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WAYS TO STUDY CORPORATE REAL ESTATE MANAGEMENT IN HEALTHCARE: AN ANALYTICAL FRAMEWORK

J. van der Zwart[1], M.H. Arkesteijn[2] and D.J.M. van der Voordt[3]

ABSTRACT

Since 2008, after 35 years of a publicly supported healthcare real estate budget system, Dutch healthcare organisations have become financially responsible for the profits and risks of their real estate investment. Furthermore the Dutch healthcare system is in transition towards a regulated market system with growing competition between healthcare providers.

Both developments will probably change the way healthcare organisations manage their real estate, the location choices they make and the building typology they choose. Real estate will become an increasingly strategic source of profitability and overall performance, similar to capital, human resources, information / knowledge and technology.

In the literature on Corporate Real Estate Management (CREM) different models have been developed to link real estate strategy to business strategy (Jonge et al., 2008). In this paper we explore whether these models can be applied to support hospital organisations in their decision-making about real estate. These models are used to build an analytical framework that will be used in a PhD research study called *Better healthcare for lower costs, real estate strategies in a changing context.* The main issues of this PhD research are the changing context and scope of Corporate Real Estate Management for hospitals and its impact on real estate decisions in relation to general corporate management.

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KEYWORDS

Building typology, conceptual framework, corporate real estate management, healthcare, hospitals, urban setting.

1.1. Legislation and financing of the Dutch healthcare system

Healthcare is precious and expensive. It will become even more expensive in the future, due to the increasing need for care of an ageing society, an increasing demand for quality of life, and new technical and medical innovations. Until recently the budget system of healthcare real estate investment in the Netherlands was centrally directed. To keep healthcare affordable in the future, the Dutch government is changing its policy from a centrally directed system into a regulated market system. This gives healthcare organisations the opportunity to make their own autonomous decisions. "Deregulation", in other words fewer rules of investment, goes hand in hand with an increased individual responsibility and higher risks on investments. Since financial support on real estate investments are no longer guaranteed by the government, real estate investments have to be financed by the production and delivery of healthcare services. As a consequence, the need for competitive advantage will also increase.

In the former real estate budget system the Dutch government used a strict approval system to steer the capacity and costs of hospital health care. All private initiatives to build, renovate or demolish a hospital building were tested in terms of their fit with a regulated overall capacity per service area, square metre guidelines per hospital bed and per function, and a maximum standard of costs per square metre. Approval was granted by the Minister of Health, Welfare and Sports, advised by the Netherlands Board for Healthcare Institutions. In return the real estate capital costs (depreciation, rent, maintenance costs and so on) were guaranteed by the government. The healthcare provider's real estate budget was independent of the production of healthcare services. The discharge of both healthcare services and the budget for real estate investments and running costs were executed by healthcare insurance companies (figure 1).

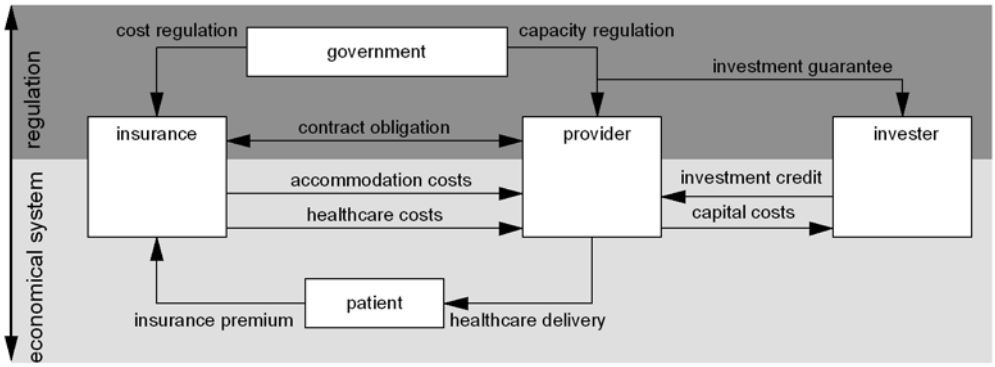

Fig. 1. Traditional legislation and financing system in Dutch healthcare

In this former system, hospital organisations bore none of the risks of the real estate investments, nor were they responsible for the running costs and a possible deficit if production decreased. As a consequence, healthcare organisations always tried to obtain the maximum amount of square metres and were not encouraged to provide either cost efficiency or cost effectiveness.

In the so-called February-letter of 8 March 2005, the Dutch Minister of Health, Welfare and Sports announced the alteration of this real estate budget system and the introduction of a regulated market system in healthcare (Hoogervorst, 2005). The main objective is to keep healthcare affordable by stimulating competition and as such reducing healthcare costs. "Deregulation" gives healthcare organisations more freedom in the briefing, design and management of hospital buildings and real estate investments. As in the old system, private not-for-profit initiatives are still the driving force behind the capacity of hospital healthcare, but in the new system healthcare organisations are themselves responsible for the return on real estate investment and the consequences of real estate decisions on utility value, investment costs and running costs. Since January 2008 providers in the medical sector have to finance real estate investments and capital costs from the income from healthcare products and services. From then on the centrally steered real estate budget system with governmental ex ante testing of building plans and investment proposals has changed into a performance driven finance system with governance on the output (Figure 2). Until 2012 there will be a transition phase with a standardized and maximized budget for capital costs per m^2. At this moment 80% of the prices of the so-called diagnosis-treatment

combinations are still regulated by the government, but in the future this percentage will be reduced.

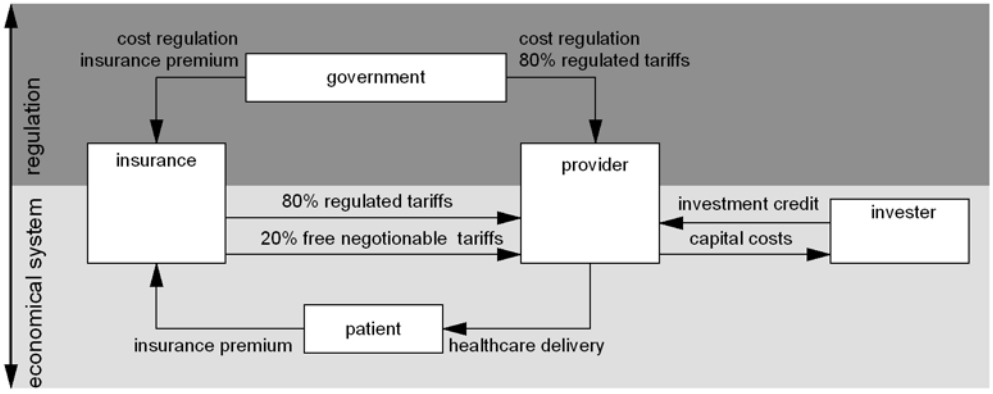

Fig. 2. New legislation and financing system of Dutch healthcare

1.2. Strategic Corporate Real Estate Management

In Corporate Real Estate Management (CREM) different models have been developed to negotiate the best possible match between demand and supply on both the building and portfolio level, and to link real estate strategy with business strategy (Jonge et al., 2008). One of these models is the *Designing an Accommodation Strategy* framework, shortened to the DAS-Framework (figure 3). This conceptual framework has been developed by the CREM group at the Department of Real Estate & Housing, Delft University of Technology. The DAS-framework can be used as a source of inspiration and as a checklist in order to structure the process of designing an accommodation strategy. This process is perceived as a cyclic and iterative process that moves along two axes, from demand to supply and from current to future. The process can be started at different points and is supported with a number of decision support tools and methods. There are four key issues in the framework:
(1) 'What we need' versus 'what we have': determines the mismatch between current demand and current supply;
(2) 'What we need in the future' versus 'what we have now': determines the mismatch between future demand and current supply;
(3)'Alternatives of what we could have': design, evaluate and select solutions for the mismatch;

(4) 'Step-by-step plan to realise what we want to have in the future' i.e. how to transform the current supply into the selected future supply.
The current demand is mostly determined on a time-scale of three years. The future demand is usually determined with a time-line of 15 to 30 years.

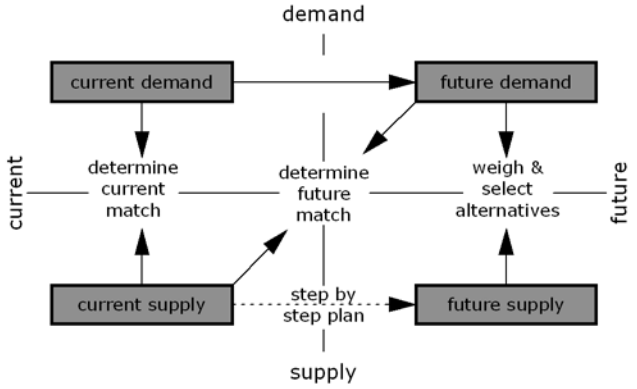

Fig. 3. DAS framework

The process of designing an accommodation strategy is a combination of thinking, dreaming, deciding and doing: thinking by determining the match and mismatch between current demand and current supply; dreaming by determining the future supply, deciding by designing, weighing and selecting alternatives and doing by executing the step-by-step plan.

The strength of the DAS-model is its simplicity. It shows clearly and conveniently arranged the necessary steps in designing an accommodation strategy. To be more concrete about what to do in every step and how, Jonge et al (2008) conducted a literature review of other ideas, concepts and models that could support the design of an accommodation strategy. This work has been further elaborated on. The findings will be used to fill the DAS-framework in the next paragraphs.

Generic strategies

Based on case studies of the real estate strategies of different companies O'Mara (1999) traced three generic real estate strategies: incremental, value-based and standardization. The choice depends on strategic uncertainty and the view on action i.e. rational or symbolic (figure 4 left). An incremental strategy is mainly used by companies with a high strategic uncertainty; space is acquired in bits and

pieces over time. The primary concern is to meet the physical requirements. A standardization strategy is usually used in situations with a lower level of uncertainty, where it attempts to control and coordinate the facility design and real estate operations. Standards are set centrally and are applied throughout the company. A value-based strategy is possible to mediate strategic uncertainty. This strategy deliberately expresses the value and strategic orientation of the company in the real estate decision process. O'Mara describes an analytical framework including industry forces, structural demands, environmental constraints, opportunities and cultural demands that can be used to analyze the organization's business strategy. According to O'Mara the future demand is uncertain. To cope with this uncertainty one (or a combination) of the three generic real estate strategies could be applied to the future supply (Figure 4 right).

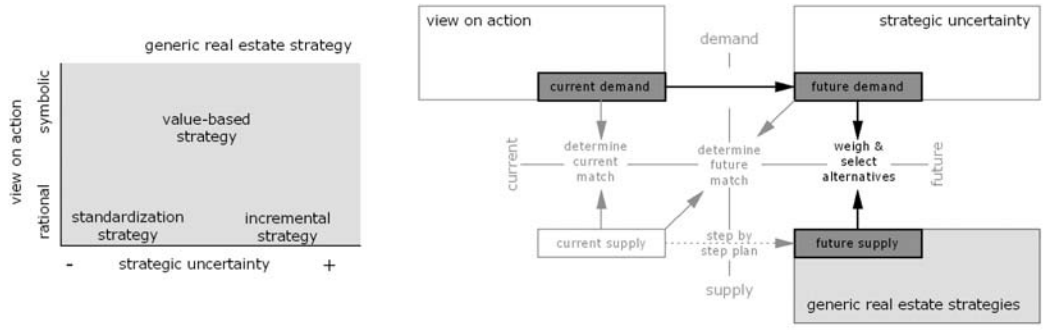

Fig. 4. Generic real estate strategies (left), combined with the DAS-Framework (right)

Aligning corporation real property with corporate strategy

Roulac's model on *aligning corporation real property with corporate strategy* (2001) relates real estate strategies with sources of competitive advantage (Figure 5). A corporate business strategy addresses critical elements such as customers, employees and processes. A corporate property strategy affects employee satisfaction, production factor economics, business opportunities, realized and forgone, risk management considerations and other impacts on enterprise value (Roulac, 2001). In a previous publication Roulac and Nourse (1993) related real estate strategies to real estate operating decisions. Cross-tables are used to link real estate strategies to overall business objectives and to real estate operating decisions (Nourse and Roulac, 1993).

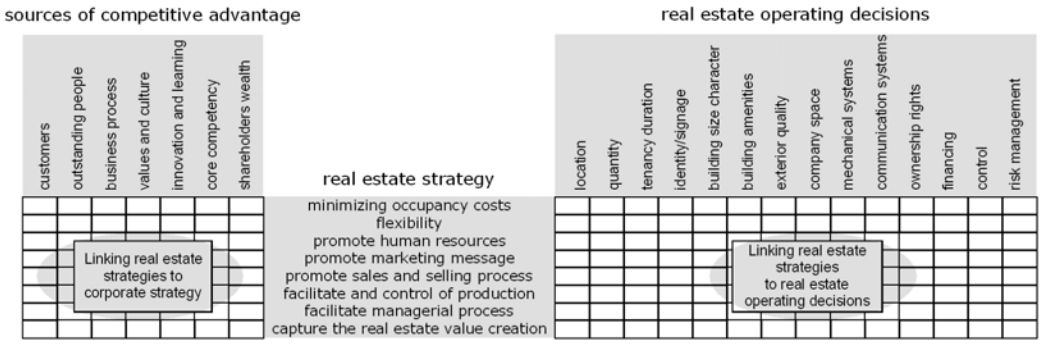

Fig. 5. Linking real estate strategy with corporate strategy and real estate operating decisions

Roulac's cross-tables can be used to analyze the (mis)match between current demand and future demand and to linking the future demand to the future supply.

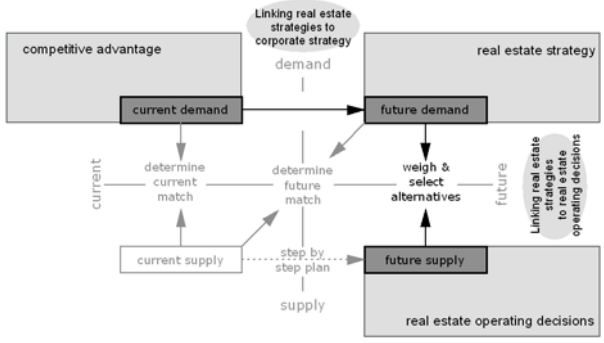

Fig. 6. Roulac's concepts positioned in the DAS-framework

Accommodation assessment

Vijverberg (2002) shows some necessary steps in analyzing the current supply as an input to make a well considered choice between six real estate strategies on the building level: consolidation, refurbishment, redeployment, conversion, extension, sale / disposal, demolition. These steps include a consumer evaluation of the current supply (actually a test of match or mismatch with the current and/or future demand) and a professional assessment of operating prospects, technical condition, adaptability and expansibility. The average rating of the valuation of

these aspects is an indicator of the present and future value of the current supply. The assessment can be used as a tool to decide what to do with the current supply, as a starting point for choosing the best possible strategy to transform the current supply into the future supply (Figure 7).

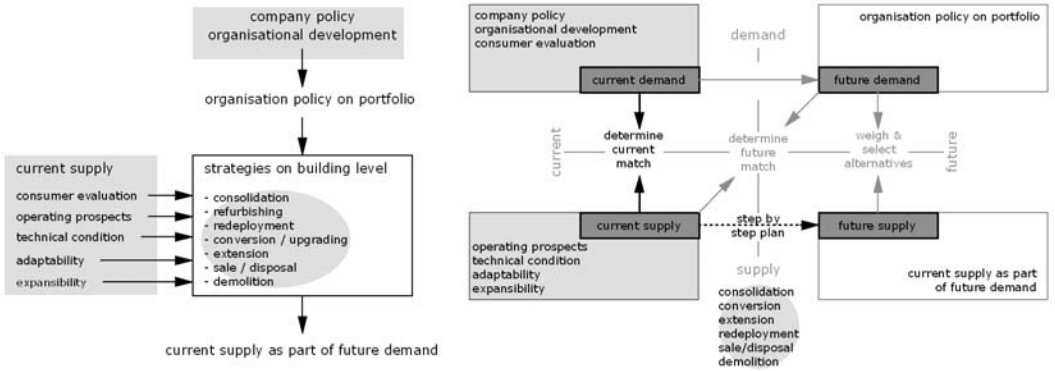

Fig. 7. Accommodation assessment (left), combined with the DAS-Framework (right)

Scenario planning

Dewulf et al (1999) discuss a scenario planning model that can be used in real estate management (figure 8). This model starts with a stake-holder's analysis; the "what … if" developments are determined and positioned in two graphs, each with two axes. In the first graph one axis is used to place the steering opportunity and the other axis to mark the impact of a possible or probable development in corporate real estate strategy. A high steering opportunity on trends with a large impact may be perceived as a strength of the organization, a low steering capacity as a weakness. A low steering opportunity on trends with a large impact gives a first insight into which scenarios should be taken into account. The second graph with two axes can be used to position trends with regard to predictability and impact. Scenarios with a high predictability and a large impact could be perceived as real estate opportunities, whereas low predictability and a large impact is a threat. Both graphs can be used to determine focus scenarios. The next step is to cross the real estate strategies with the focus scenarios, with the opting potential real estate strategy as result.

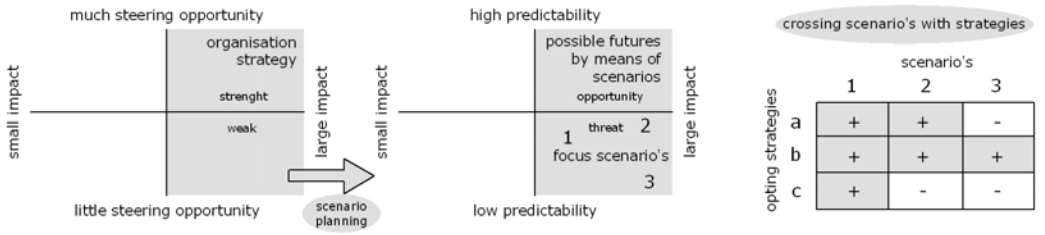

Fig. 8. Scenario planning (Dewulf et al, 1999, adapted by the authors)

Dewulf's model of scenario planning can be used to understand the future demand and also to decide on the future supply by crossing the scenarios with the strategies (Figure 9). Dewulf et al also elaborated a step by step plan on how to transform the current supply into the future supply, but this will be included in the analytical framework later on.

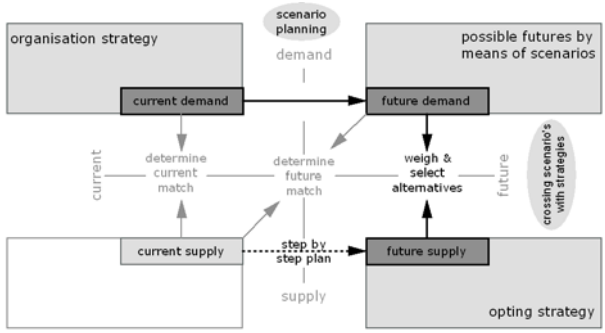

Fig. 9. Scenario planning combined with the DAS-framework

Accommodation as a strategic resource

In *Accommodation is strategic real estate; manual for real estate management for hospitals* (Fritzsche et al., 2004) strategic corporate orientations have been linked to current real estate and real estate scenarios. The first step is to determine the corporation's strategic orientation. According to *The discipline of market leaders* (Treacy and Wiersema, 1995), market leaders should make a clear and well considered choice for product leadership, operational excellence or customer intimacy. The choice depends on organizational characteristics such as its culture, skills and infrastructure. The second step is to link the strategic orientation with real estate strategy, including an assessment of the functional value of the current

supply and financial possibilities to improve the match between future supply and functional and financial demands. As such Fritzsche contributes to both the demand and the supply side (Figure 10). He is less explicit about how to design a real estate strategy.

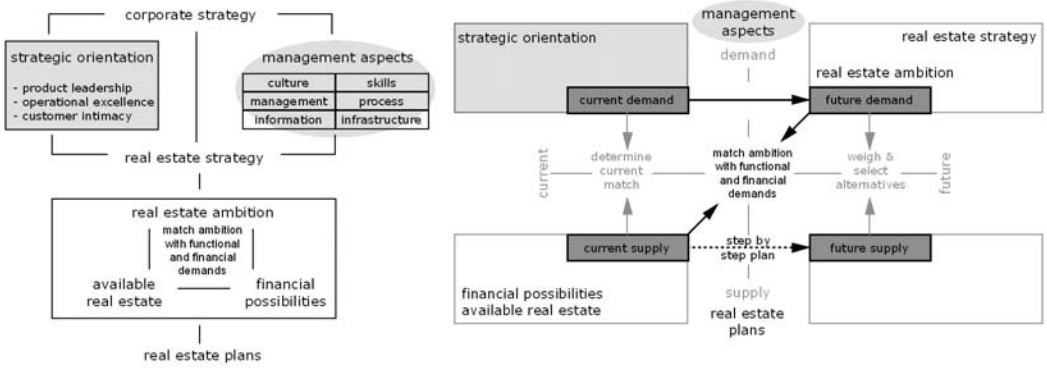

Fig. 10. Fritzsche's concept (left) combined with the DAS-Framework (right)

Towards an integrated analytical framework

The first conclusion of this review is that the different models have different focuses on the axes from demand to supply and from current to future. The scenario planning (Dewulf et al., 1999) has a strong analytical approach by making a two-step analysis of the corporate strategy and the real estate strategy and by crossing real estate strategies with scenarios. The focus points of the models that have been described (Jonge et al., 2008) have been combined in a more integrated analytical framework (Figure 11). This elaborated DAS-framework can be used in several ways: (1) ex ante to steer and to support the analysis of the present and future demand and supply as a starting point to designing an accommodation strategy that is linked to corporate business strategy; (2) ex post to test current real estate management strategies with regard to consistency, completeness and best possible fit between organizational goals and objectives and organizational resources including real estate, now and in the long run. And also to improve our understanding of the different choices and considerations that have been made and the way these decisions have been communicated within and outside the organisation.

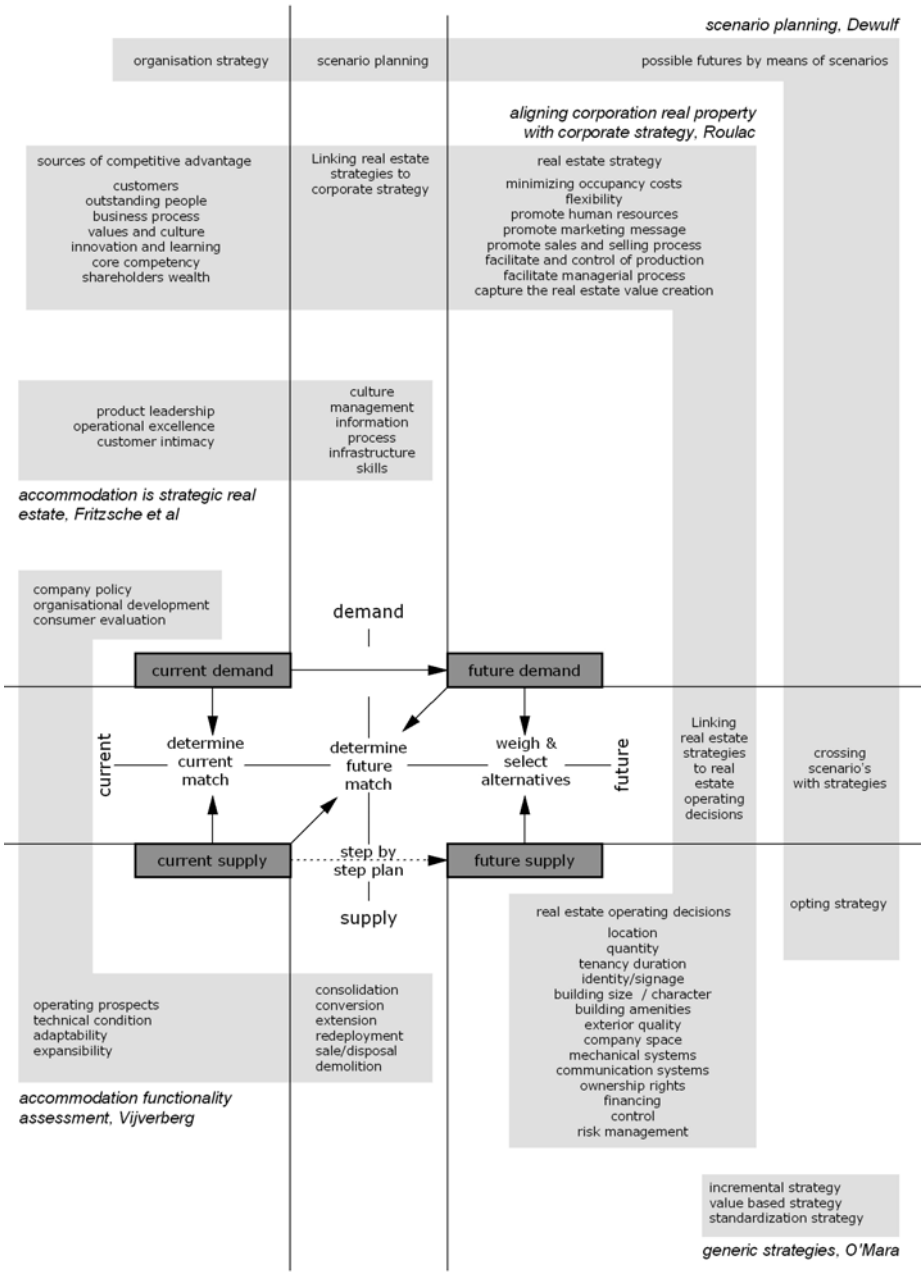

Fig. 11. Integrated analytical framework with focus points of 5 models positioned in the DAS-Framework

1.3. Applicability of the framework in hospital real estate management

The applicability of the analytical framework described has been tested in hospital real estate by an ex post analysis of the real estate strategy of the Rotterdam Eye Hospital in the Netherlands over the past years. This hospital is the only independent eye hospital in the Netherlands and is a 'Centre of Excellence'. This means that healthcare, education and research fits with the criteria of the American Association of Eye and Ear Hospitals. Medical, paramedical and nursing qualities have to be excellent. But the Rotterdam Eye Hospital building with its pleasant environment is also part of the concept of excellence. Together with high quality day treatment, efficient processes and an innovative human resource policy, the contemporary accommodation is one of the critical success factors of the Rotterdam Eye Hospital (Hiddema et al., 2007).

Referring to Roulac's model aligning corporate real property with corporate strategy (Roulac, 2001, Nourse and Roulac, 1993), the Rotterdam Eye Hospital used different sources of competitive advantage to reach the corporate goals of a well considered real estate strategy. The use of art in the building expresses the *values and culture* of the organisation and supports a 'healing environment' to reassure the patient. Fear is reduced when the patient is reassured. An open and contemporary design contributes to this. That is why, in addition to the usual hospital architect, the Rotterdam Eye Hospital hired an interior designer who had experience with the design of museums (Ginneke, 2006). The choice of renovating the original building near the city centre of Rotterdam instead of rebuilding a hospital on a more suburban, less expensive location affects the competitive advantage of *attracting outstanding people*. All kinds of facilities are within walking distance of the hospital, which contributes to an attractive working environment. The efficient *business process* and *medical and technological innovation* reduced the necessary in-patient days. In 1874 the hospital started with an average in-patient stay of 39 days after surgery. Due to *medical innovations* 97% of all treatments nowadays are one-day outpatients. By means of a thorough renovation, a re-division of the interior and an extension with a new floor, it became possible once more to combine all the functions of the hospital in the original building (Ginneke, 2006).

With the intention of being a 'centre of excellence' the Rotterdam Eye Hospital made a clear choice for *product leadership* (Treacy and Wiersema, 1995, Fritzsche et al., 2004). The structure of the organisation, its culture, skills, management, processes, information and infrastructure (Fritzsche et al., 2004)

have been aligned with this goal, but *customer intimacy* and *operational excellence* are not neglected. The orientation towards customer intimacy is visible in the use of art in the building to reassure the patients. Operational excellence is supported by the adoption of the KLM booking system of flight chairs for capacity planning. The principles of 'just-in-time' logistics are used in the Procedure Based Trolley-system. All the equipment that is needed for an operation is gathered in one trolley. This saves change time between two surgeries.

Fig. 12. Example of customer intimacy: the parking service at the Rotterdam Eye Hospital. The patient can park the car in front of the hospital and a driver parks the car.

With reference to O'Mara (1999), by adapting the original building and the specific interior design in order to attract excellent staff and to satisfy the customers, a *value-based strategy* has been applied. The atmosphere of the building, situated in the centre of Rotterdam, expresses both innovation and tradition. The historical building, with its contemporary ambience, is the crown on the commitment of the employees, doctors, management and supervisory board and an inspiration which expresses the hospital's vision. The artistic expressions, the activity of the employees and visitors reinforce each other. In a way the artistic

expressions have become a component of the medical care and service (Ginneke, 2006).

The *technical condition, operating aspects, adaptability* and *expansibility* (Vijverberg, 2002) of the current supply proved to be sufficient for the conversion that was initiated in 2001. Through efficient use of the building it was possible to limit the extension to just one story on top of the lower section of the original building (Ginneke, 2006). After renovation another location of the Rotterdam Eye hospital was closed in 2004 and will be sold.

1.4. Preliminary conclusions and further research

The case study of the Rotterdam Eye Hospital shows that the ideas and concepts of different CREM models can be recognized ex post in the hospital's accommodation strategy. A next step in the analysis could be a test of the applicability of the scenario planning model (Dewulf et al., 1999) in order to gain a better understanding of why particular choices have been made in relation to the corporate business strategy, and to gain insight into the future value by matching the present building with different scenarios with regard to future demand.

The case study also shows that the present version of the analytical framework needs further elaboration. The integration of the focus points of different CREM models within the DAS-Framework is not yet precise enough to be able to steer (ex ante) or analyse (ex post) strategic corporate real estate decisions. In follow-up research the present analytical framework will be elaborated by also including the different steps of the CREM models in the DAS-Framework. Other CREM models will also be analysed for its applicability in the DAS-framework.

This analytical framework is one of the first steps in a PhD research study into *Better healthcare for lower costs, real estate strategy in a changing context*. The aim of this research is twofold: (1) scientifically this research aims to improve our understanding of complex strategic real estate management and the affect of real estate choices on organizational performance in a changing context; (2) on a practical level, the research aims to deliver a clear conceptual framework and decision support tool to help hospital organizations to design a successful corporate real estate strategy that is in line with corporate business strategy, and to make the best possible choices with regard to urban setting and building typology.

The PhD research is split into five lines of research (Figure 13): (1) An understanding and description of the changes in the health care context in the Netherlands; (2) Its impact on the changing corporate business strategies of Dutch hospitals, with some international examples to reveal critical strategic decisions and possible solutions; (3) Analysis of and reflection on the changing real estate strategies of Dutch hospitals by using an analytical framework that incorporates a number of Corporate Real Estate Management models to translate corporate strategy into a real estate strategy; (4) Opportunities and threats of the present urban setting and the drivers of change; (5) Opportunities and threats of the present building type and its impact on the building typology of hospitals.

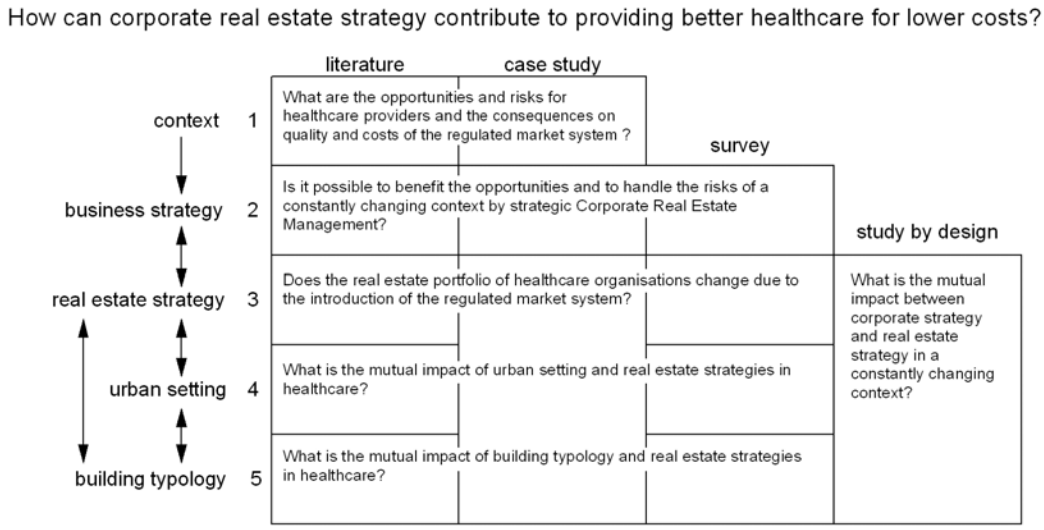

Fig. 13. Research design: research questions related to research-lines and research strategies

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