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ALIGNING CORPORATE REAL ESTATE WITH THE CORPORATE STRATEGIES OF HIGHER EDUCATION INSTITUTIONS

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INTRODUCTION

3.1

In the literature and the practice of facility management, there has been an ongoing interest on how corporate real estate (CRE) can contribute to higher education (Beckers, Van der Voordt & Dewulf, 2015; Vidalakis, Sun & Papa, 2013; De Vries, De Jonge & Van der Voordt, 2008; Amaratunga & Baldry, 2000; Housely, 1997). Since the past decennia, higher education has experienced substantial changes, such as the increased use of information technology in higher education (Johnson et al., 2013; Collis & Van der Wende, 2002), new learning approaches (Marais, 2011; Siemens, 2005), the development of learning communities (McLaughlin & Mills, 2008), changes in student behaviour (Veen & Vrakking, 2006; Prensky, 2001), changes in student expectations (Beckers & Van der Voordt, 2013), and a changing policy concerning internationalisation and educational quality (CPOO, 2008). These developments lead to changing strategies of higher education institutions. To support these evolving strategies, the CRE of higher education institutions should be be aligned with these evolving organisational strategies.

Actualisation of this alignment is the responsibility of CRE management (CREM). According to Krumm, Dewulf and De Jonge (2000, p. 32), CREM can be defined as "[…] the management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (processes), in order to obtain maximum added value for the business and to contribute optimally to the overall performance of the corporation". Several studies indicate the relevance of CREM in accommodating the changes in higher education. A study of the Society for College and University Planning in the USA shows that 53% of their members think that changing pedagogy will be an important drive for developments in changing accommodation needs (Grummon, 2008). This is endorsed by Den Heijer (2011), who studied developments in university campuses in the Netherlands and found twelve strategic choices that universities are faced related to evolving corporate strategies. A study of the impact of real estate interventions on the performance of higher education institutions showed that many educational buildings were not sufficiently prepared to meet educational developments (De Vries et al., 2008). As early as the 1990s, Housely (1997) studied the role of CRE in aiding the success and profitability of higher education institutions. He concluded a gap between the strategic management and CREM. According to Housley (1997, p. 81), one of the problems causing this gap was "the apparent mis-alignment between the understanding by the academic departments and the estates department of the aims and objectives of the institution". Based on an extensive literature study, Temple (2007) concluded that there is still a lack of knowledge about and research into managerial decision-making about educational buildings in relation to educational goals and purposes. Also, Boddington and Boys (2011) indicated a need for appropriate methods and tools for the management of buildings for higher education.

The present research investigates the alignment between institutional strategies and CRE strategies in higher education. The question that this paper addresses is how CRE managers of Universities of Applied Sciences (UAS) formulate their CRE strategies and CRE operating decisions in order to align CRE with the evolving corporate strategies of these organisations. First, an analytical framework will be presented consisting of four different types of alignment, which is based on the CRE management literature and the business management literature. Then, the results of a multiple case study at 13 Dutch UAS will be discussed. The paper ends with theoretical and practical implications and concluding remarks.

ANALYTICAL FRAMEWORK 3.2

CREM is a relatively new profession. It goes back to approximately 25 years ago (Heywood, Kenley & Waddell, 2009). According to Brackertz and Kenley (2002), the current awareness that CREM can contribute to organisational performance started with the work of Roulac (1986) at the end of the 1980s, and gained prominence in the early 1990s with the publications of Nourse and Roulac (1993), and Joroff, Louargand, Lambert and Becker (1993). Nourse and Roulac set a standard by defining CRE strategies and linking them to business strategies (Heywood, 2011; Appel-Meulenbroek et al., 2010). According to Nourse and Roulac (1993, p. 476), "[…] the specification of the scope of products and markets provides a basis for considering what physical facilities are needed to support the organisation's strategy, and therefore the real estate strategy that is needed to support the organisation's strategy". Joroff et al. (1993) called CRE the fifth resource in addition to the traditional resources i.e., people, technology, information, and capital. Joroff's vision superseded the former perspective of CRE as a necessary burden, a bunch of bricks and stones, or an undesired cost factor (Krumm et al., 2000). The theory and practice of CREM have been developed and professionalised since, and CRE has progressively been perceived to be an essential instrument to support the performance of an organisation and to add value for its stakeholders (Jensen, Sarasoja, Van der Voordt & Coenen, 2013; Lindholm, Gibler & Leväinen, 2006; De Jonge, 1996). Currently, CREM is a field of management that aims to align the CRE strategies and CRE operating decisions and activities with the strategic goals at the corporate level (Heywood & Kenley, 2007). Whereas Nourse and Roulac focused on real estate in a business environment, several studies show that CRE strategies are also important in other contexts such as universities (Den Heijer, 2011; De Vries et al., 2008) and hospitals (Van der Voordt & Van der Zwart, 2011). Table 3.1 summarises CRE strategies with reference to the various studies: Nourse and Roulac, 1993 is indicated with letter (a) in table 3.1, De Jonge, 1996 with (b); Lindholm et al., 2006 with (c); De Vries et al., 2008 with (d); Jensen, 2010 with (e); Den Heijer, 2011 with (f); Van der Voordt and Van der Zwart, 2011 with (g); and Den Heijer and De Jonge, 2012 with (h).

Connecting CRE strategies and corporate strategies is a typical example of the alignment of support functions with the core business of an organisation. Based on their Balanced Scorecard approach, Kaplan and Norton (2006) show that this alignment is an important way for support functions to create value and to contribute to strategic goals of the organisation. Regarding the alignment between CRE strategies and corporate strategies, Heywood (2011) noted that, though CRE executives may think that there is alignment, there can be a gap between

TABLE 3.1 CRE STRATEGIES FOUND IN THE LITERATURE

CRE strategies to	Source:
1. Increase user satisfaction by offering an attractive and comfortable physical environment that meets user expectations	a, c, d, e, f, g, h
2. Support innovation by supporting knowledge development	a, c, d, f, g, h
3. Support corporate image with recognizable buildings and environments that contribute to a positive perception of the organisation	a, b, c, f, g, h
4. Support culture with a physical environment that contributes to a sense of community within the organisation	b, c, e, f, g, h
5. Support environmental responsibility with buildings that contribute to reducing the carbon footprint	e, h
6. Stimulate collaboration with buildings that perform as a hub where people from inside and outside the organisation can meet	f, h
7. Support change by increasing building flexibility and building adaptability	a, b, c, d, e, f, g, h
8. Support user activities with buildings to increase production and productivity	a, b, c, d, e, f, g, h
9. Control real estate costs by maintaining an optimal balance between building investments and life cycle costs, and efficient use of space	a, b, c, d, e, f, g, h
10. Control physical risk with reliable and safe buildings	b, c, e, f, g, h

the strategies described in strategic reports and the implementation of those strategies in CRE practice. Management literature refers to this as a lack of managerial consensus between strategies of the functional management disciplines and the corporate strategy (Ambrosini & Bowman, 2003). Besides, the literature mentions a distinction between the espoused strategy and the strategy in-use (Brown, 2010; Clemons, Row & Thatcher, 1995; Argyris & Schön, 1974). "The espoused strategy is publicly held and publicly acknowledged and often coincides with organisational objectives, ideals or mission statements" whereas "the strategy in-use is the interpretation of the espoused strategy by the personnel within the organisation" (Clemons et al., 1995, p. 14). Clemons et al. (1995) argue that in a stable business environment, both strategies are likely to exhibit considerable agreement. According to Heywood (2011), differences between espoused CRE strategies and CRE strategies in-use might have consequences for the alignment of CRE operating decisions with CRE strategies. Kaplan and Norton (2006) showed that, to achieve alignment at a strategic level, it is relevant to "close the loop" (Kaplan & Norton, 2006, p. 121) and to formulate functional requirements at an operational level as well. Nourse and Roulac (1993) incorporated CRE operating decisions in their alignment framework e.g., the choice of the location, building size, building character, mechanical systems, risk management. Many other authors confirmed the need of alignment between CRE strategies and CRE operating decisions, and based their frameworks on Nourse and Roulac (Den Heijer, 2011; De Vries et al., 2008; Appel-Meulenbroek & Feijts, 2007; Lindholm et al., 2006). The current research also builds on

the framework of Nourse and Roulac (1993) to describe the alignment between corporate strategy, CRE strategy, and CRE operating decisions and incorporates the distinction between espoused CRE strategies, as written in strategic documents, and the CRE strategies in-use. Yet, the CRE alignment framework of this present study shows four types of alignment, as seen in figure 3.1:

- Two types of alignment between corporate strategy and CRE strategy: the alignment of the espoused CRE strategy with the corporate strategy (type A) and the alignment of the CRE strategy in-use with the corporate strategy (type B).
- Two types of alignment within the CRE domain: the alignment of CRE operating decisions with the espoused CRE strategy (type C) and the alignment of CRE operating decisions with the CRE strategy in-use (type D).

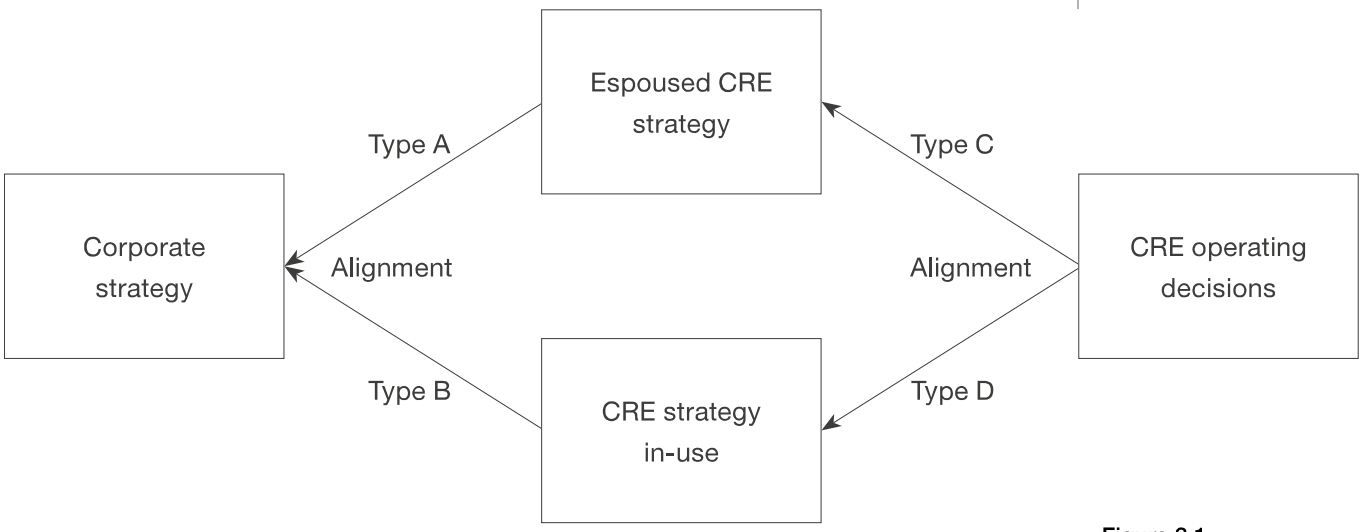


Figure 3.1
Analytical CRE alignment framework with four types of alignment

The next section of this paper presents a multiple case study that explores these different types of alignment in practice.

3.3 MULTIPLE CASE STUDY AT DUTCH UAS

CRE alignment is strongly related to a specific organisational context (Osgood, 2004). The present research aimed at studying CRE alignment in the context of higher education. The study was conducted at Dutch UAS. The Netherlands has 39 of these UAS, with a total number of 423,776 students and 41,429 employees in 2011/2012 (Vereniging Hogescholen, s.d.). In 2011, Dutch UAS spend € 216 million on their CRE (OC&W, 2013). That is 6.3% of the total expenses (€ 3.4 billion) for higher professional education.

The UAS, which participated in the study, were selected for their size and diversity in education, because these institutions are responsible for the alignment of a substantial gross floor area with a variety of corporate goals. The 17 largest multi-sector UAS were approached for the study; finally, 13 UAS participated. With a total market share of 75% of all students, this sample is representative for Dutch higher professional education. At the time of the research, the 13 UAS together used 145 buildings for education and staff, with a total number of approximately 1.5 million square meters gross floor area. An overview of the statistics per UAS is shown in table 3.2.

TABLE 3.2 STATISTICS OF THE DUTCH UAS INVOLVED IN THE RESEARCH

	Dutch UAS	No. of students (2011/2012)	Market share of students (2011/2012)	No. of employees (2011/2012)	No. of buildings (2010)	Gross floor area in m2 (x 1,000) (2010)
1	Hogeschool van Amsterdam	45,171	10.7%	3,352	13	150 - 175
2	Fontys	40,194	9.5%	3,916	32	> 200
3	Hogeschool Inholland	31,328	7.4%	2,800	8	150 - 175
4	Hogeschool van Arnhem en Nijmegen	30,685	7.2%	3,061	23	150 - 175
5	Hogeschool Rotterdam	30,354	7.2%	3,281	11	125 - 150
6	Hanzehogeschool	25,416	6.0%	2,704	18	125 - 150
7	Avans Hogeschool	25,273	6.0%	2,148	6	125 - 150
8	Saxion	22,428	5.3%	2,225	3	100 - 125
9	Haagse Hogeschool	22,206	5.2%	1,851	4	100 - 125
10	Windesheim	21,167	5.0%	1,868	14	100 - 125
11	Zuyd Hogeschool	15,020	3.5%	1,767	3	75 - 100
12	NHTV	7,203	1.7%	665	8	< 50
13	Christelijke Hogeschool Ede	4,039	1.0%	521	2	< 25
		320,484	75.6%	30,159	145	1,500 - 1,600

Due to the complex relationships between the mission, vision, and strategy of an organisation and the strategic and operating decisions regarding real estate, this study used an interpretivist and qualitative research approach. Interpretivism originally fits an inductive research method (Saunders, Lewis & Thornhill, 2008). Because various studies are often available, Miles and Huberman (1994) argue for a combination of deduction and induction. Yet, the present research had a deductive starting point in the analytical CRE alignment framework of figure 3.1 and the CRE strategies found in the literature. Second, the empirical research investigated the particular field of higher education also based on induction.

For the study, two data collection methods were used. The first set of data was collected from a document analysis of the institutional Web sites, annual reports, and strategic plans (2010/2011) of all the 13 UAS.

A total of 47 documents were studied. The purpose of the document analysis was to collect information on the corporate strategies and the espoused CRE strategies. The second set of data was derived from semi-structured, in-depth-interviews with managers who are responsible for the educational buildings. The interviews were conducted to study the CRE strategies in-use that show up in practice at Dutch UAS, and how these institutions translate their CRE strategies to concrete CRE operating decisions. The interviews were conducted in the period of October 2011 till February 2012 and varied in length from 1 hour to 1.5 hours. All interviews were tape recorded. For coding and analysis of the interviews and the studied documents, Atlas.ti and Excel were used.

3.4 RESEARCH FINDINGS

This section will first present the espoused CRE strategies and CRE strategies in-use of the studied Dutch UAS. Second, it will discuss the alignment between these CRE strategies and corporate strategies (type A and B alignment in figure 3.1). Next, the alignment of CRE operating decisions with both types of CRE strategies will be discussed (type C and D alignment in figure 3.1). Finally, the relation between the four types of alignment will be discussed.

3.4.1 CRE STRATEGIES OF DUTCH UAS: ESPOUSED AND IN-USE

The study of the strategic documents of the Dutch UAS resulted in 125 text fragments that referred to espoused CRE strategies. The text fragments were clustered based on the 10 CRE strategies found in the literature. Out of these ten possible strategies, two CRE strategies did not show up in the studied documents: 'support innovation' and 'control physical risk' (see the second column of table 3.3). The analysis of the documents showed that the plans at the corporate level (e.g., annual reports), scantly mention CRE strategies. The figure between brackets in table 3.3 refers to the number of cases in which a CRE strategy showed up in the documents.

In the interviews, the respondents referred to nine CRE strategies in-use in 284 quotations (see the third column of table 3.3). Similar to the findings from the documents, the CRE strategy related to 'support innovation' was not found in the interviews. In addition, table 3.3 shows notable differences between the espoused CRE strategies found in the documents and the CRE strategies in-use found in the interviews. In practice, there are many more UAS respondents that refer to a CRE strategy, which aims to 'support culture', than to the CRE strategies found in the documented espoused CRE strategy (all 13 cases versus

2 cases). A similar difference was found regarding the CRE strategy to 'support user activities' (all 13 UAS mention that CRE strategy in the interviews, whereas 4 UAS mention the CRE strategy in their strategic plans).

TABLE 3.3 ESPOUSED CRE STRATEGIES AND CRE STRATEGIES IN-USE FOUND IN THE 13 DUTCH UAS

Possible CRE strategies (found in the literature and summarised)	**Espoused CRE strategies** (presented in strategic plans, with the number of cases that formulated this particular strategy between brackets)	**CRE strategies in-use** (mentioned in the interviews, with the number of cases that applied this particular strategy between brackets)
1. Increase user satisfaction	Offer an inspiring learning, teaching, and research environment (7 cases)	Offer buildings that meet user's expectations, which refer to the increasing importance of positive experiences (12 cases)
2. Support innovation	-	-
3. Support corporate image	Make corporate identity and image tangible with buildings and the campus environment (6 cases)	Make corporate identity and image tangible with buildings and the campus environment (8 cases)
4. Support culture	Offer group identification at a small environmental scale (2 cases)	Offer a recognisable home base for students and staff at small scale (13 cases)
5. Support environmental responsibility	Realise sustainable buildings (5 cases)	Environmental awareness in CRE (e.g., fitting buildings to the surrounding built environment and attention for sustainability) (6 cases)
6. Stimulate collaboration	Facilitate meeting and collaboration in learning and teaching with buildings and the campus environment (7 cases)	Stimulate meeting and collaboration in learning and teaching with buildings and campus, for all internal and external stakeholders and share CRE with partners (10 cases)
7. Support change	Increase CRE flexibility with long term CRE plans, anticipate on virtual campus developments and endorse changing student profiles (11 cases)	Increase building flexibility to be prepared for educational developments and even initiate changes in education with CRE (10 cases)
8. Support user activities	Support learning, teaching, and research activities with CRE (4 cases)	Support learning, teaching, and research activities by offering sufficient m2 and a functional education environment, which is more than just classrooms (13 cases)
9. Control real estate costs	Look after efficient use of learning and teaching space (8 cases)	Efficient use of learning and teaching space reducing m2 per student and staff (12 cases)
10. Control physical risk	-	Take care of a safe and secure work and study environment (e.g., minimal building quality) (5 cases)

3.4.2 ALIGNMENT BETWEEN CRE STRATEGIES AND CORPORATE STRATEGIES

The alignment between the found CRE strategies and the corporate strategies (type A and B of the analytical framework in figure 3.1) refers to if and how espoused and in-use CRE strategies fit the corporate strategies. Therefore, the corporate strategies were first retrieved from a total of 394 text fragments in the strategic plans. These text fragments were grouped in 14 corporate strategies. Second, these 14 corporate strategies were linked to 10 possible CRE strategies found in the literature, as shown in table 3.4. Table 3.4 shows that most CRE strategies match one specific corporate strategy. Two CRE strategies support more corporate strategies:

1) The CRE strategy that aims to stimulate collaboration is related to two corporate strategies concerning a learning community, and realising regional partnerships.
2) The CRE strategy that aims to support user activities is related to four corporate strategies regarding education and developments in learning and teaching (i.e., realise a high quality of education, recognise individualisation in education, realise the shift from a 'school' towards a knowledge institution, and develop new didactical procedures).

For one corporate strategy (international focus), there is no specific CRE strategy to match it. And for one CRE strategy (control of physical risk in buildings) no related corporate strategy was found in the strategic plans and documents.

The number of UAS in which alignment was found between CRE strategies (espoused and in-use) and the corporate strategies from table 3.6 is presented in the histograms of figure 3.2. Four possible linkages have been distinguished:

I. Alignment: this occurs when the CRE strategy is in agreement with the corporate strategy (Heywood, 2011) (i.e., when the corporate strategy is applied in that UAS and the related CRE strategy is also present).
II. No alignment: when the corporate strategy is applied, but no related CRE strategy was found in documents or mentioned in the interviews.
III. No alignment: when the CRE strategy was found in documents or mentioned in interviews, but no related corporate strategy was found.
IV. Alignment not applicable: when neither the corporate strategy nor the CRE-related strategy is present.

The black bars (I) in figure 3.2 show that, in general the CRE strategies in-use are more often aligned with the corporate strategies than the espoused CRE strategies written down in the strategic plans. The striped bars (II) show that a number of corporate strategies are not covered by

TABLE 3.4 CONNECTIONS BETWEEN CRE STRATEGIES FOUND IN THE LITERATURE, AND CORPORATE STRATEGIES FOUND AT 13 DUTCH UAS

Possible CRE strategies (found in the literature and summarised)	**Corporate strategies** derived from strategic plans and documents (the number of cases in which that corporate strategy occurs between brackets)
1. Increase user satisfaction	Offer inspiring education and teaching (4 cases)
2. Support innovation	Contribute to innovation and to the development of the knowledge economy (8 cases)
3. Support corporate image	Exhibit the corporate identity by carrying out core values like reliability, involvement, transparency, informality, etc. (13 cases)
4. Support culture	Deliver education at small scale so students and staff can identify themselves with their own group in a large institution (9 cases)
5. Support environmental responsibility	Act with attention to sustainability and social responsibility (10 cases)
6A. Stimulate collaboration	Increase collaboration and meeting in a learning community (12 cases)
6B. Stimulate collaboration	Realise regional partnerships by increased collaboration with companies and organisations in the surrounding area (10 cases)
7. Support change	Act future-oriented by focusing on demographic developments, educational developments and anticipating on developments in the use of ICT in learning/teaching (11 cases)
8A. Support user activities	Realise a high quality of education and teaching (13 cases)
8B. Support user activities	Recognise individualisation of education by attention to increased diversity of student profiles and learning preferences (13 cases)
8C. Support user activities	Realise the shift from 'school' towards a knowledge institution (12 cases)
8D. Support user activities	Develop new didactical procedures, aimed at vocational orientation in education e.g., competence-based learning and teaching, with links to cases in practice (10 cases)
9. Control real estate costs	Focus on efficiency with efficient allocation of financial resources (13 cases)
10. Control physical risk	-
-	Focus on international developments by global acting and thinking (10 cases)

any CRE strategy. In some occasions, UAS have CRE strategies without any corporate strategy to match (the grey bars: III). For example, the first bar of alignment goal 1 indicates that:

- Three UAS have a corporate strategy concerning inspiring education and teaching and support that strategy with an espoused CRE strategy;
- One UAS has a corporate strategy on this subject, but do not mention any CRE strategy in their documents to match;
- Four UAS respondents mention an espoused CRE strategy, but there is no corporate strategy to match; and
- Five UAS mention neither a corporate strategy nor an espoused CRE strategy on inspiring education in relation to CRE.

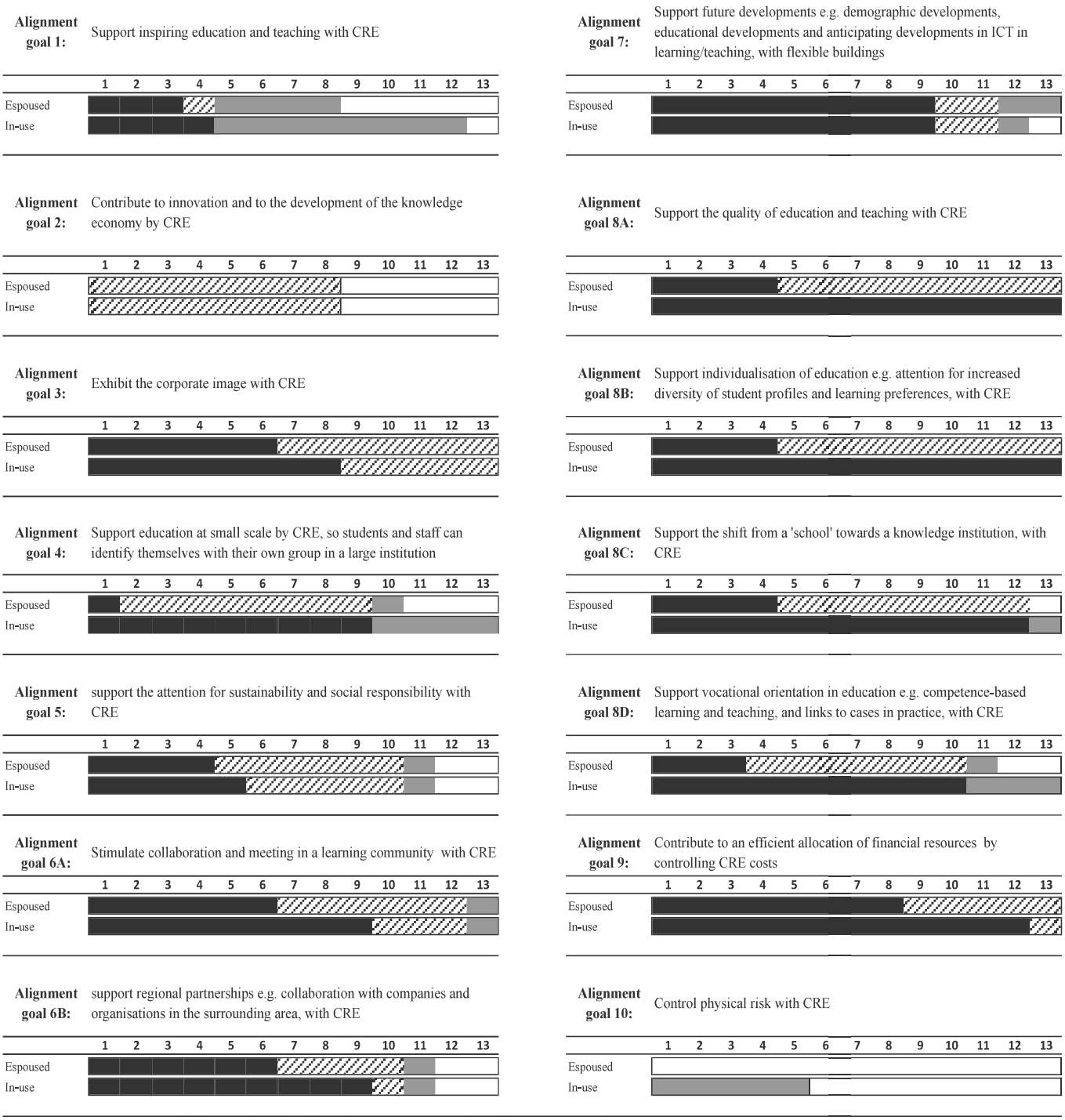


Figure 3.2
Alignment between applied CRE strategies (espoused and in-use) and corporate strategies in the 13 Dutch UAS (alignment type A and B)

TABLE 3.5 CONNECTIONS BETWEEN CRE STRATEGIES FOUND IN THE LITERATURE AND CRE OPERATING DECISIONS MENTIONED IN THE INTERVIEWS

Possible CRE strategies (found in the literature and summarised)	**CRE operating decisions** mentioned in the interviews (the number of cases in which these CRE operating decisions occurred between brackets)
1. Increase user satisfaction	Create an inspiring educational environment, like attractive architecture, green campus appearance, attractive facilities (8 cases)
2. Support innovation	Fit the aim to support innovation with CRE (0 cases)
3. Support corporate image	Exhibit the corporate image of the institution, e.g., new buildings, special architecture, etc. (3 cases)
4. Support culture	Create a recognisable home base for students/staff, e.g., dedicated buildings or dedicated areas in buildings for a specific degree program, recognisability through signing, use of colors, materials, etc. (12 cases)
5. Support environmental responsibility	Fit the aim to support corporate responsibility and sustainability with CRE (2 cases)
6. Stimulate collaboration	Create meeting spaces supported by restorative facilities for students/staff, realise project rooms and collaborative space for students, create transparency in buildings by using glass walls, stimulate mobility in and between buildings, accommodate teaching activities at companies in the region (12 cases)
7. Support change	Create flexibility, e.g., flexible building systems (walls, ceiling, floors), create generic space measures (like classrooms without any specific identity), choose flexible furniture (10 cases)
8. Support user activities	Support learning, teaching, and research activities, e.g., offering a variety of learning settings for students, increase informal learning space, introduce new ways of working for staff, offer sufficient wireless ICT facilities for students (12 cases)
9. Control real estate costs	Reduce costs, e.g., reducing 'dedicated space for specific end-users' and creating generic space measures, reducing the m2 per student, clustering facilities (like lunch facilities, libraries, etc) (13 cases)
10. Control physical risk	Realise a safe work and study environment, e.g., optimising fire safety and indoor climate facilities (3 cases)

3.4.3 ALIGNMENT BETWEEN CRE STRATEGIES AND CRE OPERATING DECISIONS

To study the alignment between the CRE strategies and the CRE operating decisions, text fragments were coded in the interviews that refer to the CRE operating decisions. In total, 211 text fragments were found. These text fragments were then classified according to the ten possible CRE strategies that were found in the literature. Table 3.5 shows the number of cases in which these CRE operating decisions were mentioned.

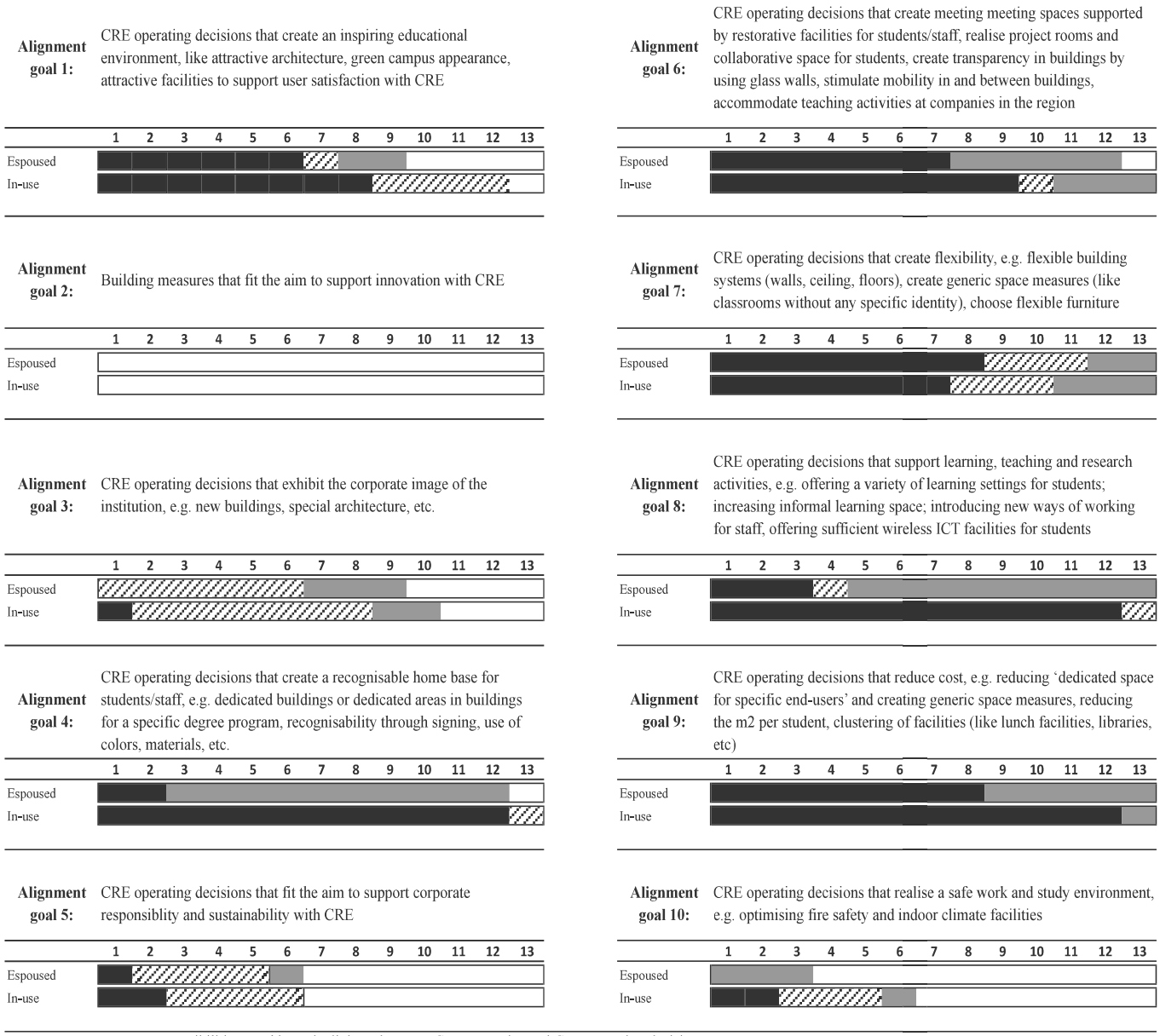


Figure 3.3
Alignment between applied CRE strategies and CRE operating decisions in the 13 Dutch UAS (alignment type C and D)

Not all 10 possible CRE strategies were covered by CRE operating decisions. Furthermore, no CRE decisions were mentioned in relation to 'support innovation', and remarkably, despite the incorporation of this issue in both espoused and in-use CRE strategies, no CRE operating decisions were mentioned concerning sustainability. The realisation of new educational buildings to support the corporate image was only mentioned in 3 UAS. The same holds true for CRE operating decisions that that focus on creating safe building circumstances. CRE operating decisions that aim to reduce CRE costs were mentioned in all interviews. Next, the alignment between CRE strategies and CRE operating decisions (type C and D of the analytical framework of figure

3.1) is examined for every single UAS. Figure 3.3 shows how these CRE strategies (espoused and in-use) show up in the CRE operating decisions (e.g., concrete building measures).

Figure 3.3 shows that the CRE operating decisions fit the CRE strategies in-use more often than the espoused CRE strategies. There is one exception: CRE operating decisions that create (building) flexibility. The histograms show that CRE decisions often occur without referring to any CRE strategy (the dark grey parts of the bars, type III). Histogram 3 shows the opposite regarding supporting corporate image. Both the strategic documents and the interviews suggest that CRE should contribute to the corporate image of the institution. Yet, there are only a few CRE operating decisions mentioned that exhibit this CRE strategy in practice. Building measures concerning safe and secure buildings are only mentioned in a few UAS and usually fit the CRE strategy in-use of the CRE manager. At a corporate level, there is no such CRE strategy present in the documents.

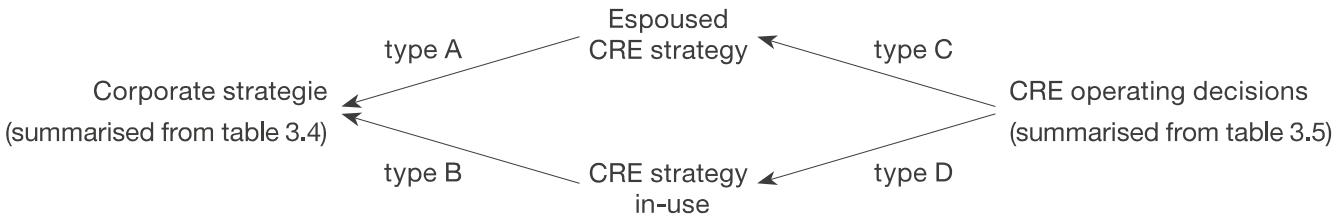
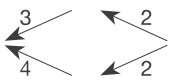
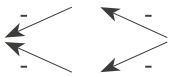
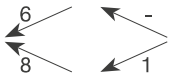
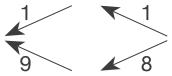
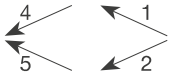
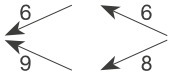
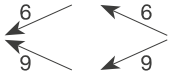
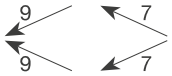
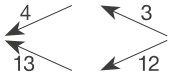
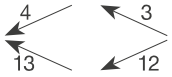
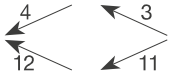
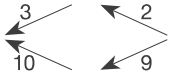
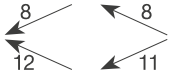
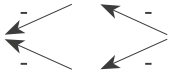
3.4.4 ALIGNMENT BETWEEN CRE OPERATING DECISIONS AND CORPORATE STRATEGY

The former sections have shown how the four alignment types A, B, C, and D of the analytical framework of figure 3.1 show up in practice. The histograms of figure 3.2 and 3.3 do not make clear to what extent the concrete CRE operating decisions as mentioned in the interviews support the corporate strategies as found in the strategic documents. Table 3.6 shows for each studied UAS whether the alignment between espoused/in-use CRE strategies and corporate strategy (concerning type A and B) is elaborated in the alignment between CRE strategies and CRE operating decisions (type C and D). For example, the numbers 3 and 2 in the second row of table 3.6 refer to three UAS with an alignment between the espoused CRE strategy and the corporate strategy (in accordance to the histograms of figure 3.2) from which, two UAS mention CRE operating decisions that are in line with that CRE strategy.

Table 3.6 shows that most CRE strategies that are aligned with corporate strategies show up as concrete CRE operating decisions in practice. Only one corporate strategy – 'contribute to innovation' - was not found in any related CRE strategies or CRE operating decisions that were mentioned in the interviews. Conversely, the CRE operating decision 'to create a safe work and study environment' was not traced in any corporate strategy document.

NUMBER OF CASES WITH ALIGNMENT TYPES A / C AND TYPES B / D ACCORDING TO THE ANALYTICAL FRAMEWORK OF FIGURE 3.1

TABLE 3.6

		
1. Offer inspiring education and teaching (4 cases)		Create an inspiring educational environment
2. Contribute to innovation (8 cases)		-
3. Exhibit the corporate identity (13 cases)		Exhibit the corporate image of the institution
4. Deliver education at small scale (9 cases)		Exhibit the corporate image of the institution
5. Act with attention for sustainability and social responsibility (10 cases)		Sustainable building solutions
6A. Increase collaboration and meeting in a learning community (12 cases)		Create meeting space
6B Realise regional partnerships (10 cases)		Accommodate teaching activities at companies in the region, etc
7. Act future-oriented (11 cases)		Create flexibility
8A. Realise a high quality of education and teaching (13 cases)		Support learning, teaching, and research activities
8B. Recognise individualisation of education (13 cases)		Support learning, teaching, and research activities
8C. Realise the shift from 'school' towards a knowledge institution (12 cases)		Support learning, teaching, and research activities
8D. Develop new didactical procedures aimed at vocational orientation (10 cases)		Support learning, teaching, and research activities
9. Focus on efficiency and efficient allocation of financial resources (13 cases)		Reduce costs
10. Control physical risk (0 cases)		Realise a safe work and study environment

Finally, the ratio between the number of cases with a particular CRE strategy and related CRE operating decisions is quite similar for espoused and an in-use CRE strategies; despite the fact that CRE strategies in-use are more frequently mentioned than espoused strategies.

3.5 DISCUSSION AND IMPLICATIONS

The literature stresses the importance of the alignment between CRE and the core business (Heywood, 2011; Jensen, 2010; Lindholm et al., 2006; Osgood, 2004). According to Krumm et al. (2000), this alignment is important in order to obtain maximum added value for the organisation as a whole. Porter's (1985) value chain also showed that besides primary activities, support activities like CREM are of importance for an organisation's performance. Building on Porter (1985) and other management literature (e.g., Zeithaml, 1988; Kaplan & Norton, 1996, 2006), a distinction can be made between two ways in which CREM can add value to the organisation (i.e., by cost reduction and by value creation) (Jensen et al., 2013; De Vries et al., 2008; Lindholm et al., 2006). Both ways were detected in the Dutch UAS study. Cost-controlling strategies were both found in the strategic documents and were mentioned in the interviews. CRE operating decisions aimed at cost reduction were mentioned in the interviews with CRE managers as well. Value creation was found in terms of CRE strategies 'to support future developments', 'to increase user satisfaction', 'to support culture', and 'to support user activities'. These results are consistent with the findings of Housley (1997), who found that the key CRE strategies contributing to success of the organisation were 'reduction of occupancy costs' and 'providing humane work environment'.

The CRE strategies that were found in the studied Dutch UAS correspond quite well with the ten CRE strategies that were retrieved from the literature. This is in contrast to Rondinelli, Rosen and Drori (2001, p. 414) who state that "alignment […] has consistently been advocated in theory but has often been disregarded in practice". Nevertheless, in the present study some gaps were found between the 'paper truth' and the 'real truth' (i.e., the CRE strategies that are written down in strategic plans and the CRE strategies that are applied in-use). This is comparable with findings of Clemons et al. (1995), who also showed significant discrepancies between the two. In their research, the espoused strategy was often better aligned with the corporate business strategy than the strategy in-use. Remarkably, in the Dutch UAS cases, the CRE strategies in-use seemed to align better with corporate strategies than the espoused CRE strategies.

A key dilemma of the alignment between CRE and the organisation is the difference between the time horizon of the real estate strategy and the corporate strategy. The studied strategic corporate plans of Dutch UAS mostly concern a planning horizon of four years, whereas the strategic planning horizon of CRE decisions can span 50 years or even longer (Brand, 1994). Gibler, Black and Moon (2002, p. 245) discussed this issue and the consequences as: "[…] the strategic planning horizon for most companies remains five years or less, with many using only a two- or three-year planning horizon […] Such a short-term view limits the company's ability to approach a long-term commitment such as real estate in a strategic manner." Nevertheless, Gibler et al. (2002, p. 236) conclude that "in many organisations the corporate real estate manager is not involved in the company's strategic planning process". The current research in Dutch UAS partly confirms this issue and stresses the importance of involving CRE managers in decision-making to strengthen the connections between business management and CRE management. It is expected that the effectiveness of CRE strategies and CRE operating solutions will be increased if CRE managers are aware of how these strategies and solutions might support the organisational goals. By showing the potential and actual alignment between CRE and the organisation, the findings of this present research can support CRE managers to make the right choices for CRE strategies in line with the corporate purposes and in prioritising CRE operating decisions.

Another practical implication is the relevance of the involvement of end users in formulating CRE operating solutions. This because 'supporting user activities' and 'increasing user satisfaction' showed to be two of the main CRE strategies. Further research into the alignment processes between demand and supply can be helpful to improve our understanding of which CRE operating solutions support end-user needs in terms of efficiency, effectiveness, and satisfaction.

Although the 13 studied cases represent a large percentage of the total student population in the Netherlands, the limited number of interviews and the limited duration of the interviews (1 – 1.5 hours) did not allow for studying all types of alignment in depth and longitudinally. It appeared to be difficult to get a full insight in all applied functional strategies and operating decisions and actual connections with the corporate strategies in one interview. As a consequence, the findings are not fully conclusive yet, but merely an evidence-based indication of how higher education organisations apply CRE strategies and operational decisions in practice. Additional data is needed to validate the alignment framework, both empirically and regarding managerial applicability. Future work should focus on extending the number of cases and the number of interviews. It would also be productive to involve corporate

management in interviews or focus groups as well to find out what their understanding is of the impact of CRE on the delivery of the corporate mission.

3.6 CONCLUSION

Due to the rapid and complex developments in higher education, the challenge of the present research was to shed more light on how CRE managers try to develop CRE strategies and take CRE operating decisions in order to align CRE with the evolving corporate strategies of Dutch UAS. The results show differences between the alignment of the corporate strategies with espoused CRE strategies and with CRE strategies in-use. The alignment of espoused CRE strategies showed a number of gaps, which might refer to a limited understanding of the possible added value of CRE for the organisation and the end users. On the other hand, CRE strategies in-use seem to be aligned quite well with the corporate goals. This suggests that CRE managers are aware that CRE can be more than just a support function or a necessity, and how CRE can add value to serve the corporate interest. The CRE managers mainly steer on CRE alignment with corporate goals by formulating CRE strategies that support user activities and that control CRE costs. Beside these two added values of CRE, aligning CRE operating decisions are also related to supporting the organisational culture. The analytical alignment framework presented in this paper showed to be useful for the exploration of the different types of alignment between corporate strategies, CRE strategies, and CRE operating decisions. The combination of the document analysis and the interviews with CRE managers showed to be appropriate to detect similarities and dissimilarities between the alignment of corporate strategies with espoused CRE strategies and CRE strategies in-use in the field of higher education. The findings contribute to the recognition of the growing importance of aligning CRE with corporate goals as an added value for organisational performance.

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REFERENCES

Amaratunga, D., & Baldry, D. (2000). Assessment of facilities management performance in higher education properties. *Facilities*, 18(7/8), 293-301.

Ambrosini, V., & Bowman, C. (2003). Managerial Consensus and Corporate Strategy: Why Do Executives Agree or Disagree about Corporate Strategy? *European Management Journal*, 21(2), 213-221.

Appel-Meulenbroek, R., & Feijts, B. (2007). CRE effects on organizational performance: measurement tools for management. *Journal of Corporate Real Estate*, 9(4), 218-238.

Appel-Meulenbroek, R., Brown, M.G., & Ramakers, Y. (2010). Strategic alignment of Corporate Real Estate. *Conference Paper for the European Real Estate Society 17th Annual Conference 2010*, Milan, Italy.

Argyris, C., & Schön, D. (1974). *Theory in Practice. Increasing Professional Effectiveness*. San Francisco: Jossey-Bass Publishers.

Beckers, R., & Van der Voordt, T. (2013). Facilitating New Ways of Learning in Dutch Higher Education. *International Journal of Facilities Management, EuroFM Journal, conference papers 12th EuroFM Research Symposium*, Prague, Czech Republic, 25-35.

Beckers, R., Van der Voordt, T., & Dewulf, G. (2015). A conceptual framework to identify spatial implications of new ways of learning in higher education. *Facilities*, 33(1/2), 2-19.

Boddington, A., & Boys, J. (2011). Reshaping Learning – An Introduction. In Boddington, A., & Boys, J. (Eds.). *Re-Shaping Learning: a Critical Reader* (pp. xi-xxii). Rotterdam: Sense Publishers.

Brackertz, N., & Kenley, R. (2002). A service delivery approach to measuring facility performance in local government. *Facilities*, 20(3/4), 127-135.

Brand, S. (1994). *How Buildings Learn. What happens after they're built*. New York: Penguin Books.

Brown, I. (2010). Strategic Information Systems Planning: Comparing Espoused Beliefs With Practice. *Conference Paper for the 17th European Conference on Information Systems*, Pretoria.

Clemons, E.K., Row, M.C., & Thatcher, M.E. (1995). Identifying sources of reengineering failures: a study of the behavioral factors contributing to reengineering risks. *Journal of Management Information Systems*, 12(2), 9-36.

Collis, B., & Van der Wende, M. (2002). *Models of Technology and Change in Higher Education*. Enschede: CHEPS.

CPOO [Commissie Parlementair Onderzoek Onderwijsvernieuwingen] (2008). *Parlementair Onderzoek Onderwijsvernieuwingen*. Den Haag: Sdu uitgevers.

De Jonge, H. (1996). Toegevoegde waarde van concernhuisvesting. *Paper presented at the NSC-Conference*, Amsterdam.

De Vries, J., De Jonge, H., & Van der Voordt, Th. (2008). Impact of real estate interventions on organizational performance. *Journal of Corporate Real Estate*, 10(3), 208-223.

Den Heijer, A.C. (2011). *Managing the University Campus: Information to support real estate decisions* (PhD dissertation). Delft: Eburon.

Den Heijer, A., & De Jonge, H. (2012). Linking decisions and performance: adding value theories applied to the university campus. In Jensen, P.A., Van der Voordt, T., & Coenen, C. (Eds.). *The added value of Facilities management, concepts, findings and perspectives* (pp. 177-204). Lyngby: Center for Facilities Management – Realdania Research.

Gibler, K.M., Black, R.T., & Moon, K.P. (2002). Time, Place, Space, Technology and Corporate Real Estate Strategy. *Journal of Real Estate Research*, 24(3), 235-262.

Grummon, P. (2008). Summary Report of a Survey of Learning Space Design in Higher Education. *43th Annual Conference of the Society for College and University Planning. Montreal*, Quebec.

Heywood, C. (2011). Approaches to aligning corporate real estate and organizational strategy. *Conference Paper for the European Real Estate Society 17th Annual Conference 2010*, Eindhoven.

Heywood, C., Kenley, R., & Waddell, D. (2009). The CRE toolbox: addressing persistent issues in corporate real estate management. *Conference Paper for the Pacific Rim Real Estate Society (PRRES) Conference 2009*, Sydney.

Heywood, C., & Kenley, R. (2007). Strategic corporate real estate management research and teaching: defining dimensions of practice. *Proceedings of Australian Universities Building Educators Association (AUBEA)*, Melbourne.

Housley, J. (1997). Managing the estate in higher education establishments. *Facilities*, 15(3/4), 72-83.

Jensen, P.A. (2010). The Facilities Management Value Map: a conceptual framework. *Facilities*, 28(3/4), 175-188.

Jensen, P.A., Sarasoja, A.L., Van der Voordt, T., & Coenen, C. (2013). How can Facilities Management add value to organisations as well as to society? *Conference paper CIB World Building Congress*, Brisbane: Australia, 5-9.

Johnson, L., Smith, R., Willis, H., Levine, A., & Haywood, K. (2013). *NMC Horizon Report: 2013 Higher Education Edition*. Austin, Texas: The New Media Consortium.

Joroff, M., Louargand, M., Lambert, S., & Becker, F. (1993). *Strategic Management of the Fifth Resource: Corporate Real Estate*. Norcross: IDRC.

Kaplan, R.S., & Norton, D.P (1996). Using the balanced scorecard as a strategic management system. *Harvard Business Review*, January/ February, 75-85.

Kaplan, R.S., & Norton, D.P (2006). *Alignment*. Boston: Harvard Business School Publishing Corporation.

Krumm, P., Dewulf, G., & De Jonge, H. (2000). What is Corporate Real Estate? In Dewulf, G., Krumm, P., & De Jonge, H. (Eds.). *Successful Corporate Real Estate Strategies* (pp. 27-33). Nieuwegein: Arko Publishers.

Lindholm, A.L., Gibler, K.M., & Leväinen, K.I. (2006). Modeling the Value-Adding Attributes of Real Estate to the Wealth Maximization of the Firm. *The Journal of Real Estate Research*, 28(4), 445-475.

Marais, N. (2011). Connectivism as learning theory: the force behind changed teaching practice in higher education. *Education, Knowledge and Economy*, 4(3), 173-182.

McLaughlin, P., & Mills, A. (2008). Where shall the future student learn? Student expectations of university facilities for teaching and learning. *Preparing for the graduate of 2015. Proceedings of the 17th annual Teaching and Learning Forum*. Perth: Curtin University of Technology.

Miles, M.B., & Huberman, A.M. (1994). *Qualitative Data Analysis*. California: SAGE Publications.

Nourse, H.O., & Roulac, S.E. (1993). Linking real estate decisions to corporate strategy. *The Journal of Real Estate Research*, 8(4), 475-494.

OC&W [Dutch Ministry of Education, Culture and Science] (2013). *Kerncijfers 2008-2012*. Den Haag: Ministerie van OC&W.

Osgood Jr, R.T. (2004). Translating organizational strategy into real estate action: The strategy alignment model. *Journal of Corporate Real Estate*, 6(2), 106-117.

Porter, M. (1985). *Competitive Advantage – Creating and Sustaining Superior Performance*. New York: Free Press.

Prensky, M. (2001). *Teaching digital natives*. London: Sage.

Rondinelli, D., Rosen, B., & Drori, I. (2001). The Struggle for Strategic Alignment in Multinational Corporations: Managing Readjustment During Global Expansion. *European Management Journal*, 19(4), 404-416.

Roulac, S.E. (1986). Real estate as a strategic resource. *Chief Financial Officer International*, 317-321.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Harlow, Essex: Pearson Education.

Siemens, G. (2005). *Connectivism: a learning theory for the digital age*. Retrieved November 7, 2012, from: http://Connectivism.ca

Temple, P. (2007). *Learning spaces for the 21st century*. London: Centre for Higher Education Studies, University of London.

Van der Voordt, D.J.M., & Van der Zwart, J. (2011).Value-Based design and management of Hospital Buildings. *Conference paper MISBE, Management and Innovation for a Sustainable Built Environment*, Amsterdam.

Veen, W., & Vrakking, B. (2006). *Homo Zappiens*. London: Continuum International Publishing Group.

Vereniging Hogescholen (s.d.). *Feiten en Cijfers*. Retrieved November 1, 2013, from: http://www.vereniginghogescholen.nl/vereniging-hogescholen/feiten-en-cijfers

Vidalakis, C., Sun, M., & Papa, A. (2013). The quality and value of higher education facilities: a comparative study. *Facilities*, 31(11/12), 489-504.

Zeithaml, V.A. (1988). Consumer Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, 52(3), 2-22.