

Lifting the lid on the black box of corporate real estate decision-making; dealing with surplus property

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Abstract

Purpose – The purpose of this paper is to identify the variables that influence corporate real estate (CRE) decision-making and gauge their relative importance to each other, thereby understanding the consequent challenges/implications for CRE managers (CREM's).

Design/methodology/approach – Interviews were undertaken with experienced CREM's using the causal network elicitation technique to create decision networks for the variables they considered for the specifically defined scenario: dealing with surplus property from a change of business strategy. These networks illustrate the complexity of the mental representations required for the realignment of the CRE portfolio. The key variables are more extensive than alignment theory suggests, namely, financial stakeholders. Additional variables identified include risk, lease accounting, costs, financial analysis, business metrics and motivational drivers. The latter indicates the importance of self-esteem and peer recognition for CREM's and financial benefits for the C-suite. Accordingly strategy alignment needs to incorporate CRE both in terms of strategy creation and implementation.

Findings – These networks illustrate the complexity of the mental representations required for the realignment of the CRE portfolio. The key variables are more extensive than alignment theory suggests, namely, financial stakeholders. Additional variables identified include risk, lease accounting, costs, financial analysis, business metrics and motivational drivers. The latter indicates the importance of self-esteem and peer recognition for CREM's and financial benefits for the C-suite. Accordingly, strategy alignment needs to incorporate CRE both in terms of strategy creation and implementation.

Originality/value – This research appears to be the first that looks in detail at the mental representations used by decision-makers while making CRE decisions.

Keywords Decision-making, Alignment, Corporate real estate, Decision networks, Mental representations

Paper type Research paper



1. Introduction

Business strategy reflects the environment a business operates in, previously it was relatively stable but has become fluid and less predictable. The default business strategy of *sustained*

competitive advantage (Porter, 1985) appears to be losing its relevance. The environment is subject to turbulence and unpredictability (Ramirez and Wilkinson, 2016), consequently business strategy frequently requires radical adjustment. Strategic agility comprises both the strategy content and its implementation, the latter necessitating resource agility to facilitate the recalibration of commitments (Doz and Kosonen, 2010). A dynamic resource capability and the ability to implement change affects the performance of the firm (Barreto, 2010).

Corporate real estate (CRE), property that a firm occupies for its own purposes, is frequently the second largest cost and resource and has the potential to significantly impact competitiveness. Cooke *et al.* (2019a) identified that in 2014 for a FTSE350 company the mean CRE rent commitment was £544m, freehold ownership (book value) was £797m and mean profits were £475m. Despite its importance CRE is generally regarded as a niche technical subject not meriting mention in management literature (Lizieri, 2003), limited board attention (Apgar, 2009) and it continues to be viewed as a fixed operational cost to be minimised (Stadlhofer, 2010). However, strategic agility requires CRE to have the capability for *dynamic alignment* but there appears to be a “disconnect between the CRE and business strategy” (Cooke *et al.*, 2019a, p. 184) as the existence of surplus leasehold property indicates a lack of *dynamic alignment* capability (Cooke *et al.*, 2019b). CRE researchers have not identified a common alignment definition (Heywood and Arkesteijn, 2017). The definition adopted is to apply CRE “in an appropriate and timely way and in harmony with business strategies, goals, and needs” (Luftman and Brier, 1999, p. 109).

Achieving dynamic resource capability and implementing a new strategy necessitates a series of decisions. The importance of CRE decision-making has been recognised in several papers because “to add value to the firm, CRE manager (CREM) decision-making must be linked to the strategic decision-making level of the organisation” (Lindholm *et al.*, 2006, p. 468). However, research on CRE decision-making has been limited to specific issues. CRE alignment research has focussed on creating higher, strategic level models (Heywood and Arkesteijn, 2017 for a comparison of 20 different models). There is a paucity of research examining CRE decision-making processes for reaching alignment and its relationship with business metrics. This knowledge gap includes the CRE decision-making process itself and the attributes and benefits that are sought by the decision-maker when making individual decisions. Such research is necessary to fill in “block 4” of Heywood and Arkesteijn’s (2018) overview of necessary components for CRE alignment models: ‘actioning the real estate intervention and required CREM practices. This study seeks to investigate the mental representations (MRs) of CRE decision-makers and how different alignment decisions can arise from one problem. It does so by taking a behavioural approach and conducting semi-structured interviews with decision-makers using the causal network elicitation technique (CNET) (Arentze *et al.*, 2008) to determine their considerations and preferences. CNET uses decision networks, an extension of Bayesian belief network methodology, to make inferences by placing variables in “causal” networks to represent decisions.

This paper adds to the body of knowledge within both business and CRE research by examining the “black box” of CRE decision-making. It does so by focussing on how decisions are made when changing the CRE portfolio and seeks to identify and assess the relative importance of those variables that influence CRE decision-making. Its results will help in the understanding of the drivers of CRE decision-making; provide the C-suite (e.g. CEO) with an understanding of CRE complexity; and offer insights into CRE decision-making and realignment. Consequently, firms will be better placed at achieving strategic alignment.

Decision-making is a complex process. To unravel the complexity, “lifting the lid” on a decision-making process, requires a focus on a specific issue. Therefore, the goal of this study is to investigate decision-makers MR’s when faced with the problem of a changing

business strategy requiring portfolio realignment to reduce the CRE commitment. The research questions are:

- Q1a. What decision variables are identified by the CREM in their mental representation of the problem, together with the attributes, benefits and situational variables associated with those decisions?
- Q1b. What is the relative importance of the decision, attribute, benefit and situational variables?
- Q2. What are the links between decision, attribute and benefit variables in such a scenario? (Situational variables are not included because they are not affected by the decision.)

The remainder of the paper is structured as follows. Section 2 discusses decision- and specific CRE decision-making interventions, followed by the description of the methodology. In Section 4, the results are presented, followed by conclusions and discussions ending with limitations and suggestions for further research.

2. Literature review

The underlying business strategy of *sustainable competitive advantage* (Porter, 1985) has been increasingly challenged by alternative, more fluid, dynamic strategies, including *transient competitive advantage* (McGrath, 2013). Organisations that espouse these new strategies seek to be unfettered by assets that can become liabilities and require systems with change embedded as a core value. The new strategy playbook is continuously changing, emphasising lifecycle phases, blending stability with dynamism and balancing a stable vision with variety in its execution (McGrath, 2013). More fluid strategies are of shorter duration entailing greater resource flexibility. This requires flexible CRE to support and facilitate not hinder change, thereby requiring a portfolio of short-term leases or serviced space. This increases costs but is not an option for all sectors (e.g. manufacturing).

CRE research has focussed on tangible aspects of property, namely, the physical environment. However, intangible aspects (e.g. CREM practices and decision-making) are hard to replicate which provides an advantage (Heywood and Kenley, 2008). What is clear is that “to meet the challenges businesses are facing today firms need efficient and productive work environments with physical, functional and financial flexibility” (Lindholm and Leväinen, 2006, p. 39).

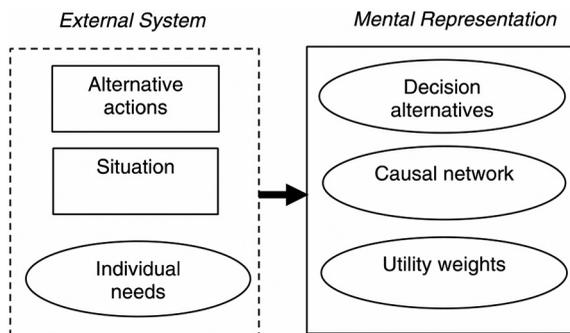
A firm will seek to improve its CRE because corporate profitability depends on meeting performance criteria (Van Ree, 2002). The key elements of CRE strategy implementation are asset management, new space acquisition and surplus space disposal (Kämpf-Dern and Pfnür, 2014). To be effective this requires a *dynamic alignment capability*, the ability to adjust CRE. That appeared to be lacking during the Great Recession (UK 2007 to 2014) when despite the business volatility companies expanded their CRE (Cooke *et al.*, 2019a).

A complex world and limited brain processing capability means rational decision-making requires effort. Consequently, individuals use mental structures to organise knowledge (Mintzberg *et al.*, 2009), where the resulting schemas (mental maps) represent knowledge at different levels. Mental short-cuts (heuristics) that look to simplify the world can lead to over-simplification and distortions. The iterative process of learning from experience is a messy unpredictable one, often creating conflicting outputs as, “people consistently act inconsistently” (Argyris, 1991, p. 4). Decision-making requires a multi-level perspective, an iterative, innovative process (Chiva *et al.*, 2014) with agility to integrate knowledge and produce a range of products/services (Junni *et al.*, 2015). Organisational decisions are not stand-alone but have many different linkages that increase complexity.

CRE decision-making research has primarily focussed on the acquisition decision, including influence factors (Nunnington and Haynes, 2011), location choice (Rothe *et al.*, 2015) and acquisition (Greenhalgh, 2008). Research suggests small businesses decisions are made by individuals, whereas in larger firms the process is multi-faceted multi-person and more objective (Mazzoral and Choo, 2003). However, “regardless of firm size is that the behaviour, personal preferences, priorities and perceptions of key individuals will influence the final outcome” (Greenhalgh, 2008, p. 123).

There has been research on CRE alignment with corporate strategy (Haynes, 2012; Gibler and Lindholm, 2012) and consideration of how CREMs can “add value” (Jensen *et al.*, 2012), but lacking is the overall CRE decision-making process, which is surprising because, “effective real estate decisions are integral to the realisation of overall business objectives” (Nourse and Roulac, 1993, p. 476). The disposal of surplus property is disregarded despite its importance to CRE strategy implementation (Kämpf-Dern and Pfnür, 2014) and its substantial increase through the Great Recession (Cooke *et al.*, 2019a). It remains unclear what benefits CRE Managers seek when making decisions around surplus property and which attributes are expected to lead to those benefits. The research gap suggests there is still a long way to go before a widely agreed holistic CRE management system is defined “that enables decision-makers to make the right choices” (Riratanaphong and van der Voordt, 2015, p. 789) and see the whole picture around CRE decisions.

There has been extensive research on decision-making (Kahneman, 2011). Decisions require a process of evaluation on the possible courses of action, the reoccurrence of events allows previous experience and decisions to create choice preferences. In new situations those prior experiences and decisions cannot provide an immediate solution. Instead an active mental process is required to explore and evaluate possible solutions. MR theory states that individuals will construct a mental model to assess the consequences of possible actions (Johnson-Laird, 1983). The MR will be a simplification of reality subject to the individual’s bias but will incorporate all variables because working memory limitations. Arentze *et al.* (2008) and Dellaert *et al.* (2008) consider how MRs of decision problems are structured and the components are illustrated in Figure 1. *Situation* elements are outside the control of the individual (e.g. the environment), whereas the *individual needs* are the basic values of the individual (e.g. goal attainment) and tend to be relatively stable. Within the MR *decision alternatives* are possible options that flow from the *alternative actions*. The *causal network* is the active component of the MR by which an individual can assess the likely



Source: Arentze *et al.* (2008, Figure 1, p. 848)

Figure 1.
Mental representation: components of a decision problem

outcomes and represents their knowledge of the problem. Finally, the values assigned by the individual to the possible states are the *utility weights*.

The second stage is the classification of the *decision alternatives* and the delineation of the different variables, as illustrated in Figure 2. *Decision variables* are elements that the decision-maker can choose (e.g. close an operating property) with a yes/no answer. External factors beyond the control of the decision-maker (e.g. the property market) are classed as *situational variables*. There are two categories of *outcome variables*, the consequences of decisions made. An *attribute* is the directly observable part of the system (e.g. balance sheet impact). A *benefit* is more abstract and closer to the needs of the individual decision-maker (e.g. reduced CRE costs). A methodological challenge is ensuring that the benefit identified is the final one; the “end value” from the exercise and it offers sufficient explanation of the individual’s motivation. The *utility* is the value assigned by the individual to the *benefit*. The MR generated by the process will be based on the causal relationship between the attributes and the benefits.

3. Methodology

The interview was selected as the appropriate technique to obtain data, as it provides the opportunity to look deeply inside the motivations of individuals and explore their MR’s. Invitations to participate were sent by email to experts (senior British CREM’s) known to the first author in different organisations, setting out the nature of the request and what was entailed. The background of the experts covers a range of business sectors, numerous property types and individually over 15 years’ experience in a range of organisations. The scenario posed and selection of the experts were deliberately non-sector specific. It was

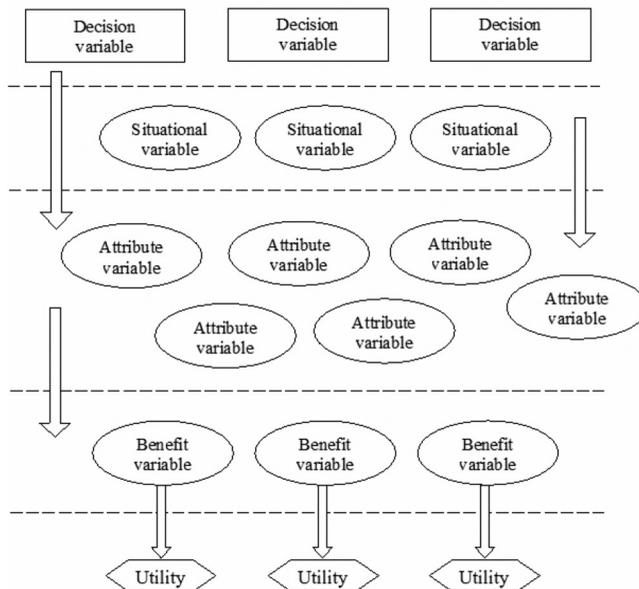


Figure 2.
Classification of
decision problem
variables and
directions of causal
relationships

Source: Arentze *et al.* (2008 Figure 3, p. 852)

anticipated that there would be commonality in many areas, but certain variables identified might be sector specific, which was the case. Nine interviews took place in spring 2019.

Each interview commenced with setting out the structure of the interview and follow up input. The realignment scenario posed was:

The business environment in which your company operates has changed leading to the adoption of a new business strategy. Along with the longer-term trend to use space more efficiently there is a need to significantly reduce the CRE commitment in the short term. Efficiency relates to both square metres and annual cost. Consequently, the leased part of the CRE portfolio needs to be realigned to meet these new requirements.

The choice to focus the research on the leasehold part of the portfolio was based on the assumption that a firm will tend to own space that is core to its needs, whereas leased space is peripheral and more likely to be reduced with a change of environment (Gibson, 2000). If closure of a property cannot coincide with a lease termination event surplus leasehold space is created. Surplus leasehold space is generally more complicated than owned surplus space to dispose of because lease constraints need to be dealt with. The narrow scenario parameters provide focus for the decision-makers to describe how they consciously or sub-consciously construct MRs of the decision problem and evaluate the alternative courses of action. The scenario highlights the business's strategic choice and the decision-makers role is to respond by dealing with the CRE portfolio at the tactical level.

In this paper, the focus will be on the homogeneity of the links and hence on the commonality of the experts decision-making considerations. The methodology asked each expert about their decision-making, not how their current organisation makes decisions. We did not focus on the organisation for two reasons. Firstly, it would remove any constraints of organisational protocols and potentially perceived market sensitive information. Secondly, the expert could apply all of their experience to the situation rather than provide firm or sector specific views. This way would seek to elicit as much information as possible on decision-making processes and the MRs adopted.

The technique for acquiring the information to model the MR of the decision-makers is CNET, a semi-structured interview method in which the expert is presented with a decision problem (Arentze *et al.*, 2008 for further explanation, also of validity and reliability of this method). Throughout the process the interviewer needs to elicit information from the expert but avoid interfering with their thought process. It seeks to get the expert to think aloud making the task of the interviewer that of an interpreter of what is mentioned classifying the variables and comments. The CNET stages adopted in this paper, in line with MR theory, are as follows:

Stage 1: Decision variables – the expert is asked, “what are the possible courses of action you see in this scenario?” This seeks to identify the *decision variables*. In this stage, the expert was kept focussed on the decision alternatives rather than allowed to develop considerations.

Stage 2: Situational variables and attributes – the expert is then asked in relation to each decision variable identified, “assume you have to make a decision what are your considerations when faced with the problem?” Throughout the process the interviewer distinguished between situational variables, those that are outside the control of the decision-maker (e.g. the current property market) and attribute variables, which are a consequence of the decision (e.g. creating a surplus property portfolio). If a benefit is stated (e.g. reduced cost to expiry) rather than an attribute, the question asked is “how is this benefit reached?”

Stage 3: Benefits – for each attribute variable identified the benefits associated with it were sought by asking “why is this variable important?”, the objective being to reach the

“end value” and ensure that there are no subsequent benefits that flow from the attribute. In the Causal Network there may be multiple links from an individual attribute to benefits.

Each interview was recorded and transcribed and from which a network of the situation, decision, attribute and benefit variables was created in the software programme Lucidchart. The network identified which benefits are considered and how one individual benefit may be influenced by several different attributes. The causal network structure imposes constraints on possible links. As a benefit is a consequence of an attribute, it cannot link to an attribute. Decision and situational variables cannot have incoming links, the former because they are choice variables and the latter because they are an external factor. Both generally link to benefits via attributes, but can link directly to benefits too.

The nine interviews produced a total of 39 situational, 75 decision, 472 attribute and 136 benefit variables. The variables were categorised to provide consistency across the interviews and then tabulated with only one score per variable per expert to give a maximum variable score of $n = 9$ (n = number of experts). Individual variables were grouped under the headings CRE, Finance (FIN), Human Resources (HR) and Management (MAN). For each group we calculated the mean (X =mean of the group), which is the number of mentions divided by the individual variables in that category. The score for each variable (n) indicates the agreement across the experts about a particular variable. The group means (X) indicates the probability that it is a CRE, FIN, HR or MAN variable: the higher X the greater the centrality of views by the experts.

For each expert a matrix was produced to record each decision-attribute and attribute-benefit link. The individual matrices were combined to provide one aggregated decision-attribute and one attribute-benefit matrix. The average of the attribute for each decision and each benefit was calculated by dividing by the number of experts (nine). This provides the degree of centrality for the ingoing or outgoing links. Comments from individual experts are referenced E1, E2, etc.

4. Results and discussion

4.1 Question 1: types of variables

After categorisation, 7 situational, 4 decision, 29 attribute and 19 benefit variables were identified. Table 1 identifies the occurrences for each variable across the nine experts. The last column in the tables show the number of experts who identified that variable. The mean is the average number of times a particular variable in that group was mentioned.

4.1.1 *Decision variables.* Three decision variables were uniformly identified by all the experts ($n = 9$). Landlord deal comprises surrendering or restructuring the lease, both require the acquiescence of the landlord. Secondly, lease events include decisions that break a lease contract and those that operate the lease expiry, both are specified in the lease. Thirdly, third party deals refer to a decision to dispose of the property to an external party by lease assignment, subletting, or portfolio transaction. The fourth decision variable category of space utilisation ($n = 6$) involves actions not requiring third-party involvement and aims to mitigate costs and/or maximise use (e.g. reconfiguration) of space. All of the decisions are well-established approaches to realignment. The first three variables change the portfolio composition, whereas space utilisation aims to optimise the use of retained space.

The interviews identified that the C-suite sets both the business and CRE strategies. The CREM presents opportunities to the C-suite (which make the decision) and then implements the decisions, making them an “enabling function” (E7). Tactical decisions during implementation may add value, for example by negotiating specific lease terms, but “ultimately, the decision sits with the business” (E8). The literature on alignment assumes

Variable group	Variable	Frequency	
<i>Decision variable</i>			
CRE	Landlord Deal	9	
CRE	Lease Event	9	
CRE	Third Party Deal	9	
CRE	Space Utilisation	6	
	Decision Total	33	
	Decision Mean	8.25	
<i>Situational variable</i>			
MAN	Business Strategy	9	
CRE	Data	9	
CRE	Property Market	8	
MAN	Business Environment	4	
CRE	Landlord	4	
MAN	Corporate Solution	2	
MAN	Supply Chain	1	
	Situational Total	37	
	Situational Mean	5.29	
	CRE Situational Mean	7.00	
	MAN Situational Mean	4.00	
<i>Attribute variable</i>			
CRE	Lease Detail	9	
FIN	Cost	9	
FIN	IFRS16	9	
MAN	Risk	9	
CRE	CRE Designation	8	
CRE	CRE Tactics	8	
CRE	Proposed Portfolio	8	
CRE	Space utilisation	8	
FIN	Business Metrics	8	
FIN	Financial Analysis	8	
CRE	Prop Mgt	7	
CRE	Restructure	7	
CRE	Workplace Strategy	7	
MAN	Decision Making	7	
CRE	CRE Metrics	6	
CRE	Current Portfolio	6	
CRE	Implementation	6	
FIN	CAPEX	6	
FIN	Cash	6	
HR	HR Profile	6	
MAN	Corporate Governance	6	
MAN	Operational Issues	6	
MAN	Stakeholders - External	6	
CRE	Landlord	5	
MAN	Business Strategy	5	
MAN	Stakeholders - Internal	5	
HR	HR Practices	4	
HR	Motivation	2	
CRE	CRE Market Risk	1	
	Attribute Total	188	
	Attribute Mean	6.48	
	CRE Attribute Mean	6.62	
		(continued)	

Table 1.
Frequency of occurrence in MR's of decision-makers of each variable across nine interviews

Variable group	Variable	Frequency
	FIN Attribute Mean	7.67
	HR Attribute Mean	4.00
	MAN Attribute Mean	6.29
<i>Benefit variable</i>		
CRE	Implementation Benefits	8
MAN	Financial Stakeholders	8
MAN	Risk Reduction	7
CRE	CRE Profile	6
MAN	Operational Benefits	6
FIN	Cost Reduction	5
HR	HR Benefits	5
HR	Motivational Drivers	5
MAN	Stewardship	5
CRE	CRE Future Proofing	4
FIN	Business Metrics	4
CRE	Proposed Portfolio	3
FIN	Profit and Loss	3
HR	HR Talent	3
CRE	CRE Metric Improvements	2
FIN	CAPEX	2
FIN	Cash	2
MAN	Business Prospects	2
CRE	Prop Mgt	2
	Benefit Total	82
	Benefit Mean	4.32
	CRE Benefit Mean	4.17
	FIN Benefit Mean	3.20
	HR Benefit Mean	4.33
	MAN Benefit Mean	4.67

Table 1.

that CRE decision-making is undertaken by the CREM (Gibler and Lindholm, 2012). This research suggests that, certainly in the present sample, this is not the case, only tactical decisions are made by the CREM.

4.1.2 Situational variables. Business strategy ($n = 9$) was identified by all experts as a situational variable because it determines CRE strategy and the CREM needs to achieve clarity on it, as “it is pretty rare in my experience that people’s business strategy is fairly coherently defined” (E1). An adjunct to that is the Business Environment ($n = 4$), which influences future business strategy and, therefore, CRE strategy. Data ($n = 9$) is information on the existing CRE portfolio and people in the organisation. Data forms the starting point of CRE decisions because “contractual obligations are your baseline” (E3), from which the CREM will be able to identify units that can be readily exited and/or will become surplus if designated “non-operational”. It is not just data *per se* that was deemed important, but knowledge of the CRE portfolio data is extremely valuable (E7) together with the ability to apply it to a given circumstance. The property market ($n = 8$) influences decisions about property disposability, while landlord profile ($n = 4$) influences how the landlord will affect a proposed solution.

Of the seven situational variables, four were MAN ($X = 4.0$) and three CRE ($X = 7.0$). The key situational variables are those that relate to the business decision necessitating the

realignment (business strategy and its environment), together with factors that impinge upon the realignment process, the portfolio itself and the property market.

4.1.3 Attribute variables. Cost related attributes comprise Cost ($n = 9$), CAPEX (capital expenditure) ($n = 6$) and Cash ($n = 6$). Surplus property has on-going costs (e.g. rent), new costs relating to the vacancy (e.g. security) plus capital costs from disposal decisions (e.g. a premium). The experts distinguished between the immediate cash effects of change and annual reported costs, the latter being an important consideration, including IFRS16 ($n = 9$), business metrics ($n = 8$) and financial analysis ($n = 8$). Financial reporting is important because it is what external parties (shareholders and the financial markets) see when assessing company value. IFRS16 changed lease accounting from 1st January 2019 to provide visibility of total lease costs and is anticipated to result in shorter lease terms plus a change in the CRE profile within the C-suite as, “the door to the C-suite is opening because of property liabilities going on balance sheet” (E7). In summary, the financial implications of decisions are important as they have a direct relevance to the current value of the business through the share price.

Risk ($n = 9$) was highlighted in the interviews, as “you always need to look at your least risk scenario” (E3). Risk takes a number of forms including the overall business risk (e.g. CRE inflexibility) and contingent risk (e.g. assignment). Collectively the approach of the experts was to select the least risky option and maximise CRE flexibility, as ask:

[. . .] any property director how much flexibility they would like they will always say they want as much as they can. In reality flexibility costs money, real money in terms of premium rents or lack of discounted rents (E5).

Business strategy is very important as a situational variable ($n = 9$) but less so as an attribute ($n = 5$). It is “imposed” on the CRE Team and forms the cornerstone of CRE realignment. As an attribute it is more about the change process and the cycle of business models, which is iterative in development and implementation, because “we know that as businesses evolve their operational needs will change” (E5).

External stakeholders ($n = 6$) primarily concerns shareholders, as “you always want to keep shareholders happy” (E4), but includes the broader investor marketplace, together with customers. Internal stakeholders ($n = 5$) includes senior management and colleagues impacted by CRE realignment. Ensuring correct procedures and compliance is identified in the MR’s through decision-making ($n = 7$) and corporate governance ($n = 6$). Some experts highlighted the difference between quoted and private companies, the former requiring stricter procedures, company stewardship and internal dispute resolution. Core business efficiency, operational business unit requirements and whether different business units can share space are also considerations in the MR’s (operational issues, $n = 6$).

CRE attributes can be grouped into five categories: current CRE, measuring CRE, what CRE is wanted, how to achieve the CRE wanted and consequences of achieving the required portfolio. Current CRE comprises lease details ($n = 9$) (e.g. break dates) and the current portfolio ($n = 6$). The latter refers to the portfolio’s capability for *dynamic alignment* to match the portfolio to the new business strategy (E1). CRE metrics ($n = 6$) refers to performance and on-going suitability of space for operational use, which assists in the selection of which unit(s) to close. What is wanted (CRE Designation, $n = 8$ and Proposed Portfolio, $n = 8$) encompasses change to the core-peripheral property balance (Gibson, 2000), future CRE flexibility and specialist property requirements. CRE realignment was identified as a continual process, as “inevitably the business environments change, strategies change, [. . .]. therefore, the (CRE) strategy may need to be adapted or flexed as you go through” (E8). The fourth grouping, how to achieve the desired portfolio and improve what was being retained,

included space utilisation ($n = 8$), CRE tactics ($n = 8$), workplace strategy ($n = 7$), restructure ($n = 7$) and implementation ($n = 6$). Restructure seeks to achieve cost reduction and/or secure the long-term occupancy of a unit. CRE tactics and implementation are closely linked in the steps needed to obtain the new portfolio. Finally, issues and consequences arising from the realignment process include landlord ($n = 5$) (their response to different decisions) and property management ($n = 7$) (certain decisions create surplus property which has consequences for property management). Surrenders and lease events reduce property management needed, but subletting increases it because a sub-tenancy creates a new layer.

The HR attributes (HR profile, $n = 6$; HR practices, $n = 4$ and motivation, $n = 2$) focus on people and how they work. Considerations include properties that were no longer suitable (tagged to become surplus) and how the realignment process could create better space for people and attract talent. Both Profile and Practices refer to outcomes that directly influence the amount, location and type of CRE required and, therefore, choices for retention or disposal. Wellness is regarded as an important but immature subject, which currently cannot be assessed objectively because a broad statement of benefits is inadequate in the CRE decision-making process (E1).

The most important group of attributes based on the overall mean is FIN ($X = 7.67$), followed by MAN ($X = 6.29$), CRE ($X = 6.62$) and HR ($X = 4.00$). The primacy of FIN attributes seems to reflect the ongoing CRE cost focus by management (Stadlhofer, 2010).

4.1.4 Benefit variables. The end values of the causal chains in the network are the benefits and represent the impacts of realignment decisions on the individual's activated needs in the decision problem. The benefits elicited are categorised as CRE, financial and HR benefits. Primary CRE benefits include timing and ease of achieving the outcome (implementation benefits, $n = 8$), opportunity and disposability profiles (CRE profile, $n = 6$) and the adaptability and flexibility to future proof the CRE (CRE future proofing, $n = 4$).

Financial benefits emphasise reducing costs (cost reduction, $n = 5$), change to business metrics ($n = 4$) together with the impact on profit and loss and the balance sheet ($n = 3$). All affect shareholder value and investor perception, as "the benefit of increased profits is shareholder wealth, that is in everybody's interest" (E2).

HR benefits consider what the business currently has and the effect of change on its people and their motivation. This includes direct benefits from successfully realigning the portfolio for the CRE team and the C-suite (HR benefits, $n = 5$ and motivational drivers, $n = 5$). For the CREM important motivators are self-esteem and the view of peers, whilst the benefit related to the C-suite is attuned to the success of the new business strategy, of which CRE realignment is part. The impact on the people through attracting talent was not seen to be as important for the CREM (HR talent, $n = 3$).

Next are MAN benefits. Financial stakeholders ($n = 8$) encompasses shareholders, potential investors, banks and financial institutions. Risk reduction ($n = 7$) includes both containment and management of risk. Operational benefits ($n = 6$) incorporates the needs of and the consequences for the operation of the business. Stewardship ($n = 5$) includes corporate governance, accountability and resolving conflicts, namely, how the organisation remains compliant with various regulations. Overall benefits have less dominance of individual variables, only three of the 19 benefits having $n \geq 7$. The benefit groups, based on the overall mean, have three with very close scores; MAN ($X = 4.67$), followed by CRE ($X = 4.17$) and HR ($X = 4.33$), while the least important is FIN ($X = 3.20$).

So, to conclude for Question 1a, moving through the network from attributes to benefits we see the change from CRE being the most probable attribute to financial, management and HR benefits being more likely. The benefits identified illustrate the range of factors and the complexity of their inter-relationships that come into play even for a relatively narrow

decision-making scenario. The corollary of this is that it clearly identifies the diversity of the skill-set a CREM is required to have beyond the immediate CRE technical skills.

For Question 1 b, the variable means are decisions $X = 8.25$, attributes $X = 6.48$, benefits $X = 4.32$ and situational $X = 5.29$. The higher means indicate greater agreement between the experts in their potential decision variables. However, diversity of variables increased through the MR moving from attributes to benefits reflecting different MRs. This pattern is replicated within the CRE variables (decisions $X = 8.25$, attributes $X = 6.62$, benefits $X = 4.17$ and situational $X = 7.00$). Such a pattern implies that there is not much agreement about what the end values are of CRE realignment. The FIN variables attributes have a high mean ($X = 7.76$) but are low as a benefit ($X = 3.20$), again reflecting divergence on the end values. The mean for MAN benefit ($X = 4.67$) is also less than for attributes ($X = 6.29$). Finally HR variables shows a small increase in importance between attribute ($X = 4.00$) and benefit ($X = 4.33$), so it is more of an “end value”.

4.2 Question 2: flow between decision-attribute-benefit variables

Now that the individual variables (the key considerations of the expert in their decision-making) are clear, the links between the variables, decision-attribute (D-A) and attribute-benefit (A-B), will show the flow of the decision-making thought process. The full decision-attribute-benefit (D-A-B) chain shows which attributes are considered for individual decisions and for what reasons (benefits). Table 2 presents for each attribute the links with decisions (D-A) and the links with benefits (A-B) to provide insights in the chains (D-A-B). The totals on the left hand side represent the average number of incoming links (D-A links) for each attribute which is the sum of occurrence probabilities of D-A links across decision variables, D. On the right hand side it is the average number of outgoing links (A-B links), which is the sum of occurrence probabilities of A-B links across benefits, B, in MRs. The numbers in the cells for the individual decisions and benefits represent the occurrence probability or, in other words, the proportion of decision-makers that have considered it. For example lease event–risk = 1.0 and risk–financial stakeholders = 0.78. The probabilities can be interpreted as a measure of the strength of the link across the decision-makers with a maximum of $W = 1.0$, that is all the experts mentioned it. The totals (average incoming links for D-A and the average outgoing links for A-B) can be interpreted as a measure of centrality of the attribute regarding the decisions and benefits, respectively. In the following we will use the symbol “W” for this centrality measure (e.g. decision-risk = 3.33 and risk-benefits = 3.44).

The attributes, in the centre of the table, are ordered from high to low of potential benefits associated with the attribute. The attributes discussed are those that have a centrality of 2 or more ($W \geq 2$), for either D-A and/or A-B, and these are identified by bold numbers in the table. So, we examine attributes based on their centrality; the more decisions and/or benefits an attribute connects to, the more important it is. There are four attributes that achieve the centrality threshold of $W \geq 2$ for both D-A and B-A links (risk, IFRS16, cost and business metrics) plus two further attributes for D-A links only (financial and external shareholders) and one for A-B link only (lease detail). With 4 decisions, 29 attributes and 17 benefits visualisation of all of the links would create a very complex network. A network has been produced (Figure 3) for a selected group of variables to illustrate the complexity of the networks.

risk ($W [D-A] = 3.33$; $W [A-B] = 3.44$), includes risk mitigation and providing certainty. It was identified as being important because “you always look at your least risk scenario” (E3). The risk profile differs between decision options. Certain decisions such as a surrender (landlord deal $w = 1.0$) or a lease expiry (lease event $w = 1.0$) provide certainty and were

Table 2.
Occurrence
frequencies of
decision-attribute-
benefit links across
nine interviewees

Space Utilisation Mean	Landlord Deal Mean	Decisions			Lease Event Mean	Average Incoming Links	Ranking	Attributes	Ranking	Average Outgoing Links	Benefits			Profit and Loss
		Third Party Deal Mean	Deal Mean	Third Party Deal Mean							Financial Stakeholders	Motivation Drivers	Business Metrics	
0.44	1.00	0.89	0.89	1.00	3.33	1	Risk	1	3.44	0.78	0.67	0.44	0.33	
0.22	0.44	0.33	0.33	0.89	1.89	7	Lease Detail	2	3.33	0.78	0.56	0.33	0.22	
0.22	0.89	0.89	0.89	1.00	3.00	4	Cost	3	3.22	0.78	0.56	0.33	0.22	
0.33	1.00	1.00	1.00	1.00	3.33	1	IFRS16	3	3.22	0.89	0.56	0.44	0.33	
0.11	0.89	0.78	0.78	1.00	2.78	5	Business Metrics	5	2.22	0.67	0.33	0.33	0.11	
0.04	0.04	0.44	0.44	1.11	0.63	16	Prop.Mgt	6	1.78	0.22	0.33	0.11	0.22	
0.00	0.33	0.44	0.44	0.56	1.33	9	Cash	7	1.67	0.36	0.33	0.22	0.11	
0.22	0.89	1.00	1.00	1.00	3.11	3	Financial Analysis	8	1.56	0.33	0.33	0.00	0.00	
0.11	0.33	0.22	0.22	0.56	1.22	10	CRE Tactics	8	1.56	0.22	0.11	0.11	0.22	
0.00	0.11	0.22	0.22	0.44	0.78	15	Proposed Portfolio	8	1.56	0.33	0.22	0.22	0.00	
0.00	0.67	0.78	0.78	0.67	2.11	6	Stakeholders - External	11	1.33	0.56	0.11	0.11	0.11	
0.00	0.33	0.44	0.44	0.33	1.11	12	Decision-making	11	1.33	0.33	0.33	0.00	0.00	
0.11	0.11	0.22	0.22	0.44	0.89	14	CRE Metrics	13	1.22	0.22	0.44	0.00	0.00	
0.11	0.44	0.56	0.56	0.56	1.67	8	CAPEX	14	1.11	0.33	0.11	0.11	0.11	
0.00	0.11	0.00	0.00	0.22	0.33	23	HR Profile	14	1.11	0.33	0.11	0.11	0.11	
0.00	0.00	0.00	0.00	0.11	0.11	28	Workplace Strategy	14	1.11	0.22	0.11	0.11	0.22	
0.00	0.22	0.11	0.11	0.22	0.56	18	Space utilisation	17	1.00	0.22	0.11	0.11	0.11	
0.11	0.33	0.33	0.33	0.22	1.00	13	Corporate Governance	18	0.78	0.33	0.11	0.00	0.00	
0.11	0.11	0.11	0.11	0.11	0.44	20	CRE Designation	19	0.67	0.00	0.11	0.00	0.00	
0.11	0.00	0.11	0.11	0.22	0.44	20	Operational Issues	20	0.56	0.11	0.00	0.11	0.00	
0.00	0.11	0.11	0.11	0.33	0.56	18	Current Portfolio	21	0.44	0.11	0.11	0.00	0.00	
0.00	0.22	0.33	0.33	0.67	1.22	10	Implementation	21	0.44	0.00	0.00	0.00	0.00	
0.00	0.11	0.00	0.00	0.11	0.22	25	Restructure	21	0.44	0.22	0.00	0.00	0.11	
0.00	0.11	0.11	0.11	0.00	0.22	25	Business Strategy	24	0.33	0.11	0.00	0.00	0.00	
0.00	0.22	0.11	0.11	0.33	0.67	16	Landlord	24	0.33	0.11	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	29	CRE Market Risk *	26	0.22	0.11	0.00	0.00	0.00	
0.00	0.11	0.11	0.11	0.11	0.33	23	HR Practices	26	0.22	0.00	0.00	0.00	0.00	
0.00	0.11	0.11	0.11	0.22	0.44	20	Motivation	26	0.22	0.11	0.11	0.00	0.00	
0.00	0.11	0.11	0.11	0.00	0.22	25	Stakeholders - Internal	26	0.22	0.11	0.00	0.00	0.00	
0.08	0.32	0.34	0.34	0.43	0.43		Average		0.22	0.31	0.20	0.11	0.09	

Note: *CRE Market Risk included as the "0" was the result of rounding

(continued)

Decisions	Benefits													
	Space Utilisation Mean	Implementation Benefits	Stewardship	Risk Reduction	CRE Future Proofing	Cost Reduction	Operational Benefits	Business Prospects	HR Benefits	CRE Profile	Cash	Proposed Portfolio	CAPEX	HR Talent
0.44	0.33	0.11	0.56	0.00	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.22	0.33	0.22	0.44	0.11	0.11	0.11	0.11	0.00	0.00	0.00	0.11	0.00	0.00	0.00
0.22	0.22	0.22	0.11	0.00	0.11	0.11	0.22	0.00	0.00	0.11	0.11	0.00	0.00	0.11
0.33	0.00	0.22	0.11	0.00	0.11	0.11	0.22	0.00	0.00	0.11	0.11	0.00	0.11	0.00
0.11	0.11	0.00	0.00	0.11	0.11	0.11	0.22	0.00	0.00	0.11	0.11	0.00	0.00	0.00
0.04	0.00	0.11	0.22	0.22	0.11	0.11	0.11	0.00	0.00	0.22	0.00	0.00	0.00	0.00
0.00	0.11	0.11	0.00	0.00	0.11	0.11	0.00	0.11	0.00	0.11	0.11	0.00	0.00	0.00
0.22	0.11	0.00	0.00	0.22	0.11	0.11	0.22	0.00	0.00	0.11	0.00	0.00	0.00	0.00
0.11	0.22	0.11	0.11	0.22	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.22	0.22	0.00	0.11	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.00	0.00	0.00
0.00	0.00	0.11	0.00	0.00	0.11	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.11	0.11	0.00	0.11	0.11	0.11	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.11	0.11	0.00	0.00	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00
0.11	0.11	0.11	0.00	0.00	0.11	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.11	0.11	0.11	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
0.11	0.00	0.00	0.11	0.00	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.11	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
0.11	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00
0.11	0.00	0.00	0.00	0.00	0.11	0.11	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.22	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00
0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.08	0.09	0.08	0.07	0.06	0.05	0.05	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.01

Table 2.

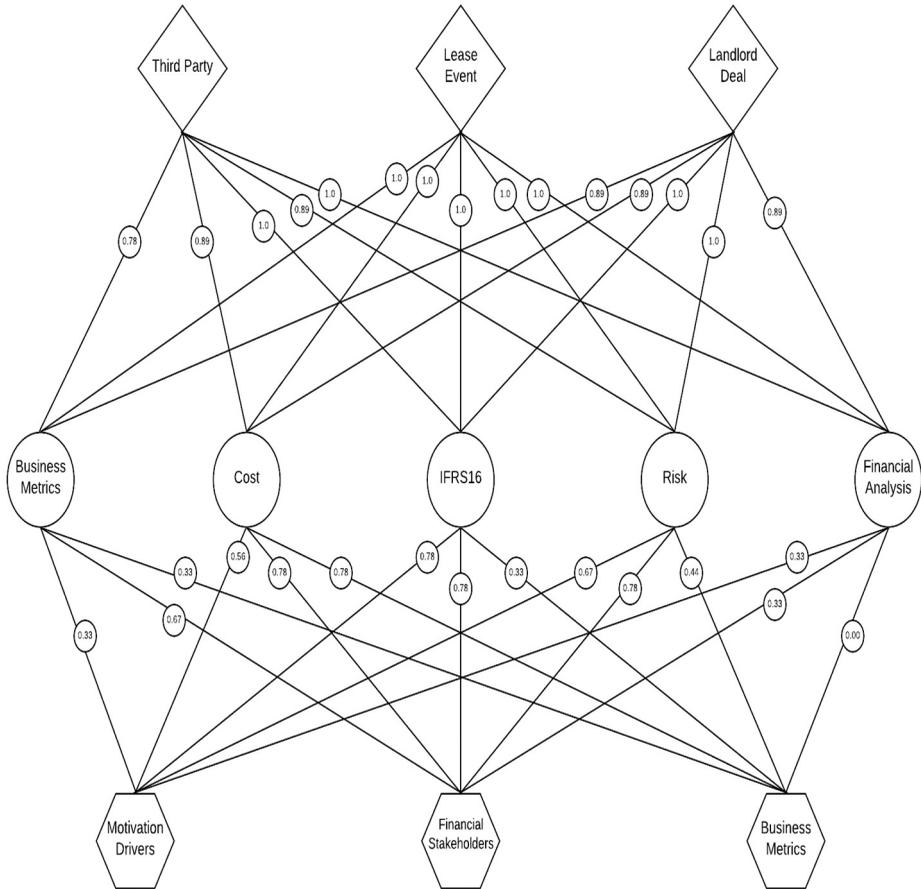


Figure 3.
Decision network
example

identified by all experts. In contrast assignments and subletting (third party deals) introduce risk from a third party and create “a black box in terms of something going wrong” (E2). Regear and new lease both remove short-term risk, but long-term CRE requirements may change rendering the decision erroneous. Consequently a CREM seeks to understand future needs to avoid such issues (E5). Freehold purchase increases short-term risk but on disposal of the freehold, the risk will be removed. However, as there is rarely certainty at commencement of the process it is disliked by the C-suite, they seek certainty so that targets communicated to the financial markets (financial stakeholders $w = 0.78$) are achieved. Therefore, as a benefit it is deemed important. Success or failure in achieving targets reflects on individuals thence performance and bonus payments. Unexpected events/costs have a direct influence on achieving targets (motivation drivers $w = 0.67$). Risk is not included in alignment models (Lindholm *et al.*, 2006) and this research has shown that its omission is erroneous. Models need to include what is a significant CREM and business concern. The over-riding issue for several experts was not the absolute value of a variable, but the risk of variance from the budgeted or reported figure.

Next is IFRS16 ($W [D-A] = 3.33$; $W [A-B] = 3.22$). Its importance may reflect its introduction a few months before the interviews. A reduction (e.g. a lease expiry; lease event $w = 1.0$) or an increase (e.g. a regear; landlord deal $w = 1.0$) will impact company performance and consequently benefits of financial stakeholders ($w = 0.89$) and motivational drivers ($w = 0.56$).

Certainty and avoiding overpayment are key for the attribute of Cost ($W [D-A] = 3.30$; $W [A-B] = 3.22$). The true cost of a third party deal will not be known until lease expiry, because of the risk of default of the third party. Experts were concerned how costs from a transaction impacted shareholders and potential investors and how variance from projected costs might affect perceptions. With a lease event ($w = 1.0$) there should be certainty of cost and hence its importance. These lead to the strong links with financial stakeholders ($w = 0.78$) and motivation drivers ($w = 0.56$).

Two attributes that link CRE with business performance are business metrics ($W [D-A] = 2.78$; $W [A-B] = 2.22$) and financial analysis ($W [D-A] = 3.11$; $W [A-B] = 1.56$). Financial analysis appears to be more important for decisions, possibly reflecting its internal focus rather than the broader based Business Metrics, but it has a weak link with financial stakeholders benefits ($w = 0.33$) compared to business metrics benefits ($w = 0.67$). For both attributes the link to motivation drivers benefits ($w = 0.33$) is relatively weak.

External stakeholders ($W [D-A] = 2.11$; $W [A-B] = 1.33$) has strong links with three of the four decisions, lease events, landlord deals (both $w = 0.67$) and third party deals ($w = 0.78$) because of the importance of landlords and potential tenants in the individual decision implementation. For the A-B links only financial stakeholders ($w = 0.56$) showed a degree of centrality with the experts.

Finally lease detail ($W [D-A] = 1.89$; $W [A-B] = 3.33$) is critical for lease events ($w = 0.89$). Lease break clauses in England and Wales are complex requiring tenant compliance with conditions creating a risk a break cannot be successfully operated. Both events provide low cost solutions and certainty producing direct benefits to financial stakeholders ($w = 0.78$) and generating self-esteem and peer recognition from the professional expertise required (motivation drivers $w = 0.56$).

In conclusion, for the scenario of reducing cost and space, the links between decision, attribute and benefit variables are typified by CRE decisions that consider risk and financial attributes that have benefits to financial stakeholders and create motivational drivers for both the C-suite and CREM's.

5. Conclusion and implications for theory

This research has sought to "lift the lid" on the CRE decision-making process and unravel its complexity. It does so by using CNET to investigate the MR's of decision-makers when they are presented with the problem of portfolio realignment. Specifically it considered a scenario of reducing property costs and units, asking what situational variables influence the MR's, which decisions are identified to solve the problem, what attributes are associated with each decision and for what benefit(s) those attributes are considered. It has sought to gauge the relative importance of each variable.

The important situational variables were business strategy, data and the property market. The significance of the CRE and business strategy link has been identified in various papers (Gibler and Lindholm, 2012). The acquisition process has been discussed (Nunnington and Haynes, 2011) and both business data and the property market received attention in that context. The decision variables identified here are well established options for practitioners, confirmed by the commonality of identification. The low space utilisation scores may reflect the specified scenario or different sectoral issues, office space being more

flexible for reconfiguration than others. In addition, CRE managers have different experiences which influence their decisions.

Attribute variables were wide ranging, but financial ones were prominent reflecting the on-going focus on cost (Stadlhofer, 2010). A trade-off exists between the future benefits of *dynamic alignment* and cost implications now (higher rents and reduced incentives). The methodology did not ask the experts to choose between the two. The occurrence of IFRS16, business metrics and financial analysis suggests that models need a broader financial perspective, to include those considered pertinent by practitioners.

Benefits are primarily financial stakeholders and motivational drivers. Alignment models have the overarching objective of “maximising shareholder wealth” (Gibler and Lindholm, 2012). This research shows that shareholders are important, but a wider range of influences operate, including share price and dividends and that shareholders are not the sole priority for decision-makers (as per Stout, 2012). Motivational drivers identified in this research indicate the importance of self-esteem and peer recognition for CREM’s and financial benefits for the C-suite, different objectives between individuals and the firm have been discussed elsewhere (Mintzberg *et al.*, 2009).

The CREM has been identified as an enabler and tactical decision-maker not the CRE strategy decision-maker. As the experts were responding based on their total experience over a number of organisations this does not simply reflect the position in nine firms. Discussions on added-value from CREM activities (Jensen *et al.*, 2012) need to be reconsidered in light of this and the matter warrants further research. Additionally emphasis on HR issues and corporate social responsibility (Gibler and Lindholm, 2012) is not replicated in this research, suggesting that decision-makers do not see the benefits from them (yet). What is not clear is whether CRE is recognised as an intangible resource by firms (Heywood and Kenley, 2008).

Alignment models need to incorporate the findings in this research, especially the important attribute and benefit variables plus they should reflect that, “alignment is more complex and pluralistic than individual models portray” (Heywood and Arkesteijn, 2018, p. 18). There is a gap between theoretical modelling and the real world, more research is required to close that gap by exploring what happens in the real world. Gaining a greater understanding of the rationale for decisions could provide solid grounding for future theories. The behavioural research approach adopted has been demonstrated to provide a methodology for CRE decision-making analysis. The CNET technique provides the interviewer with considerable information and offers opportunities to explore CRE issues in the way questionnaires do not.

6. Limitations and recommendations for practice

The present research has focussed on the centrality (homogeneity) of responses to variables across decision-makers. What should not be ignored is the heterogeneity that arises from the 722 variables identified. The diversity of responses and the interconnectivity of the networks produced from the interviews highlights the complexity of the decision-making process, how individual CREM’s influence decision-making in the C-suite and its implementation. The comparison of quoted and privately owned companies plus the public sector could provide interesting insights and different variables. A focus on different sectors (e.g. offices and retail) with a different scenario (e.g. acquisition) could highlight commonality and differences between the two. Time constraints meant that only one interview took place with each participant. A follow up interview(s) would have greatly assisted in generating more information and detail on the MR’s. Experts were all CREM’s and extending the process to the C-suite would allow the exploration of the role of those individuals in decision-making (Greenhalgh, 2008). In parallel comparing decision-making

between owners and managers could assist in assessing the issues around shareholder focus and whether that flows through to CRE decisions. The iterative decision-making process (Chiva *et al.*, 2014) is not examined here either, nor the inter-relationship between CREM and senior management, bringing senior management into the research would facilitate this.

The paper provides clear evidence of the complexity of CRE decision-making for the C-suite, that complexity needs to be integrated into the systems within the firm and the strategy development process. The capacity for change within a business is increasingly important in these turbulent and uncertain times. Decisions by the C-suite on CRE strategy need to recognise the challenges that CRE specifically poses.

Another practical consideration of the research is the confirmation of the multi-layered complex decision-making process for CRE. It has been known for some time that CREM's require good technical property skills plus a broad range of other skills and this research provides a more detailed confirmation of that. Consequently, the training for CREM's needs to reflect this to develop the additional knowledge and skills identified, so that the organisation can leverage that knowledge. Importantly this confirmation means that bodies that provide property skills for surveyors, need to fully reflect this in their courses. For those in the C-suite who are making decisions on CRE issues the research provides details of the variables that need to be considered by a CREM when implementing CRE strategy.

References

- Apgar, M. (2009), "What every leader should know about real estate", *Harvard Business Review*, November 2009: 100-107.
- Arentze, T.A., Dellaert, B.G.C. and Timmermans, H.J.P. (2008), "Modeling and measuring individuals' mental representations of complex spatio-temporal decision problems", *Environment and Behavior*, Vol. 40 No. 6, pp. 843-869.
- Argyris, C. (1991), "Teaching smart people how to learn", *Reflections: The SoL Journal*, Vol. 4 No. 2, pp. 4-15.
- Barreto, I. (2010), "Dynamic capabilities: a review of past research and an agenda for the future", *Journal of Management*, Vol. 36 No. 1, pp. 256-280.
- Chiva, R., Ghauri, P. and Alegere, J. (2014), "Organisational learning, innovation and internationalisation: a complex system model", *British Journal of Management*, Vol. 25 No. 4, pp. 687-705.
- Cooke, H., Appel-Meulenbroek, R. and Arentze, T. (2019a), "Adjustment of corporate real estate during a period of significant business", *International Journal of Strategic Property Management*, Vol. 23 No. 3, pp. 171-186.
- Cooke, H., Appel-Meulenbroek, R. and Arentze, T. (2019b), "Is the much-discussed agility of corporate real estate visible in practice? An empirical study of the relationship between", *International Journal of Strategic Property Management*, Vol. 23 No. 4, pp. 213-229.
- Dellaert, B.G.C., Arentze, T.A. and Timmermans, H.J.P. (2008), "Shopping context and consumers' mental representation of complex shopping trip decision problems", *Journal of Retailing*, Vol. 84 No. 2, pp. 219-232.
- Doz, Y.L. and Kosonen, M. (2010), "Embedding strategic agility", *Long Range Planning*, Vol. 43 Nos 2/3, pp. 370-382.
- Gibler, K.M. and Lindholm, A.-L. (2012), "A test of corporate real estate strategies and operating decisions in support of core business strategies", *Journal of Property Research*, Vol. 29 No. 1, pp. 25-48.
- Gibson, V. (2000), "Property portfolio dynamics: the flexible management of inflexible assets", *Facilities*, Vol. 18 Nos 3/4, pp. 150-154.

- Greenhalgh, P. (2008), "An examination of business occupier relocation decision making: Distinguishing small and large firm", *Journal of Property Research*, Vol. 25 No. 2, pp. 107-126.
- Haynes, B.P. (2012), "Corporate real estate asset management: aligned vision", *Journal of Corporate Real Estate*, Vol. 14 No. 4, pp. 244-254.
- Heywood, C. and Arkesteijn, M. (2017), "Alignment and theory in corporate real estate alignment models", *International Journal of Strategic Property Management*, Vol. 21 No. 2, pp. 144-158.
- Heywood, C. and Arkesteijn, M. (2018), "Analysing fourteen graphical representations of corporate real estate alignment models", *Journal of Corporate Real Estate*, Vol. 20 No. 1, pp. 16-40.
- Heywood, C. and Kenley, R. (2008), "The sustainable competitive advantage model for corporate real estate", *Journal of Corporate Real Estate*, Vol. 10 No. 2, pp. 85-109.
- Jensen, P.A., Van der Voordt, T. and Coenen, C. (Eds) (2012), *The Added Value of Facilities Management – Concepts, Findings and Perspectives*, Polyteknisk Forlag, Lyngby.
- Johnson-Laird, P.N. (1983), *Mental Models: Toward a Cognitive Science of Language, Inference and Consciousness*, Harvard University Press, Boston.
- Junni, P., Sarala, R.M., Tarba, S.Y. and Weber, Y. (2015), "The role of strategic agility in acquisitions", *British Journal of Management*, Vol. 26 No. 4, pp. 596-616.
- Kahneman, D. (2011), *Thinking, Fast and Slow*, Penguin Books, London.
- KäMpf-Dern, A., and Pfnür, A. (2014), "Best practice, best model, best fit", *Journal of Corporate Real Estate*, Vol. 16 No. 2, pp. 97-125.
- Lindholm, A.-L. and Leväinen, K.I. (2006), "A framework for identifying and measuring value added by corporate real estate", *Journal of Corporate Real Estate*, Vol. 8 No. 1, pp. 38-46.
- Lindholm, A.-L., Gibler, K.M. and Leväinen, K.I. (2006), "Modelling the value-adding attributes of real estate to the wealth maximization of the firm", *Journal of Real Estate Research*, Vol. 28, pp. 4: 445-475.
- Lizieri, C.M. (2003), "Occupier requirements in commercial real estate markets", *Urban Studies*, Vol. 40 Nos. 5/6, pp. 1151-1169.
- Luftman, J.N. and Brier, T. (1999), "Achieving and sustaining Business-IT alignment", *California Management Review*, Vol. 42 No. 1, pp. 109-122.
- McGrath, R.G. (2013), *The End of Competitive Advantage*, Harvard Business Review Press, Boston.
- Mazzoral, T. and Choo, S. (2003), "A study of the factors influencing the operating location decisions of small firms", *Property Management*, Vol. 21 No. 2, pp. 190-208.
- Mintzberg, H., Ahlstrand, B. and Lampel, J. (2009), *Strategy Safari*, 2nd ed., FT Prentice Hall, Harlow.
- Nourse, H.O. and Roulac, S.E. (1993), "Linking real estate decisions to corporate strategy", *Journal of Real Estate Research*, Vol. 8, pp. 4: 475-494.
- Nunnington, N. and Haynes, B.P. (2011), "Examining the building selection decision-making process within corporate relocations", *Journal of Corporate Real Estate*, Vol. 13.3 No. 2, pp. 109-121.
- Porter, M.E. (1985), *Competitive Advantage*, (Extended Edition in 1998 of the 1985 Original), Free Press, New York, NY.
- Ramirez, R. and Wilkinson, A. (2016), *Strategic Reframing: The Oxford Scenario Planning Approach*, Oxford University Press, Oxford.
- Riratanaphong, C. and Van der Voordt, T. (2015), "Measuring the added value of workplace change", *Facilities*, Vol. 33 Nos 11/12, pp. 773-792.
- Rothe, P., Heywood, C., Christersson, M. and Sarasoja, A.-L. (2015), "Office relocation management in Finland – challenges and service opportunities", *Property Management*, Vol. 33 No. 4, pp. 348-436.
- Stadlhofer, G. (2010), "Corporate real estate performance: contribution to core business competitiveness at global pharmaceutical enterprises", *Journal of Corporate Real Estate*, Vol. 12 No. 2, pp. 96-116.
- Stout, L.A. (2012), "New thinking on shareholder primacy", *Accounting Economics and Law*, Vol. 2.2, doi: [10.1515/2152-2820.1037](https://doi.org/10.1515/2152-2820.1037), Published online (accessed 31 January 2020).

Van Ree, H.J. (2002), "The added value of office accommodation to organisational performance", *Work Study*, Vol. 51 No. 7, pp. 357-363.

Further reading

IFRS16 (2016), *International Financial Reporting Standard 16 Leases*, International Accounting Standards Board, London.

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