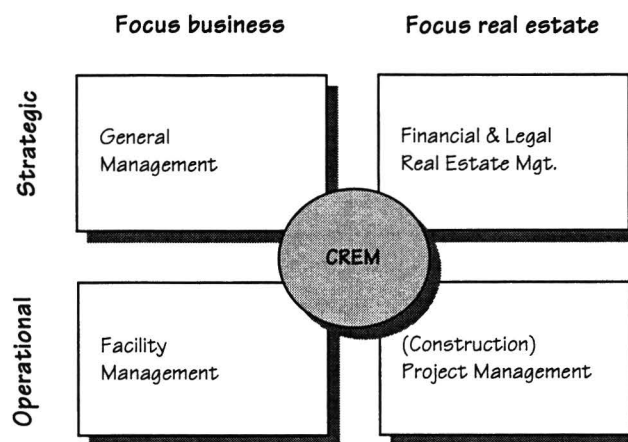


Figure 2.7 Evaluation of the matrix model

2.4 Model 3: the pyramidal model

Although the second model is very useful in making the field of CREM understandable, it does not make clear what exactly the CRE unit's field of action is. As stated in section 2.3.4, getting insight in this field of action is very difficult, due to the fact that every company is quite unique.

Van Driel distinguishes three abstraction levels in order to provide insight into the field of action of a CRE unit. These three levels, the strategic, the tactical and the operational level (compare the two levels of Figure 2.7), are pictured in Figure 2.8²¹.

²¹ this can be compared with the discipline REM with at the strategic level Portfolio Management, at the tactical level Asset Management and at the operational level Property (& Service) Management (Keeris, 1997).

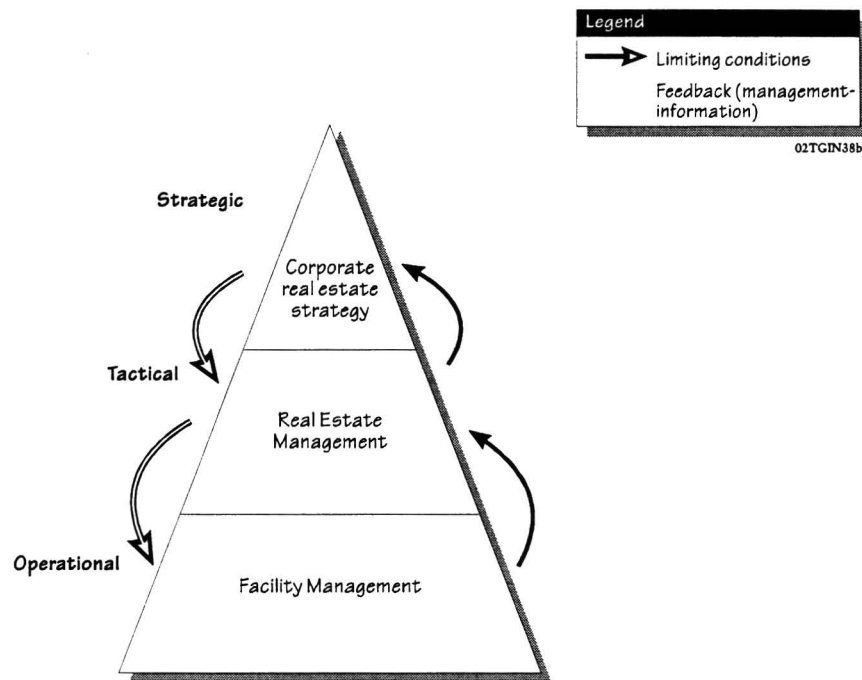


Figure 2.8 Field of action of CREM
Source: Driel van, 1998.

This pyramidal model has to be explained in terms of setting limiting conditions (policies and procedures with regard to controlling time, costs, quality, organisation and information) to a lower level and giving feedback (management information about time, costs, quality, organisation and information) to a higher level.

At the strategic level, the CRE strategy is formulated and decisions are made on basic principles like quality standards, space standards and yield requirements. It can be compared with the first quadrant of the matrix model (the General Management level).

At the tactical level the CRE strategy is transformed into more operational goals. Besides this, the CRE unit periodically analyses if the results meet the limiting conditions. This is done by comparing the results (performance of sites, building and workplaces) with internal benchmarks across countries and external benchmarks within the sector of industry. According to Fritzsche (interview¹ Tandem Computers) the use of benchmarks is a kind of symptom analysis.

In stead of giving concrete targets, a CRE unit should discuss possible differences with the business unit management in order to strive for a solution. After all, because of the diversity of market conditions, attitudes, regulations and cultures, a comparison between all business units could distort the results. Out of these technical, functional, financial and commercial analyses, the CRE unit sets scenario's and calculates and compares the corresponding net present value over the future cashflows.

The results include recommendations concerning financial constructions (buy, lease, rent, etcetera.), methods (disposing of, upgrading, renovating, etcetera) and lay-out recommendations (adjustments, furniture, etcetera.).

Important results will be presented to the strategic level. Subsequently these results will be evaluated and decisions made. If necessary, strategic policies and procedures can be adjusted and implemented at the tactical and/or operational level.

2.4.1 *Evaluation of the pyramidal model*

Compared to the matrix model, the pyramidal model does not provide a distinction of focus on business on the one hand and on real estate on the other hand. The pyramidal model, however, gives more insight into the field of action in which a CRE unit is working. This is done in terms of setting limiting conditions and specifying budgets to a lower level and giving feed back and financial justification to a higher level. In my opinion, this model has three disadvantages, namely:

- the definition of the strategic level. Just like the total field of CREM, the strategic level is also called CREM
- the definition of the tactical level. Van Driel denotes the tactical level with REM, although this term is also used to express the field in which a real estate investor acts (see section 2.3.2)
- although CRE units, generally speaking, are only to a little extent involved in CPM (see section 2.3.4), Van Driel totally ignores this area of attention. A possible reason might be that Van Driel considers CPM as a part of FM.

2.5 Evaluation of the three theoretical models

In the previous sections 2.2, 2.3 and 2.4 three models with regard to CREM have been discussed. In my opinion all of these models are useful to express the field of CREM. The triangular model considers the field of tension in which the CRE is working, the matrix model pictures the areas for special attention and the third, more concrete, model provides more insight into the field of action in which the CRE unit is operating. I do not think it is a matter of picking the best model, because each model is valuable in its own way. They are not really conflicting models, but they can be seen as complementary models.

In my opinion, the prime relationship/tension between the corporate goals and the various users' needs is not sufficiently emphasised in all three models. In Figure 2.9 this relationship is clearly illustrated. Moreover, the figure gives a good insight into the supporting functions. Because the supporting function FM is mainly focused on the users' needs, this link is emphatically pictured below.

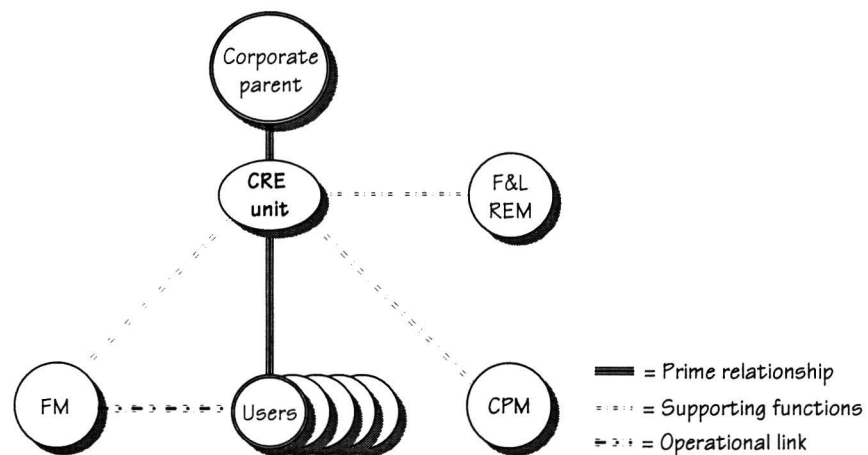


Figure 2.9 Field of action of CREM

The four areas for special attention of the matrix model are still recognisable, with the exception of the first quadrant General Management. This quadrant can be traced back in the prime relationship between the corporate parent and the users. The figure also shows a kind of pyramid with three levels (compare with Figure 2.8, Van Driel).

Figure 2.10 once again illustrates the interrelation of the five corporate resources. At the strategic level *the CRE strategy* should be aligned with the corporate strategy. This CRE strategy should not only be based on corporate requirements, but also on business units' needs.

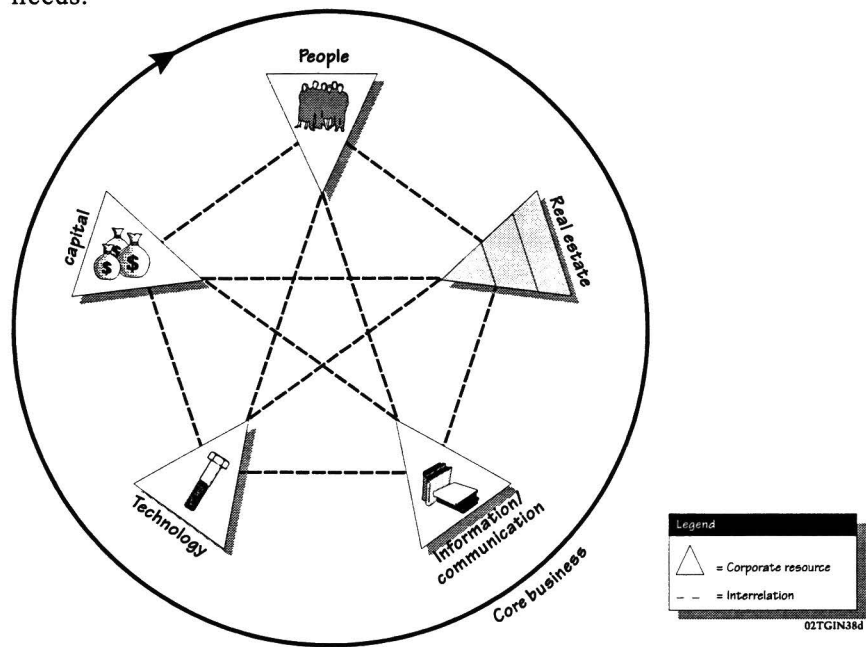


Figure 2.10 Interrelation of the five corporate resources

After all, not only the corporate sets limiting conditions. As shown in Figure 2.11 requirements of the business unit managements should also taken into account. The CRE unit has to find the right balance in this field of tension. The CRE strategy concerns issues like corporate identity, shareholder value and other performance criteria from a corporate point of view and mainly flexibility requirements from a business unit's point of view.

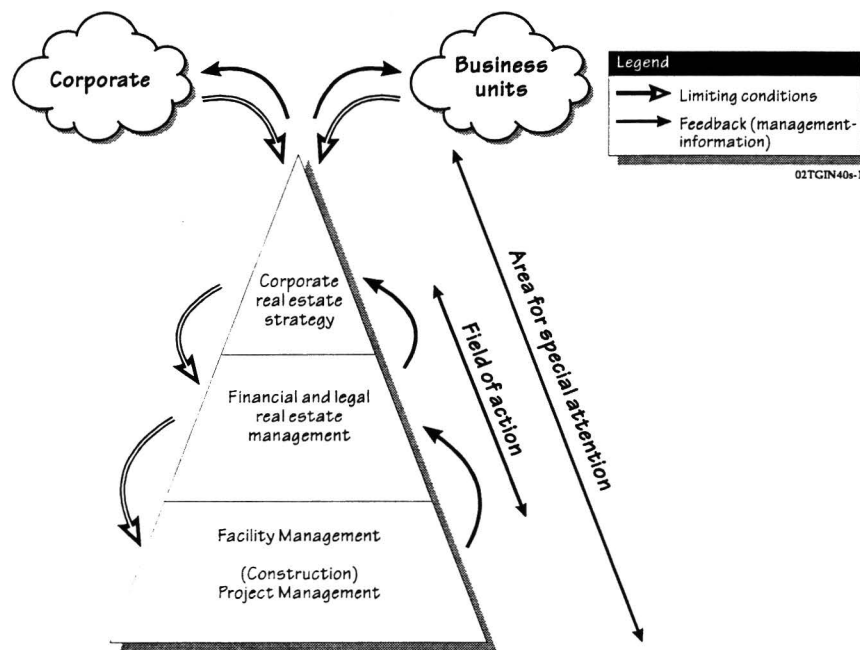


Figure 2.11 Area for special attention and field of action of CREM

Figure 2.11 not only illustrates the field of tension between the corporate goals and the business units' needs. It also expresses the area for special attention as well as the field of action of the CRE unit according to my perception.

As shown in Figure 2.11 this pyramidal model has to be explained in terms of setting limiting conditions (policies and procedures with regard to controlling time, costs, quality, organisation and information) to a lower level and giving feedback (management information about time, costs, quality, organisation and information) to a higher level.

The tactical level can be called *Financial & Legal REM*. As stated in section 2.4, at this level the CRE strategy is transformed into operational goals. Besides this, the CRE unit periodically analyses if the results meet the limiting conditions. *FM* and *CPM* are considered at the operational level.

In my opinion the CRE unit is not entrusted with all activities in the field of CREM. A CRE unit does not decide whether to establish a Sales & Marketing office in Spain or in Italy. However, because of its expertise, the CRE unit can assist the board of directors in making a decision such as a site selection. Activities at the operational level are in my opinion also an important area for special attention, but are generally speaking, not part of the field of action of a CRE unit. Therefore the area for special attention includes the whole pyramid, whereas the field of action is restricted.

Going down the pyramid, the outsourcing rates rise. At the strategic level activities are, in general, barely outsourced because of their strategic value. At the tactical level there is an interaction with local authorities, real estate investors and consultants. Outsourcing is mostly applied at the operational level. Because most companies want to focus on their core business, activities at this level are often carried out by service providers like FM-suppliers, real estate developers and building contractors.

2.6 Definition CREM

The previous sections made clear that CREM has to be considered in a broad context. The abundance of definitions in literature illustrates that it is very difficult to define this discipline. Below, I have stated some definitions which hit the essence of the discipline CREM in my opinion best.

Corporate Real Estate Management is:

- the management of a (large) corporation's central real estate department which is entrusted with the real estate management of its properties. In this, the owned, leased or rented real estate is considered as a capital-intensive corporate resource (Keeris, 1997)
- the management of a (large) corporation's real estate portfolio with the aim to support the core business effectively and efficiently (Uittenbogaard et al., 1996)
- the management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (processes), with the aim to contribute optimally to the overall performance of the corporation (Dewulf et al, at the IDRC Europe Fall Conference in Lyon, September 1995)

- the utilisation of real estate strategically in order to maximally support the prime goals of the corporation (Driel van, 1998)
- the alignment of business unit real estate strategies with prime corporate goals to provide adequate and effective accommodation (Suyker, 1996).

In my opinion a combination of the definitions used by Keeris and Dewulf et al. characterises the multi-disciplinary field of CREM best. In the remaining part of this study, the following **definition** of CREM will be used:

Corporate Real Estate Management

The management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (reviewing the CRE strategy), with the aim to contribute optimally to the overall performance of the corporation. In this, the owned, leased or rented real estate portfolio is considered as a capital-intensive corporate resource.

3 Trends

3.1 Introduction

In the previous chapter a better insight is given in the field of CREM by presenting three theoretical models. Of course, a model is only a simplistic reflection of reality. One standard profile cannot be defined, because several approaches of managing a company's real estate needs exist. Moreover, CRE units are subjected to changes. After all, CREM is not a stationary discipline, but is changing because of the dynamic and competitive environment most companies are working in. In this section an overview will be given of the most important trends in the field of CREM. In section 3.2 some general business trends will be discussed and their impact on companies' real estate needs. Section 3.3.1 emphasises on the impact on CRE units by presenting a development model which describes five stages of CRE development. Section 3.3.2 evaluates this development model. Moreover, in section 3.3.3 the latest CRE trends will be discussed. Chapter 3 will be concluded by an evaluation of part A, including both the theoretical models of chapter 2 and the most important trends issued in this chapter.

3.2 General business trends

Rapid changes in technology

lead times for developing new products are becoming shorter as improved communication systems narrow competitive margins between companies. In order to remain competitive, companies have to adopt new production and working methods faster and faster. Developments in the field of Information and Communication Technology (hereafter: ICT) affect organisations to a great extent. Consequently, it will also affect the way CRE has to be managed.

Increased (global) competition

the current state of technology enables companies to expand throughout the world. This globalisation poses both a threat as well as an opportunity. Globally there are more risks and uncertainties, but it also allows companies with a more efficient cost base to compete in local marketplaces. As a consequence of this global responsibility, a whole new skillset in terms of doing corporate real estate work in international markets is required (Heath, 1996).

Decentralisation

driven by the need to be focused more on specific markets and specific products/services, most companies are moving toward a decentralised model. Business units are empowered with total autonomy around their markets and their customers. Therefore companies are no longer established in one place only, but the several activities are located in those places which fit the production processes best. This decentralisation process (enabled by ICT and transport developments) is a global trend which leads from an industrial focus to a more functional focus (Snelderbeek, 1998).

Shareholder value

as already stated in section 2.3.2, nowadays more and more companies are subjected to a certain shareholders' pressure. Not only are senior managers under more pressure to perform and are getting a sense of urgency from Wall Street and shareholders, but oftentimes today their incentive is actually tied to the company's performance. Since shareholders have become more aware of the fact that real estate can affect the total business performance in both a direct (financial) and indirect way (corporate identity, employee satisfaction), it has become a new field of their attention (Johnson, 1997).

Outsourcing and strategic alliances

as companies have been rightsizing, all parts of a corporation have been downsized. Because real estate has been recognised as a leading cost of doing business, it has become a target for downsizing as well. A lot of the key operational responsibilities such as lease, negotiations, design, CPM and FM have been outsourced to service providers (Heath, 1997). Some companies even enter into contracts with these service providers as almost part of their staff (strategic alliances). The impact of outsourcing is not fully known. Costs do not necessarily go down and, in some cases, corporations are rehiring people, because they would rather be doing real estate related activities in-house. Outsourcement is still in a state of flux (King, 1996).

Changes in organisations and workforce

companies are moving from long term to short term strategies, from hierarchic to temporary networking structures²², from uniform toward multiform cultures, etcetera. More and more employees nowadays are working remotely or from a mobile standpoint using portable laptops and cellular phones. This continuing invasion of technology into the workplace enables employees to work any time in any place. This will all demand changes in daily work practices, pay restraints, productivity requirements and training needs. Since companies are going through massive changes, it is important to redefine office requirements and location criteria. Accommodating this transient workforce gets into the area of not only managing physical space of "bricks and mortar", but the area of networks and telecommunications infrastructure and data systems as well (Heath, 1996).

Need for flexibility

because of the rapidly changing environment in which most companies are operating, the need for flexibility is emerging. In fact there are two different options to meet this flexibility:

1. flexibility in sites, buildings and workplaces

A specific site, building or workplace solution should not only fit the organisational needs in a certain moment. It should also meet the future requirements. Keeris distinguishes four types of flexibility, namely (Keeris, 1997):

- the zoning plan flexibility (allotment)
- the external flexibility (expansion)
- the internal flexibility (adaptability)
- the functional flexibility (multi-functionality).

To most companies the external (site) and internal (building and workplace) flexibility are the most important types. If companies are expanding or downsizing, possibilities to respectively acquire (build, buy, lease or rent) or dispose of (sell or sublet) some space are of a great value.

²² a temporary network of companies that come together quickly to exploit fast-changing opportunities is also called a virtual corporation. In a such a corporation, companies can share costs, skills and access to global markets, with each partner contributing what it is best at (Heijden van der, 1994).

Next to this external flexibility, a certain building and workplace adaptability is required to accommodate changing business conditions. This can be achieved by selecting buildings which have the appropriate floor dimension, floor shape, structural grid, planning grid and partition grid. Besides these lay-out requirements, the spread and density of a transport system within a building, the zoning and control of the HVAC²³ and the communication infrastructure are important flexibility issues.

2. *financial flexibility*

In general, a lot of capital is tied up in real estate, especially when the share of owned property is high. This capital employed is a great pressure on the balance sheet of a company. After all, it can not alternatively be used for core activities. If the company has used a lot of borrowed capital, the remaining borrowing capacity is limited. In general, the real estate ROCE²⁴ is much lower than the ROCE target of the core business. Of course companies, especially those who have to deal with a lot of shareholders' pressure (see section 2.3.2), wonder whether their real estate portfolio has to be financed differently, for instance must be leased or rented (Crassee, 1998). Many corporations have been exploring synthetic leases, which is a relatively new financial restructuring arrangement that throws the traditional lease off the company's balance sheet. An other option to create cash are sale & lease back constructions. With these vehicles, capital can be taken out of the fixed assets and be put into for example research & development activities or inventory which rolls three to four times a year (Johnson, 1997).

If leasing or renting is under consideration, most companies strive for short terms. After all, companies are changing so fast that it is very hard to look forward. With short lease terms like three years, the real estate portfolio can more easily be adapted to the changed real estate needs.

²³ HVAC stands for heating, ventilation and air conditioning.

²⁴ ROCE stands for Return On Capital Employed.

3.3 Trends within CRE units

As indicated in section 1.1, companies are slowly realising²⁵ that the performance level of real estate can affect the total business performance in a direct (more financial) and an indirect way in terms of employee satisfaction, corporate identity, etcetera. The profession of CREM, developed in the sixties, was primarily involved in site selections. In this period, besides paying attention to the land price, the infrastructure, availability of qualified people and client adjacency were the most important issues. Because the oil crisis in the seventies led to increased energy costs, it became more important to control the operational real estate costs. In the eighties, companies became more aware of the fact that managing real estate and other facilities is necessary in supporting the core business. Therefore, a distinction was made between on the one hand CPM and on the other hand FM. The FM unit became responsible for controlling the operational occupancy costs and was therefore mainly focused on the users' needs. The need for optimising both the operational occupancy costs and the fixed real estate costs has led to a new approach in the nineties. In order to provide sufficient flexibility between the real estate portfolio and the core business of a company, a link between both appeared to be essential (Suyker, 1996).

Because of the increasing competitive business environment as pictured in section 3.2, the need for aligning the strategic corporate goals and the goals and activities of the CRE unit is just emerging. Consequently, CRE units are moving toward more effective alignment with prime corporate concern. Section 3.3.1 presents a development model which describes five stages of CRE development. In section 3.3.2 an evaluation of this model will be given. Section 3.3.3. provides an overview of the latest trends within CRE units.

²⁵ following the United States of America, European companies are gradually increasing their attention to the management of their real estate portfolio.

3.3.1 *Five stages of CRE development*

The CRE 2000 Phase One research team has identified five stages of development among CRE units (Joroff et al., 1993). These five stages are called (Figure 3.1):

Taskmaster

Supplies the corporation's need for physical space. Because senior management has a laissez-faire response to the distinctly physical facilities orientation at this stage, there is not really a clear mission. The CRE unit is operating reactive. This stage appears to be value-neutral, that is, viewed as neither a corporate cost nor benefit. In large part, this orientation is promoted by the fact that space needs of business units are being financially subsidised by the larger corporation.

Controller

Satisfies senior management's need to better understand and minimise real estate costs. For this purpose, the CRE unit requires analytical skills, mainly in accounting. Senior management becomes more directive, at times assuming a command and control posture toward the CRE unit. Business units frequently pay depreciation on their physical space in lieu of rent. Through positive interaction and dialogue with the business units about their short- and long term needs, executive ease the unit's evolution into this stage.

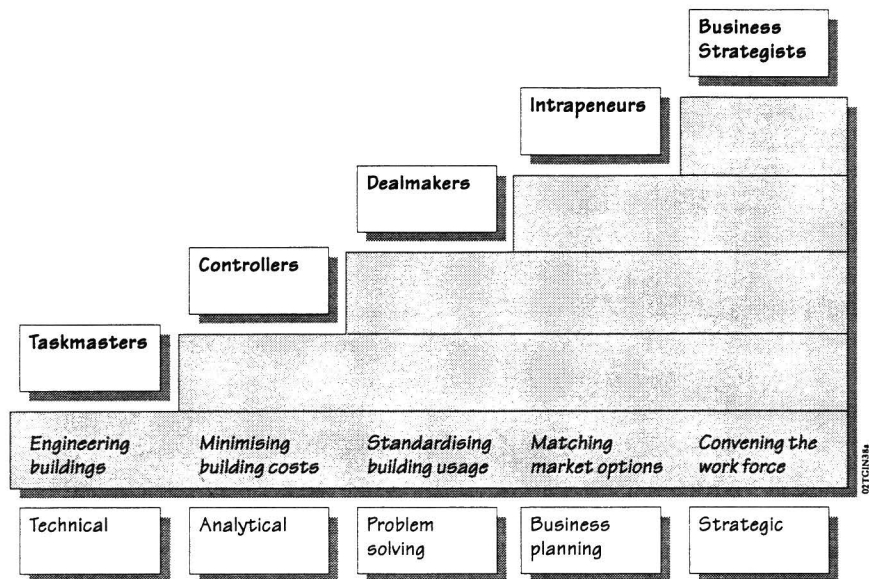


Figure 3.1 Corporate Real Estate competency shifts
 Source: Joroff et al., 1993.

Dealmaker

Solves real estate problems in ways that create financial value for the business units. The unit's mission turns to seizing opportunities to create value (both financial and organisational) in individual assets. At this stage of development CRE units must begin to behave more proactively, fostering regular communication, and coming up with new ideas to standardise building usage. CRE units and business units must work closely together to identify the optimal space needs. The competencies involved in this stage highlight project-related negotiation and problem-solving abilities applied to the business unit's changing space requirements. In some cases the business units continue to pay depreciation on their properties. In others they may be asked to pay for the opportunity cost of capital.

Intrapreneur

Operates like an internal real estate company, proposing real estate alternatives to the business units that match those of the firm's competitors. This stage is more integrative and may lead to the involvement of line managers as well as executives in the strategic planning process of individual business units.

If this has not already occurred, real estate executives usually gain access to the Chief Financial Officer. The business units and/or departments become the CRE unit's customers, paying market rents for their occupied space.

Business Strategist

Anticipates business trends, monitors and measures their impacts²⁶; contributes to the value of the corporation as a whole by focusing on the company's mission rather than focusing only on real estate. The CRE unit is closely aligned with the Chief Financial Officer or with a chief staff officer managing corporate resources, which include functions like human resources and information management. The CRE unit's mission is no longer simply providing real estate, but convening the workforce. The business units are asked to justify their space requirements and the resulting market rents.

The first three stages (Taskmaster, Controller and Dealmaker) occur principally through project level work related to the internal needs of the corporation. Stage 4 (Intrapreneur) addresses portfolio wide needs, focusing outward to trends affecting the business units. Stage 5 (Business Strategist) tackles company-wide competitiveness, involving a myriad of stakeholders outside the corporation's more traditional bounds. Furthermore, as the organisational stages evolve from Taskmaster to Strategist, the benefits obtained by stakeholders evolve from short- to long-term.

The transition from one stage to another is not always distinct. For instance, the transition from the Taskmaster stage to the Controller stage is often a result of management changes due to a organisational restructuring or an appointment of new member of the board of directors.

As shown in Figure 3.1, the skills required in the less complex stages are also necessary to the more complex ones: each stage builds on the capabilities of prior stages. For example, once a CRE unit in the Controller stage has revealed and reined in costs, the corporation still needs that knowledge when the CRE unit adds on more complex functions.

²⁶ impacts on a corporation's strategic advantage, productivity and shareholder value.

3.3.2 *Evaluation of the development model*

In the development model there are no right or wrong stages, nor is the Business Strategist-stage necessarily the ultimate goal for every CRE unit. Moreover, a CRE unit does not have to acquire all skills consecutively. Several skills can be acquired at once. The only thing that counts in my opinion is whether the CRE unit's current behaviour and focus meet the corporation's needs. In this process of alignment the five stage model is in my opinion a useful way to evaluate alternatives as CREM evolves toward strategic management of its resource.

3.3.3 *Latest trends*

This section provides an overview of the most important, latest trends within CRE units. Most of these trends are to a certain extent covered by the development model as pictured in Figure 3.1.

From a real estate orientation to a business focus

The primary focus is switching from an exclusive concern with controlling costs to a concern with corporate productivity and competitive advantage.

From a transactional to a process orientation

Besides being a negotiator, a CRE unit is more and more concerned with core business interests (process manager).

From a control-oriented to service-oriented

Nowadays an increasing number of CRE units are serving users as clients who expect to be provided with ideas and strategies that will allow them to better run their business in stead of only controlling costs through policies, directives, standards and rules.

From reactive to proactive

Today CRE units are acting proactively instead of reactively. They are initiating alternative workplace solutions that add value by supporting business processes.

From centralised to decentralised

As stated in section 3.2 one of the most important business trends is the process of decentralisation. According to Krumm, a company's main structure and its core business activities determine the position, the function as well as the development of its CRE unit. A strongly decentralised organisation with a lot of autonomous business units spread over several locations, would manage its real estate needs, generally speaking, also at a decentral level (Krumm, 1998). Corporate alignment is very difficult in a decentralised organisation without an appropriate information infrastructure.

From in-house expertise to collaboration

As stated in section 3.2 the CRE unit is no longer carrying out all activities by itself. Today it requires goal-oriented collaboration with business units, other corporate staff, senior corporate management and several outside service providers. As stated in section 2.5 outsourcing is at the most at the operational level.

From automate to informate

The use of information shifts from automating systems exclusively to control costs to "informating", using information to inform managers and business units. All participants share data files that they can use as they wish, to question and contribute to important matters from their own perspective. *Performance measurement* has become increasingly important. Consequently, CRE units have to sell their value more and more to senior management which is mainly financially oriented.

From standardisation to customisation

Because work is highly complex, highly diverse and highly local, business units require products specifically designed to serve the job (built-to-suit developments).

From real estate skills to general management capability

As stated in the introduction of this report, the need for professional management of real estate and other facilities has increased. As a result CREM does not only require technical skills, but also managerial skills and expertise. Negotiation, team building, and participation skills, communication, information management, problem framing and analysis and general understanding of quality processes are the complex general management skills they now require.

From CREM to Corporate Infrastructure Resource Management

Corporate Infrastructure Resource Management (hereafter: CIRIM) is a relatively new concept that focuses on the integrated management of non-core functions of a company, i.e. CRE, Human Resources (hereafter: HR) and ICT to reduce costs and to create more value to the enterprise (Materna, at the IDRC Europe Fall Conference in Dublin, September 1998). Although all three resources support the core business of a company, real estate still drives CREM decisions for the greater part. However, ICT is becoming increasingly important. For example, car accessibility is an important issue in a site selection. However, if a company already has implemented a workplace solution like 'teleworking' in its offices, this issues becomes less important.

3.4 Conclusions Part A: Theoretical framework

This theoretical framework revealed that buildings are nowadays no longer only viewed as static places to work in: they are more and more being seen as dynamic resources. It follows from an economic viewpoint that buildings are assets which require management to ensure that they provide maximum tangible and/or intangible returns. From a sociological point of view, buildings should be managed to give users satisfaction both in terms of function and ambience.

From an operational viewpoint, buildings require maintenance to ensure that they operate efficiently and modernisation to prevent functional and technological obsolescence affecting the capital value (Working Commission W70 of the CIB, 1997)²⁷.

Reviewing the first main research question on which this thesis reports, namely improving definitions in the field of CREM, it can be said that, on the basis of this theoretical framework, a real distinction between the disciplines CREM and FM is difficult to make. Both disciplines strive for creating maximum value to the prime business processes by integrally managing the supporting functions Real estate, Services and Fit-out (non core business). However, CREM focuses mostly on Real estate from a strategic (corporate), long term point of view, whereas FM focuses on all three functions from a more operational (users), short term point of view. Moreover, a CRE unit is most often responsible for an entire real estate portfolio, whereas a FM unit is mainly entrusted with only one building, site or region. However, it is still difficult to exactly state what is covered by the field of CREM and what by the field of FM. After all, the position and responsibilities of both a CRE unit and a FM unit depend on the organisational structure of a company and therefore differ. In my opinion FM can be defined as follows:

Facility Management

the integrated management of the supporting functions Real estate, Services and Fit-out from an operational, short term point of view, in order to create maximum value to the prime business processes.

It is easier to make a clear distinction between CREM and REM, given the fact that CRE units and real estate investors operate from a different point of view. In the field of CREM, the user is in the centre, whereas REM is mainly focused on real estate supply. A CRE unit meets the real estate needs of known users, whereas a real estate investor provides accommodation to anonymous customers. As a result of this tight customer relationship, a CRE portfolio consists mainly of real estate which is in conformity with the business. In this respect a CRE unit does not have to strive for maximising the return on investment like a real estate investor does.

²⁷ the environmental viewpoint (the building life cycle should be extended as long as possible to conserve the resources that lie within) is not being considered in this framework.

It tries to minimise the occupancy costs. Nevertheless, CRE units and real estate investors speak the same language at some points; they both use the same kind of analytical frameworks, use portfolio criteria to meet a certain quality and have to make decisions on sites, buildings and workplaces (real estate market). REM can be defined as follows:

Real Estate Management

all activities in order to optimally exploit the performance level of the concerning property as well as the real estate portfolio, reviewing the (potential) demand, market conditions and expected developments on the one hand and the specified aims and goals to optimise returns on the other hand (Keeris, 1997).

In the remaining part of this study the pyramidal model, again pictured in Figure 3.2, will be used to express the field of CREM. This model reflects all important aspects of CREM. First of all, it illustrates the field of tension the CRE unit is working in; it has to align the business unit's strategies with prime corporate goals like corporate identity, shareholder value and other performance criteria. This will result in a (formal) CRE strategy.

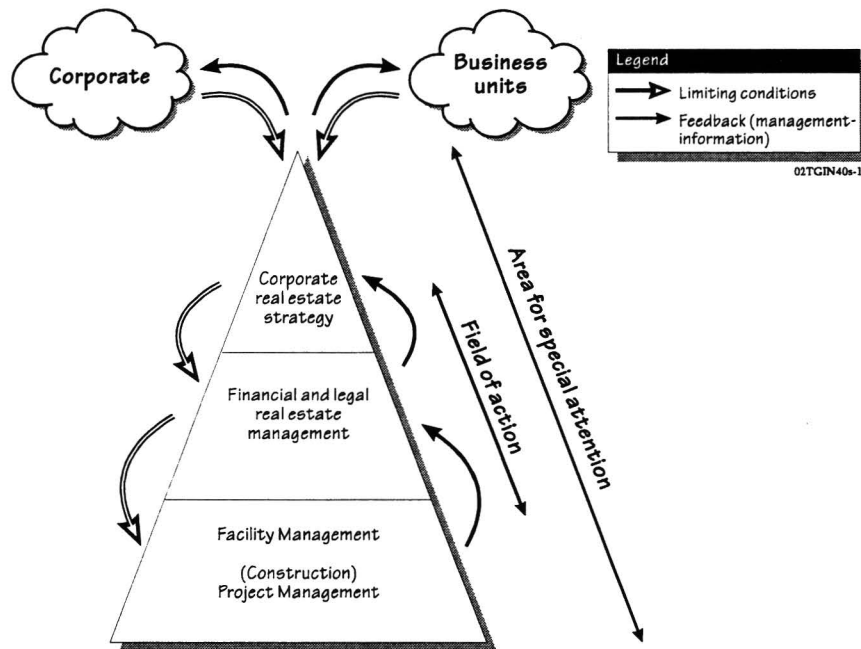


Figure 3.2 Area for special attention and field of action of CREM

Secondly, the model pictures the area for special attention. At the tactical level the CRE unit has to translate the CRE strategy set at the strategic level into operational goals. Besides this, the CRE unit periodically analyses if the results meet the limiting conditions. FM and CPM are considered at the operational level.

Thirdly, the model illustrates the field of action of the CRE unit. This is much more limited compared to the area for special attention. The CRE unit is mainly entrusted with activities in the field of Financial & Legal REM. Its role at the strategic level is in general limited to only providing advice. Most operational activities are carried out by local FM units.

Going down the pyramid, the outsourcing rates rise. At the strategic level activities are, generally speaking, barely outsourced because of their strategic value. At the tactical level there is an interaction with local authorities, real estate investors and consultants. Outsourcing is at the most at the operational level. Since most companies want to focus on their core business, activities at this level are often carried out by service providers like FM-suppliers, real estate developers and building contractors.

Of course, a model is only a simplistic reflection of reality. There is not one standard profile. Besides this, CRE units are nowadays subjected to a lot of changes, because of the dynamic and competitive environment they are working in. The development model of Joroff et al. (1993) shows five evolutionary stages of CRE development. In my opinion this five stage model is a useful way to evaluate alternatives as CREM evolves toward strategic management of its resource. However, more important is to align the CRE unit's current behaviour and focus with the corporation's current needs.

The total theoretical framework made clear that CREM has to be considered in a broad context. The following definition characterises the multi-disciplinary field of CREM in my opinion best:

Corporate Real Estate Management

The management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (reviewing the CRE strategy), with the aim to contribute optimally to the overall performance of the corporation. In this process, the owned, leased or rented real estate portfolio is considered as a capital-intensive corporate resource.

The results of this theoretical framework have mainly met the first research question by clearly presenting the field of CREM. Moreover, they have provided more insight into the second research question concerning the involvement of the CRE unit in managing a company's real estate portfolio. Despite some statements in the field of flexibility and workplace management, only little attention has been paid to the third research question with regard to CRE choices. In the following chapter the methodological framework of the questionnaire will be presented. This is partly based on this theoretical framework and partly on other, more practise-based surveys in the field of CREM. The questionnaire should give more insight in the way European CRE is being managed from a practical point of view.

Part B Survey

Chapter 4 Survey methodology

Chapter 5 Results of the survey

4 Survey methodology

4.1 Introduction

In Part A an overview is given of the field of CREM and its development. The results were used to get a better understanding of the CRE profession in order to obtain more univocal definitions. The findings in Part A have also partly answered the second research question (i.e. the involvement of the CRE unit). To validate this further and to provide more insight into the choices most companies make at the site, building and workplace level, a survey is held among European CRE units. In section 4.2 the methodological framework for this survey will be presented, followed by the survey background (section 4.3).

4.2 Methodological framework

The methodological framework of the survey concentrates around the second and third research questions (see section 1.2) i.e.:

- what is the involvement of most CRE units in managing the European real estate portfolio of their company
- what are the most important (future) choices with regard to sites, buildings and workplaces.

Assuming that not every CRE unit operates equally (see chapter 1), three determinants will be analysed which could possibly affect the involvement of the CRE unit and the choices they make. The conceptual framework pictured below (see Figure 4.1) further explains the direct relations between the two research questions (left) and the determinants (right) and the interrelation between the three determinants. These determinants are:

- the sector of industry the company is operating in
- the development stage of the company
- the scope of the CRE unit.

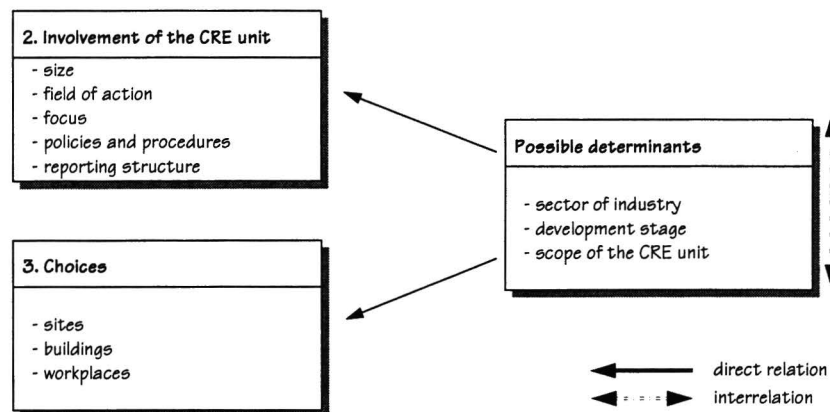


Figure 4.1 Conceptual framework (1)

4.2.1 *Involvement of the CRE unit*

The questions with regard to the second research question, i.e. the involvement of the CRE unit, are partly based on the theoretical framework discussed in Part A and partly on other, more practice-based surveys in the field of CREM²⁸. In order to get more insight into the involvement of CRE units in the management of European real estate portfolios, the following items have been addressed in the questionnaire:

- size of the CRE unit
- field of action of the CRE unit
- focus of the CRE unit
- policies and procedures
- reporting structure.

4.2.2 *Choices at the site, building and workplace level*

The third research question, concerning real estate choices, has barely been discussed in the theoretical framework, despite some flexibility issues and statements in the field of workplace management. To gain more insight into the choices companies make within Europe, the questions has been divided into three levels, namely the site, building and workplace level.

²⁸ surveys like *Wasted assets* of Arthur Andersen (1995), *CRE 2000* of Ernst & Young in association with IDRC (1996) and *the annual survey of CRE practices* of the University of Reading (Bon) and Johnson Controls (1998).

This part of the questionnaire is mainly based on several CREM related surveys.²⁹

The site level

The selection of an appropriate location is one of the most important decisions a company has to make, due to its strategic and long-term significance. Given its relevance, complexity and imperative consequences, it is not surprising that the site selection problem is regarded as a key research issue in regional economics and urban planning (Witlox, 1998). In this survey criteria are asked on which most companies rely when making a site selection for either a National Sales & Marketing office or a Pan-European back office. These criteria are divided into regional criteria and criteria in the direct environment of the office building.

The building level

Compared to site selections, building selections are of less strategic and long-term significance. However, selecting the right office building enables organisations to do business more effectively and will probably increase their business performance. Besides these more functional requirements, a company should consider financial options as stated in section 3.2, because selecting a building could be a capital-intensive decision. In the questionnaire, the respondents are asked to indicate building criteria for selecting a National Sales & Marketing office on the one hand and a Pan-European office on the other hand. Secondly, companies are asked which financial option(s) they prefer most.

The workplace level

As argued in section 3.2 the workforce within most organisations is becoming more transient, which results in redesigned workplaces. After all, the working environment should fit a changing organisation in order to improve the business performance. Besides considering the experience with workplace management within Europe, the questionnaire addresses the most important drivers for implementing alternative workplace solutions (Becker et al., 1995).

²⁹ surveys as stated in the previous footnote and questionnaires of Buck Consultant International and DEGW.

4.2.3 *Determinants*

As highlighted in the introduction of this section, three determinants will be analysed in this survey which could possibly affect the involvement of the CRE unit and the choices they make. Hereafter, a brief overview is given of what is meant by each of them.

The sector of industry

In the interviews¹ which were held to complete the theoretical framework, the sector of industry the company is operating in was mentioned as the most important determinant. It is quite obvious that the core business of a manufacturing company differs from that of a financial company. Because of the strong link between the core business and the management of a corporation's real estate portfolio, it can be assumed that the sector of industry determines the way CRE is being managed.

The development stage

The development stage of the company, has been mentioned in these interviews¹ as the second determinant that could possibly affect CREM. The product-life-cycle model is one of the most traditional models in management literature (Gatewood et al., 1995). It provides a useful framework for evaluating the changing phases of a product.

The four stages of a product's life cycle are:

the start-up phase

In this initial phase, the product is introduced and for the most part, has slow growth, as the dominant design of the product is determined by the industry competition. This phase is one of creation and invention. Decisions are often made on targets of opportunity. The eventual form of a product or company is quite uncertain.

The growth phase

This phase is characterised by dramatic increases of market share; product markets and firms grow rapidly. The eventual shape and size of the market may still be unknown.

The maturity phase

Slowing or no growth is typical of the maturity stage in which products exist in a competitive marketplace. Efficiency becomes more important than exploiting uncertainty. The size of the market is pretty well known.

The decline/restructuring phase

This stage, in which cost minimising reigns, is marked with decreases in the growth rates. The product's market is either stable or shrinking. Market share can only come from competitors or from finding new users for the product. There is little uncertainty about outcomes.

The product-life-cycle model is also applicable to organisations, especially those who fail to reengineer their products and processes from time to time (Joroff et al., 1993). Because real estate decisions need to be sensitive to the critical needs of each stage in the life-cycle, it is important to consider them in this survey.

The scope of the CRE unit

In my opinion the scope of the CRE unit is a third possible determinant. It is likely that the involvement of a CRE unit which is responsible for the total European portfolio differs from the involvement of a CRE unit which is responsible for only a part of the portfolio.

4.2.4 *The conceptual framework*

Figure 4.2 again illustrates the conceptual framework as pictured in Figure 4.1. However, it now also illustrates what questions addressed in the questionnaire (right-hand of box) will answer the research questions as stated in the introduction of this section (left-hand of box)³⁰.

³⁰ see appendix II for a copy of the questionnaire.

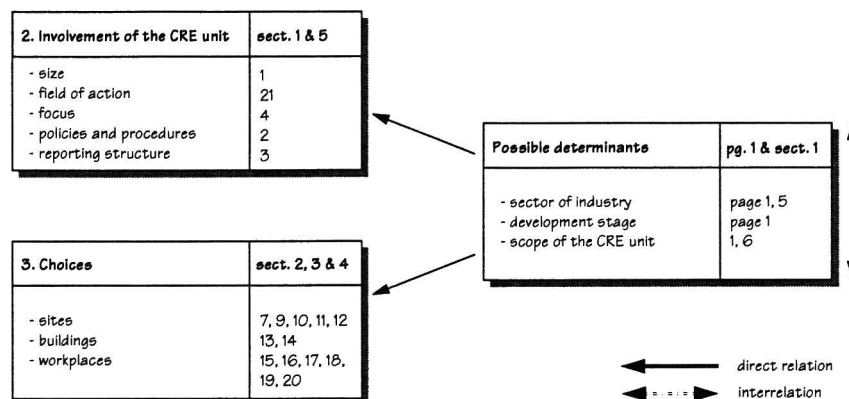


Figure 4.2 Conceptual framework (2)

4.3 Survey background

As mentioned in section 4.2, the survey is based on data collected by questionnaires. To collect information through interviews has been considered, however using questionnaires has many advantages, namely (Baarda et al., 1995):

- it avoids costly and time-consuming visits to the various CRE units all over Europe
- it is much easier to get assistance of CRE units
- the results are easier to compare with each other.

When the decision was made to carry out this survey by questionnaires, two options were available, namely:

- mailing the questionnaire using the name of Eindhoven University of Technology, Twynstra Gudde Management Consultants in Amersfoort and Buck Consultants International in Nijmegen
- mailing the questionnaire using the name of a professional real estate association.

Eventually, it was decided to send the questionnaire to all active members of the Industrial Development Research Council (hereafter: IDRC)³¹ within Europe, because it is a professional association. As most of the multi-nationals which have (parts of) their real estate portfolio in Europe are member of this association, it was assumed that this would increase the response rate and the information level of the data obtained.

³¹ see appendix III for more information about IDRC.

In reviewing the IDRC membership directive (about 170 European members), it appeared that some companies have more than one person who is member of this association. After cross-checking this, approximately 125 companies received a self-administered questionnaire³². As shown in Figure 4.3 the response to the questionnaire can be pictured as follows (Baarda et al., 1995).

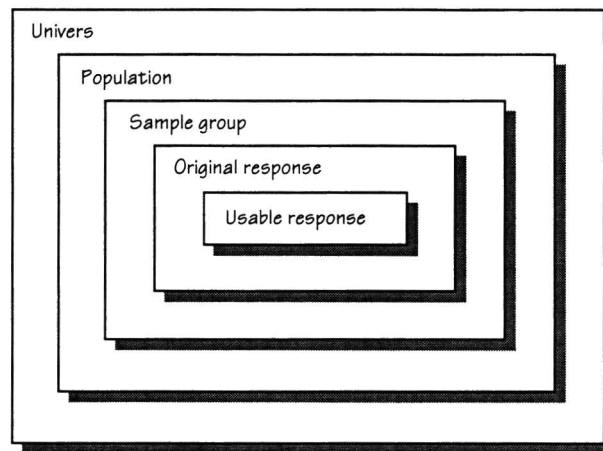


Figure 4.3 Response to the questionnaire
Source: Baarda et al., 1995

The *universe* is all CRE units world-wide, that is the theoretical population. The *population* is all CRE units which are responsible for the management of the European real estate portfolio. The *sample group* is all IDRC members (active members) within Europe. As stated before this includes 170 members representing about 125 companies.

³² after three weeks a fax and telephone follow-up have been carried out to increase the response rate.

The sample group does include companies which can not be characterised as multi-nationals, whereas this was one of the conditions stated in section 1.2. However, these mono-nationals were included in the survey, because otherwise the eventual response would get too small to do significant statements in the field of CREM within Europe. More detailed information about the *original response* (all IDRC members within Europe who did complete and return the questionnaire) and the *usable response* (response that is usable for the data analysis) will be given in section 5.2

In the next chapter the results of the study will be discussed.

5 Results of the survey

5.1 Introduction

This chapter will present the results of the survey. The central issue of section 5.2 is a description of the profile of the respondents including more detailed information about the response to the questionnaire and a description of the three possible determinants mentioned in section 4.2. Section 5.3 focuses on the involvement of most CRE units and the sections 5.4, 5.5 and 5.6 will subsequently discuss the most important choices at the site, building and work-place level. Finally, the chapter is concluded with an overview of the main findings (section 5.7).

5.2 Profile of the respondents

5.2.1 Introduction

Of all European IDRC members³³, 47 members did complete and return the questionnaire. Of this original response, 44 questionnaires were usable, because three companies completed two questionnaires (one at a more central level and one at a decentral level)³⁴. Since the eventual response rate was pretty high (over one third), it is possible to draw some conclusions around the field of CREM within Europe. Nevertheless, the results need to be interpreted carefully. After all, by only surveying companies which are member of a professional real estate association the results may not be applicable to CREM within Europe in general.

In this section the profile of the respondents will be discussed, with a special focus on the sector of industry, the development stage and the scope of the CRE unit. Also, an analysis of the possible interrelation between these three determinants is included.

³³ that is the sample group: 170 members = 125 companies

³⁴ see appendix IV for a list of the participating companies.

5.2.2 *Nationality parent company and establishment of the CRE unit*

Figure 5.1 shows the nationalities of the parent companies included in the sample. The category 'Other' includes French, Danish and Japanese companies. The picture below shows that most companies are Europe and United States based.

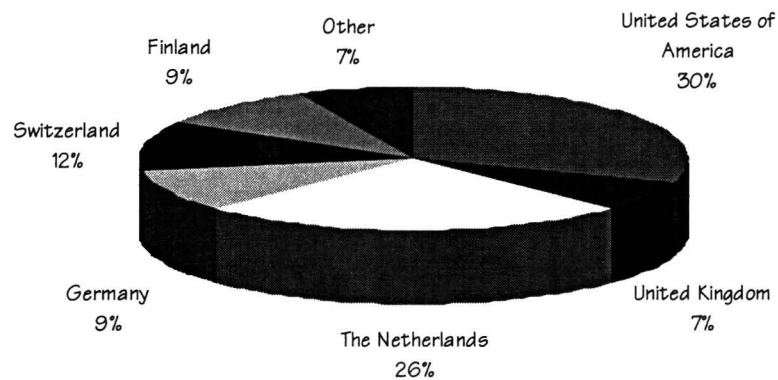


Figure 5.1 Nationality of the parent company

As shown in Figure 5.2 the CRE units are mainly established in the Netherlands, the United Kingdom and Switzerland. The distribution over the countries corresponds to the IDRC membership directive to a certain extent.³⁵ The majority of the companies which are originally European, have established their CRE unit in the same country as the parent company. With regard to American companies there is no significant relation between the nationality of the parent company and the location of the CRE unit within Europe.

³⁵ compared to the membership directive (n=%) relatively few British, German, French and Swedish CRE units did complete the survey, whereas CRE units established in the Netherlands, Switzerland and Finland are well represented.

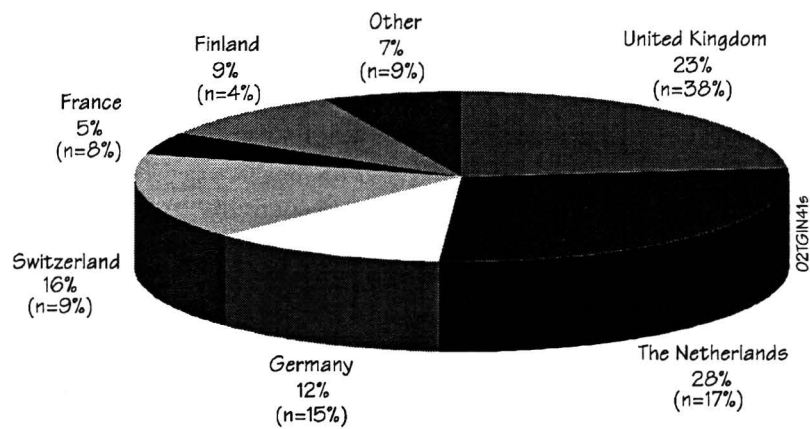


Figure 5.2 Establishment of the CRE unit

5.2.3 Sector of industry

The participating companies are evenly split between the sectors Manufacturing and High Technology. Business & Other Services is the third largest sector and Financial Services is the smallest one (see Figure 5.3).

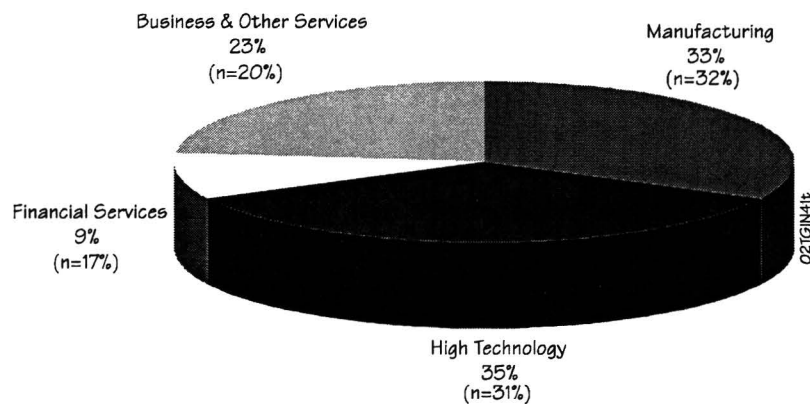


Figure 5.3 Sector of industry

Although financial companies were represented to a greater extent in the original sample group, the percentages in Figure 5.3 correspond reasonable good to the original ones. In the remaining part of this study prudence is called for interpreting results with regard to the sector Financial Services due to its small size.

The division into the four sectors is mainly based on the products and/or services a company provides. The sector Manufacturing includes companies in businesses like the metal, automobile and energy industry. The sector High Technology covers companies in the field of ICT. Financial Services includes both banking and insurance activities. Business & Other Services is the less homogeneous category. It is a residual category which includes for example non profit companies, transport companies and research institutes.

5.2.4 Development stage

As shown by Figure 5.4 the majority of the companies are in an expanding phase of their business.

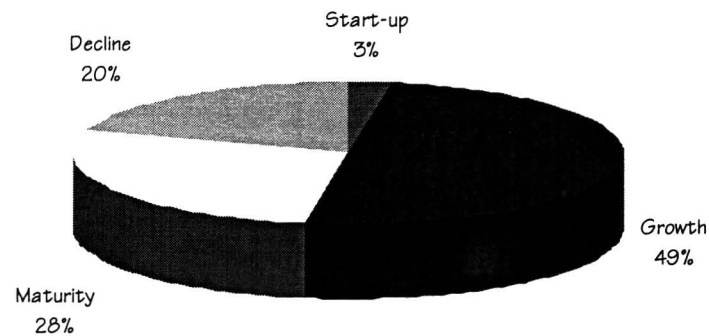


Figure 5.4 Development stages within Europe

Note that the product-life-cycle, as stated in section 4.2.3, is equally applicable to the life-cycle of organisations, especially those who fail to reengineer their products and processes from time to time. However, most companies have several products and/or services in different market places. Therefore, most companies had difficulties to indicate in which development stage their company is in. Therefore, results should be interpreted carefully.

5.2.5 *Scope of the CRE unit*

Four types of CRE units can be distinguished, based on the size and distribution of a company's portfolio within Europe and the CRE unit's corresponding responsibilities:

- A. Central CRE units which are totally responsible for the total European portfolio
- B. Central CRE units which are partially responsible for the total European portfolio
- C. Decentral CRE units which are responsible for a part of the total European portfolio
- D. CRE units which are totally responsible for a geographically focused portfolio, that is responsible for a limited part of Europe or one country ("mono-national").

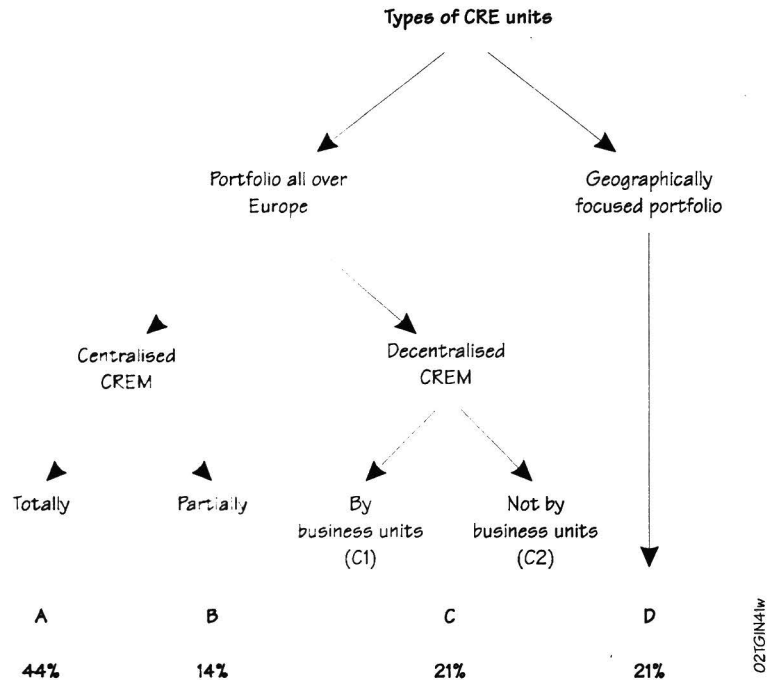


Figure 5.5 Scope of the CRE unit

The findings in Figure 5.5 show that 44% of the respondents have a central CRE unit at the European level which is totally responsible for the European real estate needs, whereas 14% have a central CRE unit which is partially responsible. Over 20% of the companies practice decentralised CREM. Some of these are locally organised by business units (C1), other are also locally organised, but not by business units (C2). More than 20% is taking care of a geographically focused portfolio (kind of mono-nationals). This has not been called decentralised CREM, because these units are providing services to the entire company. In fact these CRE units also practise centralised CREM. However, their scale of operations is much more limited compared to the categories A and B. Although the prime focus of this survey is on multi-nationals (see section 1.2), the findings will also include category D, because of its size.

5.2.6 *Interrelation between the three determinants*

To determine whether there is a possible interrelation between the possible determinants as discussed in the sections 5.2.3, 5.2.4 and 5.2.5, this section considers each interrelation separately.

Sector of industry- development stage

The findings in Figure 5.6 show that the majority of the High Technology companies are in an expanding phase of their business. The Financial sector companies seemed to be in a more mature phase. However, because only 9% of the companies cover this sector it is hard to draw general conclusions.

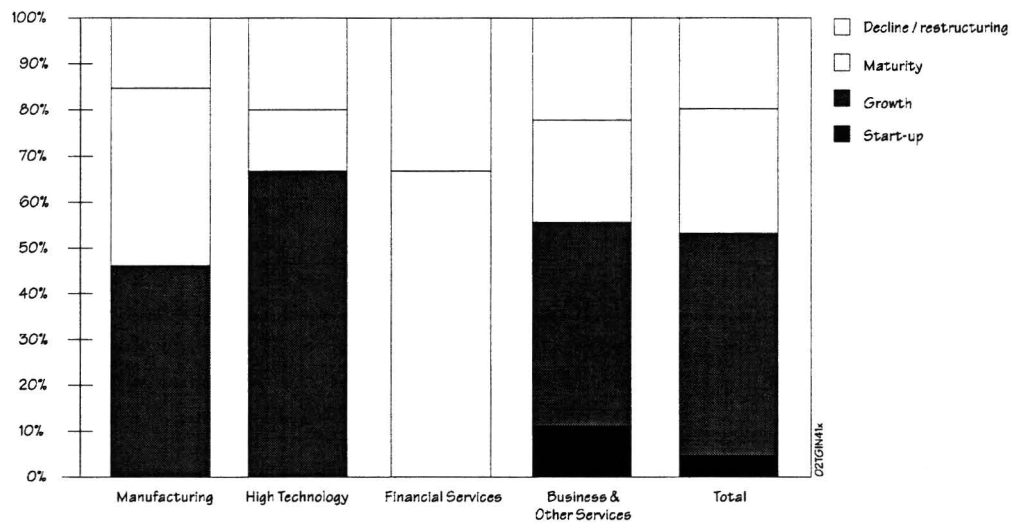


Figure 5.6 Development stage of each specific sector of industry

Sector of industry - scope of the CRE unit

As presented in Figure 5.7, the majority of the Manufacturing companies is managed by decentral units. High Technology companies show a more centralised approach towards CREM. Apparently, corporate alignment is of greater interest within these companies.

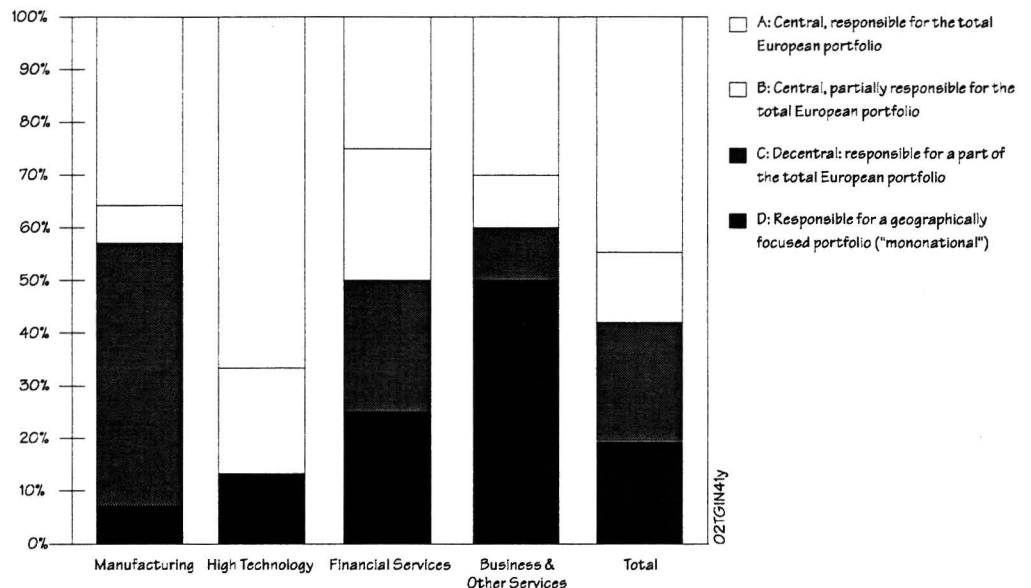


Figure 5.7 Scope of the CRE unit in different sectors of industry

Development stage - scope of the CRE unit

The majority of both expanding companies and mature companies show a more centralised approach. However, the development stage of a company does not determine the scope of the CRE unit significantly.

5.3 Involvement of the CRE unit

The results with regard to the second research question, namely providing insight into the involvement of most CRE units, will be discussed in this section. First of all, more insight will be provided into the size of most CRE units. The central issue of section 5.3.2 is the field of action of most CRE units at the site, building and workplace level. In section 5.3.3 the focus of the CRE unit will be discussed by using a factor analysis. Section 5.3.4 considers at what level most policies and procedures are being issued. Finally, the reporting structure will be discussed in section 5.3.5.

5.3.1 Size of the CRE unit

The column "total" at the right in Figure 5.8 shows that one third of the companies analysed, employ more than 5 full time equivalent (hereafter: fte's) at the central (European) level. However, almost 30% of the companies have more than 50 fte's staff. These results do not include the decentral CRE units, but do include the CRE units which are responsible for a geographically focused portfolio. The high percentage of large CRE unit is influenced by these mono-nationals. After all, these CRE units employ in general, all fte's in the field of CREM, because their scope is limited. In my opinion, the results are also influenced by the fact that some respondents misinterpreted this question. They probably included all fte's who are entrusted, to a greater or lesser extent, with managing a corporation's real estate needs from a CRE executive to a local FM unit.

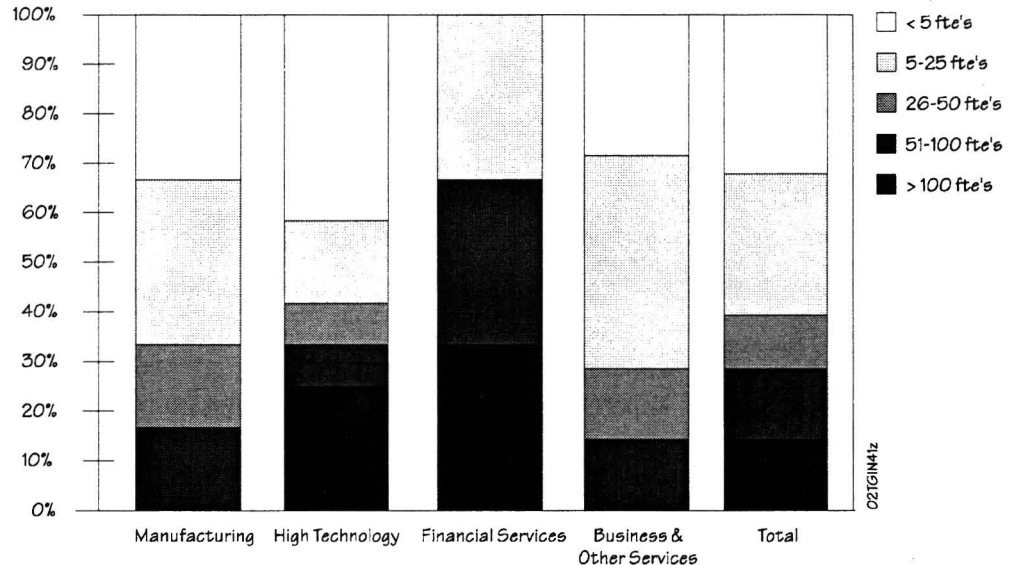


Figure 5.8 Size of the CRE unit

The other four columns show that the larger CRE units tend to be within the financial companies. Linking the size of the CRE unit with the development stage does not provide significant results.

5.3.2 *Field of action*

In this section the field of action of the CRE unit will be discussed at the site, building and workplace level. The question in the survey was formulated as follows: Is the CRE conducting the following activities at the site level. If not, please indicate who else is conducting them?

The site level

As shown in Figure 5.9, most of the companies surveyed, especially those within the High Technology sector, have strategic real estate planning included in their field of action. However, half of the CRE units of Manufacturing companies do not carry out strategic real estate planning themselves. This is generally done by local units/persons and/or other central units/persons within the company like a Chief Financial Officer. Apparently, strategic real estate planning is not such an important issue compared to other sectors of industry. Less than 70% of all CRE units carry out a site selection themselves. This is mostly undertaken by local units/persons. Negotiations/contracts is also an activity which is often carried out at a central level. Within Financial companies this is mostly done at a local level.

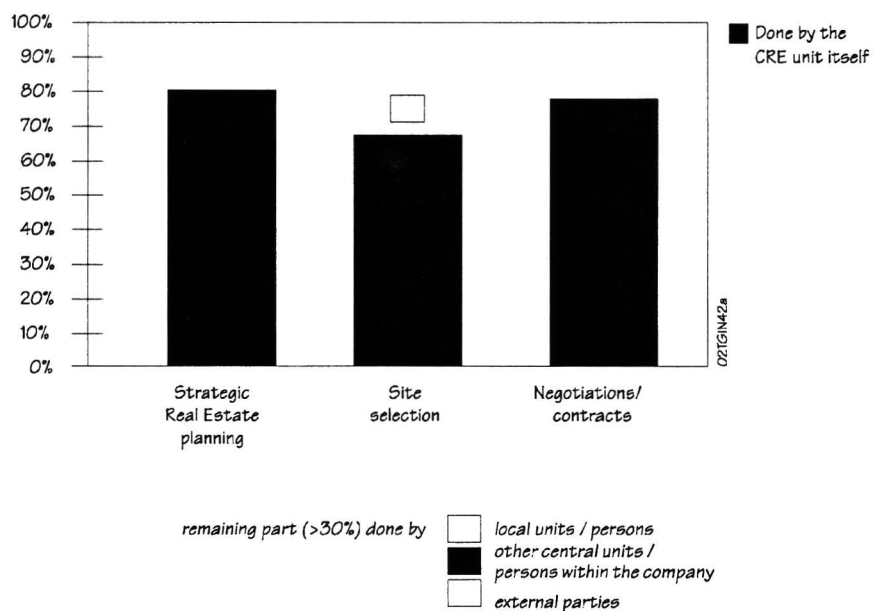


Figure 5.9 Field of action at the site level

Within CRE units with less than 5 fte's staff, the activities strategic real estate planning and negotiations/contracts are always carried out by the CRE unit itself. Site selections are not often part of the assignment of duties of these smaller CRE units; only 50% of them are entrusted with this activity.

Building level

The findings show that the activities acquisition/disposal, sales & lease back agreements, strategic brief and benchmarking are mostly undertaken by the CRE units themselves. Especially the smaller CRE units carry out benchmarking activities themselves. As indicated in Figure 5.10 activities in the field of CPM (including design and maintenance) are less often carried out by the CRE units³⁶. These activities are mostly undertaken by external parties.

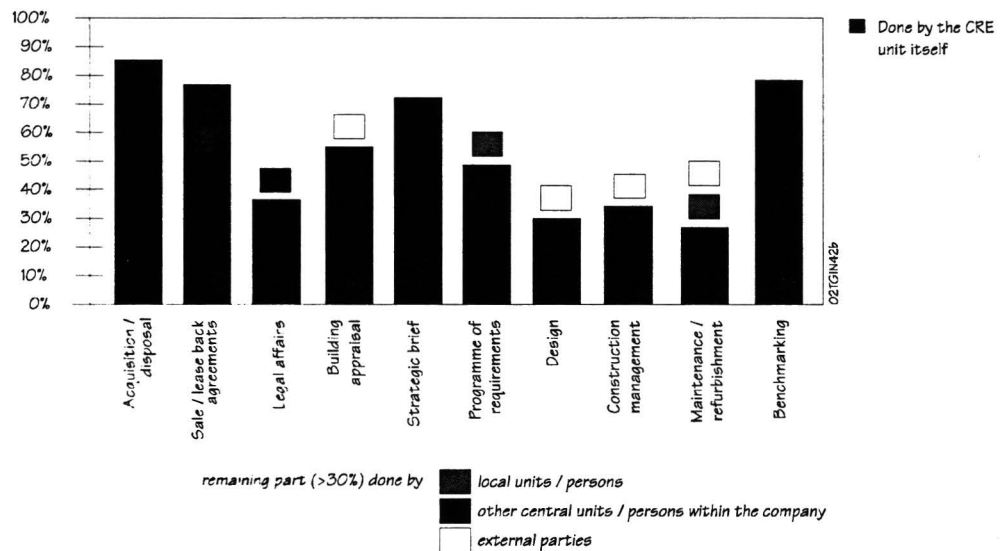


Figure 5.10 Field of action at the building level

Within almost 70% of the High Technology companies the activities building appraisal and programme of requirements are carried out by external parties. Manufacturing and financial companies have most activities executed at a local level. There is no significant relation between the field of action of a CRE unit and the development stage of a company.

³⁶ this applies best to most smaller CRE units.

Workplace level

Compared to the site and building level, activities at the workplace level are less often undertaken by the CRE unit itself (see Figure 5.11). These activities are mainly carried out by local units/persons or external parties. Especially space planning and programme of requirements are often issued at a local level. At the workplace level benchmarking is again an important tool. In order to get some (management) control, over 60% of the respondents (100% of the smaller CRE units) carry out benchmarking activities themselves. There is no significant relation between the field of action of the CRE unit and the sector of industry neither with the development stage of a company.

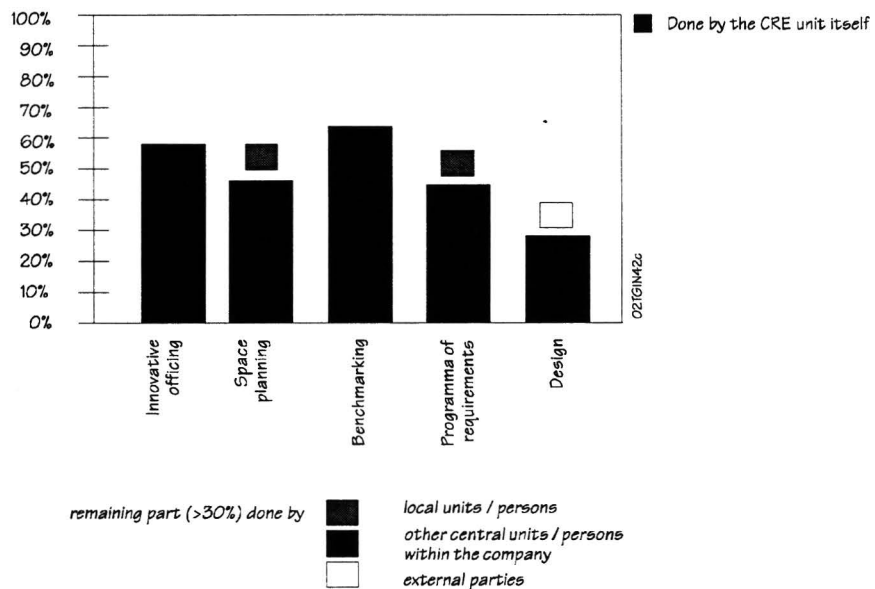


Figure 5.11 Field of action at the workplace level

5.3.3 *Focus of the CRE unit*

The results of the survey show that only 10% of the CRE units surveyed is still predominantly technically focused³⁷. Still, more than half of the CRE units are financially driven and have an accounting emphasis. The majority of the CRE units surveyed show a strong focus on the business³⁸. Over 90% of the companies work closely with business units to provide services that are aligned with their strategy. Furthermore, the internal strategy is more and more integrated with other departments, corporate financial issues like shareholder values are being considered, the types of property used are being compared to that used by other companies, business trends are being evaluated, etcetera.

5.3.4 *Level of policies and procedures*

Centrally organised CRE units show a more European or global approach towards policies and procedures compared to decentrally organised CRE units. Corporate alignment is apparently highly valued within these companies. As shown by Figure 5.12 there is still a considerable part of companies which have a centrally organised CRE unit, but issue policies and procedures at the country level. Of course, within mono-nationals policies and procedures are issued at the country level.

³⁷ see appendix V for an overview of 15 statements concerning the focus of the CRE unit.

³⁸ CRE units in the Business & Other Services sector show a less strong focus.

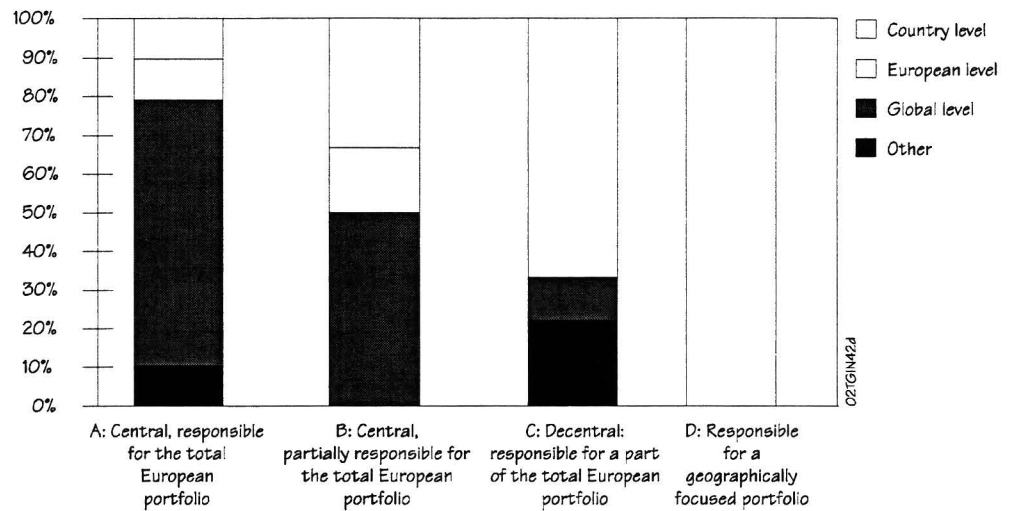


Figure 5.12 Level of policies and procedures

The results related to the four distinguished sectors of industry match the results pictured in Figure 5.7: High Technology companies have a more centralised approach, whereas over 40% of the Manufacturing companies issue their policies and procedures at the country level. Still a considerable part of the Manufacturing companies have global policies and procedures. Linking the development stages of a company with the level of policies and procedures show no significant results.

5.3.5 Reporting structure

To the question "To what department does the CRE unit in general report to?" over 50% of the respondents answered: Financial Management. As indicated by Figure 5.13 especially Manufacturing and High Technology companies report to their Financial Management. The results also show a strong link with General Management, including Board of Directors, Vice Presidents, Chief Executive, etc. There are no significant differences in reporting structure between centralised and decentralised CRE units. The CRE units which are in an expanding phase of their business show the most strong link with their Financial Management.

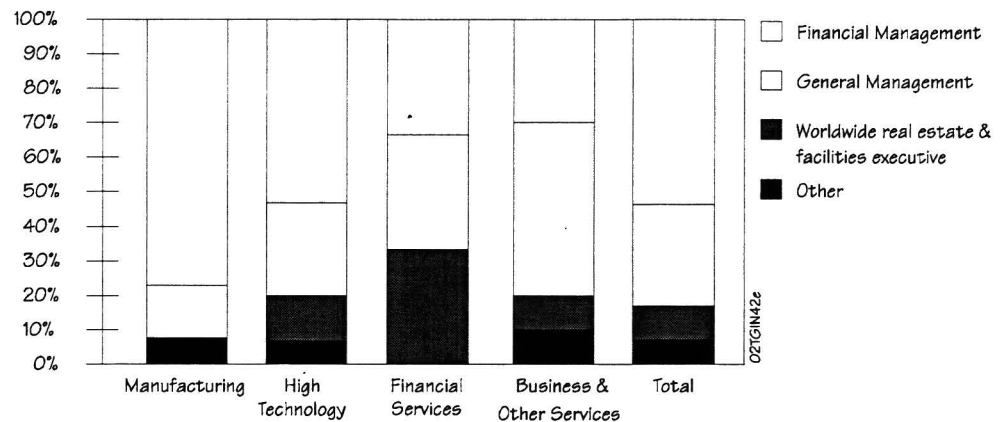


Figure 5.13 Reporting structure within each sector of industry

5.4 Choices at the site level

This paragraph will show the main findings with regard to the most important choices of the CRE units within Europe at the site level. First of all, the most and less favourable areas within Europe for establishing office buildings will be presented (section 5.4.1), followed by the most important regional location factors (section 5.4.2). Finally, the most important factors concerning the direct environment of (a) building(s) will be discussed (section 5.4.3).

5.4.1 Acquisitions & disposals

For the coming three years, over 70% of all companies surveyed are planning to acquire/build new premises and over 75% are planning to dispose of or to downsize their current premises. Especially the Manufacturing companies want to dispose of their current premises. Compared to Pan-European Back offices, National Sales & Marketing offices show more dynamics within Europe with regard to both acquisition and disposal. As can be concluded from Figure 5.14, over 60% of the companies are planning to acquire a National Sales & Marketing office in Eastern Europe. For over one third of the companies the United Kingdom/Ireland and Benelux are favourite regions. The findings show that for disposing of National Sales & Marketing offices mainly the United Kingdom/Ireland and Germany are under consideration. Apparently there are no significant new favourable countries/regions for establishing National Sales & Marketing offices, with the exception of Eastern Europe. The findings do not show much differences in preferences of the companies surveyed for acquiring a Pan-European Back office.

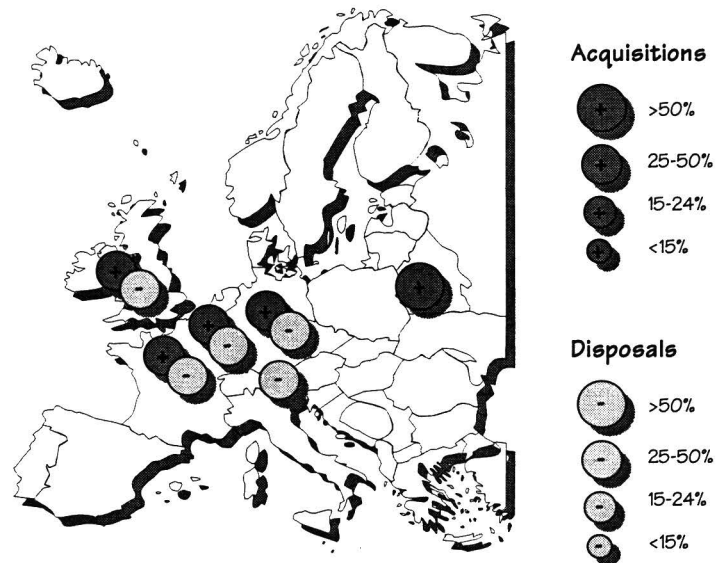


Figure 5.14 Acquisitions and disposals of National Sales & Marketing offices within Europe

As can be concluded from Figure 5.15 only few companies want to dispose of their current Pan-European Back office(s). These results also show only small differences between the several countries.

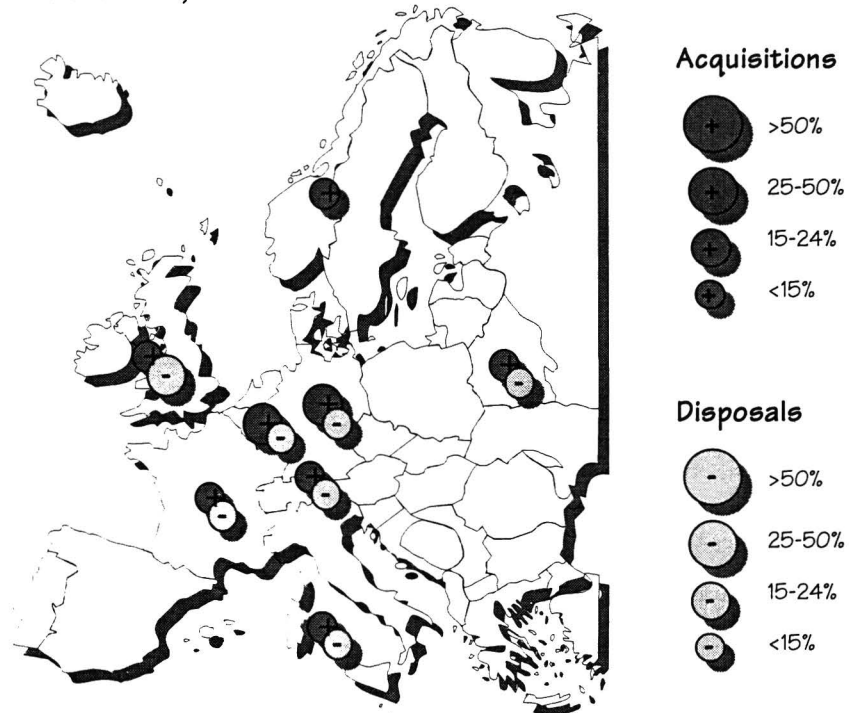


Figure 5.15 Acquisitions and disposals of Pan-European Back offices within Europe

5.4.2 Regional location factors

Almost 90% of the respondents state client adjacency as one of the five most important factors for establishing a National Sales & Marketing office. The factors infrastructure, position to the (European) market, availability of qualified people and price/quality ratio of real estate have been mentioned as respectively the second, third, fourth and fifth most important factor.

For establishing a Pan-European Back office the adjacency of clients seemed to be less important compared to National Sales & Marketing offices. Availability of qualified people has been mentioned by almost 80% of the respondents as one of the five most important factors for establishing a Pan-European Back office.

Figure 5.16 gives an overview of the top five of most important and less important regional location factors for establishing National Marketing & Marketing offices and Pan-European Back offices³⁹. For example, the availability of incentives has been mentioned by only 3% of the respondents as an important factors in selecting a National Sales & Marketing office.

	National Sales & Marketing offices	Pan-European Back offices
Most important	<ol style="list-style-type: none"> 1. Client adjacency (88%) 2. Infrastructure (78%) 3. Position to (European) market (69%) 4. Availability of qualified people (53%) 5. Price/quality ratio of real estate (53%) 	<ol style="list-style-type: none"> 1. Availability of qualified people (77%) 2. Infrastructure (62%) 3. Price/quality ratio of real estate (54%) 4. Position to (European) market (46%) 5. Economic profile (39%) Advanced telecom facilities (39%) Client adjacency (39%)
Less important	<ol style="list-style-type: none"> 1. Availability of incentives (3%) 2. Labour costs (6%) 3. Building & environm. regulations (6%) 4. Co-operation with local municip. (6%) 5. Quality of life (13%) 	<ol style="list-style-type: none"> 1. Building & environm. regulations (4%) 2. Co-operation with local municip. (8%) 3. Availability of incentives (8%) 4. Quality of life (12%) 5. Corporate tax levels (27%)

Figure 5.16 Most and less important regional location factors classified according to assigned importance

5.4.3 Site factors

As shown in Figure 5.17 almost 80% of the companies surveyed mention the price/quality ratio as one of the three most important factors in a site selection of a National Sales & Marketing office as well as a Pan-European Back office. Visibility has been mentioned by over half of the respondents as one of the most important factors for National Sales & Marketing offices, whereas this factor was mentioned by only 12% of the companies with regard to Pan-European Back offices. This factor is less significant to most Manufacturing companies. Accessibility is an important issue for both kinds of offices. The quality of public transport seemed to be relatively more important for establishing a Pan-European Back office⁴⁰.

³⁹ see appendix VI for an overview of all regional location factors.

⁴⁰ see appendix VII for an overview of all site factors.

	National Sales & Marketing offices	Pan-European Back offices
Most important	1. Price/quality ratio of real estate (77%) 2. Visibility (52%) 3. Car accessibility (50%)	1. Price/quality ratio of real estate (77%) 2. Quality of public transport (56%) 3. Car accessibility (46%)
Less important	1. Public security (10%) 2. Reputation (13%) 3. Amenities (16%)	1. Public security (8%) 2. Visibility (12%) 3. Reputation (12%)

Figure 5.17 Most and less important site factors classified according to assigned importance

5.5 Choices at the building level

This section describes the most important building factors (section 5.5.1) as well as the current and future financial status of European real estate portfolios (section 5.5.2).

5.5.1 Building factors

The results show that a selection of both a National Sales & Marketing office and a Pan-European Back office most often is based on the price/quality ratio of the building. Almost 60% of the respondents mention the identity of a National Sales & Marketing office as one of the five most important factors. For Manufacturing companies the identity is less significant, whereas the factor sustainable housing plays a more important role.

The high score of factors like floor dimension, communication infrastructure and HVAC (zoning and control) implicate a need for building flexibility. Figure 5.18 highlights that flexibility requirements tend to be a bit more important in selecting a Pan-European Back offices⁴¹.

⁴¹ see appendix VIII for an overview of all building factors.

	National Sales & Marketing offices	Pan-European Back offices
Most important	<ol style="list-style-type: none"> 1. Price/quality ratio of real estate (88%) 2. Identity (58%) 3. Floor dimension (46%) 4. Communication infrastructure (42%) 5. HVAC (zoning and control) (53%) 	<ol style="list-style-type: none"> 1. Price/quality ratio of real estate (86%) 2. Floor dimension (64%) 3. Communication infrastructure (54%) 4. HVAC (zoning and control) (43%) 5. Security (43%)
Less important	<ol style="list-style-type: none"> 1. Architecture (9%) 2. Sustainable housing (15%) 3. Floor shape (15%) 4. Transport system (15%) 5. Single use of building (15%) 	<ol style="list-style-type: none"> 1. Transport system (7%) 2. Main entrance (7%) 3. Architecture (11%) 4. Exterior/interior maintainability (14%) 5. Floor shape (17%)

Figure 5.18 Most and less important building factors classified according to assigned importance

5.5.2 *Financial status*

The findings show that both the Manufacturing and the Financial Services companies own about 60% of their office portfolio, whereas High Technology companies lease/rent over 60% of their office portfolio (see Figure 5.19). In order to accomplish a reduction of the capital employed and to create more flexibility, most companies surveyed, especially those in the High Tech sector, are thinking of leasing/renting more and more within the next three years. The companies which are in an expanding phase of their business are leasing/renting over 50% of their office portfolio, the companies which are in a mature phase about 18% and the companies which are in a decline stadium only about 14%.

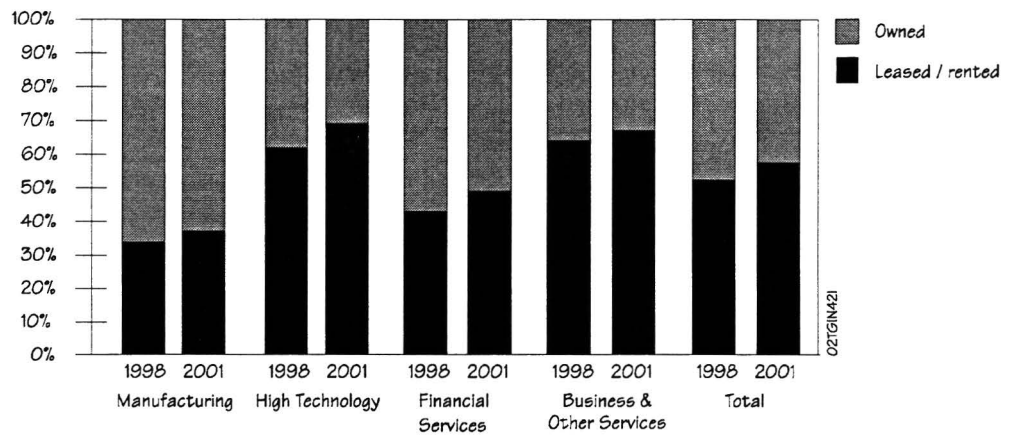


Figure 5.19 Financial status of the office portfolio 1998 - 2001

5.6 Choices at the workplace level

This section focuses on the experience of companies with alternative workplace solutions: is workplace management supported by both the corporate parent and the business, does the unit conduct post-project evaluations, what are most solutions based on, etcetera? This section is concluded with the most important drivers for implementing alternative workplace solutions (section 5.6.2).

5.6.1 Experience with workplace management

As presented in Figure 5.20 companies expect to implement more alternative workplace solutions within the next three years. This means they will redesign their traditional offices (e.g. non-territorial offices, universal plan offices and team offices) an/or they will distribute their employees in new workplaces (e.g. home-based telework, satellite offices and virtual offices). The Manufacturing and Business & Other Services companies have the fewest experience with alternative workplace solutions⁴².

⁴² also very low response rates to this question.

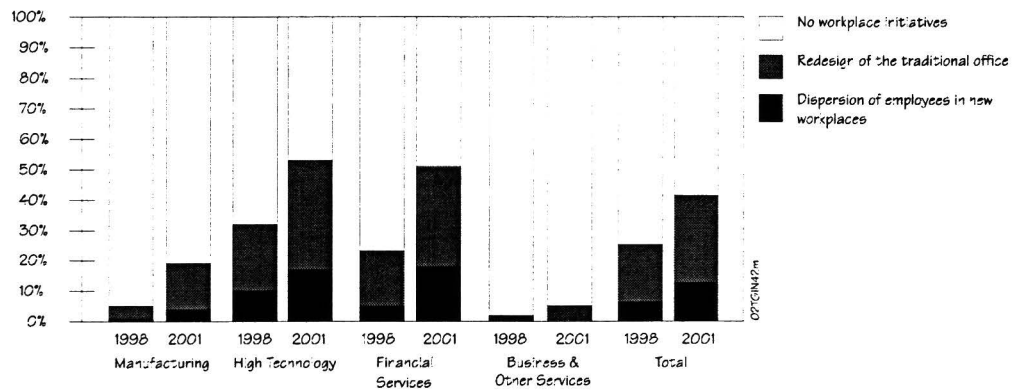


Figure 5.20 Degree of experience with workplace management (1)

Only 13% of the office portfolio of all companies analysed can be characterised as *non territorial* which means: the individual employee is not entitled to a designated office, workstation or desk. The companies surveyed expect this percentage to rise up to 20% within the next three years. Figure 5.21 shows that the High Technology sector has the largest share of non territorial offices whereas companies in the Business & Other Services have the smallest share.

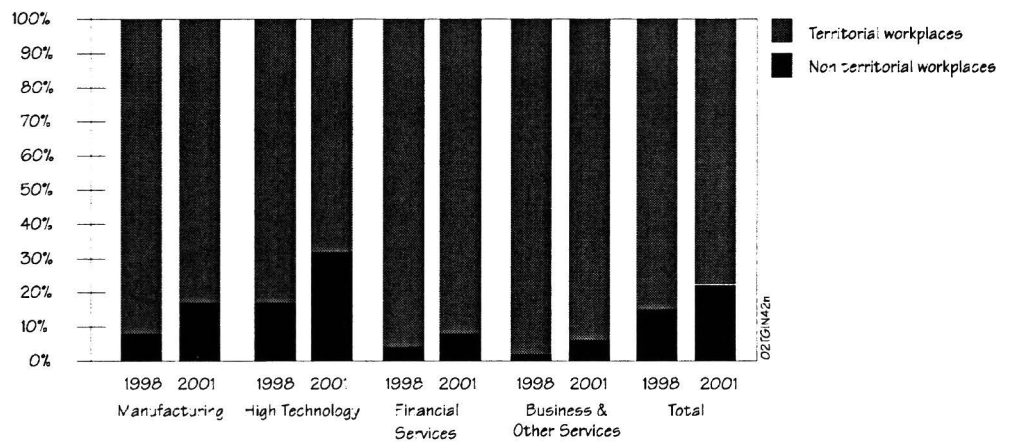


Figure 5.21 Degree of experience with workplace management(2)

Almost 70% of the CRE units present alternative workplace solutions⁴³ to top management and incorporate space planning into strategic business planning⁴⁴. For alternative workplace solutions to be successful, most CRE units complete strategies in close co-operation with the business units. Besides actively integrating with business units and top management, 60% works in close liaison with ICT. This is not the case with regard to HR. Over half of the CRE units are not working closely with HR. Although most CRE units expect more workplace changes as illustrated in both Figure 5.20 and 5.21, they lack performance measures to evaluate the benefits of alternative officing.

5.6.2 *Drivers for workplace management*

The majority of the companies surveyed state reducing costs, increasing flexibility and optimising space as most important drivers for workplace management. All these factors are more or less financially driven. Figure 5.22 shows that the satisfaction of employees ranks only seventh. For companies in an expanding phase of their business, increasing flexibility is the most important driver. Reducing costs and employee productivity are mentioned by these companies as respectively the second and the third most important driver.

⁴³ an alternative workplace solution means a non-traditional workplace concept.

⁴⁴ see appendix IX for an overview of 11 statements concerning the experience of the CRE unit with workplace management.

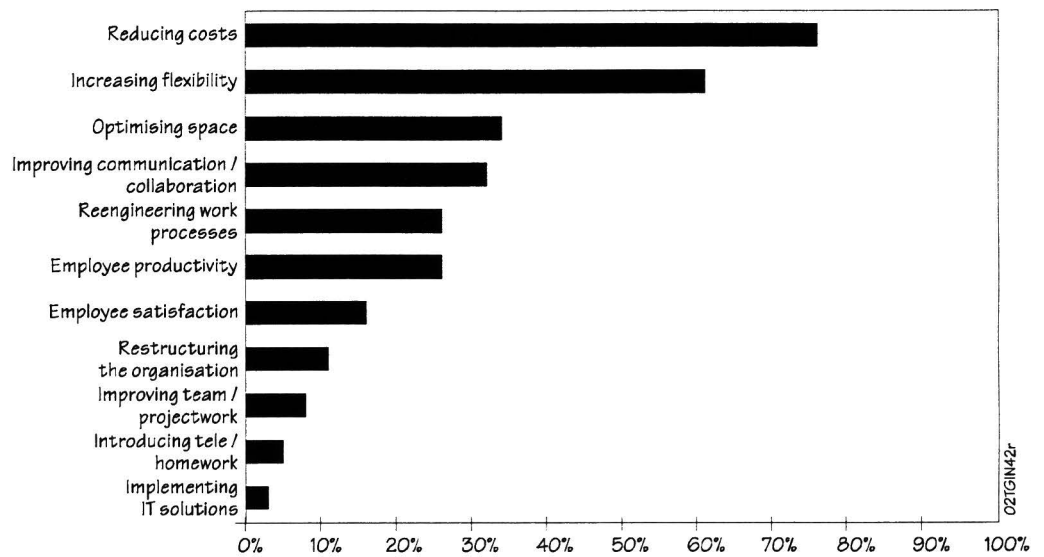


Figure 5.22 Drivers for workplace management

5.7 Conclusions Part B: Survey

5.7.1 Involvement

CRE units are shifting away from a pure operational role to a combined strategic and operational function. At the site level, activities are often the sole responsibility of the CRE unit. At the building level, the CRE unit works in co-operation with local units and external providers. Activities at the workplace level are for the greater part done by local units and external providers (see Figure 5.23).

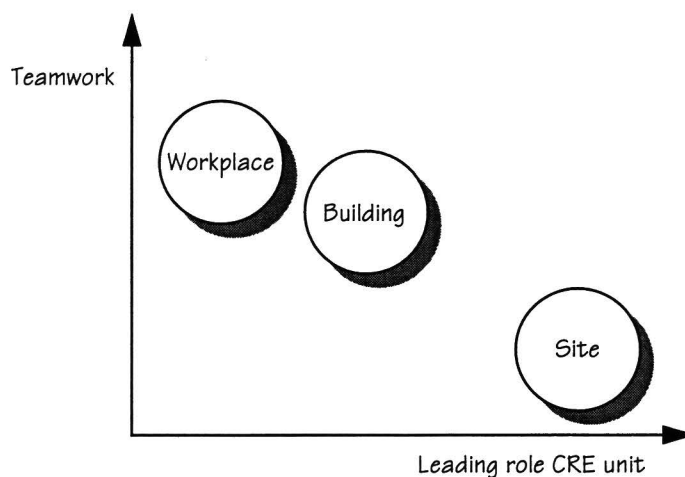


Figure 5.23 Involvement of the CRE unit

Especially activities in the field of CPM are mostly done by external parties. Benchmarking is for most CRE units at both the building and workplace level an important (management) tool. This applies best to the smaller CRE units which mainly carry out the more strategic activities.

CREM is still very much financially driven. However, the focus is not only on reduction of cost, but increasingly adding value. Instead of being predominantly occupied with technical activities, more and more CRE units are looking into the prime business process (both corporate and business units).

5.7.2 Choices

Site level

- Compared to Pan-European Back offices, National Sales & Marketing offices show more dynamics within Europe. The main market trend for establishing a National Sales & Marketing office is Eastern Europe. The findings do not show much differences in preferences of the companies surveyed for acquiring a Pan-European Back office.

- Client adjacency is the most important regional location factor for establishing a National Sales & Marketing office. Availability of qualified people is a critical issue for establishing a Pan-European Back office. Half of the respondents mention the price/quality ratio of real estate in a specific region/country as one of the five most important factors.
- The price/quality ratio of real estate is the most important factor in a site selection of both a National Sales & Marketing and a Pan-European Back office. For establishing National Sales & Marketing offices, visibility has been mentioned as the second most important factor; a site selection for establishing a Pan-European Back office is often driven by accessibility requirements.

Building level

- Building selection are most often driven by price/quality ratio's, identity and flexibility requirements like floor dimension, communication infrastructure and (the zoning and control of) HVAC.
- In order to accomplish a reduction of capital employed and to create more flexibility, the majority of the companies surveyed, especially the High Technology companies, prefer to lease or rent more of their office portfolio within the next three years. This can be achieved by disposing of current premises or by sale & lease back constructions.

Workplace level

- CRE units are actively integrating with business units and ICT with regard to workplace management. Top management is to a certain extent involved and most of the companies incorporate space planning into strategic business planning. The link with HR in workplace management is less strong.
- The Manufacturing and Business & Other Services companies are not very experienced with innovative officing. The High Technology sector has the largest share of non territorial offices, whereas companies in the Business & Other Services have the smallest share. Although most companies expect more workplace changes within the next three years, they lack performance measures to evaluate the benefits of alternative workplace solutions.

- Reducing costs, increasing flexibility and optimising space are the most important drivers for workplace management. All three are more or less financially driven. Employee satisfaction ranks only seventh.

Reviewing the results out of the questionnaire presented in this chapter, it can be concluded that the involvement of CRE units in the management of the real estate portfolio and the choices they make within Europe are mainly determined by the sector of industry and partly by the development stage the company is in. The third possible determinant, scope of the CRE unit, does not show a significant relation with the management of a corporation's real estate needs. In my opinion the scope of the CRE unit is related to the other two determinants: sector of industry and development stage. In this respect, the scope of a CRE unit is a characteristic of CREM and not a determinant in itself.

The results shown in this chapter, are mostly descriptive instead of explanatory. Therefore they will be discussed in more detail in the following chapter.

Part C Evaluation

Chapter 6 Validation

Chapter 7 Conclusions and recommendations

6 Validation

6.1 Introduction

This chapter will present a validation of both the theoretical framework (Part A) and the results of the survey (Part B). This validation will mainly address the second and third research question, more specifically the involvement and the choices of the CRE unit within Europe.

In my opinion, differences in the involvement of a CRE unit and the choices they make are mainly a result of differences in the *importance of professional CREM* within the four sectors of industry and the four development stages of a company. Since most of the results pictured in the previous chapter were determined by the sector of industry, this process of validation is based on interviews with representatives of all four sectors of industry, i.e. Manufacturing, High Technology, Financial Services and Business & Other Services⁴⁵.

In the following, the importance of professional CREM is discussed within the four distinguished sectors of industry (section 6.2) and how this is determined by the development stage of the company (section 6.3). Furthermore, section 6.4 considers the involvement of the CRE unit, with the emphasis on the field of action of the CRE unit and its focus. Section 6.5 addresses the most important choices and how these choices are determined. In section 6.6 a personal view is given on the field of tension the CRE unit is working in and the field of CIRM. Finally, in section 6.7 an evaluation is given of this chapter.

6.2 Importance of professional CREM within the sectors of industry

As argued before, the fact that most results are driven by the sector of industry can be explained by the differences in importance of professional CREM within the several sectors. In the following, the importance of professional CREM within each sector will subsequently be discussed.

⁴⁵ hereafter these interviews are called: interviews². See appendix I for an overview of the interviewees².

Manufacturing

The majority of Manufacturing companies practise decentralised CREM in which corporate alignment is not a very important issue. Apparently, these companies recognise the value of professional CREM to a lesser extent compared to other sectors. In my opinion there are three possible reasons for this:

- the business process of Manufacturing companies is totally different. In general, their business units operate quite autonomously; they have their own suppliers, their own products and their own customers. Consequently, in the management of their real estate portfolio they also prefer economies of speed instead of economies of scale
- managing an industrial real estate portfolio differs from managing a portfolio which predominantly consists of offices. The majority of the offices within these companies are often an integral part of an industrial complex, sometimes even surrounded by a fence. Consequently, offices are very hard to dispose of when no longer useful in terms of functionality. After all, out of corporate policies, most companies do not want to acquire an office which is part of an industrial plant with a specific identity. Moreover, they would have to deal with more complex security and safety measures. Since the future value of these offices is nil, most industrial CRE units do not have to strive for optimising the indirect return on investment (marketability), but for minimising costs
- real estate costs are not the second largest costs after personnel costs (compare section 1.1). The machinery, installations and other equipment are much more expensive. Because the real estate costs are quite marginal, the need for professional CREM is less important.

High Technology

Within High Technology companies real estate is more meaningful. Because real estate costs are normally the second largest costs, companies are paying more attention to the management of their real estate portfolio. The results show that most High Technology companies report to their Financial or General Management. This indicates access to a more strategic level. As a result of this, companies will probably take more account of property (costs) in their business than other companies do.

Financial Services

It is very hard to draw general conclusions for the Financial Services sector, because it was poorly represented in the sample group.

Compared to the High Technology sector, real estate costs are also the second largest costs and their portfolio has also a large share of offices. However, financial companies show a less strong centralised approach. A possible explanation for this might be that the financial business has a larger spread in its offices portfolio (closer to its clients). Moreover, because of the business they are in, there is a lot of local, predominantly financial, expertise. However, compared to the Manufacturing companies, CREM within financial companies is not that much decentralised. Corporate alignment is valued to a greater extent, especially with regard to corporate identity.

Business & Other Services

The fourth sector is a residual sector, as a result of which it is very difficult to state what the importance of CREM is for all companies in this group. For the validation of this group, a representative of the Distribution sector was interviewed. In the following, I will use this interview to refer to. The importance of professional CREM within the Distribution sector lies between the importance within Manufacturing companies and High Technology companies. Just like in Manufacturing companies, real estate costs are not one of the largest costs. Besides this, the business process, followed by the management of the real estate portfolio, is quite decentralised in which corporate alignment is not highly valued.

Reviewing the results of the survey, it is fair to state that the importance of professional CREM correlates to a certain extent with the share of offices within the total real estate portfolio. Companies which have a real estate portfolio that predominantly consists of offices more often consider real estate as a fifth corporate resource, rather than as a cost of doing business. These companies show a more centralised approach toward CREM in which corporate alignment is highly valued.

6.3 Importance of professional CREM in the development stages

The survey shows a less important link between the way the real estate needs of a company are being managed and the development stage of a company. In my opinion this is partly due to the fact that most companies had difficulties to indicate in what stage they are, because they have several products and/or services in different market places with different product-life-cycles. However, the interviews² revealed that the need for professional CREM indeed depends on the development stage a company is in.

In an expanding phase of the business, the need for corporate alignment is not so large, because efficiency is less important. Although still some policies and procedures are set at the corporate level, the real estate needs are mainly taken care of at a local level (decentralised CREM). In this phase, the corporate parent is in general mainly focused on optimising returns, whereas minimising real estate costs is a less important issue. In times of restructuring, the corporate parent is normally more involved. Because efficiency becomes more important, it sets stronger directives, standards, etcetera (centralised CREM). The emphasis within CRE is more on controlling costs.

Companies in the expanding phase of their business show a stronger link with Financial Management⁴⁶. Perhaps this can be explained by the fact that capital allocation is a more important issue among these companies. After all, if the business runs well, the return on capital employed in the business is much higher than the return on real estate⁴⁷ (see section 3.2).

⁴⁶ as stated in section 5.3.5 most companies report to their Financial Management. This can be explained by the fact that CREM is still considered within a lot of companies as a cost of doing business, rather than a corporate resource. Compared to core activities, CREM is more subjected to cost-cutting / optimising. General Management is more interested in return rates and is therefore mainly focused on core activities.

⁴⁷ for example: ROCE in the business is 25-30% and ROCE in real estate is about 5% within Manufacturing companies.

6.4 Involvement of the CRE unit

In the previous sections more insight is provided into the relation between the importance of professional CREM and the four sectors of industry (section 6.2) and the development stage of a company (section 6.3). Reviewing these results, this section will mainly answer the second research question, namely providing insight into the involvement of CRE units in managing their European real estate portfolio. Therefore both the field of action of the CRE unit (section 6.4.1) and its (changing) focus (section 6.4.2) will be discussed.

6.4.1 *Field of action of the CRE unit*

Figure 6.1 again shows the field of CREM as pictured in the concluding section of the theoretical framework (Part A). According to the interviewees² and the results of the questionnaire it corresponds to a large extent to CREM in practice.

Most companies are involved at the tactical level in the field of Financial & Legal REM. Especially the CRE units within the High Technology and Financial Services sector aspire to be more involved at the strategic level, concerning the CRE strategy. Compared to Manufacturing and Distribution companies, more directives and policies are set from a corporate point of view. The CRE units try to translate these into operational goals. Most of the CRE units within the Manufacturing and Distribution sector, working at the tactical level as well, are more entrusted with controlling if the real estate costs are within the budget. Sometimes they have a consulting role, or even an approving role, in acquisitions and major refurbishments/redevelopments. The operational level is not being considered as part of the field of action of a CRE unit⁴⁸. However, it is an important field for special attention.

⁴⁸ with the exception of major refurbishments and redevelopments (CPM). In this, the CRE unit fulfils an intermediary role.

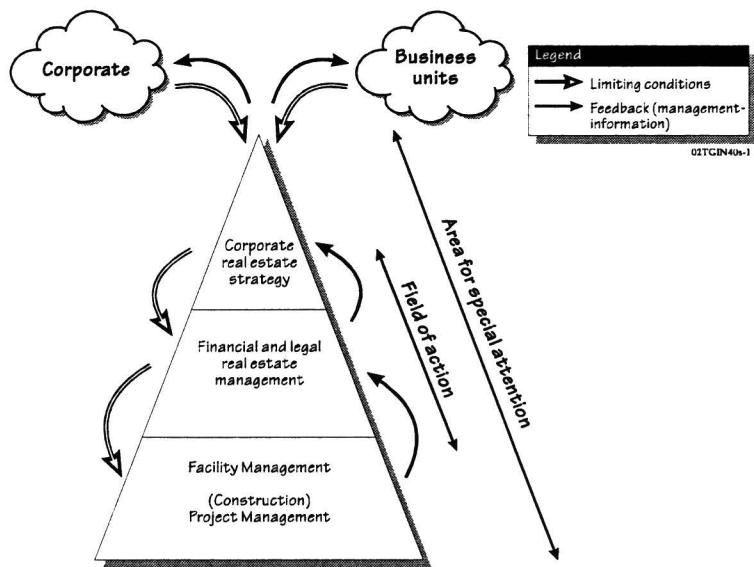


Figure 6.1 Field of CREM

Figure 6.2 again shows the involvement of the CRE unit as pictured in the concluding section of the survey (Part B). Compared to the model pictured in 6.1, it illustrates the involvement of the CRE unit at three levels, the site, building and workplace level. According to the interviewees² this figure corresponds to a large extent to CREM in practice.

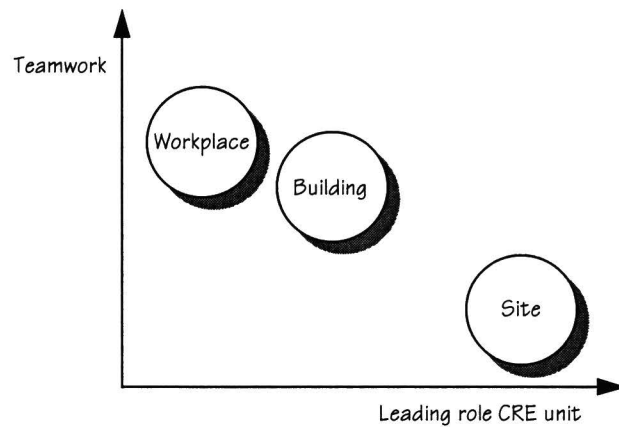


Figure 6.2 Involvement of the CRE unit

All four interviewees² explain the leading role of the CRE unit at the site level by the fact that deciding on locations affects the business performance most. In such strategic decisions, aspects like adjacency to customers, suppliers and employees have to be taken into account. Most CRE units are to a lesser extent involved at the building and workplace level. At the building level, the CRE unit works in cooperation with local units and external providers, especially in the field of CPM. Acquisitions and sale & lease back agreements are often the responsibility of the CRE unit itself⁴⁹. Activities at the workplace level are for the greater part undertaken by local units and external providers. At this level, the central unit is mainly involved in creating commitment for innovative officing among its users and the corporate parent.

Although most activities are done locally, companies strive for some management control at the central level. Therefore most CRE units, especially those within High Technology and Financial companies, try to obtain insight into the performance of buildings and alternative workplace solutions by carrying out benchmarking activities and analysing the feedback given by local units⁵⁰.

Smaller CRE units (less than 5 fte's staff)⁵¹ mainly carry out activities of strategic and long-term significance, like strategic real estate planning and acquisitions & disposals of sites and/or buildings.

⁴⁹ within the Financial Services sector, local units do also have this expertise.

⁵⁰ please note that within some companies the FM unit is not only entrusted with service management, but it also tries to optimise the prime process by carrying out internal and external benchmarking studies. These innovative FM units provide the CRE unit with more advanced information (bottom-up), which the CRE unit can use to formulate, if necessary, new policies and procedures.

⁵¹ as indicated in section 5.3.1 the larger CRE units tend to be within the Financial sector companies. The survey "Wasted assets" carried out by Arthur Andersen in 1995 showed similar findings. The University of Reading (Bon) and Johnson Controls concluded in their annual survey of 1998 that the number of CRE employees in general has doubled. This is quite surprising given the fact that a lot of activities have been outsourced nowadays. A possible explanation could be that because of the ongoing globalisation, real estate portfolios have grown and CRE units had to expand. However, the key indicator *CRE employee per property* has not dropped.

Benchmarking activities at the building and workplace level are always undertaken by smaller CRE units themselves. Because they are not actively operating at the operational level, this information is used as a kind of symptom analysis (see also section 2.4). Important results can be evaluated and decisions can be made.

6.4.2 Focus of the CRE unit

Given shorter product-life-cycles, companies, especially those in the High Technology sector, are moving faster from one stage into the other. Consequently, the need for professional CREM is in a state of flux. After all, as mentioned in section 6.3, in a maturity phase of the business companies tend to strive for more efficiency by centralising their CREM, whereas in an expanding phase they prefer a more decentralised approach.

In Figure 6.3 the field of CREM is shown in a mature phase of a corporation's business.

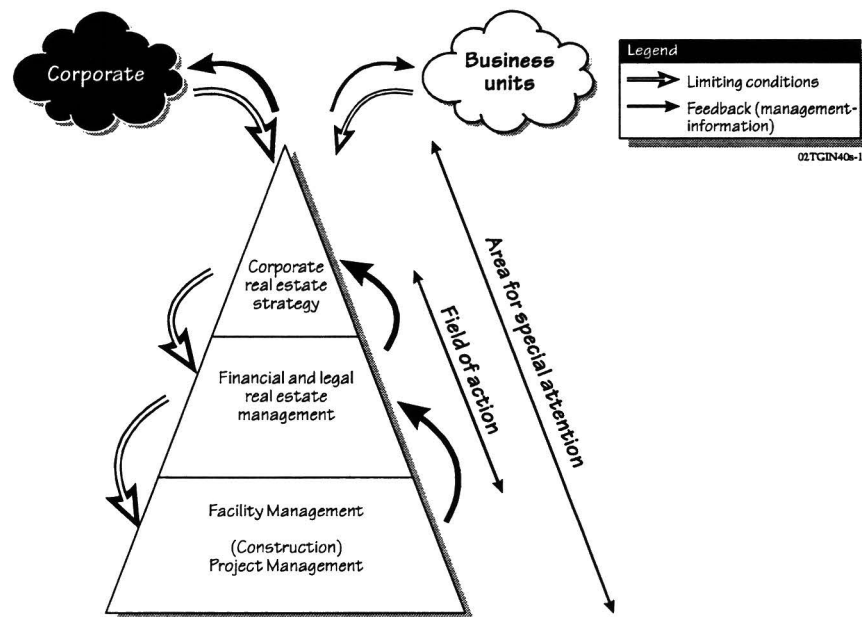


Figure 6.3 Field of CREM in the maturity stage

During a maturity stage, the corporate parent is focusing on efficiency and cost-cutting (centralised CREM). More directives and standards are given from a corporate point of view, concerning:

- return on capital employed (ROCE)⁵²
- flexibility of the business (especially financial flexibility concerning shareholder value⁵³)
- corporate identity
- procedures.

It is quite difficult to state what function a CRE unit exactly fulfils. To the corporate parent it is in most cases an auditor/controller and a strategic consultant. To the business units it is more of a dealmaker and consultant.⁵⁴ In a maturity stage, in which the business plan of the corporate parent dominates, the CRE unit fulfils mainly a *controller* function.

In an expanding phase, the business drives the management of the real estate portfolio (Figure 6.4).

⁵² other frequent used terms are Return On Invested Capital (ROIC) and Expense as percentage of Revenue (E/R).

⁵³ companies which are subjected to a lot of shareholders' pressure show a more ad hoc approach toward CREM, because they act from a short term point of view.

⁵⁴ in some cases, the European CRE unit is also responsible for the management of nearby properties (within the site and/or country the CRE unit is established). These domestic and international responsibilities differ. Within the domestic field the CRE unit is more decisive, whereas it has a more consulting and controlling role from an international point of view.

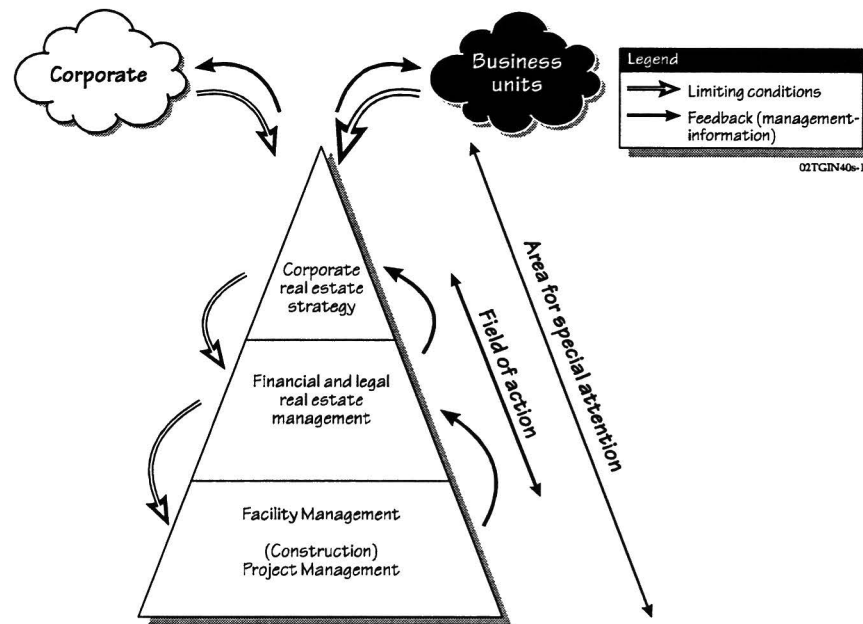


Figure 6.4 Field of CREM in the growth stage

CREM in this stage is mainly focused on business units' requirements (decentralised CREM), such as:

- flexibility of the work environment (both building and workplace)
- innovative officing (CIRM)
- employee satisfaction
- identity/imago of the business units.

In this stage, the business plans of the several business units are dominant. The CRE unit fulfils mainly a *consulting* function. Compared to a maturity/ restructuring stage, it is much harder for a CRE unit to stand up for its importance.

In an expanding phase of a corporations business (centralisation), the CRE unit will be more service- and project-oriented in stead of cost- and process oriented. Moreover, the CRE unit has a stronger focus on customisation than on standardisation, because users are willing to pay for extra quality.⁵⁵

⁵⁵ please note that once a company has been in a maturity/restructuring phase of its business in which it has practised centralised CREM, it will in better times never practice total decentralised CREM. There will always be a certain corporate involvement concerning, for instance, the optimisation of a corporation's real estate costs.

Although the focus of the unit is in a state of flux, the interviewees² confirmed that the CRE unit is going through some changes in the coming years (section 3.3). The following trends are most apparent:

- from a real estate orientation to a business focus
- from a project orientation to a process orientation
- from reactive to proactive
- from centralised to decentralised
- from in-house expertise to collaboration⁵⁶
- from a cost-orientation to a service-orientation (adding value)
- from standardisation to customisation (built-to-suit development)
- from CREM to Corporate Infrastructure Resource Management (CIRM) in the field of alternative workplace solutions
- from introvert to extrovert (selling your value)
- from following to trendsetting.

The interviews² made clear that the focus of the CRE is not only determined by the development stage of a company, but also by the sector of industry. For example, CRE units within Manufacturing companies act more reactive and are mainly project-oriented, whereas those within High Technology companies try to sell their value by acting more pro-active and more process-oriented.

Reviewing the development model of Joroff presented in section 3.4 (Part A) it is very difficult to state in what development stage the majority of the companies are. After all, most companies surveyed have skills corresponding to more than one stage. The results of the survey did show that only 10% of the CRE units surveyed is still predominantly technically focused (Taskmaster). Still, more than half of the CRE units are financially driven and have an accounting emphasis (Controller). Over 90% of the companies work closely with business units to provide services that are aligned with their strategy. However, not only the business units' needs for space are being considered. An increasing number of CRE units is acting more and more pro-actively. The internal strategy is integrated with other departments, corporate financial issues like shareholder values are being considered, the types of property used are being compared to that used by other companies, business trends are being evaluated, etcetera.

⁵⁶ as stated in section 6.4.1. the number of CRE employees per property has not dropped.

From the results of the survey, it can not be concluded if some CRE unit really fit in the stage of Intrapeneur or Business Strategist. However, it is obvious that CRE units are starting to focus outward to trends affecting the business units in order to give an appropriate advise to their customers. Both the results of the survey and the interviews² confirm that most CRE units consider advise as one of their most important services they provide.

6.5 Choices at the site, building and workplace level

As stated in section 6.4.1, in making a property decision, selecting the right location is more crucial than selecting an appropriate building or workplace, due to its strategic and long-term significance and imperative and irreversible consequences. Especially for Manufacturing and Distribution companies with only a little share of offices in their portfolio, selecting an appropriate building or the right working environment is less important. Because most questions in the survey concerning the choices at the site, building and workplace level were very much related to offices, only few of these companies did complete the questions in the survey totally.

The results of the survey concerning choices at the site, building and workplace level correspond relatively well with the preferences of the four interviewees². In the following, these results will be discussed in more detail.

Sites

Client adjacency is the most important regional location factor for establishing a National Sales & Marketing office. This can be explained by the fact that, compared to back offices, clients have to be visited and clients have to visit the office. Therefore, visibility, car accessibility and availability of parking facilities are highly valued. For establishing a Pan-European Back office the social environment is more crucial. The availability of qualified people is a critical factor and the social climate and labour costs are also highly valued. Accessibility requirements are mainly employee driven. For example, the quality of public transport is much more important compared to National Sales & Marketing offices.

One of the interviewees² stated that the company, he is working for, does not exclusively want to have its front offices in the central business district (within the square mile); it prefers combined front and back offices on less strategic, more suburban locations.

Buildings

The results of the survey obviously show that besides the price/quality ratio of buildings, flexibility requirements play an important role in selecting both front and back offices. The need for a certain building flexibility is of course not surprising. As stated in the theoretical framework, most companies are going through major changes and do not exactly know where they stand in a couple of years. Companies are trying to meet these requirements not only by selecting the right floor dimension and floor grids, but also by choosing the appropriate communication infrastructure and HVAC installation.

As argued before, some companies prefer to accommodate both front and back-office activities in one building. In these buildings the main entrance is much more important, because it should immediately clarify which areas are public and which are non-public.

The findings show that most companies want to lease or rent their offices in the future in order to reduce their capital employed. The need for leasing or renting offices depends to a great extent on what development stage the company is in. In an expanding phase of the business, capital allocation is much more important, because the return on capital employed in the business is much higher than the return on real estate (see section 3.2 and section 6.3). Still, most companies own a certain share of their office portfolio. The interviews² highlighted that in certain cases buying offices favours, for example:

- when a building is established on a strategic location
- when it concerns a built-to-suit development with a high capital investment
- when it concerns an investment in countries with high inflation rates. Because real estate is quite stable in value, investing could be an attractive option.

Compared to, for instance, the High Technology sector, financial companies have a larger share of owned offices. Besides not being tax-liable (VAT), they have the ability to obtain money more easily. After all, financing is their core business.

Workplaces

As can be concluded from the survey, the majority of Manufacturing and Business & Other Services companies are not very experienced with innovative officing. This again can be explained through the small share of offices within these companies. Compared to the Financial Services sector, the High Technology sector is more experienced with innovative officing. In my opinion there are two possible reasons for this. First of all, the Financial Services sector emphasises more on status. Secondly, employees within this sector have, compared to those in the High Technology sector, less fluid patterns of work. According to all interviewees², innovative officing should be determined by the nature of work tasks and the occupancy patterns of the employees.

Although the majority of the companies surveyed expect more workplace changes within the next three years, they lack performance measures to evaluate the benefits of alternative workplace solutions. Reducing costs, increasing flexibility and optimising space have been mentioned as the most important drivers for workplace management⁵⁷. All three are more or less financially driven. Although very important, employee satisfaction ranks only seventh. This is probably due to the fact that it is not (yet) quantifiable compared to the more financial drivers. CRE units are actively integrating with business units and ICT with regard to workplace management. The link with HR in workplace management is, compared to ICT, less strong, but increasing.

⁵⁷ from a corporate point of view, reducing costs is often the most important driver. The business unit management focuses in general more on adding value. In my opinion, reducing costs should not be the only selling point for implementing alternative workplace solutions. However, a certain pay back period has to be proved.

6.6 Personal view

6.6.1 Field of tension of the CRE unit

The theoretical framework highlighted that CREM has to be considered in a broad context. However, section 2.2 pictures the field of tension the CRE unit is working in, still relatively limited. As shown in Figure 2.1, the CRE unit's goals are distinguished from three viewpoints, namely from a corporate, a user's and a financial point of view. However, the interviews² revealed that not only the users' requirements should be taken into account, but also the clients' and suppliers' goals. Therefore, the CRE strategy should be considered in a broader context. The governance model (Figure 6.5) pictures the field of REM in such a broad context (Keeris, 1998). In my opinion this model can also be used to illustrate the field of tension of CREM.

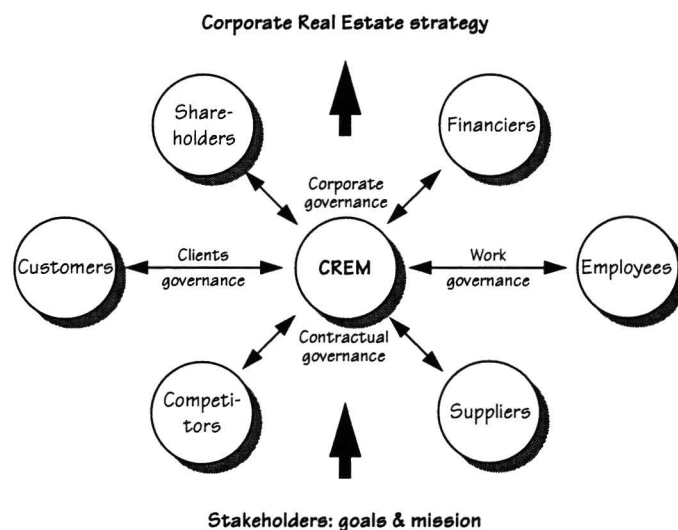


Figure 6.5 Governance model in the field of CREM⁵⁸

⁵⁸ this is an adaptation of Keeris (1998).

The CRE unit has to find a balance between all viewpoints of the stakeholders with the intention to establish synergy. All six stakeholders have to give and take to create a win-win situation; a situation that is acceptable for each of them. The central CRE unit should inform, facilitate and collaborate with the several stakeholders; it should not be ruling or presiding over work.

6.6.2 *Corporate Infrastructure Resource Management*

Corporate Infrastructure Resource Management (CIRM), as stated in section 3.3, is in my opinion mainly 'formally' practised within initiatives to implement alternative workplace solutions. Although the link with the HR and ICT unit is most obvious in this field, the results of the survey show that these non-core functions should be considered integrally not only at a operational level, but also at a more strategic level. For instance, in making a site selection the availability of qualified people (HR) is quite crucial⁵⁹. This can be illustrated by a practical example of Hewlett Packard. Stimulated by the local authority (through incentives) this corporation had found an appropriate site in the south of the Netherlands. However, the availability of potential employees did not fit their (future) labour requirements. Consequently, Hewlett Packard selected an other site in the north.

The survey also shows that most companies consider the communication infrastructure (ICT) of a building when making a property decision. In my opinion, requirements in the field of ICT should be included in formulating a programme of requirements for a building. Besides this, the impact of developments in the field of ICT should also be considered at the site level. After all, accessibility requirements become less important, after implementing a workplace solutions like for example teleworking.

Through this integrated, more strategic, management of non-core functions, more value can be created to the entire enterprise. In my opinion, a formal unit should be introduced which is entrusted with formulating a resource based strategy and setting policies and procedures to the three 'portfolio managers/units': CRE unit, HR unit and ICT unit.

⁵⁹ especially selections concerning Pan-European Back offices.

The introduction of such a Corporate Infrastructure Resource Management unit would be in line with the five stages of the development model according to Joroff et al. (see Figure 3.1). In Figure 6.6 the stage of CIRM is pictured.

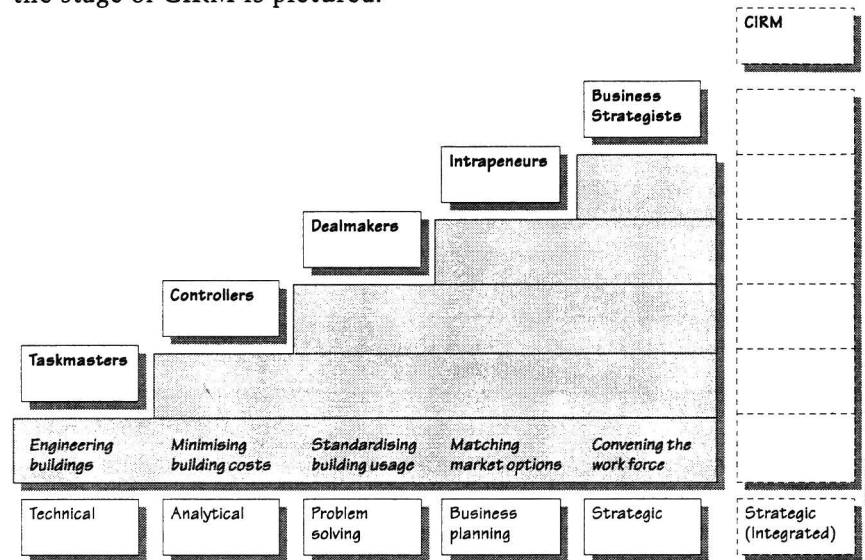


Figure 6.6 Corporate Infrastructure Resource Management⁶⁰

Compared to the Business Strategist stage, this stage will have better access to the strategic level. After all, the importance of the integrated management of these three corporate resources goes beyond the importance of the management of each separate resource. Consequently, this CIRM unit should be part of the management team, whereas the CRE, HR and ICT unit operate at a lower level. The CIRM unit's mission is still convening the workforce, but from a broader, more efficient, point of view.

⁶⁰ this is an adaptation of Joroff et al. (1993).

6.7 Summary

In this chapter the results of the theoretical framework (part A) and the results of the survey (part B) have been discussed in more detail. Since this validation is partly based on interviews² with four experts in the field of CREM, the results have been put in a broader, practice-based context. Prudence is called for interpreting these interviews², because all four interviewees² have stated that their company is unique to a certain extent and perhaps not quite representative for the sector of industry they operate in. However, in my opinion these interviews² did add value to this survey.

By focusing on the importance of professional CREM within the four sectors of industry and the importance in the development stage of the business (growth versus maturity stage), more insight is obtained in the involvement of CRE units and the choices they make.

It can be concluded that professional CREM is being valued to the greatest extent within the High Technology sector and to the lowest extent within Manufacturing companies. This is reflected in both the involvement of their CRE units and the choices they make.

A second important conclusion that can be drawn, is that companies in an expanding phase of their business practise more decentralised CREM with only few limiting conditions, whereas companies in a mature phase seek for more efficiency. Directives and standards are set at the central level and more feedback is given from an operational level. In this optimisation phase the CRE unit strives for more standardisation.

Most CRE units are already working in close liaison with the ICT unit and starting to work with the HR unit at the workplace level. However, the three corporate resources CREM, HR and ICT are not (yet) sufficiently being considered at a more strategic level concerning site and building selections. The introduction of a formal CIRM unit could lead to better access to the strategic level and further acknowledgement of the corporate resources.

In the following, concluding chapter an overview will be given of all conclusions mentioned in part A, part B and the validation discussed in this chapter. Moreover, some directions for further research will be presented.

7 Conclusions and recommendations

7.1 Introduction

In this final chapter the most important conclusions of the study will be given based on the theoretical framework issued in part A, the results of the survey issued in part B and the validation of both, considered in part C. Section 7.2 addresses the three main research questions:

1. In what way can the field of CREM clearly be described without conflicting with the discipline FM and acknowledging the differences with the field in which real estate investors operate? (section 7.2.1)
2. What is the involvement of most CRE units in managing the European real estate portfolio of their company? (section 7.2.2)
3. What are the most important (future) choices with regard to sites, buildings and workplaces within Europe? (section 7.2.3).

Moreover, some recommendations for further research will be given in section 7.3.

7.2 Overall conclusions

7.2.1 *Improving definitions*

The following definition characterises the multi-disciplinary field of CREM in my opinion best:

Corporate Real Estate Management

The management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (reviewing the CRE strategy), with the aim to contribute optimally to the overall performance of the corporation. In this process, the owned, leased or rented real estate portfolio is considered as a capital-intensive corporate resource.

CREM versus FM

A CRE unit is, normally speaking, entrusted with the management of (a part of) a corporation's real estate portfolio, whereas a FM unit is mostly involved in the management of a specific building, site or limited region. Although both disciplines strive for creating maximum value to the prime processes, CREM is operating from a strategic (corporate) long-term point of view, whereas FM is mainly focused on the users from a more operational (users), short term point of view. However, since the position and responsibilities of both a CRE unit and a FM unit depend on the organisational structure of a corporation, a clear demarcation is difficult to make. Within some corporations the FM units are quite innovative and operate from a long-term point of view⁶¹. Moreover, some corporations have a combined CRE & services/facilities unit. Figure 7.1 shows that the borderline between CREM and FM is quite vague.

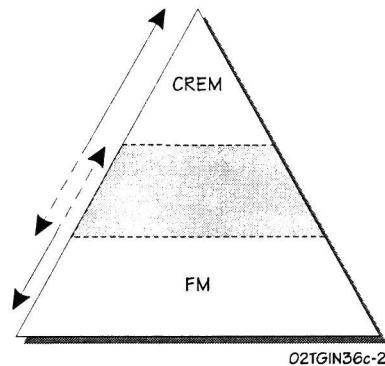


Figure 7.1 Management of a corporation's real estate needs

⁶¹ these innovative FM units provide the CRE unit with more advanced information (bottom-up), whereupon the CRE unit can adjust, if necessary, the CRE strategy or policies and procedures. In my opinion, FM units should be entrusted with innovation. After all, they closely stay in touch with the users and know what their (future) requirements are.

CREM versus REM

Although CRE units and real estate investors speak the same language at some points (real estate market), the main difference between both disciplines is the fact that CRE units meet the real estate needs of known users (who are often forced to purchase services), whereas real estate investors provide accommodation to anonymous customers. As a result of this tight customer relationship, a CRE portfolio consists mainly of real estate which is in conformity with the business. In this respect a CRE unit does not have to strive for maximising the return on investment like a real estate investor does. It tries to optimise the occupancy costs.

7.2.2 Involvement of the CRE unit

- The involvement of the CRE unit in managing the European real estate needs is mainly determined by the sector of industry and the development stage of a company. The third possible determinants, scope of the CRE unit, turned out to be a characteristic of CREM instead of a determinant in itself.
- High Technology and Financial Services companies show a more centralised approach toward CREM, because corporate alignment is highly valued. Companies with a smaller share of offices, like Manufacturing companies, show a more decentralised approach towards CREM. They recognise the value of managing their real estate needs professionally to a lesser extent.
- In a maturity stage (centralisation) the CRE unit fulfils predominantly a controller function. Since efficiency is less important in an expanding phase (decentralisation), the CRE unit fulfils mainly a consulting function in which it is much harder to stand up for its importance. In a decentralised organisation corporate alignment is very difficult. Although business units are empowered with more autonomy, in my opinion, their business plan should always be tested against the corporate business plan resulting in a formal CRE strategy.

- Most CRE units are mainly involved at the tactical level (Financial & Legal REM). CRE units within the High Technology and Financial Services sector aspire to be at a more strategic level, concerning the CRE strategy. Operational activities are mostly carried out by local FM units in co-operation with external providers. However, this operational level is an important field for special attention⁶². By carrying out benchmarking activities at the building and workplace level and analysing the feedback given by local units, the CRE unit obtains insight into the performance of buildings and workplace solutions (management control)⁶³.
- Although the focus of a CRE unit is in a state of flux (depending on the development stage), the most apparent trends within CRE units are⁶⁴:
 - . from a real estate orientation to a business focus
 - . from a project orientation to a process orientation
 - . from reactive to proactive
 - . from centralised to decentralised
 - . from in-house expertise to collaboration
 - . from a cost-orientation to a service-orientation
 - . from standardisation to customisation
 - . from CREM to CIRM⁶⁵
 - . from introvert to extrovert
 - . from following to trendsetting.

⁶² the CRE unit fulfils an intermediary role in larger refurbishment/ redevelopments (CPM). Maintenance activities and smaller refurbishments are part of the field of action of the FM unit which works in close co-operation with external providers. FM is mainly process oriented, whereas CPM is project oriented.

⁶³ benchmarking activities are mainly carried out within the High Technology and Financial Services sector.

⁶⁴ although CREM is still financially driven, the focus is not only on reduction of costs, but increasingly on adding value.

⁶⁵ the formal link with HR and ICT is most obvious in workplace management. However, at the site and building level, an integrated management of these three resources is becoming increasingly important.

7.2.3 *Choices of the CRE unit at the site, building and workplace level*

- The choices most CRE units make, are also mainly determined by the sector of industry and the development stage of a company. Companies with a small share of offices, do recognise the value of a site selection, but recognise the value of a well-considered building and workplace selection to a lesser extent.
- Compared to Pan-European Back offices, National Sales & Marketing offices show more dynamics within Europe. The main market trend for establishing a National Sales & Marketing office is Eastern Europe. The findings do not show much differences in preferences of the companies surveyed for acquiring a Pan-European Back office.
- For establishing National Sales & Marketing offices client adjacency is a crucial regional location factor. For establishing Pan-European Back offices the social environment (HR) is most important (qualified people, labour costs, etcetera).
- In a site selection for establishing a National Sales & Marketing office, visibility and car accessibility are important site factors. Concerning Pan-European Back-office accessibility requirements are mainly employee driven.
- Besides the price/quality ratio of the building, flexibility requirements play an important role in selecting both a National Sales & Marketing office and a Pan-European Back office. Not only the floor dimension and its grid are considered, but also the communication infrastructure (ICT) and the (zoning and control of the) HVAC.
- Most companies want to lease or rent their offices in the future, in order to reduce their capital employed in buildings. In an expanding phase of a corporation's business, capital allocation is much more important, because the return on capital employed in their business is much higher than the return on real estate.
- The majority of the CRE units⁶⁶ expect more workplace changes within the next three years. They are actively integrating with business units and ICT. The link with HR is less strong, but increasing. Most CRE units lack performance measures to evaluate the benefits of innovative officing. Reducing costs, increasing flexibility and optimising space (all three more or less financially driven) are the most important drivers to implement alternative workplace solutions. These solutions should be based on the nature of work tasks and the occupancy patterns of the employees.

⁶⁶ the majority of the Manufacturing and Business & Other Services companies have the fewest experience with innovative officing.

7.3 Recommendations

7.3.1 *Set up of the questionnaire*

In order to recognise more significant trends within the field of CREM, this survey should be conducted periodically (on an annual basis). The analysis of the survey showed that the questionnaire still has certain incomplete and indistinct parts. In order to prevent misinterpretations, some adjustments have to be made. In my opinion, the most important adjustments are:

Distinguishing centralised and decentralised management

A distinction has to be made between questions concerning decentralised management on the one hand and questions concerning more centralised management on the other hand. The current questionnaire predominantly focuses on central responsibilities, although a relatively large share of the respondents practise decentralised management. Because of this, they were not able to complete some of the questions. The majority of the mono-nationals had also difficulties to complete some questions. Although they do practise centralised management, their scale of operations is much more limited compared to multi-nationals.

Distinguishing office and non-office related questions

A distinction has to be made between on the one hand more office-related questions and on the other hand non-office related questions, because some companies, especially the Manufacturing companies, had difficulties to complete the questions in the survey concerning the choices at the site, building and workplace level. After all, these parts concern offices only and were therefore only applicable to a certain extent.

Using more univocal definitions

Some of the terms used in the questionnaire are quite abstract. In my opinion, some respondents had difficulties to interpret terms like "responsible", "decisive" and "conducting"? For example, the field of action as pictured in section 5.3.2 does not make clear if activities have been outsourced under the responsibility of the CRE unit (e.g. design) or without the CRE unit being responsible (e.g. maintenance). In order to prevent these misconceptions, some questions should be defined more clearly.

7.3.2 *Directions for further research*

Based on remarks made by both the respondents of this survey and the experts in the field of CREM which have been interviewed^{1,2}, I think it would be interesting to include the following issues in further research:

The governance model

It would be interesting to analyse the usefulness of the model pictured in Figure 6.5. After all, providing more insight in the field of tension a CRE unit is working in, could lead to a better understanding and acknowledgement of the discipline CREM.

Corporate Infrastructure Resource Management

As stated in chapter 6, co-operating with an HR and a ICT unit is still very much driven by initiatives at the workplace level. In my opinion, it would be interesting to analyse the experience most companies have with regard to the integrated management at a more strategic level (see Figure 6.6) in for instance a site selection (HR) and a building selection (ICT).

The business development vs. the development of the CRE unit

As stated in section 6.4.2, the CRE unit shows different approaches depending on the development stage the company is in (for instance controller versus consultant). In my opinion, it would be interesting to further analyse the possible relation between the development stage of a company (four stages) and the development stage of the CRE unit according to Joroff et al.

The size (and tasks) of the CRE unit

The results of the survey do not show a possible relation between the size of the CRE unit and the size of the corporation. As mentioned in section 6.4.1, a recent survey of the University of Reading (Bon) and Johnson Controls showed that the number of CRE employees has doubled last year.

This is quite surprising given the fact that a lot of activities have been outsourced nowadays and the key indicator CRE employee per property⁶⁷ has not dropped. In order to provide more insight into the size of the CRE unit, it would be interesting to specify the number of CRE employees into two categories. The first category includes the number of employees carrying out more CRE related activities, whereas the second category concerns those employees who are conducting more FM related activities. Herewith, a clearer distinction can be made between the field of CREM and the field of FM.

Cost responsibilities

An other way to clarify the borderline between the disciplines CREM and FM is further research in the field of cost responsibilities. For example, the CRE unit is mainly focused on A. fixed real estate costs (contract oriented) and B. building costs (e.g. maintenance, etcetera), whereas the FM unit is mainly focused on B. building costs and C. services costs (flexible).

The possible determinant 'continent of the parent company'

Though the continent of the parent company has been issued in the current questionnaire, it has not been analysed as a possible determinant. However, in my opinion company culture has to be taken into account. After all, America is not Europe and Europe is not the Far East. For example, companies in the United States and the United Kingdom show a more Anglo-Saxon approach, whereas other European companies have a more consensus based approach. Moreover, as stated in the introduction of this study, CREM is acknowledged to a greater extent within the United States of America compared to Europe. Because of these differences, it might be possible that the way they manage their real estate needs differs to a certain extent.

Performance measures

Because most companies are not (yet) able to evaluate the benefit of, for example, alternative workplace solutions, they seek for more sophisticated performance measures. In the current questionnaire only little attention has been paid to (financial) performance measures concerning the real estate portfolio (e.g. share of property costs in total operating costs).

⁶⁷ in my opinion both *CRE employee per property* and *CRE employees per employee (building population, including contractors, etcetera)* are interesting key indicators.

Moreover, this part of the questionnaire had a poor response⁶⁸. In my opinion, it is recommendable to include other, less financial, kinds of measures in the future in order to provide more benchmarking information. Therefore research has to be extended in the field of relations between employee productivity and the working environment.

⁶⁸ some of these companies did not want to share this kind of confidential information. Within other companies, this information was not available or accessible.

Glossary

Asset Management (investor jargon)

the management of a corporation which is entrusted with the investment in, and/or the management of, properties and which is responsible for the performance of (a part of) the real estate portfolio, especially for implementing the tactical policies.

Asset Management (CREM jargon)

the process of optimising the value of real estate in order to improve return on assets.

Corporate alignment

the process of aligning the CRE strategy to the overall corporate strategy. This can be seen in both a reactive and proactive context.

Corporate Real Estate Management

the management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (reviewing the CRE strategy), with the aim to contribute optimally to the overall performance of the corporation. In this, the owned, leased or rented real estate portfolio is considered as a capital-intensive corporate resource.

Construction Project Management

planning, co-ordinating and directing a project from the initiative phase up to the project evaluation (Regterschot et al., 1998).

Corporate Infrastructure Resource Management

the integrated management of non-core functions of a company, i.e. CRE, Human Resources and ICT, with the aim to reduce costs and to create more value to the enterprise (Materna, at the IDRC Europe Fall Conference in Dublin, September 1998).

Facility Management

the integrated management of the supporting functions Real estate, Services and Fit-out from an operational, short term point of view, in order to create maximum value to the prime business processes.

Portfolio Management (investor jargon)

the management of a real estate portfolio which is responsible for the performance of (a part of) the real estate portfolio, especially for implementing the strategic policies. This management is on the one hand entrusted with optimising the portfolio reviewing the risk attitude ((dis)investments), and on the other hand with optimising the return/risk ratio, reviewing the exploitation and capital return (Keeris, 1997).

*Property Management*⁶⁹

the management of a corporation which is entrusted with the investment in, and/or the management of, properties and which is responsible for the performance of the properties, especially for implementing the operational policies with regard to these properties, set at a higher level (Keeris, 1997).

Real Estate Management (investor jargon)

all activities in order to optimally exploit the performance level of the concerning property as well as the real estate portfolio, reviewing the (potential) demand, market conditions and expected developments on the one hand and the specified aims and goals to optimise returns on the other hand (Keeris, 1997).

⁶⁹ the Property Management leads the Service Management which is entrusted with more administrative activities.

List of abbreviations

CIRM	Corporate Infrastructure Resource Management
CPM	Construction Project Management
CRE	Corporate Real Estate
CREM	Corporate Real Estate Management
FM	Facility Management
HR	Human Resources
ICT	Information and Communication Technology
IDRC	Industrial Development Research Council
REM	Real Estate Management
ROCE	Return on Capital Employed
ROCI	Return on Capital Invested
VAT	Value Added Tax

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Appendices

Appendix I

Interviews

Part A: theoretical framework

Five interviews¹ with experts in the field of CREM

- Buck Consultants International
Mr. Buck, director
- Delft University of Technology
Mr. Dewulf, professor CREM
- ABN AMRO Bank
Mr. Suyker, European Corporate Real Estate Manager
- Tandem Computers (Compaq)
Mr. Fritzsche, European Real Estate Portfolio Manager
- DuPont de Nemours
Mr. van der Linden, European Corporate Real Estate Consultant

Part B: Survey

Four interviews² with representatives of the four sectors of industry

- Manufacturing sector
Esso Benelux
Mr. Sibtsen, procurement Manager Refining
- High Technology sector
Tandem Computers (Compaq)
Mr. Fritzsche, European Corporate Real Estate Manager
- Financial Services sector
ABN AMRO Bank
Mr. Suyker, European Corporate Real Estate Manager
- Business & Other Services sector
UPS Europe
Mr. Linden, European Real Estate Manager

Appendix II

CRE in Europe: sites, buildings and workplaces

- Section 1 CRE responsibilities in Europe
- Section 2 Site selection drivers
- Section 3 Building selection drivers
- Section 4 Drivers in workplace management
- Section 5 Involvement CRE unit at the site, building and workplace level

Name of company

Name

Job title

Address / City

Zip / Postal code Country

Telephone / Telefax / E-mail Phone Fax E-mail

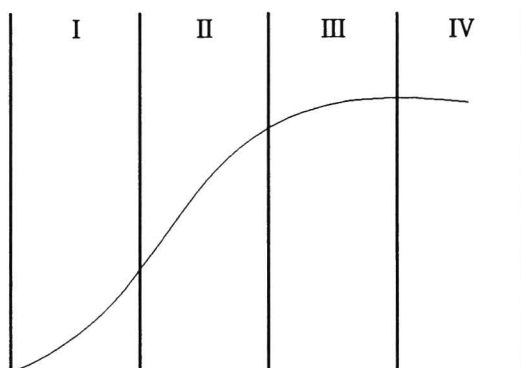
Name of parent company

City / State Country

Main sector of industry (e.g. electronics) Main product / service (e.g. network products)

European turnover Currency

Please tick the current (European) development stage of the company (=core business)



- I start-up
- II growth
- III maturity
- IV decline / restructuring

Section 1 CRE responsibilities within Europe

- 1 Do you have a separate, central department or section at the European level that manages the real estate needs of your company such as a Corporate Real Estate or Facilities Management Department?
- yes, it is called and employs about full time equivalents / persons (=fte's).
 - yes, but there are several departments. They are called and and employ all together about fte's in Europe.
 - no, the real estate needs of the company are managed by
- 2 At what level are most policies and procedures with regard to real estate management issued?
- country level European level global level

Please use the following definition: "CRE unit"
 the department(s) or person(s) who is / are responsible for the real estate needs of the company in Europe

- 3 To which corporate officer (job title) does the CRE unit in general report?
- 4 How well do the following statements characterize your CRE unit in general in the current situation? *Tick one box for each statement: 1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, 5 = strongly agree*

	1	2	3	4	5
the CRE unit is well informed about corporate goals and strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the internal operating strategy is integrated with other departments (for example IT and HR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit provides services to other companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit is a (legally) independent department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit works closely with business units to provide services that are aligned with their strategy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit uses an internal costing system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
business units have to justify the space they occupy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
business units are not forced to purchase services provided by the CRE unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the primary focus of work being done is mostly technical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit is financially driven	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the information used has an accounting emphasis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
advise is one of the most important services the CRE unit provides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit compares the type of property used to that used by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit considers corporate financial issues (for example shareholder value)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
business trends that could have a major impact on the work force are being evaluated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 5 Please indicate the types of property as percentage of the **total** European portfolio size for the years 1998 and 2001. Please also indicate the **total** European portfolio size (m² / gross) of your company (not necessarily within the CRE unit's responsibilities)

	1998 (Europe)	2001 (Europe)
offices % %
plants / production facilities % %
laboratories % %
warehouses % %
other, % %
total European portfolio size	100% = m ² / gross	100% = m ² / gross

- 6 Please indicate the geographical distribution of the total European **office portfolio** of your company. Please also indicate if your CRE unit is totally, partially or not responsible for the countries concerned.

*For example: your company has 20% of its European office space in Europe, but your CRE unit does not have any responsibilities within this area. Please fill in **20%** and tick **not responsible** in the right column.*

	% of the total European portfolio	totally responsible	partially responsible	not responsible
United Kingdom / Ireland %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Benelux countries %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Germany %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
France %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Switzerland / Austria %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scandinavia (incl. Denmark) %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Southern Europe %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eastern Europe %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other, %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
total European office portfolio size	100% (m ² / gross)			

The remaining part of this questionnaire includes only those European offices for which your CRE unit is responsible

- 7 Please indicate the status of the office portfolio as percentage of the total office portfolio size (m² / gross) within your CRE responsibilities.

in use %
subletted to others %
vacant %
total office portfolio size (m ² / gross)	100%

- 8 Please indicate the current situation (1998) of your CRE unit with regard to offices within Europe in the first column. Secondly, indicate (please circle a symbol) whether the amount / percentage was much less (--), less (-), equal (0), more (+) or much more (++) in 1995 in comparison to the current situation. Please also give a forecast for 2001 in comparison to 1998.

		1995					2001				
1. total occupancy costs	.....	--	-	0	+	++	--	-	0	+	++
<i>please state currency</i>											
2. share of property (=offices) costs	..... %	--	-	0	+	++	--	-	0	+	++
in total operating costs											
3. total office population	..... fte's	--	-	0	+	++	--	-	0	+	++
(incl. temps and in-house contractors)											
4. approximate number of offices	.....	--	-	0	+	++	--	-	0	+	++

Section 2 Site selection drivers

- 9 Is your company planning to build / acquire new premises for the next three years?
If so, what kind of office(s) and what country(ies) is / are under consideration?

- yes, it is (*please complete the **left** side -acquisition- of the table below*)
 no, it is not

Is your company planning to dispose current premises for the next three years?
If so, what kind of office(s) and what country(ies) is / are under consideration?

- yes, it is (*please complete the **right** side -disposal- of the table below*)
 no, it is not

	Acquisition		Disposal	
	<i>National Sales & Marketing office</i>	<i>Pan-European back office</i>	<i>National Sales & Marketing office</i>	<i>Pan-European back office</i>
United Kingdom / Ireland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Benelux countries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Germany	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
France	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Switzerland / Austria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scandinavia (incl. Denmark)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Southern Europe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eastern Europe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10 Please tick the **five** most important location factors for establishing

- 1) a Sales & Marketing office in a specific country
- 2) a Pan-European back office

National Sales & Marketing office

Pan-European back office

- economic profile
- client adjacency
- position to (European) market
- availability of qualified personnel
- labour costs
- social climate (working time, unions, etc.)
- infrastructure (highways, airports, etc.)
- advanced telecom facilities
- availability of incentives
- corporate tax levels
- co-operation with local municipality
- building and environmental regulations
- price / quality ratio of real estate
- quality of life
-

- economic profile
- client adjacency
- position to (European) market
- availability of qualified personnel
- labour costs
- social climate (working time, unions, etc.)
- infrastructure (highways, airports, etc.)
- advanced telecom facilities
- availability of incentives
- corporate tax levels
- co-operation with local municipality
- building and environmental regulations
- price / quality ratio of real estate
- quality of life
-

11 Please tick your preference (**one** box for each) for establishing

- 1) a Sales & Marketing office in a specific country
- 2) a Pan-European back office

National Sales & Marketing office

Pan-European back office

- a downtown location
- a suburban location
- a highway location
-

- a downtown location
- a suburban location
- a highway location
-

Preferably this location is

- an individual site
- an office / business park

Preferably this location is

- an individual site
- an office / business park

12 Please tick the **three** most important site factors for establishing

- 1) a Sales & Marketing office in a specific country
- 2) a Pan-European back office

National Sales & Marketing office

Pan-European back office

- quality of public transport
- car accessibility
- parking facilities
- amenities (restaurants, conference center, stores, etc.)
- reputation (well known site)
- visibility
- public security
- possibilities to expand
- price / quality ratio of real estate
-

- quality of public transport
- car accessibility
- parking facilities
- amenities (restaurants, conference center, stores, etc.)
- reputation (well known site)
- visibility
- public security
- possibilities to expand
- price / quality ratio of real estate
-

Section 3 Building selection drivers

13 Please tick the **five** most important factors in a selection of buildings for

1) a Sales & Marketing office in a specific country

2) a Pan-European back office

National Sales & Marketing office

Pan-European back office

- identity
- architecture
- main entrance
- security
- single use of building
- transport system within a building (spread and density)
- structural grid
- planning and partition grid
- floor dimension
- floor shape
- HVAC (zoning and control)
- communication infrastructure
- exterior / interior maintainability
- sustainable housing (energy usage, water management, etc.)
- price / quality ratio
-

- identity
- architecture
- main entrance
- security
- single use of building
- transport system within the building (spread and density)
- structural grid
- planning and partition grid
- floor dimension
- floor shape
- HVAC (zoning and control)
- communication infrastructure
- exterior / interior maintainability
- sustainable housing (energy usage, water management, etc.)
- price / quality ratio
-

14 What is and will be the share of owned, leased and rented offices in the total office portfolio size (m² / gross) within your CRE responsibilities in Europe?

	1998	2001
owned % %
leased % %
rented % %
total office portfolio size (m ² / gross)	100%	100%

Please explain a possible change:

.....

.....

.....

.....

.....

.....

.....

Section 4 Drivers in workplace management

15 How well do the following statements characterize your CRE unit in general in the current situation? Tick one box for each statement: 1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, 5 = strongly agree

statements	1	2	3	4	5
the CRE unit always presents alternative workplace solutions (non traditional workplace concepts) to top management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
space planning is incorporated into strategic business planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
for alternative workplace solutions to be successful, the CRE unit works in close liaison with Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
for alternative workplace solutions to be successful, the CRE unit works in close liaison with IT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
for alternative workplace solutions to be successful the CRE unit completes strategies in close co-operation with the business units (users)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit conducts post-project evaluations to monitor the value of alternative workplace solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit has clear performance measures to evaluate alternative workplace solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
space inventories and utilization studies are available within the CRE unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
alternative workplace solutions implemented in my company are based on global best practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit considers the impact of alternative workplace solutions on portfolio level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the CRE unit actively publicizes and markets its alternative workplace success stories	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16 Does the CRE unit use space standards?

- yes, only in traditional offices
- yes, only in non traditional offices
- yes, in both traditional and non traditional offices
- no, it does not (continue with 18)

17 Space standards used in my organization are in general:
(there is more than one possible answer)

- determined by the nature of work tasks and occupancy patterns
- determined by grade / function of employees
- determined by country / region
- uniform, namely m² / gross p.p.
-

18 Please indicate the share of offices (within your CRE responsibilities) as percentage of the total office portfolio size in which the following workplace initiatives have been or will be implemented in your company?

	until 1998	until 2001
1. redesign of the traditional office <i>e.g. non-territorial, universal and team office</i> % %
2. dispersion of employees in new workplaces <i>e.g. home-based telework, satellite and virtual office</i> % %
3. neither of the above % %
total office portfolio size (m ² / gross)	100%	100%

19 Please indicate the percentage of workplaces which can be characterized as *territorial* and the percentage of workplaces which can be characterized as *non-territorial* for both the situations 1998 and 2001.

territorial workplace: the individual employee is tied to a specific office, work station or desk.

	until 1998	until 2001
1. territorial % %
2. non-territorial % %
total number of workplaces	100%	100%

20 What are the most important drivers for your company with regard to workplace management?

Please tick a maximum of **three** boxes.

- reducing costs
- improving employee satisfaction
- improving employee productivity
- increasing flexibility
- reengineering work processes
- restructuring the organization
- optimizing space
- improving communication / collaboration
- introducing tele- / home work
- improving team- / project work
- implementing IT solutions
-

Section 5 Involvement CRE unit at the site, building and workplace level

21 Who is conducting the activities listed below within your company at the site, building and workplace level:

- * CRE unit itself (*central*)
- * local (facilities) function (*for example: site manager or business unit manager*)
- * other central function within the company (*for example: Chief Financial Officer*)
- * external party (*for example: consultant*)

Please tick the most appropriate box for each activity

	<i>CRE unit</i>	<i>local function</i>	<i>other function</i>	<i>external party</i>
Sites				
strategic real estate planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
site selection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
negotiations / contracts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buildings				
acquisition / disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sale / lease back agreements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
legal affairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
building appraisal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
strategic brief	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
programme of requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
construction management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
maintenance / refurbishment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
benchmarking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Workplaces				
innovative officing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
space planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
benchmarking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
programme of requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix III



Industrial Development Research Council

IDRC (1961) is a professional association which delivers research series¹ along with education and certification services to position CRE as a vital element of corporations. IDRC is a global organisation with more than 2,500 members and chapters throughout North America, as well as Asia, Australia, Mexico and South America. IDRC Europe chapters are based in Benelux, France, Germany, Nordic, Spain, Switzerland and the United Kingdom.

There are three membership categories²:

Active members

CRE executives employed by companies that profit primarily from business activities other than real estate promotion, construction or development. Active membership is open to individual CRE executives and managers who have responsibilities for property acquisition and disposition, site selection, real estate asset management, facility development and expansion.

Associate members

Associate members represent the leading firms that supply products and services to active members. Associate members include real estate developers, architects and engineers, contractors, commercial real estate brokers, utilities, financial services companies, technical consultants and economic development organisations.

Academic members

IDRC is known for its cutting-edge research, education and certification in partnership with leading colleges, universities and other schools globally. IDRC is a learned-based organisation and membership is open to faculty and students with general or specific interests in CRE or related economic disciplines.

¹ IDRF (Industrial Development Research Foundation) is the research arm of IDRC.

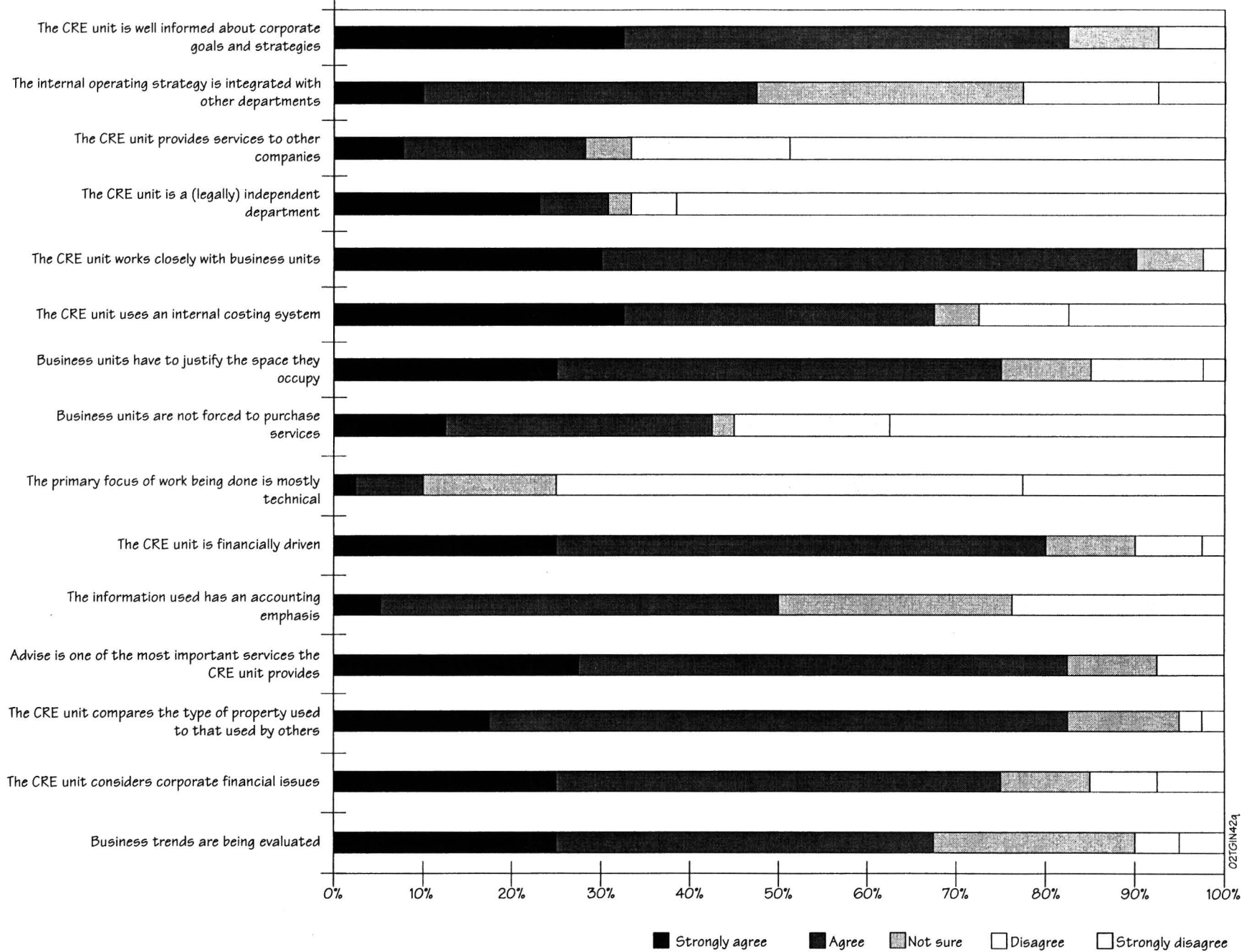
² the majority of the IDRC members are active members.

Appendix IV

List of participating companies

Asea Brown Boveri	MCR Electrowatt
Ahold	Ministry of Agr. & Nature mgt.
Akzo Nobel	Microsoft
Amsterdam Airport Schiphol	NCR Corporation
Bay Networks	Nokia Group
Blue Circle Industries	NS
Bodum / Pi Design	OerlikonContraves
British Telecommunications	OTRA
Compaq Computers / Tandem	Partek Corporation
Compaq Computers / Digital	Polygram International Music
Credit Suisse	Pro Paulig
Cultor Corporation	Rabofacet (part of Rabobank)
Daimler Benz	Siemens
Deutsche Bank	Sulzer
EDON	Sun Microsystems
Essex & Suffolk Water	Thyssen
Esso Nederland	TNO
Hitachi Data Systems	3M
IBM	Unisys
Kodak	UPS
KPN	Walt Disney
Logica UK	Winterthur Versicherungen

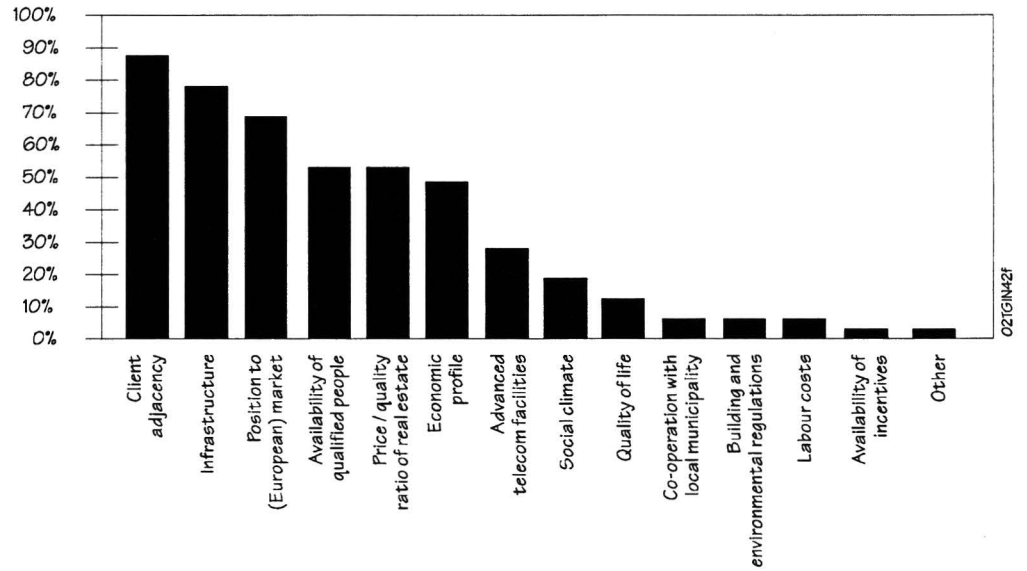
Appendix V



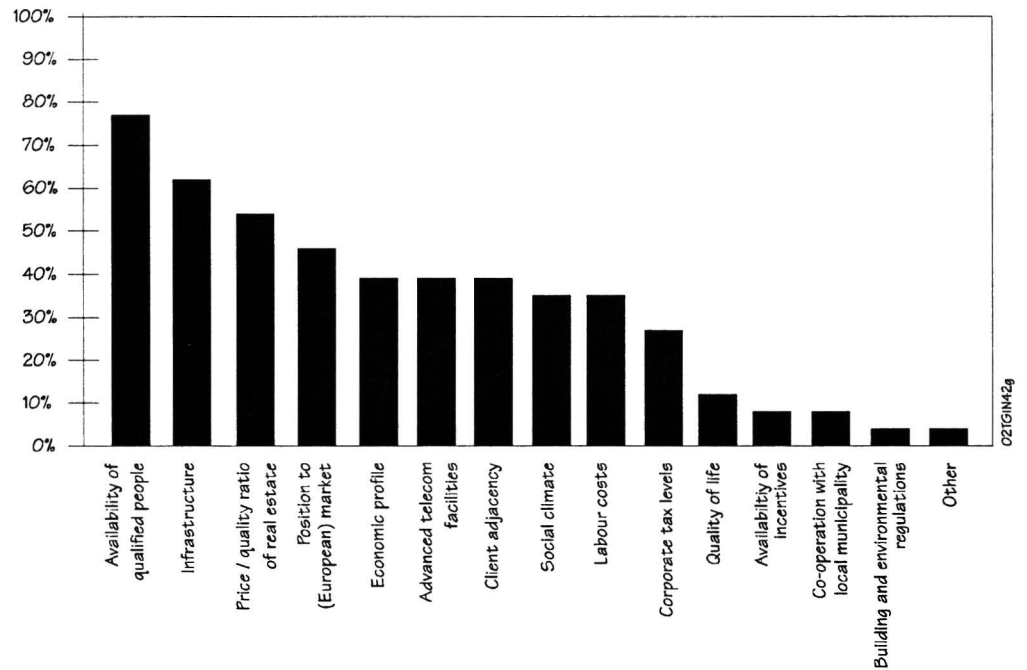
Appendix VI

Regional location factors

National Sales & Marketing offices



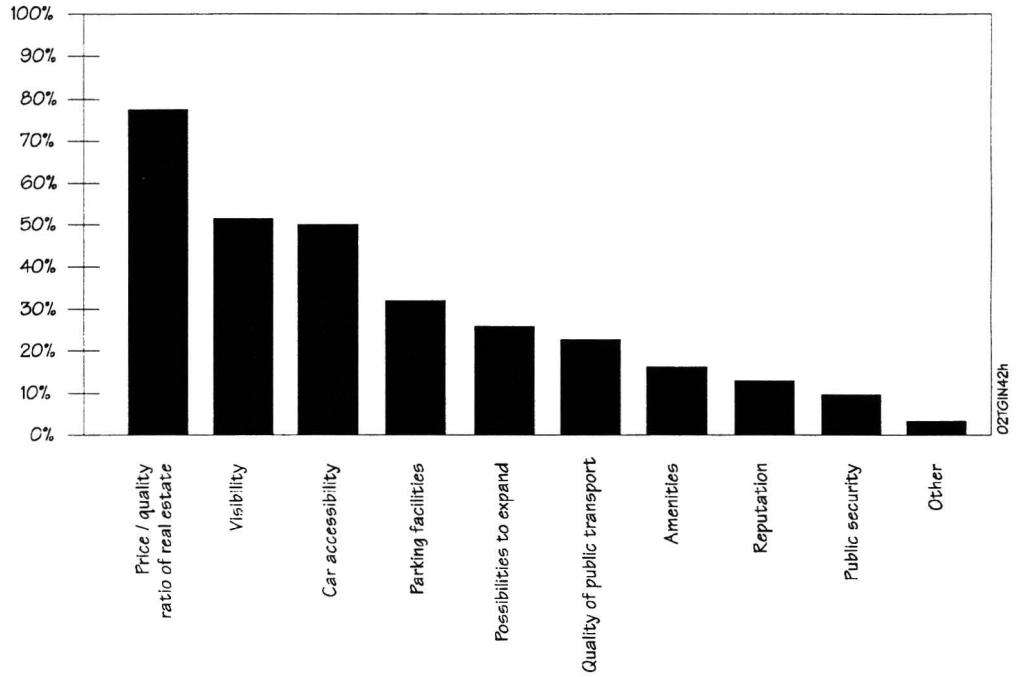
Pan-European Back offices



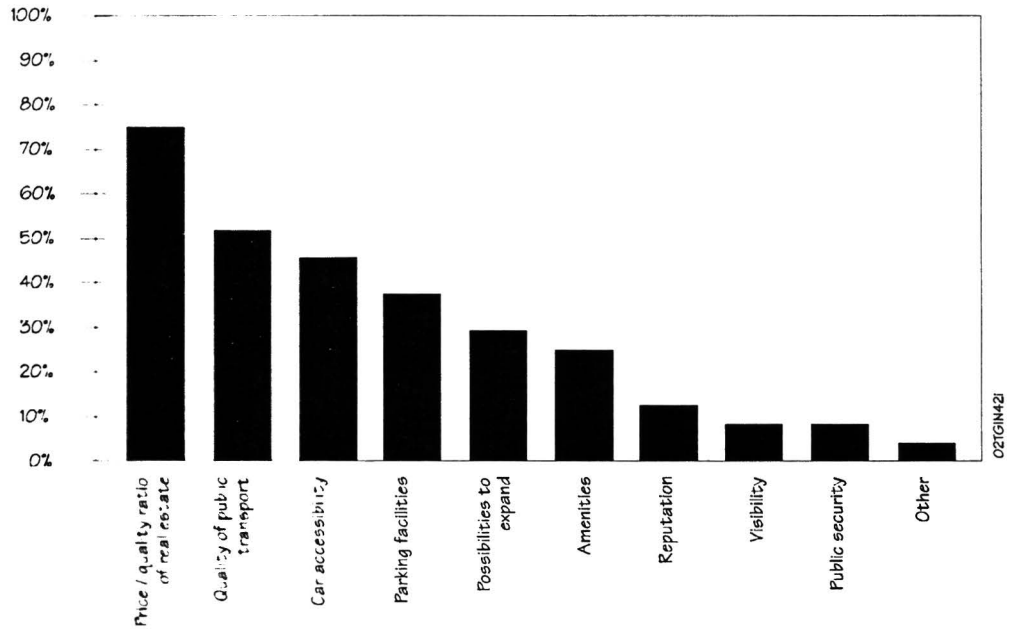
Appendix VII

Site factors

National Sales & Marketing offices



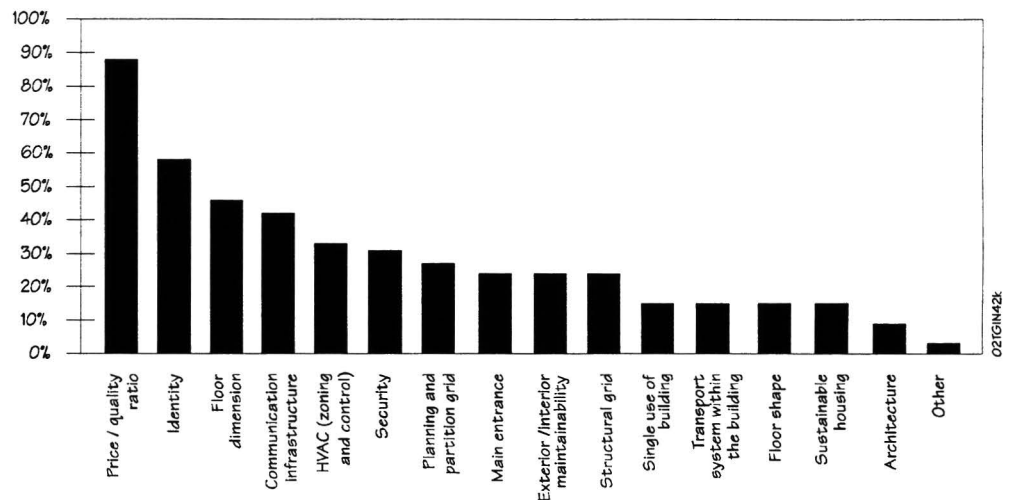
Pan-European Back offices



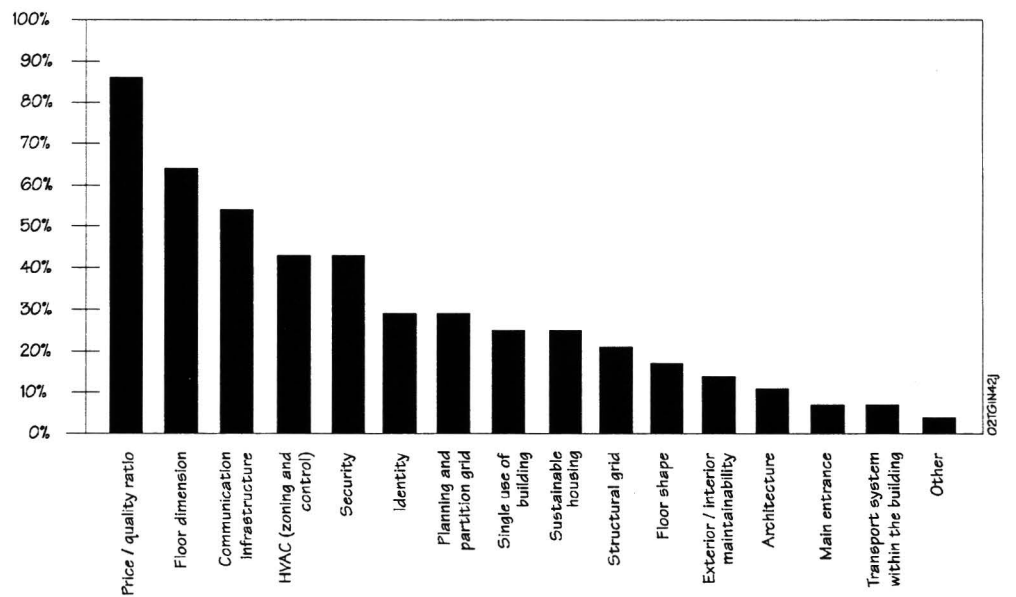
Appendix VIII

Building factors

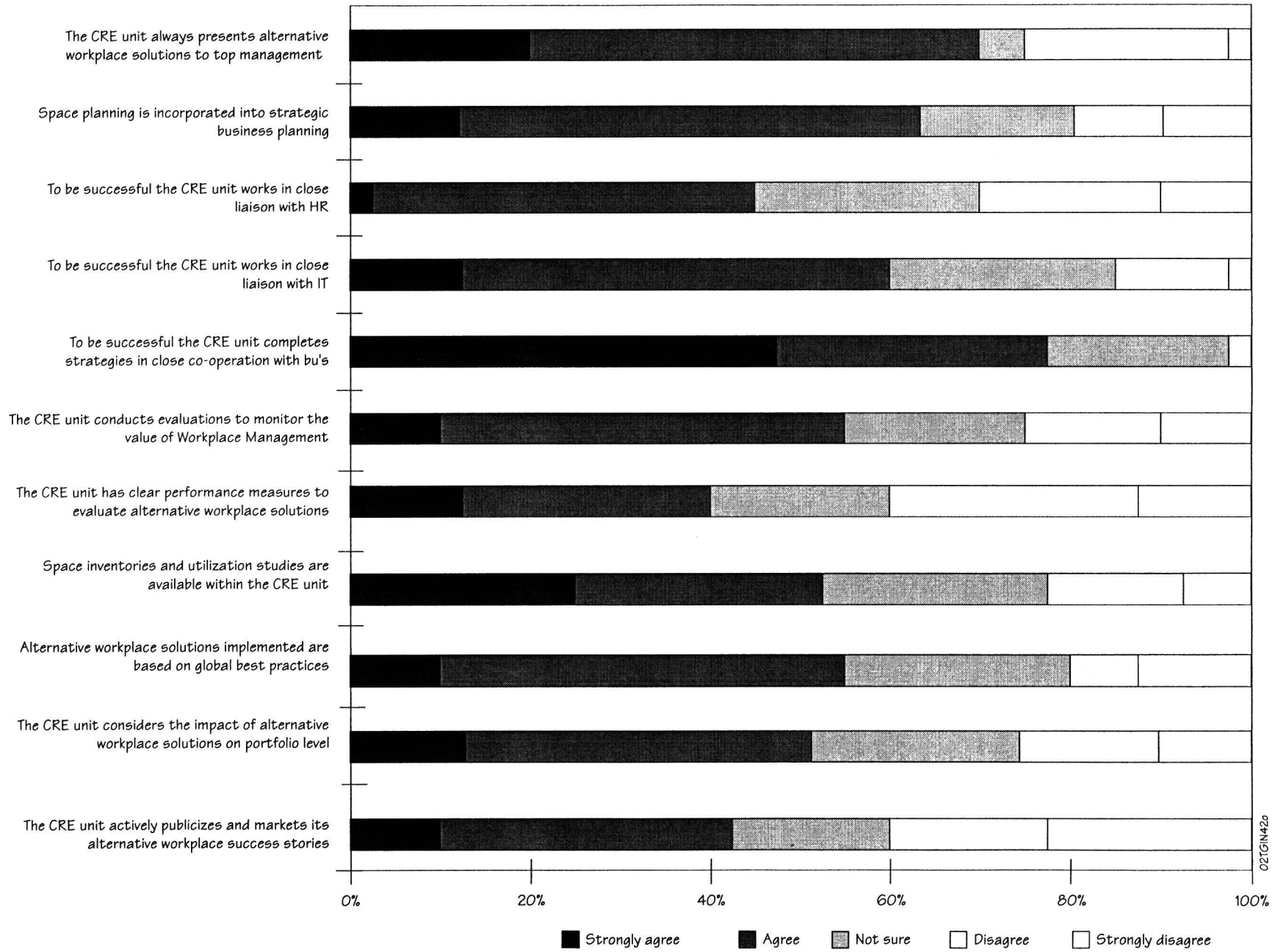
National Sales & Marketing offices



Pan-European Back offices



Appendix IX



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