
from German Companies

Abstract. Based on a conceptual framework of factors representing and influencing corporate real estate management, this study is the first to be performed on the topic in Germany. The research shows that, despite their significant value and associated costs, real estate assets are at present seriously undermanaged by the vast majority of German companies. It seems that the international “bandwagon” toward active real estate management has not yet reached German firms. However, in some companies the function is evolving into a recognized management activity that requires a more formal and systematic approach.

Introduction

The central objective of corporate management is the active, goal-oriented management of long-term business development through the establishment and maintenance of competitive advantages (Porter, 1985). Thereby the competitiveness of both corporate products or services and corporate resources plays an important role. While current management literature and practice provide various concepts for the management of such corporate resources as capital, technology, information and personnel, the conceptual treatment of real estate as a corporate resource has largely been neglected.

Articles have pointed out that real estate is a significant yet undermanaged portion of total corporate assets (Avis, Gibson and Watts 1989; Veale, 1989; Teoh, 1993; and Arthur Andersen, 1995). Corporate leaders often justify the lack of management by proclaiming, “We are not in the real estate business!” This despite the fact that real estate represents 10%–40% of total assets and occupancy costs can range between 3% and 10% of revenues or 5% and 15% of total costs.

There are indications that especially American and British companies are beginning to reevaluate their policies of benign neglect of property assets (Avis et al., 1993; and Joroff, Louargand, Lambert and Becker, 1993). Recent research shows clearly the increasing interest by non-property-companies in corporate real estate management (CRE). Many companies are awakening to the importance of their real estate holdings.

*Arthur Andersen, 65760 Eschborn, Frankfurt am Main, Germany or wolfgang.schafers@de.arthurandersen.com.

In this respect, this study represents a most timely research. It is the first to be performed in Germany on the subject of CRE management and examines the status quo of the function in large, well-known German companies.

Consequently, the objectives of the study were:

- To obtain basic data on the status of CRE management in large German companies;
- To investigate motives and rationales for current practices;
- To identify trends and needs for change; and
- To conduct an international comparison of CRE management.

This article is divided into three sections. The first section presents the research design with particular emphasis on the research sample and on the conceptual framework used for the data analysis. The second section contains selected results of the research. Finally, the last section provides some concluding remarks.

The results of this research represent part of a larger academic study, which examines the problems of CRE management in a broader theoretical and methodological context (see Schaefers, 1997).

Research Design

The research was based on a questionnaire with 48 questions and multiple-choice answers. For the purpose of the study, the questionnaire was sent to nearly 900 German companies, each with revenues of more than DM250 million and more than 1,750 employees. As senior executives are the main policymakers, and because their attitudes influence corporate treatment of real estate, the questionnaire was specifically addressed to them or to the director of real estate in cases where this person was known.

Of the 897 companies to which the questionnaire was sent, 203 responded (a response rate of approximately 23%). However, only 111 responses could be used for the statistical analysis. Most of the remaining 92 companies stated that they were not able to participate in the survey due to organizational or informational considerations. It is intuitively anticipated that the survey has a bias resulting in a more positive picture of the CRE function than actually exists. Nevertheless, the study shows the managerial attitude toward real estate by the most important, internationally well-known German companies. Due to the explorative nature of the study and the concentration on large German companies, the research results cannot be assumed to be generally relevant to German industry as a whole. Exhibit 1 presents the distribution of the respondent companies according to their industry.

Exhibit 2 depicts the conceptual framework used for the data analysis. As a first step, the current status of the management system for real estate assets was thoroughly analyzed and compared with "critical success factors." Cluster analysis was used to

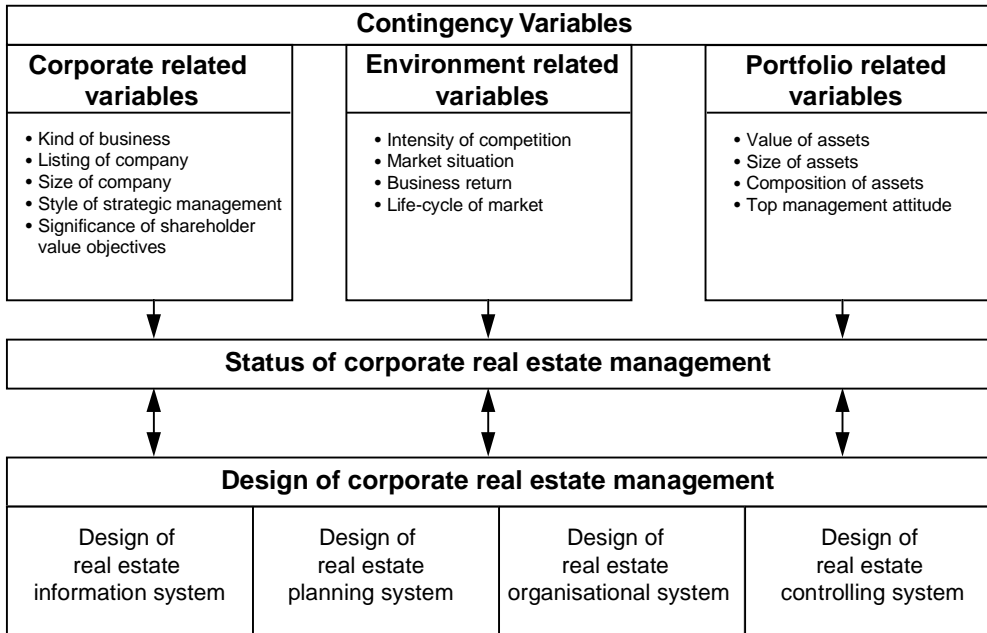
Exhibit 1
Structure of the Research Sample by Industry

Industry	Frequency	Percentage
Energy/Utility/Mining	15	13.6
Chemical & Associated Industries	12	10.9
Heavy Manufacturing/Engineering	16	14.5
Ligh Manufacturing	17	15.5
Food/Liquor/Tobacco	3	2.8
Construction	4	3.6
Retail/Wholesale	21	19.1
Transportation/Media/Communications	8	7.3
Banking/Insurance/Services	14	12.7
Total	110	100

reveal distinct differences among the respondent companies in terms of their real estate management practices. Cluster analysis is a process of grouping individual objects (in this case, the surveyed companies) in numerous iterations, until the homogeneity within each group or “cluster” and the heterogeneity between the groups are optimized.

Secondly, a contingency variable analysis was performed in order to determine the influence of various factors on current real estate practice. These influencing factors

**Exhibit 2
Conceptual Framework**



were grouped in three categories: corporate related, environment related and portfolio related variables. Chi-square analysis and Cramer’s V were used for testing the significance of the hypothesis. The chi-square concept was used because it yields comparable correlation coefficients for different variables, even when different scales are applied. Because chi-square values for a given correlation tend to rise with the sample size, Cramer’s V was additionally applied. Cramer’s V builds on the chi-square test but tests the strength of correlations independent of sample size. In evaluating the results of the Cramer’s V analysis, the following parameters were used: resulting values of less than 0,10 indicate no correlation; values between 0.10 and 0.20 indicate a weak correlation. Values between 0.20 and 0.30 indicate a relatively strong correlation, whereas values greater than 0.30 indicate a very strong correlation. It should be noted that, while Chi-square and Cramer’s V analyses reveal the correlation of different factors or characteristics, they do not prove causality, so that interpretations as to causal relationships must be based on theoretical considerations (see Bortz, 1984).

In the final stage of the analysis, the information, planning, organizational and control systems were examined as subsystems of the entire management system.

The following discussion will concentrate on the first two topics: the status of CRE management and the analysis of contingency variables.

Research Results

Status of Corporate Real Estate Management

The starting point of the research was a global survey of the “activity level” in the area of CRE management in the respondent companies and, on the basis of actual activity levels, the identification of internally homogeneous, externally heterogeneous clusters. The questionnaire included a list of sixteen managerial and organizational characteristics, which are in theory and practice well known as critical success factors in the operation of a (pro-)active CRE management system (Avis, Gibson and Watts, 1989; Gale and Case, 1989; Pittman and Parker, 1989; Joroff et al., 1993; Nourse and Roulac, 1993; and Teoh, 1993). Participants were asked to rate how important each factor is and how well their companies performed with regard to each factor (in other words: have realized each of these factors). Importance and performance were rated on a Likert scale from 1 to 5. The results are summarized in Exhibit 3, which shows the factors by their performance score.

With the help of cluster analysis, three types of companies were identified that differ significantly with respect to their CRE management system. The distribution of respondent companies among these three categories was as follows:

- Active 31.2%
- Selective 37.6%
- Passive 31.2%

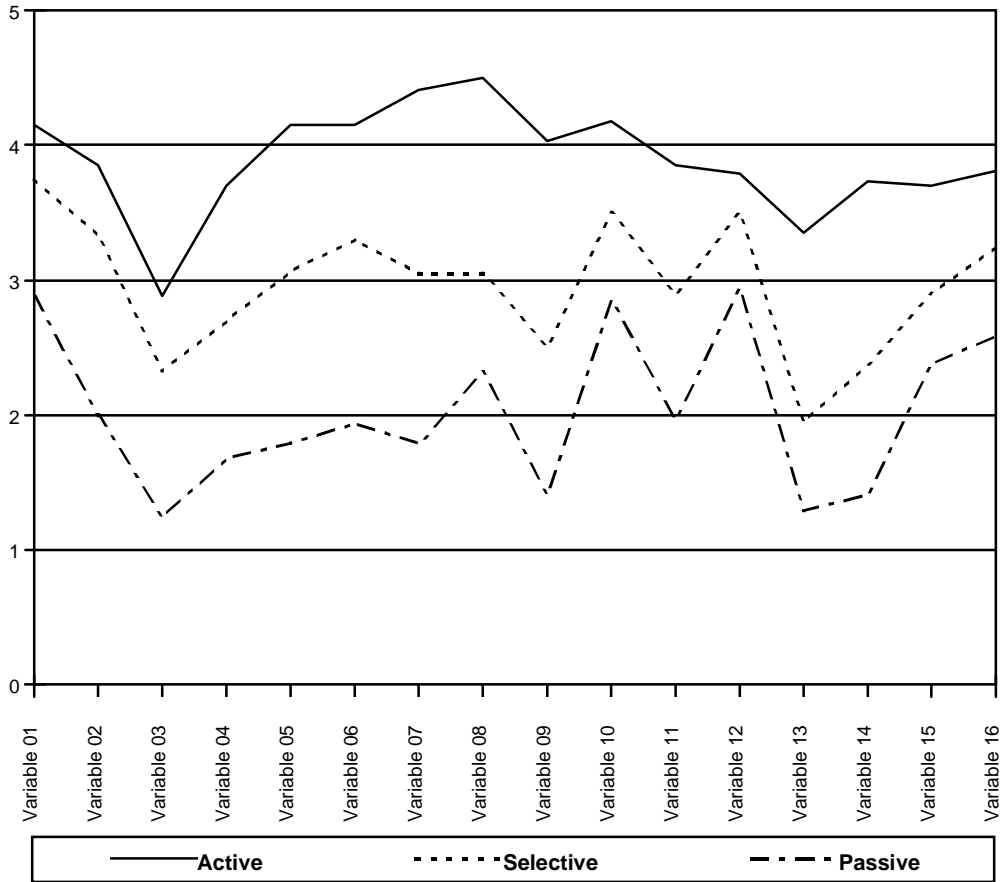
The “active” companies have realized the key factors of CRE management at a very high level. With one exception, all characteristics are scored on a 3.5 to 4.5 level. Compared with this first group, the “selective” companies show a distinctly lower performance level, whereas the “passive” companies have the lowest realization level.

Furthermore, it is interesting to examine the differences between importance and performance scores by the different clusters (see Exhibits 4–6). A large difference between importance and performance scores is indicative of mismatched resources and needs and shows that improvement is needed in the area.

With respect to the active companies, Exhibit 4 shows very small differences between importance and performance scores. In fact, the findings indicate an “over-achievement” in terms of the organizational treatment of the management function under study. At the same time, shortcomings are apparent with respect to the transparency of real estate cost accounting and the level of professional qualifications in the CRE area.

In contrast, those companies that have realized a selective or passive mode of CRE management exhibit some large discrepancies between the importance and performance level of the different success factors (see Exhibits 5 and 6). Clear discrepancies arise primarily with respect to the transparency of real estate costs and

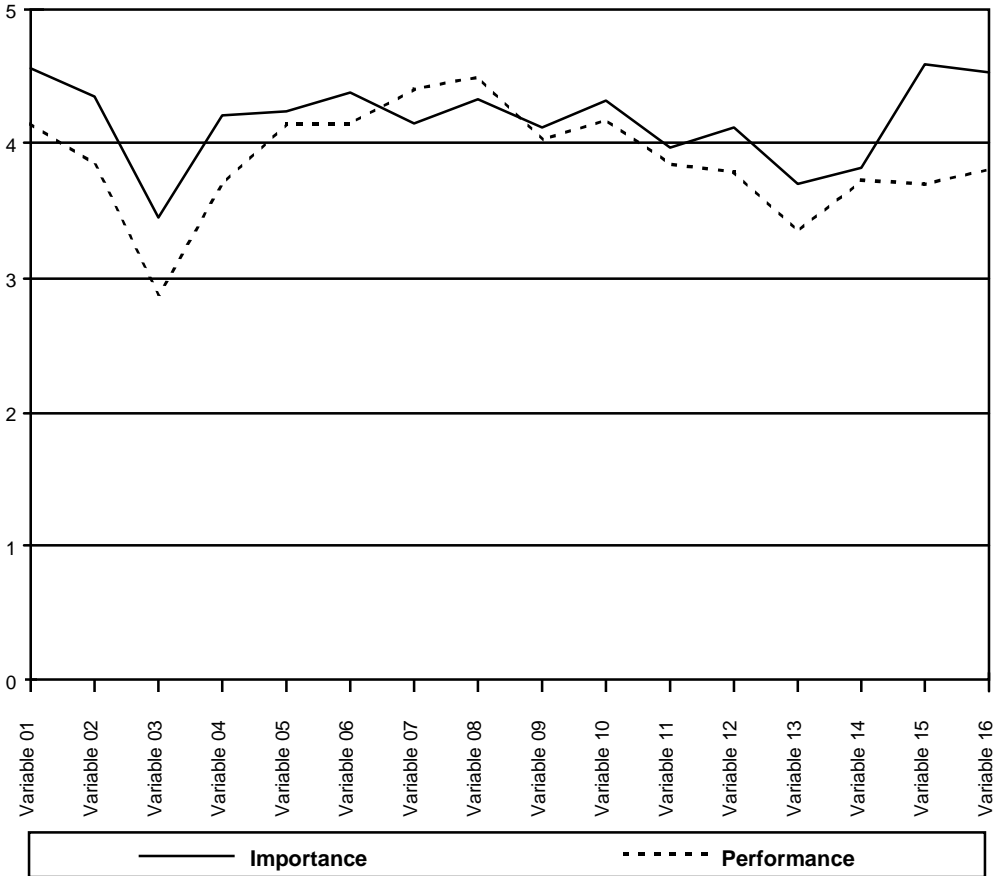
Exhibit 3
Status of CRE Management by Different Clusters (n = 109)



"Key factors" of corporate real estate management

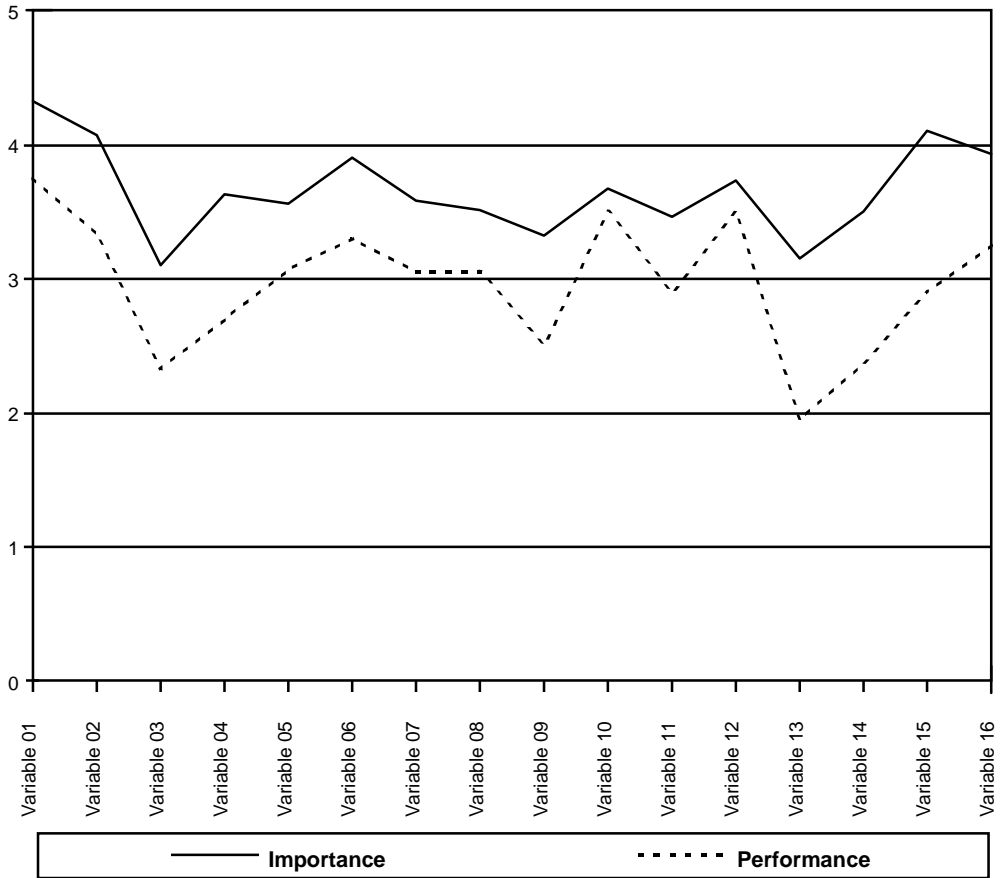
- 01 = Detailed and up-to-date information on real estate
- 02 = Centralized keeping of real estate data by real estate management
- 03 = Integration of both real estate and corporate information systems
- 04 = Detailed and formal strategic planning for facilities and real estate asset management
- 05 = Bottom-up integration of strategic planning for real estate and business units
- 06 = Top-down integration of corporate objectives and strategies in real estate planning
- 07 = Central location of real estate unit in overall organizational structure
- 08 = Access to top management
- 09 = Operation of real estate unit as separate and distinct responsibility center
- 10 = Positive attitude by top management towards real estate
- 11 = Centralized real estate authority and responsibility
- 12 = Internal renting system for real estate space
- 13 = Well-defined and regular real estate performance measurement
- 14 = Well-defined and regular strategic real estate control
- 15 = Transparency of real estate costs
- 16 = Professionally trained and qualified human resources in real estate

Exhibit 4
Status of CRE Management: Active (n = 34)



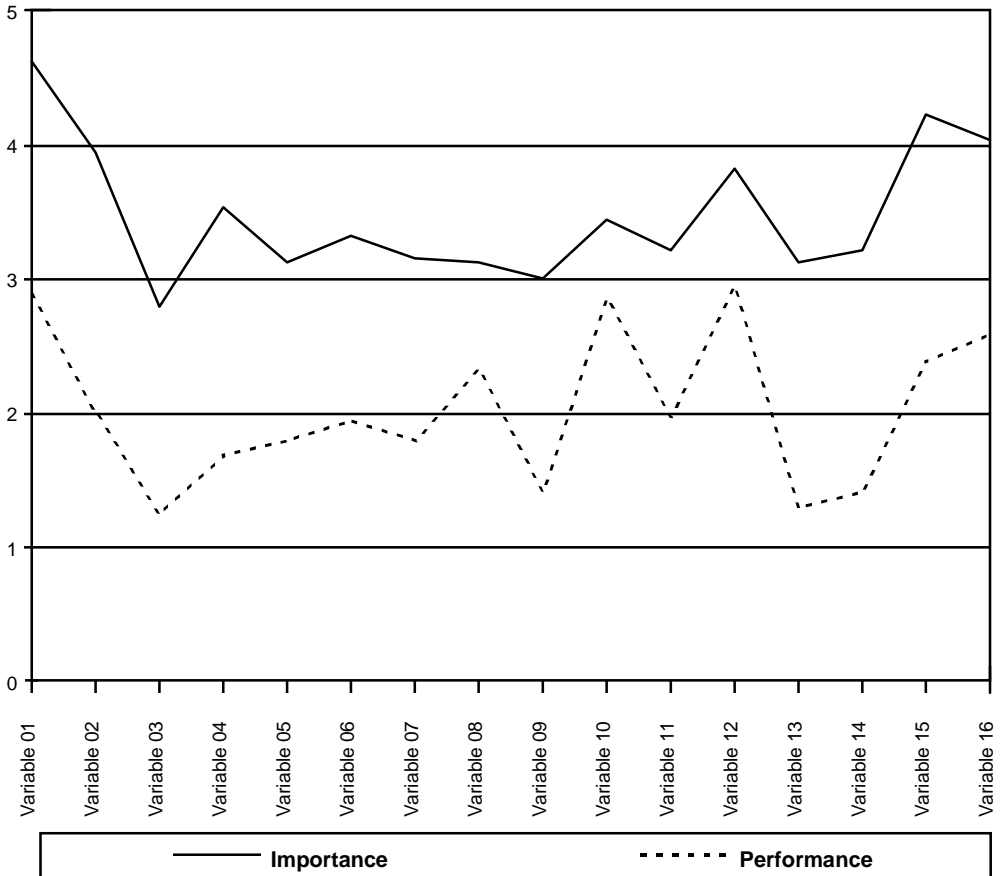
- "Key factors" of corporate real estate management**
- 01 = Detailed and up-to-date information on real estate
 - 02 = Centralized keeping of real estate data by real estate management
 - 03 = Integration of both real estate and corporate information systems
 - 04 = Detailed and formal strategic planning for facilities and real estate asset management
 - 05 = Bottom-up integration of strategic planning for real estate and business units
 - 06 = Top-down integration of corporate objectives and strategies in real estate planning
 - 07 = Central location of real estate unit in overall organizational structure
 - 08 = Access to top management
 - 09 = Operation of real estate unit as separate and distinct responsibility center
 - 10 = Positive attitude by top management towards real estate
 - 11 = Centralized real estate authority and responsibility
 - 12 = Internal renting system for real estate space
 - 13 = Well-defined and regular real estate performance measurement
 - 14 = Well-defined and regular strategic real estate control
 - 15 = Transparency of real estate costs
 - 16 = Professionally trained and qualified human resources in real estate

Exhibit 5
Status of CRE Management: Selective (n = 41)



- "Key factors" of corporate real estate management**
- 01 = Detailed and up-to-date information on real estate
 - 02 = Centralized keeping of real estate data by real estate management
 - 03 = Integration of both real estate and corporate information systems
 - 04 = Detailed and formal strategic planning for facilities and real estate asset management
 - 05 = Bottom-up integration of strategic planning for real estate and business units
 - 06 = Top-down integration of corporate objectives and strategies in real estate planning
 - 07 = Central location of real estate unit in overall organizational structure
 - 08 = Access to top management
 - 09 = Operation of real estate unit as separate and distinct responsibility center
 - 10 = Positive attitude by top management towards real estate
 - 11 = Centralized real estate authority and responsibility
 - 12 = Internal renting system for real estate space
 - 13 = Well-defined and regular real estate performance measurement
 - 14 = Well-defined and regular strategic real estate control
 - 15 = Transparency of real estate costs
 - 16 = Professionally trained and qualified human resources in real estate

Exhibit 6
Status of CRE Management: The Passive (n = 34)



- "Key factors" of corporate real estate management**
- 01 = Detailed and up-to-date information on real estate
 - 02 = Centralized keeping of real estate data by real estate management
 - 03 = Integration of both real estate and corporate information systems
 - 04 = Detailed and formal strategic planning for facilities and real estate asset management
 - 05 = Bottom-up integration of strategic planning for real estate and business units
 - 06 = Top-down integration of corporate objectives and strategies in real estate planning
 - 07 = Central location of real estate unit in overall organizational structure
 - 08 = Access to top management
 - 09 = Operation of real estate unit as separate and distinct responsibility center
 - 10 = Positive attitude by top management towards real estate
 - 11 = Centralized real estate authority and responsibility
 - 12 = Internal renting system for real estate space
 - 13 = Well-defined and regular real estate performance measurement
 - 14 = Well-defined and regular strategic real estate control
 - 15 = Transparency of real estate costs
 - 16 = Professionally trained and qualified human resources in real estate

the control of goals, strategies and planning assumptions in the CRE area. Similarly, planning activities in real estate management have so far been accorded only a moderate degree of importance. Moreover, companies in these groups have typically neglected a regular measurement of the operational and financial performance of their real estate assets. Although most of these companies regard the key factors to be of critical or moderate importance, the operational system clearly lags behind the importance assessment.

In summary, two-thirds of the respondent companies do not have an adequate styled management system for their real estate holdings. There is clear evidence that real estate, though a key asset for non-property companies, is undermanaged by the majority of large German companies. Only one-third fulfill the prerequisites to seriously consider real estate as an asset to be actively managed. Thus, the survey indicates that there is much room for improvement with respect to various aspects of the entire system.

Factors Influencing the Status of CRE Management

As indicated earlier, the following section provides an in-depth analysis of different factors that may influence the status of CRE management in the surveyed companies. In this context, a set of corporate-related, environment-related and portfolio-related variables will be examined.

Corporate-related Variables. Corporate related variables include selected descriptive (*i.e.*, type of industry, size) and strategic (*i.e.*, management style, corporate objectives) variables and their impact on the overall CRE management style. Findings show that both descriptive and strategic variables play an important role in influencing the way that CRE management is currently practiced.

First, the influence of the type of industry on CRE management status will be examined. Based on literature review (Gale and Case, 1989; and Avis et al. 1993) it is presumed that mainly retail and service sector companies have a more active management of their operational property due to the fact that real estate plays a relatively important role in their entire management system. Exhibit 7 illustrates this observation.

Indeed, the results indicate that companies in the service and retail industries typically have an active real estate management system. In contrast, companies from the energy, utility, mining, chemical and light manufacturing sector are dominated by selective or even passive companies. This clearly shows a lack of enthusiasm towards real estate. Because most of these industries are protected or regulated to some degree, executives in these industries are generally unaware of the wealth-enhancing potential of their existing real estate assets. However, companies from the heavy manufacturing and engineering industry show a more active practice in CRE management. The findings imply that even industrial companies may well be in the position to implement an active management system for their real estate assets.

Exhibit 7
Influence of Type of Industry on CRE Management Status

Industry	Status	Total
Energy/Utility/Mining		16.0
Chemical & Associated Industries		12.8
Heavy Manufacturing/Engineering		17.0
Light Manufacturing		17.0
Retail/Wholesale		22.3
Banking/Insurance/Services		14.9
Percentage (n = 94)		Cramer's V = 0.29128

A further classical test of empirical research is the influence of company size on CRE management status. In this context, it is expected that large companies have a more active style of real estate management because they devote more financial and human resources to the management function under study. Exhibit 8 gives information on the topic.

As may be seen from Exhibit 8, a majority of those companies with a revenues of more than DM15 billion and more than 20.000 employees are active companies. In contrast, medium-sized companies have a mainly reactive rather than proactive real

Exhibit 8
Influence of Company Size on CRE Management Status

Size of Company (in sales)	Status	Total
<0.5 billions DM		19.4
0.5 – 2.5 billions DM		42.9
2,5 - 15 billions DM		20.4
>15 billions DM		17.3
Percentage (n = 98)		Cramer's V = 0.25463

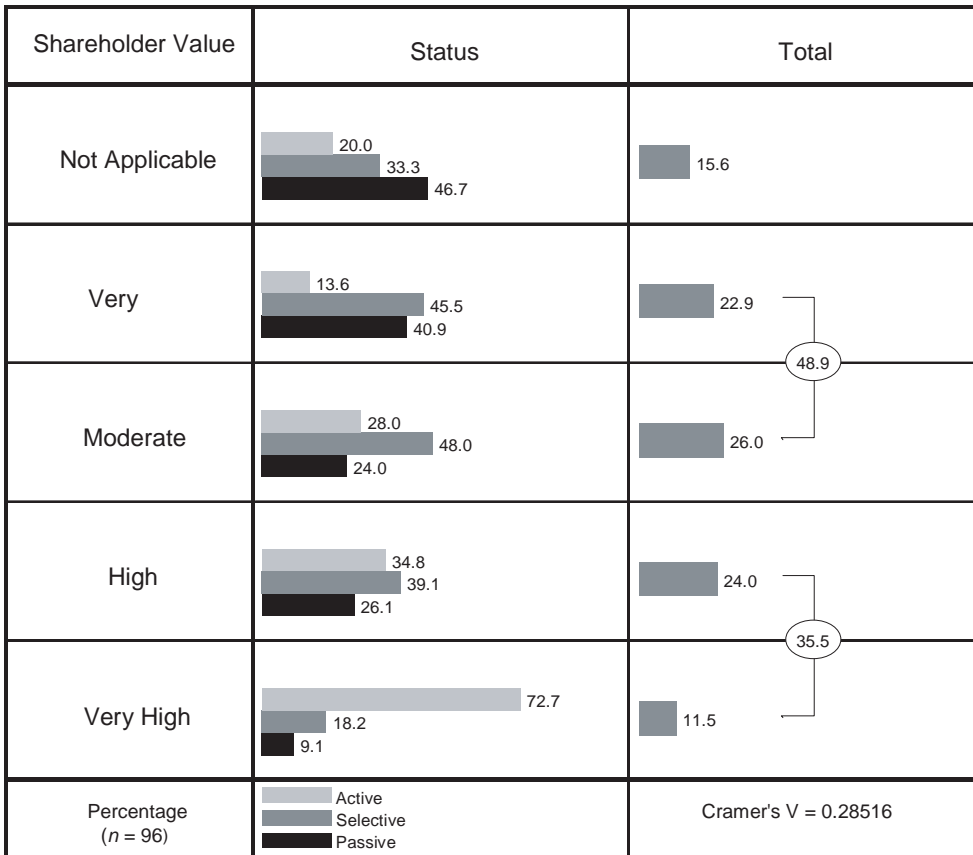
Size of company (in No. of employees)	Status	Total
< 2.000		22,0
2.000 - 5.000		28,4
5.000 - 20.000		22,9
> 20.000		26,7
Percentage (n = 109)		Cramer's V = 0,27067

estate management. The findings demonstrate that smaller companies do not allocate real estate the necessary managerial attention that its value and importance would imply mainly because the size of management in these companies is somehow limited.

In recent discussions it has been argued that CRE must contribute to a company’s shareholder value (Arthur Andersen, 1993; Brown et al. 1993; and Joroff et al. 1993). In this context, it was therefore interesting to determine whether or not there is a link between property and shareholder value management (see Exhibit 9). It might be supposed that companies that attach high significance to shareholder value as guiding principle for their business activities would also tend to behave systematically and actively with respect to the management of real estate as an important asset class.

The fact that only one-third of German companies strongly consider shareholder value as a corporate objective is in itself of interest. It seems that shareholder value has yet

**Exhibit 9
Influence of Shareholder Value as Corporate Objective on
CRE Management Status**



not reached the corporate agenda as business and academic articles suppose (see, for example, Rappaport, 1986; Buehner, 1990; and Herter, 1994). With respect to the influence of shareholder value as corporate objective on the status of CRE management, one may see from Exhibit 9 that the more shareholder value is pursued as an objective, the more companies opt for an active real estate management. It appears that those companies with an active CRE management try to justify every real estate transaction and decision in terms of its contribution to the ultimate benefit of the shareholders through enhanced stock value and earnings per share.

Environment Related Variables. Environment related variables concentrate on the impact of the economic situation in which companies operate on the status of operational property management. Findings show that, contrary to expectations, the overall style of CRE management is not correlated with the business environment.

An assessment of the impact of the environmental situation is made using market characteristics like market growth, industry return and intensity of competition as proxy measures of the economic conditions in the particular industry. It is argued that organizations take property matters more seriously and therefore actively when they are under severe economic pressure in their main business (see also Avis et al. 1993). Exhibit 10 shows the relevant observation.

In contrast to the expectation, there is no statistically significant difference between the clusters. Most of the companies operate in a competitive business environment so that differences in their management behavior towards real estate cannot be correlated to environmental factors.

Portfolio Related Variables. Findings show that total value and size of the real estate portfolio are highly correlated with the style of CRE management. In addition, there is clear evidence that the attitude of top management towards real estate influences the way in which corporate real estate is managed.

First, the influence of the value of real estate holdings on the managerial status is tested. In this context, one may argue that the more real estate a company carries on its balance sheet (measured as a percentage of total assets at book value), the more it pursues an active property management. The analysis in this regard is limited, however, to drawing a rough impression because of the limitations of book value as an indicator of true real estate value. Given the complexity and confidentiality issues involved, it was unfortunately impossible to receive data as to current market value of their real estate holdings from the respondent companies.

As shown in Exhibit 11, the hypothesis may be accepted for the sample under study. Most companies with a real estate portion of more than 30% of total assets are dominated by active companies. Similarly, the size of the real estate portfolio in square meters (m²) and its influence on CRE management status are examined (see Exhibit 12). The analysis is based on the hypothesis that companies with a comparatively large real estate portfolio (measured in terms of physical space) would tend to take an active approach to CRE management.


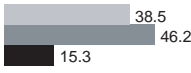


**Exhibit 10
Influence of Primary Business Situation on CRE Management Status**

Situation of Primary Business	Status					Total					Cor.
	1	2	3	4	5	1	2	3	4	5	
Market Growth											Cramer's V = 0.03445 (n = 105)
Business Return in Industry											Cramer's V = 0.10680 (n = 102)
Intensity of Competition											Cramer's V = 0.03338 (n = 104)
Mean											

**Exhibit 11
Influence of Real Estate Value on CRE Management Status**

Real estate in % of total assets (book value)	Status	Total
< 10		
10 - 20		
20 - 30		
> 30		
Percentage (n = 80)		Cramer's V = 0,27953

Exhibit 12
Influence of Size of Real Estate Portfolio on CRE Management Status

Size of Real Estate Portfolio (in Mio. m ²)	Status	Total
(1) Space (owned and leased)		
< 0.5		46.8
0.5 – 1.5		27.7
> 1.5		25.5
Percentage (n = 47)		Cramer's V = 0.33194

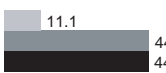
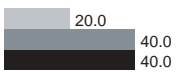
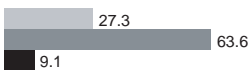
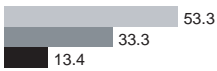

Size of Real Estate Portfolio (in Mio. m ²)	Status	Total
(2) Land		
< 0,5		30.5
0,5 - 1,5		25.4
1,5 - 5		18.7
> 5		25,4
Percentage (n = 59)		Cramer's V = 0.32019

Exhibit 13
Influence of Top Management Attitude Towards Real Estate on CRE Management Status

Attitude of Top Management Towards Real Estate...	Status	Total
... has changed significantly positively		36.8
... has changed		52.6
... has not changed		10.6
Percentage (n = 95)	Active Selective Passive	Cramer's V = 0.23693

It is not surprising that the expectation holds true for the currently observed context. Companies with a real estate portfolio of more than 1.5 million square meters (owned and leased) space and/or more than 5 million square meters and treat their property holdings in a more active fashion. Overall, the size and value of the real estate portfolio seem to have a strong influence on the management of the asset.

Finally, the attitude of top management towards real estate and its influence on CRE management status is examined. If one views the development from a traditional, passive approach to a (pro-)active management of real estate as an evolutionary process, then two distinct groups can be identified that are especially necessary to this process (see Witte, 1973). First, “subject” promoters or champions, who initiate and implement the process by their specialized professional knowledge and, second, “power” promoters or champions, who lend the strength of their position in the corporate hierarchy to the process. Indeed, the most important role is that played by members of top management acting as power champions within the firm.

Top management perception of real estate represents one of the most interesting areas for researchers (Avis, Gibson and Watts, 1989; Veale, 1989; and Teoh, 1992). The literature finds that senior corporate executives play an important role in promoting CRE management and in inspiring the corporation as a whole to be more responsible towards the asset.

Exhibit 14
Paradigm Shift in CRE Management

Paradigm Criteria	Traditional CRE-Management	Strategic CRE-Management
Management Philosophy	Custodial oriented view of real estate	Management oriented view of real estate
Planning Horizon	Short- to medium-term decision making	Long-term decision making
Style of Thinking	Thinking in technical and property-by-property categories	Thinking in user and portfolio categories
Behavior Pattern	Reactive	Proactive
Self Perception of CRE Manager	Engineer Caretaker	Problem-solver Strategist
Personnel Requirements	Experience	Experience and creativity
Degree of Information and Organization	Low	High
Performance Measurement	Implicit performance criteria	Explicit performance criteria

As one may see from Exhibit 13, the attitude of top management towards real estate has changed to a large extent. In only 10% of the companies surveyed does real estate still represent a neglected aspect of corporate affairs. Among those companies that stated that top management attitude has changed significantly, positively active companies represent the largest group. The study results, therefore, imply that there exists a strong correlation between management attitude and effective management of real estate assets.

Conclusion

Based on a conceptual framework of factors representing and influencing CRE management, this study is the first to be performed on the topic in Germany. A considerable amount of information about the status of operational property management by major German companies was obtained.

The research shows that, despite their significant value and associated costs, CRE assets are at present seriously undermanaged by the vast majority of the sample. It seems that the international "bandwagon" toward active CRE management has not yet reached them. However, there are indications that in some companies the

management of CRE is evolving into a recognized management activity that requires a more formal and systematic approach. Effective real estate management means moving beyond reactive and decentralized decision making, fragmented across the organization, towards a proactive, comprehensive and portfolio-wide management, well supported by adequate and timely information and the commitment of top management (Veale, 1989). Exhibit 14 summarizes the shifting characteristics of the evolving management function under study.

Although this study takes a major step in developing a strategic perspective of CRE management for German companies, many questions remain unanswered. For example, while this study has addressed important factors that are individually influential, further studies should be conducted to determine their interrelationship and relative impact on the productivity of CRE management.

References

- Arthur Andersen, *Real Estate in the Corporation: The Bottom Line from Senior Management*. Washington, 1993.
- . *Wasted Assets? A Survey of Corporate Real Estate in Europe*, London, 1995.
- Avis, M., et al. *Property Management Performance Monitoring*, Oxford, 1993.
- Avis, M., V. Gibson and J. Watts, *Managing Operational Property Assets*, Reading, 1989.
- Bortz, J., *Lehrbuch der empirischen Forschung für Sozialwissenschaftler (Statistical Analysis for Social Science)*, Berlin, Germany, 1984.
- Brown, R. K. et al., *Managing Corporate Real Estate*, New York, 1993.
- Buehner, R., *Das Management-Wert-Konzept: Strategien zur Schaffung von mehr Wert im Unternehmen (The Concept of Shareholder Value: Strategies for Creating Value)*, Stuttgart, Germany, 1990.
- Gale, J. and F. Case, A Study of Corporate Real Estate Resource Management, *The Journal of Real Estate Research*, 1989, 4:3, 23–34.
- Herter, R. N., *Unternehmenswertorientiertes Management (Shareholder Value-Oriented Management)*, Ph.D. dissertation, University of Munich: Munich, Germany, 1994.
- Joroff, M., M. Louargand, S. Lambert and F. Becker, *Strategic Management of the Fifth Resource: Corporate Real Estate*, Atlanta, 1993.
- Nourse, H. O. and S. E. Roulac, Linking Real Estate Decisions to Corporate Strategy, *Journal of Real Estate Research*, 1993, 8:4, 475–94.
- Pittman, R. H. and J. R. Parker, A Survey of Corporate Real Estate Executives on Factors Influencing Corporate Real Estate Performance, *Journal of Real Estate Research*, 1989, 4:3, 107–19.
- Porter, M., *Competitive Advantage*, New York, 1985.
- Rappaport, A., *Creating Shareholder Value*, New York, 1986.
- Schaefers, W., *Strategisches Management von Unternehmensimmobilien (Strategic Management of Corporate Real Estate)*, Ph.D. dissertation, European Business School, Cologne, Germany, 1997.
- Teoh, W. K., Corporate Real Estate Asset Management: The New Zealand Evidence, *Journal of Real Estate Research*, 1993, 8:4, 607–23.
- Veale, P. R., Managing Corporate Real Estate Assets: Current Executive Attitudes and Prospects for an Emergent Management Discipline, *Journal of Real Estate Research*, 1989, 4:3, 1–22.
-

Witte, E., *Organisation fuer Innovationsentscheidungen (Decision-making in Innovation Management)*, Goettingen, Germany, 1973.

The author would like to acknowledge the valuable contribution of Ute Niemann, Hans-Dieter Lorenz, Sven-Eric Ropeter and Heather Saunders in the accomplishment of the study. Financial support for the research was provided by the sponsors of the chair for real estate economics at the European Business School Schloß Reichartshausen and the alumni organization immoebis e.V.