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Integrated value-based business cases for CRE interventions: a challenge for practice

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Abstract

Purpose – This paper aims to explore the design, development and implementation of business cases in Dutch Corporate Real Estate (CRE) practice, and how this relates to literature insights and directions for future research.

Design/methodology/approach – The study is based on a literature review, a 1.5-hour roundtable discussion with six experienced CRE-practitioners, and in-depth interviews with 12 other experienced CRE-practitioners, each lasting 60–75 min.

Findings – Contemporary CRE business cases extend beyond financial considerations and increasingly incorporate less tangible forms of value, such as employee satisfaction, health and well-being, flexibility, and sustainability. In the context of CRE management, business case development is closely intertwined with stakeholder management and decision-making processes. These complexities confront CRE practitioners with distinct challenges that are insufficiently addressed in the current literature.

Research limitations/implications – The sample consists of 18 experienced Dutch CRE-practitioners. As such, the findings are not fully generalisable. For this reason a repeat study is recommended with a larger sample, also including CRE-practitioners from other countries. Other research methods such as Delphi or a survey would be interesting as well.

Practical implications – The findings offer practical guidance for developing more integrated, value-based business cases, and highlight areas where further actions from practitioners and researchers are needed.

Originality/value – Integrated, value-based business cases for CRE interventions are under-researched. To the best of the authors' knowledge, this study is among the first to examine how Dutch CRE managers and consultants conduct and implement business cases.

Keywords Business case, Integrated approach, Value-based, Stakeholders, Decision-making, Multicriteria

Paper type Research paper



1. Introduction

A business case (hereafter: BC) i.e. a well-substantiated analysis of the costs, benefits, risks and return on investment of an intervention, is essential for enabling rational go/no-go decisions on projects (Cresswell *et al.*, 2000; Fashokun and Muckleroy, 2014; Hoendervanger *et al.*, 2024). Decisions concerning Corporate Real Estate (CRE) interventions typically involve major financial commitments, substantial risks and long-term consequences that affect organizational performance and impact multiple stakeholders (Hoendervanger *et al.*, 2024). This raises the question of how CRE professionals deal with the growing challenge of developing and implementing integrated value-based BCs. The present study explores experiences in Dutch CRE practice in comparison to literature insights, and provides directions for further research to reduce knowledge gaps in both CRE theory and practice.

1.1 Business cases for corporate real estate interventions

Hoendervanger *et al.* (2024) argue that the complexity of decisions regarding CRE interventions is evident across all six dimensions of organizational decision-making identified by Keuning and Eppink (2011): (1) major investments and cost implications; (2) a large number of people affected; (3) considerable responsibility for decision-makers; (4) long-term effects extending over time; (5) a high degree of risk and uncertainty; (6) the triggering of emotional reactions. They regard the BC as a crucial link between CRE strategy and CRE projects. A BC is required to ensure that a project enhances CRE performance that fits with organizational objectives, foster positive user experiences and addresses social expectations and legal requirements – all aligned with the organization's strategic goals and ambitions.

In recent decades, Corporate Real Estate Management (CREM) has increasingly adopted an integrated approach, broadening its scope to encompass a wide range of perspectives, stakeholders, values, interests, disciplines, scales and time horizons (Hoendervanger *et al.*, 2024). This evolution is reflected in the CREM maturity model introduced by Joroff *et al.* (1993). Wijnja *et al.* (2021) added a sixth stage, combining business-oriented and user-centered perspectives. Jensen and Van der Voordt (2017) propose a holistic framework for value creation through CREM and Facilities Management (FM), identifying 12 value parameters related to people, processes and products, economic performance and social impact.

In 2024, the *Journal of Corporate Real Estate* published a special issue on integrated CREM/FM strategies (van der Voordt, 2024). Contributors such as Gracheva and Groen (2024), Cooke and Appel-Meulenbroek (2023) and Patel and Zapata-Lancaster (2024) emphasize that an integrated CREM approach is essential for balancing diverse needs and interests, and for creating multidimensional value for a variety of stakeholders. However, such an approach makes the development of BCs for CRE projects considerably more demanding, as a wide array of financial and nonfinancial, quantitative and qualitative, predictable and uncertain and sometimes conflicting factors must be incorporated (Hoendervanger *et al.*, 2024). Beyond this substantive complexity, the process dimension is equally challenging, requiring the engagement of multiple stakeholders and disciplines.

1.2 Knowledge gap

Although the importance of developing robust BCs is widely acknowledged in academic literature, most studies focus on specific calculations or the evaluation of investments in particular domains, rather than adopting an integrated, multidimensional approach. In a recent literature review by Appel-Meulenbroek and Danivska (2023), supplemented by our

own scan of BC-related publications, a range of areas emerged, such as sustainability (Kraus *et al.*, 2018; Schaltegger *et al.*, 2019; Mendoza *et al.*, 2019; Yadav and Veetil, 2022; Busch *et al.*, 2024), corporate social responsibility (Coldwell and Joosub, 2014; Carroll and Shabana, 2010), health, well-being and safety (Lee, 2018; Kropman *et al.*, 2023), workspace design (Termaat, 2009), indoor air quality (Horr *et al.*, 2017), adaptive reuse (Wilkinson and Reed, 2008; Bourke and Adams, 2020), diversity and inclusion (Morley, 2018), IT developments (Einhorn *et al.*, 2019, 2022) and quality improvement (Fischer and Duncan, 2020). Only a few papers include financial data (e.g. Fashokun and Muckleroy, 2014; Sakallaris *et al.*, 2016; Tabbush *et al.*, 2016). How to balance a wide range of value parameters is lacking. Moreover, with a few exceptions (i.e. Cresswell *et al.*, 2000; Termaat, 2009), no literature was found that addresses the specific complexities of BCs for CRE interventions.

1.3 Aim and outline of the study

Despite the importance of an integrated, value-based approach of corporate real estate (CRE), the literature scan reveals a notable gap regarding how to develop integrated value-based BCs for CRE interventions, and the challenges CRE practitioners face in doing so. Therefore, the aim of this study is to explore how BCs are designed, developed and implemented in CRE practice, and how this relates to literature insights. Building on this, this study aims to provide directions for further research that may narrow the literature gap and support CRE practitioners.

The complexity of CRE decision-making raises research questions concerning both the content of BCs and the process through which they are developed. Accounting for multiple values requires the selection (RQ1), quantification (RQ2) and weighting (RQ3) of diverse parameters. This, in turn, necessitates a stepwise process (RQ4) involving multiple stakeholders (RQ5). Given the long duration of CRE projects and the long-term effects of CRE decisions, sustained attention to BC implementation and evaluation is required (RQ6). Accordingly, this study is guided by the following research questions:

- RQ1. Which parameters are included?
- RQ2. (How) are parameters quantified?
- RQ3. How are different values weighted against one another?
- RQ4. What steps are taken to develop a BC?
- RQ5. Who is involved, and in what roles?
- RQ6. How are BCs used in project management and evaluation?

The next section outlines the methodology used to address these questions. Section 3 presents a brief review of relevant literature related to each research question, and findings from a round table discussion and interviews with practitioners. The paper concludes with a discussion, conclusions and recommendations.

2. Methodology

The desk research started with a thorough literature scan of titles and abstracts containing the term “business case” in CRE related journals like the *Journal of Corporate Real Estate*, *Corporate Real Estate Journal*, *Building Research and Information* and *Facilities*, etc., and a scan of more general papers on BC in Scopus and on Academia. Focusing on insights

relevant to the six research questions, a snowballing technique was applied to expand the sample of relevant publications.

The field research to answer each research question commenced with a 90-minute semistructured round table discussion involving six experienced CRE-practitioners (Bekkering, 2023). In addition, the authors conducted eight individual and two duo semistructured interviews with other CRE-practitioners (Van der Voordt and Hoendervanger, 2025; Hoendervanger and Van der Voordt, 2025). Due to our main interest in their own BC-experiences and time restrictions, we did not discuss with them what the literature has to say about BC. Short reports of the findings were sent to the respondents for a check and final feedback.

The selection of respondents is based on four criteria: (1) long-time experience in practice, (2) frontrunners, (3) accessibility and (4) willingness to participate. For this reason, Dutch respondents were selected, in collaboration with Smart WorkPlace, a network of Dutch workplace managers and CRE-professionals with different roles and backgrounds. Table 1 presents the professional characteristics of the respondents.

After a total of 18 respondents, little new information emerged. This aligns with the findings of Young and Casey (2019), who reported that significant code coverage was achieved with a sample size of six to nine participants, while substantial theme completion required seven to ten cases across projects. Similarly, Hennink *et al.* (2016) found that code saturation was reached after nine in-depth interviews to capture the breadth of thematic issues, and that between 16 and 24 interviews were needed to achieve meaning saturation and a richly textured understanding of the topics discussed.

The qualitative data have been recorded, analyzed and discussed by three researchers. The interview topics were inductively derived from the literature. The data were analyzed using thematic analysis, allowing for systematic comparison across the interviews (Braun and Clarke, 2021). Short reports of the findings have been sent to the respondents for a check and final feedback.

3. Research findings

3.1 RQ1: Which parameters are included?

3.1.1 *Literature.* At an abstract level, key criteria for initiating a CRE project are the extent to which it bridges the gap between required and actual CRE performance (output), and to what extent the investment provides added value for the organization, individual users and society at large (outcome and impact) (Nourse and Roulac, 1993; Heywood and Arkesteijn, 2017; Cooke and Appel-Meulenbroek, 2023; Hoendervanger *et al.*, 2024). This highlights the need for careful consideration of diverse value parameters. A useful and comprehensive taxonomy of value parameters is the one proposed by Jensen and Van der Voordt (2017), which includes 12 value parameters:

Table 1. Sample characteristics

Round table		Interviews	
Function and sector	N	Function and sector	N
CRE manager, public sector	1	CRE manager, public sector	1
CRE manager, private sector	4	CRE manager, private sector	2
CRE consultant	1	CRE consultant	9
<i>TOTAL</i>	6		12

- *people*: satisfaction, image, culture, health and safety;
- *processes and products*: productivity, adaptability, innovation and creativity, risk;
- *economic*: costs, real estate value; and
- *social*: sustainability, corporate social responsibility.

Building on the Value Adding Management model proposed by [Jensen and Van der Voordt \(2017\)](#), and a further elaboration by [Van der Voordt \(2022\)](#), [Hoendervanger et al. \(2024\)](#) developed a theoretical model for an integrated value-based BC; see [Table 2](#). The model distinguishes between monetary and nonmonetary parameters, as well as between input, throughput, output and outcome parameters. It also provides examples of potential parameters for inclusion. The authors recommend limiting the number of parameters to avoid overly complex and time-consuming analyses; a well-considered selection should enable a broad yet balanced evaluation.

3.1.2 Practice. According to the respondents, cost effectiveness and financial return on investment are still leading parameters. However, there is a growing recognition that a robust BC should go beyond financials. Increasingly, organizational values, user needs and social values are considered essential for making well-informed, balanced decisions. In Dutch CRE practice, parameters often include the extent to which an intervention supports and enhances:

- corporate identity and organizational reputation;
- business operations (e.g. the impact of location on driving times);
- attraction and retention of scarce talent (the “war for talent”), for example by reducing commuting time or improving the attractiveness of a building;
- diversity and inclusion, through attention to physical, cognitive and cultural differences (e.g. providing low-stimulus environments for people with autism);
- efficient use of space;

Table 2. Theoretical model for an integrated value-based BC with examples of different parameters ([Hoendervanger et al., 2024](#), shortened)

Components	Monetary	Nonmonetary
<i>INPUT</i>	<i>Initial costs</i>	<i>Intangible contributions</i>
Investment	Construction costs Design and consultancy costs Transaction costs	Management attention Commitment/engagement Time investment
<i>THROUGHPUT</i>	<i>Process costs</i>	<i>Effects of process</i>
Implementation process	Communication and project guidance Loss of revenue and productivity	Nuisance from disturbing activities Enthusiasm/resistance of people involved
<i>OUTPUT</i>	<i>Direct business economic effects</i>	<i>CRE quality aspects</i>
CRE performance	Operating costs Rent/purchase/selling expenses and revenues Value of assets	Capacity Functionality Adaptability Carbon footprint Comfort Appearance
<i>OUTCOME</i>	<i>Indirect business economic effects</i>	<i>Effects on organization/ individuals/ society</i>
Organizational performance	Overhead costs Staff costs Absenteeism costs Recruitment costs Costs of logistics and mobility Revenue Profitability Solvability	Satisfaction Resilience Culture Image Vitality Innovation Safety
<i>IMPACT</i>	Valuation related to investment space and competing business cases	Valuation related to nonfinancial goals and interests
Added value for organization and stakeholders	→ Financially responsible? → Financially attractive?	→ Significant added value? → Negative impact acceptable?

- flexibility and adaptability;
- vitality, health and well-being;
- social added value; and
- sustainability and environmental impact.

“Social returns are currently more often included as well, e.g. giving something back to the city.”
(Consultant)

The use of parameters in a BC requires careful operationalization. This is particularly relevant for multifaceted parameters. For instance, flexibility encompasses aspects like horizontal and vertical expandability, internal adaptability and agreements on square meters to be leased. Another dimension of flexibility used in practice is the ability to scale rental contracts up or down over time.

Considerations related to vitality, health and well-being involve weighing the costs of advanced climate control systems against benefits such as improved labor productivity, reduced health complaints and lower stress levels, increased peace of mind due to reduced commuting through hybrid work arrangements and increased health and fitness by health-promoting facilities such as healthy catering options and sports facilities.

To include social added value, the Dutch Government has developed the *Value Table* – a method involving structured interaction among stakeholders in governmental real estate investment decisions. This tool maps the realized social value, both positive and negative, in a systematic and transparent manner (College van Rijksadviseurs, 2020); see Social impact parameters used by the Dutch Government:

- accessibility and connectivity;
- range of public and social facilities;
- health, sustainability and climate adaptability;
- quality of public space and living environment;
- accessibility of nature (“green” and “blue”);
- balance and differentiation in spatial structure;
- livability, (social) safety and cohesion; and
- economic potential.

The inclusion of specific parameters in a BC, and the level of detail with which they are addressed, depend on the sense of urgency, the time and effort required to gather the necessary data and the availability of existing information. This varies across organizations and projects.

Some decisions are made a priori, as part of established organizational policy or accommodation strategy. For example, in many organizations, sustainable design, construction and management are part of standard policy. According to several respondents, the notion of “profitable sustainability” is now considered outdated. A common policy might include, for instance, adopting a BREEAM rating of “Very Good” for headquarters, and a fixed ‘renovation quality’ standard across all other projects.

Practitioners also emphasize the importance of recognizing potential relationships between parameters, particularly due to indirect effects. For example, an appropriate learning environment may yield broader social benefits. An attractive and healthy workplace can support staff attraction and retention and enhance labor productivity. Technological innovations may lead to cost savings by reducing staffing needs.

3.2 RQ2: (How) are parameters quantified?

3.2.1 Literature. A BC typically combines multiple types of information: quantitative and qualitative, monetized and nonmonetized. This diversity makes it difficult to compare alternative solutions and to calculate an overall performance score. According to Appel-Meulenbroek and Danivska (2023), it is therefore important to quantify parameters and apply Key Performance Indicators wherever possible.

For financial parameters, advanced calculation methods are available to support comprehensive investment analysis (e.g. Higgins et al., 2023; Brueggeman and Fisher, 2024). Quantification of nonfinancial parameters is generally less simple. However, many practical tools have been developed in recent decades. For example, employee satisfaction can be assessed using instruments such as the Leesman Index or the Work Environment Diagnostic Index, developed by the Dutch Center for People and Buildings. Accessibility can be quantified through metrics such as distance to public transport and clients (in meters or kilometers), while energy consumption and CO₂ emissions can be expressed in gigajoules and tons per year, respectively. Sustainability performance may be assessed using rating systems such as BREEAM or LEED. The opportunities and risks of adaptive reuse can also be evaluated using weighted scoring methods (Andersen and Jensen, 2022; Geraedts et al., 2025). Building flexibility can be quantified using the Adaptive Capacity Measurement Method (Geraedts et al., 2017).

3.2.2 Practice. In practice, financial parameters have a long-standing tradition of being quantified. New tools are also emerging, including calculation models designed to determine which investment yields the highest financial return in an integrated manner. Reachability can be quantified using data on commuting distances of employees and clients, obtained through tools such as Google Maps or more advanced mobility software (see Figure 1). The attractiveness of a location, building or set of facilities is often assessed through online

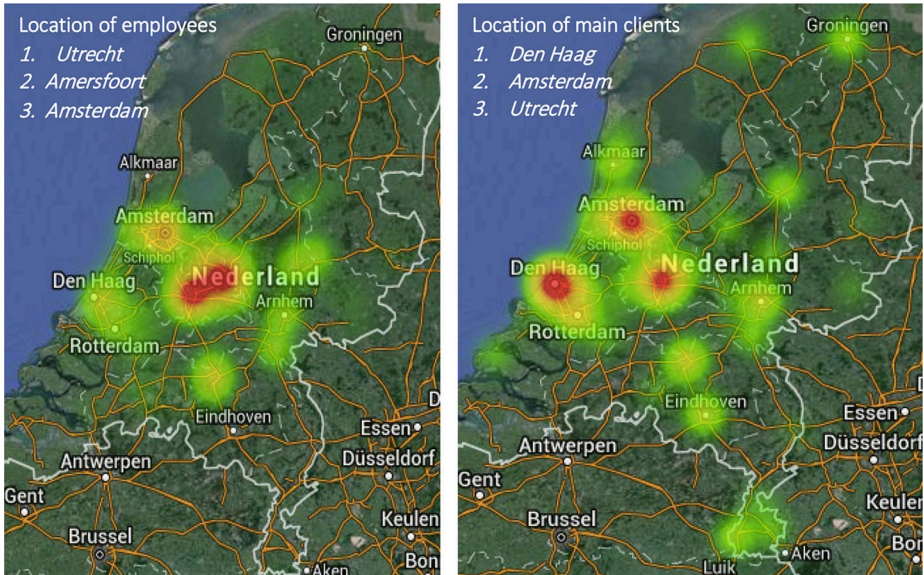


Figure 1. Example of location analyses based on commuting distances and distance to customers

employee satisfaction surveys. Additional indicators of user preferences include response rates to job advertisements and input from client advisory councils. Health-related impacts are commonly analyzed using data on absenteeism, staff turnover and biomedical indicators such as body mass index.

Whereas productivity in industrial settings can be measured quantitatively with relative ease, this is more challenging in the context of knowledge work. One approach used in practice is to assess labor productivity indirectly by asking employees about the perceived impact of the work environment on their productivity – referred to as perceived “productivity support.” Other parameters that are difficult to quantify include more abstract concepts such as “appearance” or “giving something back to the city.”

Practitioners emphasize that the possibilities of quantification of this type of parameters are limited. Qualitative benefits are frequently discussed in broad terms, based on experience, intuition and organizational ambitions. While causal relationships are often difficult to demonstrate empirically, they may be inferred through reasoning, supported by research evidence, best practices or expert judgment. For instance, consultation with a company physician may help substantiate proposals for a health-promoting workplace.

“Quantify parameters as much as possible, but beware of a one-sided focus.” (*CRE consultant*)

3.3 RQ3: How are different values weighted against each other

3.3.1 Literature. Once all relevant information on parameters and alternatives has been analyzed and synthesized, the process culminates in an overall consideration that integrates financial and nonfinancial aspects, positive and negative impacts, investments, risks, organizational objectives, stakeholder interests, internal and external contexts, trends and developments (Hoendervanger *et al.*, 2024). Multiple-criteria analysis, also known as multi-attribute utility modeling (MAU), is a widely recommended method for scoring, evaluating and comparing potential alternatives in terms of costs, benefits and added value (Nedeljković *et al.*, 2023). Scores may be expressed as numerical values (e.g. square meters, euros, rent levels) or as qualitative scale values (e.g. ++ = meets requirements very well, + = meets well, ± = neutral, – = does not meet, -- = does not meet at all). Another approach involves ranking alternatives from best to worst and using decision-support software to identify the optimal solution (Arkesteijn, 2019).

Given that criteria typically differ in importance, weighting factors are usually applied, for instance: 0 = not important/not applicable, 1 = slightly important, 2 = important and 3 = very important. Weighting is typically carried out by experts and decision-makers. Sensitivity analysis – achieved by varying scores or applying bandwidths – can provide insight into how robust the outcomes are to changes in underlying assumptions (Tabbush *et al.*, 2016). Similarly, varying weights offers insight into the influence of prioritizing specific parameters.

3.3.2 Practice. In practice, weighing is often partly conducted in a qualitative manner, rather than through formal scoring and weighting, by facilitating discussions on what matters most to stakeholders. The prioritization and weighing of (partially conflicting) values vary across projects and organizations. These differences depend on factors such as core processes, strategic objectives, organizational ambitions, corporate and management culture, ownership structure, contextual conditions and laws and regulations. As a result, each BC is tailor-made.

For example, the Dutch Government typically weighs four key elements: strategic-policy alignment, functionality and use value, financial costs and benefits and the physical condition of the asset. Efficiency and effectiveness serve as guiding principles in this evaluation

process. In the education sector, budgets are largely standardized. Consequently, the primary focus lies in optimizing value dimensions within fixed financial constraints. Increasing attention is being paid to indoor climate quality, due to its demonstrated impact on learning performance. In the health-care sector, institutions generally have more policy flexibility. Alongside efficiency and logistical considerations, many health-care organizations place high value on delivering optimal care to patients and clients. In multifunctional facilities, particular attention is given to preserving the identity and needs of distinct user groups.

Some criteria are considered so critical that they serve as veto or knock-out criteria – meaning that if an alternative fails to meet them, the project proposal is automatically rejected. Legal requirements are a common example. When defining such criteria, it is important to assess whether they are truly nonnegotiable, or whether adjustments to the project might solve the issue that the veto intends to prevent.

3.4 RQ4: What steps are taken to develop a business case

3.4.1 Literature. Several publications outline the steps required to develop an appropriate BC (Cannon, 2006; Cresswell *et al.*, 2000; Tabbush *et al.*, 2016; Appel-Meulenbroek and Danivska, 2023; Giangregorio, 2024). Cresswell *et al.* (2000) propose a three-phase model for BC development: (1) analysis; (2) design and development of the BC; and (3) presentation of the case to various audiences to secure commitment and ongoing support. These phases are not strictly sequential and often involve iterative processes. In addition, they identify 12 essential elements of a BC, ranging from a clearly defined problem statement and considered alternatives to performance metrics, risk assessments and potential objections with corresponding responses.

Based on their systematic literature review of 52 academic papers addressing the content and structure of BC processes, Appel-Meulenbroek and Danivska (2023) propose a 20-step BC process model, structured into three overarching phases see Figure 2. Probably, the crucial step of weighing costs and benefits is implicitly embedded within step 16, which involves prioritization and decision-making.

3.4.2 Practice. Although some organizations adopt a standardized framework, the process is shaped by project-specific dynamics, internal and external developments, ongoing discussions and evolving insights.

“Business cases require a customized approach.” (CRE Manager)

A CRE BC emerges through iterative interactions among developers, decision-makers and stakeholders, who often revisit and refine earlier steps and subquestions. Evolving insights

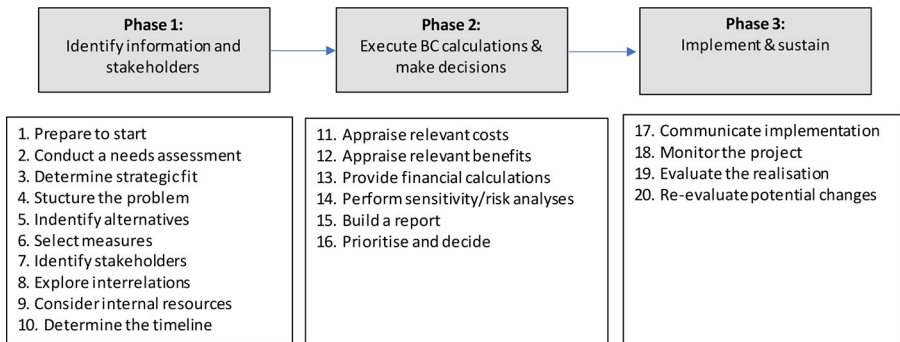


Figure 2. 20-step BC process model (Appel-Meulenbroek and Davivska, 2023)

may result in the revision, addition or removal of criteria or alternatives. BC development and decision-making are often closely intertwined, rather than sequential processes. Final decisions are frequently made in a stepwise, funnel-shaped manner – moving from broad to detailed considerations or from “hard” to “soft” criteria. For example, the initial decision might concern the choice between stay or move, followed by an exploration of alternatives based on that choice.

Typically, the BC is initially informed by a preliminary design brief and an investment estimate based on key figures. Following a formal Go decision, a more detailed brief is developed to guide the design phase. In various cases the BC was “fed” with findings from a pilot project – testing ideas on a small scale, monitoring behavior and user experiences and using the results to support decisions on larger-scale implementation.

The development process, i.e. the transition from visions and ambitions to concrete plans and decisions, can take years, although timelines of just a few weeks or even days are also reported. In some cases, practitioners created a BC with all key participants during a highly focused “pressure cooker session.” However, respondents emphasize the importance of investing sufficient time in developing a solid BC to avoid project delays or failure due to hasty decision-making. Striking the right balance between speed and thoroughness is essential.

“We need to invest sufficient time, because repairing afterward is always more expensive.” (*Real Estate Director*)

“Taking more time does not always lead to a better idea.” (*CRE Manager*)

3.5 RQ5: Who is involved and in what role?

3.5.1 Literature. BCs can affect various groups and individuals such as employees, customers, suppliers, governments, credit lenders and financiers (Moir *et al.*, 2007; Bartlett-Ellis *et al.*, 2015; Patel and Zapata-Lancaster, 2024). Schaltegger *et al.* (2019) argue that the scope should extend not only to all stakeholders capable of representing themselves, but also to the natural environment and future generations. They caution that the traditional, narrower operationalization of a BC risks to become a “single stakeholder case,” focused exclusively on financial value for shareholders.

In the context of CREM, it is essential to recognize that organizations are not a homogeneous entity (Patel and Zapata-Lancaster, 2024; Van der Voordt, 2024). In their influential consultancy work during the 1980s and 1990s, DEGW identified four key stakeholder perspectives: (1) the corporate or organizational level, (2) staff, (3) building managers and (4) information technology requirements (Patel and Zapata-Lancaster, 2024). Hoendervanger *et al.* (2024) distinguish four types of internal stakeholders: (1) support disciplines such as HR, IT, finance and marketing; (2) individual CRE users, including employees and managers, along with external users such as visitors, clients, patients or students; (3) top and middle management; and (4) external partners, funders and broader societal actors.

Schaltegger *et al.* (2019) emphasize the importance of involving a broad set of stakeholders early in the process to enable robust analyses and effective solutions. To support such participation, it is essential to identify key stakeholders and understand their values and visions at an early stage (Appel-Meulenbroek and Danivska, 2023). A variety of tools has been developed to assist in this process (e.g. Hodges and Sekula, 2013; Jensen and Maslesa, 2015; Giangregorio, 2024).

3.5.2 Practice. Engaging stakeholders is time-consuming and may complicate the decision-making process, but it is crucial for success. In many discussions with practitioners, the importance of stakeholder management was strongly emphasized, and perceived as just

as critical as substantive analysis and justification. A commonly cited rule of thumb is to actively and promptly involve everyone who can influence the final decision, from the board and management to the works council, staff and external stakeholders. Often, CRE managers first clarify who will be involved, in what capacity, and at which stages of the process, before elaborating the content in greater detail. Discussions with and among stakeholders help ensure that all relevant perspectives are considered and that the final decision is broadly supported. Iterative feedback helps to make the BC increasingly integrated and robust. Informal contact can contribute to a smoother formal process.

“Involve everyone who has an influence on decisions in a timely manner.” (*Consultant*)

A business case ensures the right discussions.” (Real Estate Director)

Bringing different stakeholders together may foster mutual understanding and can pave the way for a win-win outcome. In one example, this approach led to an unexpected expansion of the project’s scope and budget, enabling it to address multiple goals important to different stakeholders. As an added benefit, the stakeholder process may also serve as a springboard toward a more integrated, multidisciplinary approach to CREM.

“Critical questions from stakeholders are not fun, but they lead to a stronger BC.” (*consultant*)

“The profit is in the process.” (*Consultant*)

Stakeholder management begins with fundamental questions such as who acts as the principal and who ultimately makes the decisions. This is not always clear but can significantly influence both the process and the final outcome. The higher the level within the organization at which decisions are made, the broader and more strategic the considerations tend to be. Each decision-maker brings their own focus, shaped by their role, professional discipline and frequently also by personal vision or preference. Various respondents suggest engaging decision-makers early in the process in defining the problem, establishing the assessment framework and determining the scope of the BC. This may prevent late-stage discussions about foundational assumptions at the point when a decision is expected.

The end users must be involved in an appropriate manner as well. It is essential to listen to them and analyze their needs and behavioral patterns. With a bottom-up approach, it is important to assess whether the emerging input aligns with the organization’s future vision and strategic objectives.

“Think inclusively and talk with, not about, the end users.” (*Consultant*)

Striking the right balance between broad stakeholder involvement and timely progress is particularly important when there is pressure to reach a decision. It is important to determine, for each stakeholder, the appropriate form of involvement – ranging from simply being informed to active participation and co-decision-making. Another consideration is the degree of transparency throughout the process. While openness is a valuable principle, it can also lead to unrealistic expectations or unnecessary concern if introduced too early.

3.6 RQ6: How are business cases used for project management and evaluation?

3.6.1 *Literature.* While most academic publications treat the go/no-go decision as the final step, Appel-Meulenbroek and Danivska (2023) propose a phase following the decision to initiate a project, that includes communication, monitoring and (re)evaluation (see Figure 2). In this phase, the BC functions both as a foundation for communicating the project’s rationale, and as a reference point for monitoring and evaluating its outcomes. Zadeh *et al.*

(2015) emphasize that the process should be conceived as a cycle in which evaluation results are fed back to decision-makers to inform future decisions and support evidence-based, continuous improvement.

According to the PRINCE2® (Projects IN Controlled Environments) methodology, the BC plays a central role throughout the entire project lifecycle, as a primary reference for decision-making, project justification and evaluation. The BC is initially developed during the project initiation phase and is continuously reviewed and updated to ensure the project remains viable, desirable and achievable. It guides governance decisions at key milestones, particularly regarding whether to continue or terminate the project. In the evaluation phase, it serves as a benchmark for measuring outcomes and enabling evidence-based learning (AXELOS, 2017).

3.6.2 Practice. Following a positive decision, the BC is used as a management framework for the project, for example, to guide design choices: what deserves priority within the project budget? Which options contribute most to the intended added value? Respondents find it important to monitor the BC throughout the project. When circumstances or insights change, the BC may need to be revised. In some cases, additional budget was required to realize the original ambitions; in others, ambitions had to be adjusted.

“After the decision, the business case helps to sharpen priorities.” (*CRE Manager*)

The interviews and discussions revealed a tension between the static, one-time nature of a BC and the growing need for adaptability in today’s dynamic context. An important issue is how to prevent the BC from becoming an obstacle to continuous improvement. In this context, the idea of an “agile BC” was discussed, a framework within which successive projects could be greenlit based on continuously updated assumptions.

The interviewed practitioners emphasized that a BC can serve as a valuable basis for postproject evaluation, to assess the extent to which initial objectives were achieved and whether underlying assumptions proved accurate. Insights gained from such evaluations can help improve the quality of future BCs. However, this practice appears to be insufficiently embedded in current workflows and is widely recognized as an area for improvement.

“After delivery, it is rarely evaluated whether the assumptions of the business case were correct.” (*Consultant*)

4. Discussion, conclusions and recommendations

The main similarities and dissimilarities between literature and practice are summarized in Table 3. Next, we discuss the most striking findings regarding the content of integrated value-based BCs for CRE interventions, the process of developing and implementing such BCs, and implications for practice and future research.

4.1 Content of BCs in CRE (RQ 1–3)

The interviewed practitioners agree that BCs are evolving to become broader and more integrated, with growing attention to organizational values, user needs, social concerns and the quantification of relevant parameters. Thinking in terms of costs and benefits – both “hard” and “soft,” financial and otherwise – is expected to remain standard practice, along with considerations of life cycle costs and scenario-based planning. Various values identified by Jensen and Van der Voordt (2017) showed to be used in practice as well. In recent cases, in addition to cost effectiveness, particular emphasis is placed on enhancing employee experience and promoting well-being within a diverse user population. This trend is likely driven by the growing challenge organizations face in attracting and retaining talent.

Table 3. Summary of similarities and dissimilarities between literature and practice

Topic	Literature and practice (overlapping results)	Literature (additional and contrasting results)	Practice (additional and contrasting results)
General	Definition of a BC: a well-substantiated analysis of costs, benefits, risks and return on investment is essential to enable a rational go/no-go decision	Most papers focus on One particular value. Few CRE-specific papers	Decision-making influenced by emotional and political considerations, conflicting needs and unequal power of stakeholders
RQ1: Which parameters are included?	Abstract criteria: CRE performance, efficiency and effectiveness, relevant to organizational objectives, end user needs and social values	Wide range of value parameters, including 12 value parameters from taxonomy by Jensen and Van der Voordt (2017)	Support of concept of integrated, value-based BC. <i>Obstacles:</i> limited time, budget and information. <i>Key values:</i> cost control, efficient use of space, satisfaction, health and wellbeing, flexibility, sustainability and social returns
RQ2: (How) are parameters quantified?	Quantify wherever possible, preferably expressed in metrics	Various tools and techniques for quantification	Beware of a one-sided focus on quantification
RQ3: How are different values weighted against one another?	Apply multicriteria assessment. Highly prioritized criteria may be used as veto criteria	Advanced multicriteria assessment methods	Weighing of values vary across projects and organizations, dependent on context and conditions, based on both quantitative analysis and qualitative discussions
RQ4: What steps are taken to develop a BC?	Funnel approach, moving from broad/abstract to detailed/concrete	Various step-by-step models, ranging from 3 to 20 steps	No standard approach. Less structured and formalized process focused on iterative interactions with stakeholders
RQ5: Who is involved, and in what roles?	Wide range of stakeholders with different levels of involvement/influence	Include the natural environment and future generations as stakeholders	Appropriate stakeholder management is key for overcoming resistance and building support
RQ6: How are BCs used in project management and evaluation?	BC should be used for monitoring and (re) evaluation throughout the entire project lifecycle		BC used as input for the design brief and reference for design decisions. BC seldom used for postproject evaluation

However, constraints such as limited time, budget and available information make it difficult to identify, estimate, quantify and incorporate all relevant parameters. Each BC reflects a tailored selection of values, aligned with the organization's ambitions, stakeholder interests and the specific characteristics of the project.

When weighing different values to compare alternative options, multicriteria analysis is used in practice, though typically in a more qualitative and interpretive way than suggested in the literature (e.g. [Arkesteijn, 2019](#); [Nedeljković et al., 2023](#)). Rather than serving as a tool to calculate definitive outcomes, such methods are mainly used to summarize key considerations and to facilitate dialogue among decision-makers and stakeholders.

4.2 Process of developing and implementing BCs in CRE (RQ4–RQ6)

In line with the models found in the literature, respondents consistently affirm the importance of clearly identifying the drivers for change, setting clear goals (WHY intervene), exploring alternative solutions, evaluating those alternatives holistically and making sound decisions (WHAT to do). However, in practice the process of developing, implementing and evaluating a BC tends to follow a less formally structured path than the theoretical models suggest. In presenting a BC, steps and related topics are shown more clearly. Although processes have much in common, each process is to a certain extent unique. Processes differ to respond effectively to diverse and evolving circumstances.

Moreover, BC development is typically intertwined with decision-making and stakeholder management. Rather than being the result of a discrete decision-making phase, the ultimate decision often emerges through an iterative process of developing and refining the BC in dialogue with key stakeholders and decision-makers. Decision-making typically encompasses considerations such as a sense of urgency, feasibility, timing in light of the current financial position and financial constraints, competing priorities, organizational readiness for change, CRE-related preconditions and the capacity and competencies required to manage, control and execute the project. A persistent dilemma is the need to balance diverse stakeholder interests while navigating the tension between depth and complexity on the one hand, and simplicity, clarity and timely decision-making on the other.

4.3 Recommendations for practice

This article cannot end with a “golden formula” for the content and process of CRE BCs. Practice shows that process flows often differ, to respond to diverse and often changing circumstances. Nonetheless, the literature review and practitioner discussions have yielded valuable general insights.

First, various models, theories and tools found in the literature can be used to support the development of integrated, value-based BCs. For instance, [Cresswell et al. \(2000\)](#) provide a range of practical tools, examples and checklists to support users in understanding the current situation, defining the desired future state, identifying steps to bridge the gap, structuring the rationale and supporting prioritization and planning. The 20-step model proposed by [Appel-Meulenbroek and Danivska \(2023\)](#) may serve as a guide for designing a customized process. In general, it is advisable to shape a suitable approach by discussing fundamental questions such as: Who will (or should) be involved in decision-making? What are their primary concerns and priorities? How can these be translated into relevant criteria and parameters? Who else should be engaged in the process?

Second, the growing availability and maturity of advanced technologies and tools may be used to address the need for reliable data and benchmarking – including the quantification of important nonfinancial outcomes. Examples include sensor-based measurements (e.g. for

tracking usage patterns), satisfaction surveys and standards for healthy and sustainable buildings (e.g. WELL, BREEAM). These technologies not only support BC development but also stimulate research into the costs and benefits of improving specific CRE performance aspects. For instance, studies on the impact of WELL building elements on absenteeism and labor productivity can inform evidence-based BCs.

Third, considerable value could be derived from systematically evaluating both completed projects and the BCs used to justify them. Retrospective analysis can address questions such as: Were the assumptions in the BC accurate? Were the right parameters selected? Did the BC include all necessary and maybe also unnecessary information? Reflecting on such issues may help enhance future BCs – making them more integrated, evidence-based and fit for purpose. Sharing these lessons learned among practitioners and educators can further support the professionalization of CREM.

4.4 Directions for further research

Given the broad and explorative nature of this study, several limitations remain that could be addressed through future research. The respondents were selected based on their extensive expertise, which likely positions them as frontrunners in the field. Consultants are overrepresented in the sample. As such, although lessons learned may be applicable in BC development worldwide, the findings cannot be generalized. A logical next step would be to conduct a repeat study in different countries, to expand the number and types of respondents and to include a broader range of perspectives, such as those of decision-makers, CRE managers and other key stakeholders. Other research methods such as the Delphi method and surveys could enrich the data as well.

Furthermore, the findings show that developing and implementing integrated, value-based BCs for CRE interventions in practice brings major challenges that are not yet addressed in the existing, mostly non-CRE-specific BC literature. Therefore, we call on fellow researchers to help narrow this knowledge gap, and propose three other directions for further research.

First, the integration of a broad range of heterogeneous information warrants specific attention. In particular, the issue of quantifying and monetizing “soft” factors i.e. intangible and indirect benefits, costs and risks, and measuring them in a SMART way, is highly relevant to enable more integrated comparisons and evaluations. How can this be achieved for various parameters in a valid, reliable and transparent way? How may we improve the predictability of outcomes and impact? What are the limitations of this approach? Which parameters should preferably not be quantified or monetized to avoid false precision?

Second, further research could focus on the process of comparing alternatives and supporting holistic considerations. A key point should be to incorporate intersubjective valuation, alongside quantitative calculation. Qualitative methods may add value to – or be combined with – quantitative methods like multicriteria analysis. Methods such as the Delphi technique and focus groups could be applied in a form tailored to the context of CREM.

Third, further research could investigate the interrelation among three key processes: (1) BC development, (2) decision-making and (3) stakeholder management. Whereas current literature tends to treat BC development as an isolated process, such interrelatedness appears typical in CRE practice due to the high complexity of CRE decisions. For CRE practitioners, effectively managing these three processes in an integrated manner seems highly important. Future studies could analyze the processes and their interactions in greater depth, incorporating theoretical insights on

organizational and individual values, as well as the influence of both rational and emotional considerations.

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