

Dynamic alignment of Corporate Real Estate to business strategies

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PROEFSCHRIFT

ter verkrijging van de graad van doctor aan de Technische Universiteit Eindhoven, op gezag van de rector magnificus prof.dr.ir. F.P.T. Baaijens, voor een commissie aangewezen door het College voor Promoties, in het openbaar te verdedigen op woensdag 15 September om 13:30 uur

door

Howard Cooke

geboren te Kingston upon Hull, Verenigd Koninkrijk

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Het onderzoek of ontwerp dat in dit proefschrift wordt beschreven is uitgevoerd in overeenstemming met de TU/e Gedragscode Wetenschapsbeoefening.

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Acknowledgements

The genesis of this research project stretches back to the early 1990's. In the UK there had been a short economic recession in 1990 and a collapse in the property market which lasted several years. This was the heyday of the 25-year institutional lease with five yearly upward only rent reviews and consequently unwanted leases were difficult to dispose of. This was the beginning of my involvement in lease flexibility and why changing business strategy created significant problems for occupiers.

The attitude of that initial client has been replicated down the years. Cash would not be spent if there was no guarantee that it would result in a tenant for a surplus property. This was despite the continual drain on cash from the business for rent, insurance, rates, etc. and that adjoining refurbished space was being let. The behavioural aspects of the decision-makers intrigued me and their view on the cost-benefit of investing to exit, but also why had they committed to such a long inflexible lease in the first place. In most cases it was not the same individual and in part that seemed to be the answer, people making property decisions for occupiers did not stay in the business long enough to see the consequences. The second part is the emotional aspect when people make decisions on acquiring space; it is personal, part of their fiefdom. They may be very rationale in dealing with surplus space but with new acquisitions they are less consistent.

Alongside work for client's, I was involved in marketing activities and on the periphery of academia through teaching in various organisations. That led to some articles and an involvement with the Journal of Corporate Real Estate (JCRE) initially as an author of articles and eventually becoming Joint Editor, latterly with Rianne Appel-Meulenbroek. Collectively this led me to wanting to understand the decision-making much more, which is the genesis of this thesis.

A number of people have helped me get to where I am now, too many to name here. Firstly, those individuals whose decisions I have sought to unravel the consequences of. Secondly, The University College of Estate Management provided me with the initial opening into academia followed by several universities subsequently, thank you to those individuals that offered those opportunities

My trips to Eindhoven for the research have not been as frequent as I had hoped for, weather and work, and latterly Covid-19 being the culprits. Despite my infrequent trips, my fellow PhD students Benny Ng and Minou Weijs-Perrée welcomed me and have been exceedingly helpful on systems, protocols, and their general friendliness. Both have already graduated, and I wish you well with your careers. Thank you.

My research proposal fortunately coincided with Theo Arentze being made Chair of the Real Estate Management and Development group in the Built Environment department at Eindhoven. His extensive knowledge on decision support systems, modelling and

analytical techniques has been invaluable. The questions throughout the process have helped me gain further insight into the subject. Thank you, Theo, for your input, support, patience, and help.

Throughout the period from gestation to completion of this thesis Rianne Appel-Meulenbroek has been a constant collaborative mentor and friend. It was a pleasure to work with her as Co-Editor of the Journal of Corporate Real Estate and a disappointment when I realised I had to step back from that role because there was insufficient time available to do that and complete this research. Her knowledge and perception of CRE issues together with continual support and direction throughout the research project has provided me with a bedrock on which to develop. Thank you, Rianne, for all your time and encouragement.

Lastly, thank you to my long-suffering family. For their perseverance with me 'hiding' in my study when other things needed to be dealt with and encouragement to get to the end!

"We overestimate what we know and we underestimate the value of the unknown" (Taleb, 2010; 140).

Summary

Dynamic alignment of Corporate Real Estate to Business Strategies:

An empirical analysis using historical data and in-depth modelling of decision-makers' reasoning

Business strategies have become more dynamic and fluid with a shorter strategy cycle arising from an uncertain and turbulent business environment. For a firm to successfully execute its strategy therefore a more dynamic (re)alignment of the individual strands of an organisation (e.g., Sales & Marketing; HR; IT and Corporate Real Estate) to the corporate strategy is essential. The timescale for formulating and implementing such department strategies has become shorter. For corporate real estate (CRE) this makes realignment challenging because of its long lead times and scale of commitment. Property lease lengths now significantly exceed the corporate strategy life cycle. To match a fluid corporate strategy the CRE portfolio needs the capability for *dynamic alignment*, a continual dynamic process of realignment. Research into CRE alignment to the corporate strategy has developed slowly over a thirty-year period but is limited in extent and too focussed on theoretical models. Such models consider CRE strategy formulation but ignore the implementation phase, while both are needed for successful realignment. Little hard data has been incorporated into those models.

This dissertation research aims to investigate corporate financial and CRE data to establish whether a relationship exists between them and provide evidence of CRE realignment during a period of significant change, plus it seeks to identify which CRE decision variables are considered important in times of re-alignment processes. This study has two strands, first it seeks to establish whether evidence exists of *dynamic alignment* between business and CRE metrics and their relationship with surplus property. If surplus property is evident within a firm that would indicate that CRE agility is constrained. Secondly, it seeks to identify and place importance weightings on variables that are deemed important in making decisions on the realignment of CRE. In doing so, the single objective of CRE alignment models (maximising shareholder wealth) will be validated, or not.

The recession and property crash at the start of the 1990's in the UK placed a spotlight on the inflexibility of CRE. Since then, there is a perception that lease terms have shortened and occupiers have adopted CRE agility. What has not been established is whether CRE indeed has a *dynamic alignment* capability enabling firms to adjust their CRE when they need to; namely that CRE agility exists. The period of the financial crisis and the Great Recession (2007 to 2014 in the UK) was one of considerable disruption for business and provides an ideal time period to ascertain the relationship between corporate financial performance and CRE, which is a significant cost for most firms. When turnover and profits decline there is a presumption that CRE would be cut to

reduce the cost base. For those firms that are publicly quoted CRE agility would be utilised to support profits and maintain dividend payments, based on the assumption that maximising shareholder wealth is the firm's objective. This assertion had not been tested by real world data and other variables may be as or even more important.

The first strand examines companies quoted on the London Stock Exchange and that comprise the FTSE350 Index. It does so over an eight-year timeframe (2007 to 2014) when firms would have had to respond to the impact of recession, a period when CRE realignment should be most visible. A number of companies in the FTSE350 have nontypical use of CRE (e.g., property companies, investment funds and natural resource companies) and consequently these were excluded. Data was extracted from the annual accounts for 230 companies including turnover, profit, and employee numbers, together with CRE data (operating lease costs, freehold book value and the surplus property provision (SPP)) and analysed using a distributed time lag auto-regression model. The SPP is the financial provision made by a company for unwanted property leases, those properties that are no longer operational in accordance with International Accounting Standard 37. Leases with more than 12 months to expiry require that an SPP to be made, which is in effect a capital sum to cover the cost of the liability through to the first exit date. Despite profits falling significantly in 2008 and remaining below the 2007 level into 2014, there was limited evidence of a dynamic alignment capability. Rather than downsizing CRE (leased and owned), it increased; the decline in profits was not mirrored by the CRE commitment whilst the SPP increased significantly. Linking these two findings suggests that firms changed their CRE portfolio by taking on new space while simultaneously making other space non-operational. Consequently, cost reduction does not appear to be the apparent strategy for CRE nor has the concept of agility become embedded in the mindset of occupiers. If agility was an integral part of CRE, the SPP would not have grown because lease flexibility would have facilitated removal of unwanted space.

The second component of the financial data analysis used the same dataset, but the number of companies was reduced to 170 because of small sample sizes for certain sectors. It identified that 71 companies did not make an SPP throughout the period and 91 did. Those companies that did not make a provision were generally smaller (including a smaller CRE portfolio) but grew their business through the period at a greater rate (including CRE) than the SPP companies. This suggests that smaller companies have a greater propensity for CRE agility. For those that made an SPP the relationship with profits was negative, as profits fell the SPP increased, and business closed operational units as profits fell. The expected negative relationship between SPP and both turnover and employee numbers was not proven. The rate of decline of the SPP provides a measure of agility, a rapid decline suggesting short term leases. The estimated decline in the dataset to zero ranged upwards from circa 3 years to continuing expansion, thereby indicating a limited *dynamic alignment* capability. Finally, the analysis identified that when expansion commenced surplus space was not re-cycled but new space was taken, increasing the CRE commitment.

The second study examined CRE decision-making to establish which variables are important in CRE realignment for those responsible for the CRE decision-making. The methodology adopted provided a group of CRE experts with a scenario of reducing the CRE commitment in both floorspace and costs. This arose because of a new business strategy changing requirements in the short-term whilst in the long-term greater space efficiency will reduce needs. The technique for acquiring the information was through a semi-structured interview and the Causal Network Elicitation Technique. A total of 722 variables were identified from the nine experts which after categorisation produced 7 situational variables (external factors such as the property market); 4 decision variables (the decision chosen such as surrender); 29 attributes (the impact of the decision, such as balance sheet effect) and 19 benefits (the 'end value' and what the decision maker seeks, such as reduced costs). In the context of the scenario posed, the portfolio data and the property market were the principle situational variables considered. Decision-makers had a propensity to select decisions that gave certainty and had minimal third-party dependency, in particular on the landlord. Therefore, exercising lease breaks and letting leases expire was preferable to subletting or assigning, which in turn are rated higher than a landlord deal even though that brings greater certainty. The attributes considered relevant included risk of an event not happening, lease details and financial metrics (cost and lease accounting). Benefits also included risk (in the form of reducing risk), implementation benefits (namely timing and ease of achieving an outcome) and financial stakeholders. The latter includes shareholders but is a wider group additionally comprising potential investors, banks, and financial institutions. This research has shown that the objective of CRE alignment is not just to maximise shareholder wealth, it is more complex and nuanced than existing alignment models suggested before.

The second stage of investigating CRE decision-making was to identify those attributes that facilitated or inhibited the *dynamic alignment* process. Those that facilitated alignment included HR practices (staff well-being, working practices, etc.), CRE Metrics, and Workplace strategy. Those that inhibited it were capital expenditure, the profile of the landlord, HR profile (home locations of staff, headcount, etc.), and implementation constraints. The neutral factors were CRE Market Risk, Property Management, and Corporate Governance.

Overall, the results provide a number of insights into CRE alignment and the decision-making associated with it. The study identified that the much-discussed agility of CRE is not as widely adopted as suggested. When firms were faced with a declining financial performance they did not reduce their CRE commitment. Firms resorted to using the SPP because of an apparent lack of a *dynamic alignment* capability. Not re-cycling non-operational space but taking new space suggests that reducing the CRE commitment is not a driving factor. Smaller firms avoided surplus property and grew their business more quickly than those fettered by an SPP, possibly indicating that a lack of CRE agility impairs growth.

Secondly, this study has demonstrated that maximising shareholder wealth is not the sole objective for CRE strategy. A broader financial stakeholder group is important alongside other variables, such as risk. The principal attributes that inhibit CRE *dynamic alignment* displayed a higher weighting than those that facilitate it; those attributes that prevent alignment are stronger than those that promote it. Finally, an existing theoretical alignment framework has been augmented with insights from real world data collected as part of this study. Rather than proposing a new model, a revised framework has been provided, driven by this empirical data.

CRE is not as well developed theoretically as other areas of property research. As a consequence, insights in behaviour of CREM as well as the amount of material that practitioners can draw up to assist them is limited. This dissertation has extended the theoretical base of the subject and has provided practical knowledge and implications for those practitioners. In particular, the revised framework offers an empirically validated model of behaviour and provides professionals with a template they can adapt for portfolio alignment. The variables identified by the expert interviews offer a list of items together with the causal relationships (reason) to consider when implementing change or creating decision-making checklists and structures. For the broader group of CRE decision-makers this dissertation has highlighted shortcomings of failing to balance immediate cost and the consequences of longer-term commitment in what is now a turbulent and unpredictable environment.

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Chapter 1

Introduction

Corporate Real Estate (CRE) comprises real estate "that house(s) the productive or business activities of an organisation" (CoreNet Global, 2015:1). In other words, it is the venue for manufacturing or commercial functions and as such it supports the business objectives. However, it is incidental to those objectives and yet has the potential to significantly impact the firm's competitiveness. CRE is a resource that an organisation can exploit for competitive advantage (Apgar, 2009) and performs many functions. It is the physical environment for the firm providing its fabric; the buildings are the shell within which a company creates its own environment. It is the location of manufacturing or service provision, where it performs its raison d'etre. CRE is a point of investment by the organisation, that investment is in machinery, equipment and most importantly, human resources, namely its people. It can also be a status symbol; allowing the firm to express their underlying philosophy to business by the premises they choose. Therefore, explicitly or implicitly it is also a marketing medium for the firm. CRE has been identified as "the fifth resource" (Joroff et al., 1993) putting it alongside employees, capital, technology, and knowledge as a strategic resource. Over the last decade there have been many changes to buildings themselves, the way space is used, the impact of both technology and generational differences, indeed of the requirements for CRE itself (Joroff & Becker, 2017).

CRE is frequently the second largest cost after people and occasionally third behind technology. People can account for up to 70% of a firm's total costs and CRE circa 20%; consequently, management will naturally focus more on people and their productivity than CRE (Haynes, 2007). However, this evaluation is based on annual costs not the total cost commitment. In many countries, including the UK, flexible employment laws allow a company to reduce staff numbers quickly and for a known cost. In contrast, CRE leases tend to have much longer minimum commitments (even those designated as shortterm) and cannot be readily terminated. Therefore, looking at the total commitment the order of importance is reversed; CRE costs run for years; staff costs are a known shortterm cost (months), and technology costs can be curtailed straight away. Nonetheless, CRE continues to be viewed by business managers as a cost which needs to be minimised (Stadlhofer, 2010) and its performance is only assessed by input measures such as cost per square metre (De Vries et al., 2008). The emphasis on costs has resulted in CRE metrics having a narrow focus, primarily efficiency. This ignores the length of lease commitment and the scale of CRE ownership which for European CRE is estimated to exceed the total value of investment in real estate (Brounen & Eichholtz, 2005).

The emphasis on cost may be the reason that CRE has been perceived as a neglected resource by a number of researchers including Veale (1989), Duckworth (1993) and

more recently Stadlhofer (2010). As a neglected resource CRE appears to have seen less innovation in its management, which has led to some researchers focussing on how CRE can add value to the business and increase its standing within the organisation (e.g., Jensen et al., 2012). In summary CRE is an important but under-rated resource. As a corollary the influence CRE has on a firm's performance is under-estimated which has led to it being seemingly overlooked in the business strategy, thereby producing a self-fulling cycle.

1.1 Business Strategy Changes and Corporate Real Estate Alignment

Business strategy is "top management plans to attain outcomes consistent with the organisations missions and goals" (Wright et al., 1992, quoted in Mintzberg et al., 2009: 3). Strategy sets out the resources needed, including CRE, and the management style required to achieve a sustainable competitive edge. How the various resources of capital, people, technology and CRE interact is important as each element contributes to the success, or failure, of the firm. The strategic fit of each resource element provides sustained competitive advantage (Porter, 1996). Some of the concepts in the field of business strategy do not include CRE, such as sustained competitive strategy (Porter, 1985), Resource-based View (RBV) (Barney, 1991) and strategy competencies (Hamel & Prahalad, 1989). These theories make an implicit assumption of a stable environment and longevity of resource availability. Therefore, in this view longer leases provides CRE stability and is seen as a positive action.

The business environment had been relatively stable for a long time and change was a slow evolutionary process. However, from the turn of the millennium the environment became more fluid and less predictable. Turbulence emerged as a permanent feature, the environment was unpredictable in nature and not homogenous resulting in change becoming a "known unknown" (Rumsfeld, 2002). Collectively turbulence, uncertainty, novelty, and ambiguity created a messy environment (Ramirez & Wilkinson, 2016). By necessity the response has been the development of an emergent iterative strategy process (Mintzberg et al., 2009). Strategies needed to become more fluid to reflect the lack of certainty and the declining length of time that competitive advantage can be sustained (Barreto, 2010). That fluidity increased the importance of agility as a business attribute.

New alternative strategies developed that were emergent, iterative and adaptive in their approach, including *transient competitive advantage* (McGrath, 2013) and *blue ocean strategy* (Kim & Maugborgne, 2015). The former assumed short-lived competitive advantage and that a business must continually change and evolve to find the next short-term gain. *Blue ocean strategy* is even more radical stating that true competitive advantage can only be found either in new business areas or by applying radically different operating methods to existing business areas. Implicitly these new strategies require frequent changes to the shape and nature of the business and seek

to avoid a build-up of all forms of fixed resources, including people and CRE. Therefore, long leases are a disadvantage.

When business change occurs, the realignment of resources needs to happen quickly to avoid missing opportunities. Resource agility allows a firm to recalibrate its commitments. However, the implementation can slow the process because a series of decisions will be needed (Doz & Kosenen, 2010). Efficient investment decisions generally require resource stability which entails making commitments, thereby creating tension when resource agility is sought (Doz & Kosonen, 2008). That tension can be seen with CRE. The acquisition process is not quick, especially if there is a need to refurbish or develop or fit out premises. In a number of countries leases have historically been long and inflexible. In the UK the standard lease term was 25 years and that persisted through to the 1990's and has only gradually reduced in length. Flexibility has been created in part by break clauses but in many cases the flexibility is illusory because of the difficulties of exercising the breaks (Cooke & Woodhead, 2008).

CRE strategy should support the business strategy and look forward to what the property requirements of the business are and take into account the long lead times of CRE. More fluid business strategies make projections harder to achieve. The uncertainty of the business environment, new business strategies, the change to the use of space all require an ability for a firm to change its CRE. The need to adapt or adjust CRE can be a consequence of changes to turnover, profitability and people. These developments have led to a common awareness that CRE realignment process has to be fluid and continual, incorporating a capability of *dynamic alignment* in the portfolio.

Each business is unique in its CRE requirements and balance of freehold and leasehold units (Haynes & Nunnington, 2010). Three elements of CRE strategy implementation have been identified: the acquisition of new space, its asset management and the disposal of unwanted units (Kämpf-Dern & Pfnür, 2014). A number of complexities exist in the acquisition of new premises and in CRE asset management (Apgar, 2009), but arguably greater challenges are created with space that is no longer wanted for operational purpose. Surplus space that does not have short term exit options (e.g., sale, lease break or lease expiry) will become a long-term drain on both financial and management resources. Surplus property can compromise freehold, leasehold or serviced space. The latter by its very nature can be readily removed by terminating the contract. In practical terms the disposal of unwanted freehold property generally offers more potential solutions and fewer restrictions than that of a comparable surplus leasehold. Both freehold and leasehold are affected by market demand and internal constraints, but surplus lease disposal has the added complexity of the involvement of the landlord through their consent to transactions. A CRE portfolio with a capability for dynamic alignment has inherent agility; it can be realigned to the new business strategy and to the changing requirements for buildings without the consequential effect of surplus property accumulating. It resolves one of the requirements of strategy implementation. However, without the capability for *dynamic alignment* surplus leasehold property a company will need to make a Surplus Property Provision (SPP) in their accounts to reflect the liability to the lease exit (IAS37) and manage the liability to that date (Cooke, 2003).

Overall CRE alignment research is limited and there has been little coordination between researchers who "tend to advance their own model in isolation" (Heywood & Arkesteijn, 2018: 17). This has led to "disordered CRE alignment theory" (Heywood & Arkesteijn, 2017: 144). The underlying business strategies adopted in alignment models are either sustained competitive advantage (e.g., Nourse & Roulac, 1993; O'Mara, 1999) or RBV (e.g., Gibler & Lindholm, 2012), both assume a more stable business environment where change is infrequent. The newer, more dynamic strategies of transient competitive advantage and blue ocean strategy have yet to be considered in CRE alignment models. Alignment models seek to provide a "better understanding of the complementary structure among corporate real estate strategies on the theoretical level" (Gibler and Lindholm 2012: 26). The models have not been tested in the real world and do not incorporate the practical aspects of implementation (Heywood & Arkesteijn, 2018). Consequently, the ramifications of disposing of unwanted space are not assessed. Nor has the creation of a portfolio incorporating dynamic alignment to obviate surplus space received sufficient attention. Finally, alignment models are rarely based on empirical data or validated by it (Heywood & Arkesteijn, 2018).

The economic recession and property crash in the UK in 1990 provides evidence of the effects of a lack capability for *dynamic alignment*. The recession forced businesses to retrench and therefore close operational units. This highlighted the lack of lease flexibility as the standard lease at the time was a 25-year term without breaks. Consequently, firms were unable to exit leases and the only option for them was to assign or sublet unwanted leases. However, the lack of demand coupled with the collapse in the property market meant that disposing of unwanted property was very difficult. Long inflexible leases detracted from the value of the business with the ongoing costs for unwanted and non-operational space being a drain on the performance of a firm (Cooke, 2003). The recession highlighted that the business environment could change quickly, requiring a firm to quickly adjust its resources, especially CRE, to reflect the new norm of a revised business strategy. When it is unable to do so a surplus property portfolio can result from this unwanted space. The very existence of a surplus portfolio denotes a lack of a capability for *dynamic alignment* in a firm's CRE.

The terms of a lease reflect the state of the property market at that point in time and the firm's view of both its business and CRE strategies. The property market is continually adjusting to changes in the supply and demand equation resulting in landlords altering rents, incentives and lease lengths they will accept. The market is not perfect and time lags will occur from time to time, but it is relatively fluid. There is little empirical research

into the behaviour of organisations (or the individual decision-makers) when committing to leases and the individual factors considered or the relative weighting of the factors once a suitable property has been identified. Knowledge of the factors and weighting is important because the terms that are agreed have a direct future impact on how a firm can manage its portfolio in the future. In particular, for this thesis the limitations the lease terms place on achieving realignment of the portfolio. An understanding is needed of the actual behaviour of companies in their decision-making and the alignment of the CRE to the business strategy.

1.2 CRE Decision Making

CRE decision-making has been recognised as important because "to add value to the firm, CREM decision-making must be linked to the strategic decision-making level of the organisation" (Lindholm et al., 2006: 468). Despite this there is a relative paucity of research into the subject. Empirical studies have considered the financial consequences of CRE decisions on market value (Nappi-Choulet et al., 2009) and the impact of sale and leasebacks on a firm's market value (Lasfer, 2007). There has also been research at the conceptual level on the alignment of CRE to business strategy (Gibler & Lindholm, 2012; Heywood & Arkesteijn, 2018). These concepts have not been developed into normative models, such models would prescribe what firms should do, nor has research been undertaken to describe in detail what firms actually do. Research has remained focussed on the concepts and consequently there is a lack of insight into the alignment process in practice leading to opacity of the process of alignment implementation. The more dynamic and volatile environment increases the frequency of change to business strategy and therefore the need to redefine the CRE strategy and realign the portfolio. The requirement for a dynamic alignment capability has increased as the volatility of the environment has grown. The indication is that such a capability has not been adopted in practice (e.g., CBI/GVA Survey in Cooke, 2010; Cooke & Foster, 2016). This suggests an inconsistency between the dynamic and volatile environment, the continual flexing of corporate strategy to adjust the business to change and the capability of CRE to adjust. Empirical research is lacking on the capability of CRE to realign to a new business strategy and knowledge generated from the study of what firms do will assist in refining alignment models.

The paradox between the dynamic firm requiring agile resources and the apparent lack of a *dynamic alignment* capability to meet new circumstances (e.g., Cooke & Foster, 2014) would suggest disparities in the decision-making process. Research into the understanding of CRE decision-making and what individuals consider is insufficient. There has been work on property acquisitions (e.g., Mazzoral & Choo, 2003; Greenhalgh, 2008) that provide some insights into that process. However, realignment also includes asset management and the disposal of unwanted property (Kämpf-Dern & Pfnür, 2014), areas which have not been studied. Overall, the behaviour of firms and individual decision-makers has not been investigated to understand what variables are

considered during the implementation of realignment. Practical experience suggests that this is likely to include external factors such as the property market and the business environment, plus internal variables including lease profiles, accounting requirements, cashflow and capital considerations. The scope and extent of the variables that are taken into account and the weighting applied to them by individuals have not been examined. Understanding the considerations and the decision criteria will provide insights not only into to CRE decision-making but also the organisations view of CRE. It will provide tools for CREM's in improving the process of alignment.

1.3 Research Objective and Questions

Considering these research gaps, the goal of this research is:

To identify whether and how companies and individual decision-makers incorporate *dynamic alignment capability* into their CRE portfolio to allow the firm to respond to change.

To facilitate the identification of *dynamic alignment* in portfolios a suitable period of change is required for study. The financial crisis and subsequent recession that ran from 2007 to 2014 (inclusive) in the UK offers both a suitable timeframe and volatile environment in which to investigate behaviour using historical data. Surplus leasehold property in a portfolio is a sign that the properties in that portfolio do not possess flexibility, consequently the provision that is made in the published accounts of a firm (the SPP) is a valid indicator of the degree of capability for *dynamic alignment*.

Consequently, the research question posed is:

How did CRE adjust through a period of significant change, and what variables do CRE decision-makers consider when undertaking re-alignment?

This can be broken down into four sub-questions:

- 1: To what extent have companies developed a flexible CRE portfolio that allows them to dynamically re-align it to the financial performance of the firm?
- 2: To what extent do companies rely on creating a surplus property portfolio to adjust to changing business circumstances (as a sign of limited CRE *dynamic alignment* capability)?
- 3: What variables do CRE decision-makers consider important when realigning their portfolio and how can a decision model be formulated that represents the behaviour identified?
- 4: Which variables (for example organisational, situational, financial) facilitate or inhibit the process of *dynamic alignment* of CRE?

The research falls into two parts. Firstly, for research questions 1 and 2, an examination is performed of UK businesses over an eight-year period for evidence of CRE dynamic alignment and to identify whether previous evidence of misalignment between business performance and the CRE portfolio (Cooke, 2003) has continued. The existence of CRE dynamic alignment would indicate that business had learnt from previous periods of change and issues arising from surplus property. The second part of the research focuses on research questions 3 and 4 and examines the individual decision-making when CRE realignment is required, in particular the variables considered.

This research for the first time seeks to empirically identify whether firms have incorporated *dynamic alignment* capability into their CRE to facilitate realignment. In addition, it intends to identify the relative importance of variables decision-makers consider during the alignment process.

1.4 Research Design & Philosophy

This research aims to gain new insights into aspects of CRE that are under researched, have a narrow literature focus and lack data (Lizieri, 2003). As fields of study both Business and CRE are diverse and pluralistic subjects with multi-disciplinary research which has drawn on concepts and methods from both natural and social sciences (Saunders et al., 2019). The actual behaviour of individuals when making business or CRE decisions means that explaining relations is complex and cannot be based on simple cause-and-effect relationships. Individual decision-makers have bounded rationality because of both cognitive constraints and social and organisation factors and seek satisfactory decisions not optimal ones (Simon, 1956). Individual influence is strong in business and CRE activities, but they are constrained in their actions. These constraints include the social and organizational context, the subjective norms of the business world and the more objective and tangible financial consequences that arise from actions of each individual. Each person within a firm will have an influence on costs incurred and revenue generated and consequently profitability. The effect of actions will vary according to whether decisions are operational or strategic in nature but can have a significant impact on the performance of the firm.

The research methods to be adopted in this study are split in two parts, following the outline above. For research questions 1 and 2 numerical data will collected from the published financial accounts of companies in the FTSE350, the largest companies by market capitalisation listed on the London Stock Exchange, for the period 2007 to 2014. The analysis techniques are twofold, firstly descriptive to provide context and, secondly, multi-variate data analysis with the primary technique being a distributed time lag auto-regression model to determine trend lines and the effects the independent variables have on the dependent variable in the time-series data.

Research questions 3 and 4 examine the Mental Representations (MR's) of CRE decision-makers by taking a behavioural approach and conducting semi-structured interviews with decision-makers. This uses the Causal Network Elicitation Technique (CNET) (Arentze et al., 2008, Dellaert et al., 2008) to determine considerations and preferences of individual decision makers and construct a model of the decision problem. The variables identified from the interviews will be tabulated to produce scores for each variable that indicate the centrality of views of the experts and then to identify the flow of the decision-making thought process. Each expert will score attribute variables to determine which facilitate or inhibit the alignment of CRE, from which a lift ratio analysis is undertaken. In sum, in the first part of the research causal relationships are hypothesised and tested and in the second part the cognitions and choice behaviour of individual decision makers are examined, together with the practical consequences.

Hence, the research philosophy that is adopted is positivist (Saunders et al., 2019), see Figure 1.1. The first part of the research adopts a quantitative research method for the data analysis that should allow for generalisation. The second strand uses qualitative research methods through the interviews that will provide a deeper understanding of the behaviour of individuals. Research philosophies occupy a continuum between extreme objectivism (and law-like generalisations) and extreme subjectivism (chaos). Research into business is not readily compartmentalised nor easily placed as a research subject in a specific point on that continuum. Organisations may act as rational entities but that is not true all of the time as they will react to change in the external environment in diverse ways subject to the influences such as culture (Mintzberg et al., 2009). Positivism arises from natural science; it develops a hypothesis from existing theory, and this is then empirically tested using observations. The financial data collected over an eight-year period for companies quoted on the London Stock Exchange provides data of a sample to test the hypotheses identified. The data used does not concern directly observable behaviour, but behaviour derived from financial reports. Those reports need to comply with independently determined standards (the International Accounting Standards Board). Additionally, for companies quoted on the London Stock Exchange there are admission and disclosure standards that have to be adhered to. Nonetheless it is feasible that interpretation of those various standards may be open to a small degree of interpretation and consequently variance or bias.

The development of the theory in this study uses abductive reasoning. In its modern context this concept originates from the work of Charles Pierce and refers to the "process of forming an explanatory hypothesis" (Pierce, 1934: 171 quoted in Timmermans & Tovey, 2012: 170). This is more generally called the *empirical cycle*. The identification of a phenomenon from initial data seeks themes and patterns which can be put into a conceptual framework which can be tested. The process is iterative in that it starts from the research question and moves backwards and forwards (Eisenhardt, 1989). Earlier work (e.g., Cooke & Foster, 2014) had identified possible patterns and

this led to the original concept. That has been developed through the iterative process of testing and adjusting the theory to expand the study.

1.5 Outline of Chapters

To achieve the research objective there are two sections, each comprising inter-related research questions with their own methodologies which flow from the philosophical choices. The first pair of studies examine the financial data drawn from the FTSE 350, the top 350 companies by value quoted on the London Stock Exchange. Advanced time-series regression analysis techniques are used to test various hypotheses that are proposed, a deductive development of the theory. The second pair of studies adopt an abductive approach and a strategy of Grounded Theory. Bayesian Networks are utilised to develop a model of the decision problem as perceived by decision-makers. It is derived from face-to-face interviews and represents the concepts and interrelationships between the concepts in a causal network. The research structure is visualised in Figure 1.2.

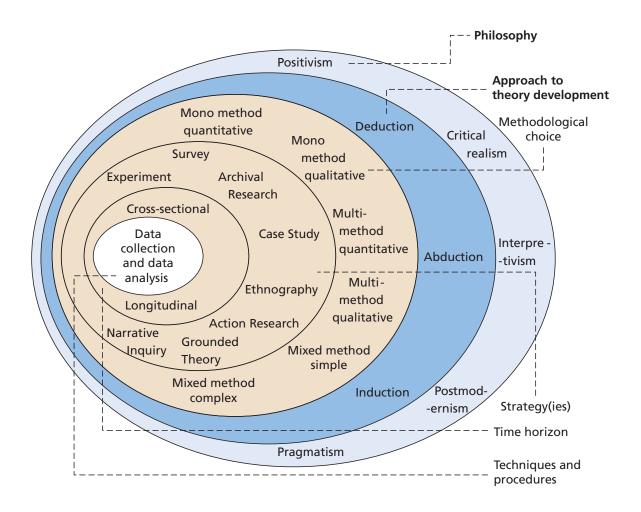


Figure 1.1 The 'Research Onion' (Saunders et al., 2019)

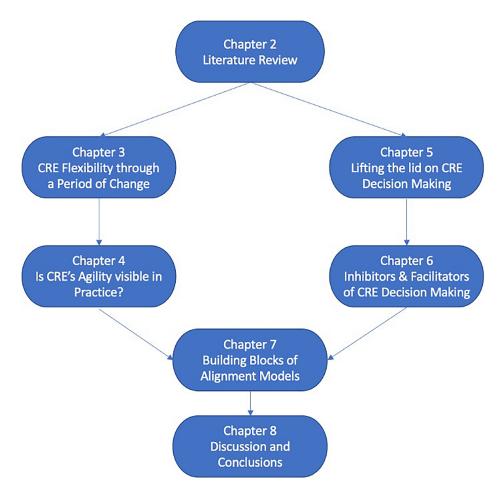


Figure 1.2 Structure of thesis

Chapter 2 reviews the pertinent literature and considers business strategy, CRE alignment and strategy and decision-making including mental representations.

Chapters 3 and 4 present the results from the examination of the financial accounts of companies in the FTSE350 over the eight-year period leading into, through and out of the Great Recession (2007 to 2014 inclusive). This was a time of significant change starting with the end of a period of economic growth, moving into and then out of recession, before regaining a modicum of equilibrium. The empirical data is drawn from financial reports of companies and includes both business data (turnover, profitability and employment numbers) and CRE data (lease profile and the Surplus Property Provision (SPP) made for surplus leasehold property) across a range of business sectors (e.g., retail, financial services, etc). Firstly, hypotheses are posed about the link between business performance and CRE. In particular to determine whether CRE flexibility exists and there is evidence of a *dynamic alignment* capability in the CRE. Distributed time lag auto-regression modelling is used to test three hypotheses posed on CRE realignment. The second part poses hypotheses on the relationship between business and CRE parameters and whether the much-discussed *dynamic alignment*

CRE exists. The primary analysis of the data is also estimation of a distributed time lag auto-regression model.

Chapters 5 and 6 examine different aspects of CRE decision-making. Semi-structured interviews were conducted with experts using the Causal Network Elicitation Technique (CNET) (Arentze et al., 2008) to determine their cognitions and preferences. CNET uses the Decision Network (DN), an extension of Bayesian Belief Network (BN) methodology to formalize mental representations of decision makers when faced with, in this case, dynamic CRE alignment choices. This provides the technique to make inferences by placing variables in a causal network to represent mental representations underlying decisions. The experts were provided with a scenario requiring decisions to reduce the CRE portfolio. The Mental Representations (MR's) of CRE decision-makers are examined to open up the 'black box' of CRE decision-making. It seeks to identify and assess the relative importance of the individual variables that influence CRE decisionmaking, namely the situational, decision, attribute and benefit variables. The is extended by getting the experts to weight the situational, decision and benefit variables and secondly to categorise attribute variables as to whether they facilitate or inhibit CRE dynamic alignment. Chapters 3, 4, 5 and 6 have been published (Cooke et al., 2019a; 2019b; 2021a; 2021b).

The study is contextualised against the Building Blocks of CRE alignment identified by Heywood & Arkesteijn (2018) basing it on the review of alignment concepts. Chapter 7 adapts that framework and applies the findings of this study to advance the discussion of alignment models by bringing in empirical data.

Chapter 8 comprises an overall discussion of the findings and conclusions to the thesis. In addition, it considers limitations and the theoretical and practical implications of the research. Finally, it makes suggestions for future research.

Chapter 2

Literature Review: basic concepts and theoretical frameworks

The chapters that look individually at the four research sub-questions each contain a literature review that is pertinent to the specific sub-question. The intent for this literature review is to provide a conceptual framework for the research. Consequently, it is broader in its remit than the reviews in the individual chapters. Shortcomings of CRE research was identified by Lizieri (2003), namely that empirical research is lacking; focused on offices; conceptually inward looking; simplistic in concepts and the models developed, and uses data that is inconsistent, incomplete, and inaccessible. CRE remains a niche area of real estate research characterised by a limited number of researchers with few dedicated journals, with CRE alignment just one aspect of the subject. Accordingly, there have been relatively few papers on CRE alignment since those shortcomings were identified and consequently, they remain pertinent today.

This thesis seeks to address the identified deficiencies where it can. It is a non-sector specific study using financial data and experts from a wide range of sectors. Data derived from financial reports is used in the first part (chapters 3 and 4) which provides accurate, consistent, and complete data across the categories that are reported. In addition, the goal of this literature review is to develop a conceptual framework from a wide range of literature to provide a multi-facetted view. This literature review commences with a consideration of CRE literature, in particular that relating to alignment, flexibility and agility. The second part of the review provides an overview of relevant business literature, how the business environment is changing and the position of CRE in business theory, including how CRE strategy evolves from business strategy. Finally, decision-making is examined incorporating CRE decision-making literature. The focus of this review is on basic concepts and theoretical frameworks; the review of empirical studies will receive specific attention in the context of the chapters that follow.

2.1 CRE

The function of CRE is to "facilitate the core business ... and embrace corporate objectives to advance the mission of the company" (Carn et al., 1999: 283). The management of CRE is defined by Krumm et al. (2000) as "the management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (processes), to obtain maximum added value for the business and to contribute optimally to the overall performance of the corporation" (quoted in Arkesteijn et al., 2015: 99). Haynes and Nunnington (2010) also focussed on CRE management's contribution to the firm's performance, but others have emphasised optimisation of CRE assets in pursuing business objectives (Ali et al., 2008). The alternative view is that the success of the firm rests to a certain extent on CRE meeting performance criteria (Van Ree, 2002).

CRE is complex being multi-dimensional and cross-functional (Park & Glascock, 2010) which, with the lack of unifying CRE models (Lindholm, 2008), makes its management difficult. Despite CRE being regarded as a strategic resource that needs to be well managed to fulfil its role, CRE management is still regarded as a support function (Kämpf-Dern & Pfnür, 2014). Business literature rarely mentions CRE and its management. Consequently, business managers have a limited understanding of CRE issues. Unfortunately, CRE researchers are limited in their use of business theory and research collectively resulting in a poorly developed inter-relationship between business and CRE in research and practice (Lizieri, 2003).

The limited CRE research has tended to focus on the tangible aspects of property, namely the physical environment. The intangible aspects (CRE practices, techniques/competencies, the strategic impact of CRE on the business and CRE decision-making processes) have not had the same attention but are important as they are hard to replicate thereby making them a potential competitive advantage (Heywood & Kenley, 2008). CRE research has been identified (Haynes et al, 2000) as fragmented into specific topics such as: practical issues (e.g., Cooke & Woodhead, 2008); lease versus own (e.g., Lasfer, 2007); productivity (e.g., Kossek et al., 2015); outsourcing (e.g., Gibler & Black, 2004); site selection (e.g. Greenhalgh, 2008); workplace design including the impact of age and technology (e.g. Vischer, 2007); and alignment models (e.g. Nourse & Roulac, 1993). Corporate strategic management researchers have not considered CRE issues (Roulac, 2001; Heywood & Kenley, 2008), whereas CRE researchers have given limited consideration to management literature (Lizieri, 2003).

The fragmentation of CRE literature led to Google Scholar searches looking at both Corporate Real Estate and CRE as separate terms. Google Scholar throws up 2.19 million articles against the term Corporate Real Estate, the search on CRE provided 2 million references and that of CRE alignment generated 206,000 references. The term CRE identified many papers related to subjects such as DNA sequencing and not Corporate Real Estate. These broad searches were followed by adding (to both Corporate Real Estate and CRE) more specific terms such as alignment; acquisitions: asset management; disposals; models: etc. The same exercise was undertaken in key journals including Journal of Corporate Real Estate; Journal of European Real Estate Research; Facilities; International Journal of Strategic Property Management; Corporate Real Estate Journal; and the Journal of Real Estate Research. Allied to that specific publisher websites, such as Emerald, were searched using the same terms to cross-reference individual subjects to identify any additional material. Using the term Corporate Real Estate in search engines very quickly leads to a focus on Real Estate The relative paucity of Corporate Real Estate material and the way searches operate switches the focus to investment aspects. Finally, specific authors have been researched for other pertinent literature.

2.1.1 CRE Dynamic Alignment & Flexibility

Flexibility has been cited as key to CRE decision-making (e.g., Lindholm & Levainen, 2006) and Gibson (2000) identified three elements of flexibility. *Physical flexibility* deals with the design of the building and the ability to change its configuration. *Functional flexibility* is centred on the way space is used by workers. In particular new ways of working, together with the process by which workers, individually and in groups, relocate and how costs of 'churn' are mitigated. *Financial flexibility* is centred on the total cost commitment identifying ownership as the only way to get total control, as "a lease always has both contractual and financial constraints" (Gibson, 2000: 152). Over the last two decades there has been considerable debate on accounting for leases and its effect on CRE decisions. Consequently, *financial flexibility* should be extended to include accounting for all aspects of CRE, in particular for leases (e.g., lease commitments and surplus property provisions).

Apgar (2009) took the view that for a business to be nimble, the firm should own less and lease more, but that requires in-built flexibility in the lease. That identifies the need for a fourth strand of flexibility, *legal flexibility*. For leases that requires clauses that do not restrict the occupier (e.g., breaks, user clause, etc.). Across all ownership models there will be other factors (e.g., planning policies) that affect the use of a property. Hence *legal flexibility* is more than just lease flexibility. Significantly leases impose the influence of a third party, the landlord, on flexibility. Hence owning a property is regarded as the only way to get total control (Gibson, 2000).

The level of CRE flexibility (physical, functional, financial and legal) in a portfolio will depend upon the nature of the business and the CRE required. The portfolio will need to adjust to business change through alignment to avoid inhibiting business agility. Consequently, the portfolio needs to seamlessly adjust and flex which requires a capability for dynamic alignment. Flexibility has a cost attached in the form of reduced incentives and higher rents. Accordingly, it does not make economic sense to pay for flexibility when it is never going to be used. Adopting a classification system that provides a framework for decision-making and determining the extent of required flexibility is logical. The core & periphery classification (Gibson & Lizieri, 1999) provides a framework for a firm to structure its CRE to facilitate change of space and functions. There are three tiers in core & periphery: Core, 1st Periphery and 2nd Periphery. Core properties are characterised as those the firm needs to control all aspects of and will typically comprise the likes of headquarters buildings and manufacturing units. Periphery properties make up the remainder of the portfolio and comprise two elements. Those properties required for one to five years are the 1st Periphery and will be held on short leases (< 5 years), which are ideal when taken on the right terms that offer flexibility and agility at an appropriate cost. The 2nd Periphery will be project space held on flexible pay as you go arrangements (e.g., serviced offices). Historically business has regarded leases as resources that need to be controlled and secured which was achieved by occupiers taking long leases. The common notion now is in most cases that leases over 5 years encumber a business by inhibiting change and producing inertia.

The Gibson & Lizieri (1999) definition of a portfolio is limited to properties in use, namely the operational portfolio. What is not considered in their framework are those properties that are held for future occupation and expansion plus those that are surplus to requirements. The former group (expansion space) is primarily for manufacturers, rather than offices. Typically, but not exclusively, this space is owned, not leased and is difficult to justify unless the time horizon for occupation is relatively short or the holding costs are low or both. The second group is surplus property, i.e., discarded operational space. Surplus property can be owned or leased, and it can be vacant or occupied by a third party. Third party occupation might be a letting to a third party or it could be an assigned lease. Surplus property is a drain on a firm as it consumes management time and incurs costs without contributing to the revenue generation of the firm. In addition, it carries various risks from residual liabilities. In summary, CRE can be categorised into four elements, namely operational, expansion, surplus and exiting. The latter being space that the firm is in the process of leaving because of lease expiry, breaks etc. A simple diagrammatic representation of these various types of CRE an organisation might have could be summarised in the form of Figure 2.1, which does not indicate any specific percentages of each type of space.

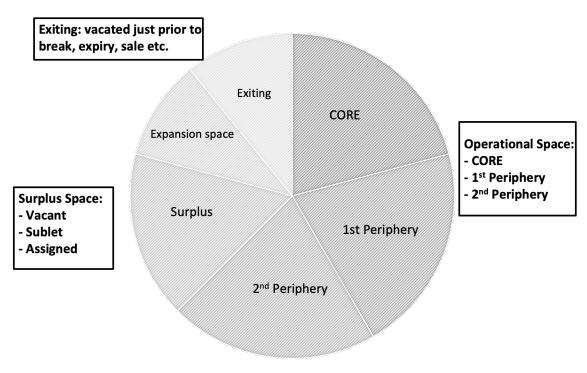


Figure 2.1 CRE Portfolio Categorisation

The core & periphery classification should link the corporate strategy to requirements for CRE. If the change to the business strategy is to be effective there should be a capability for a ready adjustment of the portfolio; this requires a capability for *dynamic alignment*. The key elements of implementing a CRE strategy are asset management, space acquisition and the disposal of surplus space (Kämpf-Dern & Pfnür, 2014). Asset management may involve regearing or buying in a freehold. The need for new space is dependent on the availability of the right unit in the right place under the right legal structure. Disposal of surplus space is generally the more challenging element. As a steady business state is transitory there is continual prospect of change to the CRE portfolio and classification.

A different perspective of flexibility is that it is a combination of liquidity and control, liquidity being a combination of value retention and ease of disposal (Golan, 1999) (see Figure 2.2). Lease expiry provides instant disposal, but "if the user wants to vacate the property prior to lease expiration, leasing is generally less flexible than ownership" (Golan, 1999: 243).

Flexible CRE is essential for firms that have more transitory corporate strategies. Turbulence and uncertainty in the business environment requires fluidity and agility, which in turn requires flexible CRE. Anticipating the future has become an important attribute, consequently, "firms wishing to obtain above-normal returns must have better foresight than rivals" (Kunc & Morecroft, 2010: 1166). The organisational view of space has changed from a focus on the place to work to the nature of the work itself (Grantham et al., 2007). That leads to a need for less but more efficient and superior quality space, which may lead to realignment. Corporate agility needs to be matched by an ability to dynamically realign the CRE portfolio to allow the firm to respond to planned and unforeseen changes. Flexible short-term leases and serviced space provide the obvious solutions as peripheral space. Flexible space through serviced offices is a well-established model but the same option is not applicable for all CRE uses. For example, manufacturing is rarely available on flexible contracts and the cost of moving plant is a key consideration. One solution is to outsource production with the firm retaining brand, design and distribution, that removes CRE issues but creates supply chain risks.

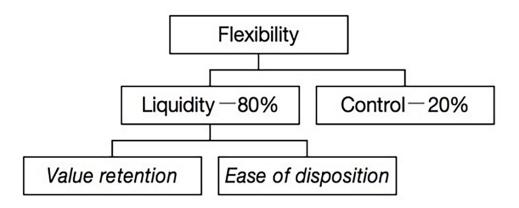


Figure 2.2 Elements of flexibility (Golan, 1999)

A fixed CRE portfolio has been regarded for some time as an impediment to business change and its performance. The move to an agile portfolio has been identified as one of six primary shifts in CRE over the last twenty-five years, reflecting that "agility has become an overreaching objective" (Joroff & Becker, 2017: 133). Adaptability allows a business to deal with threats or exploit opportunities that arise or to recalibrate its operations and to maintain its efficiency and effectiveness. Flexible CRE allows a firm to adjust to "important seismic shifts in business" (Krumm & de Vries, 2003: 66).

The development of a business strategy is not a linear process, rather it is an iterative, emergent and adaptive one (e.g., Mintzberg et al., 2009; Kay, 2010). The iterative process incorporates feedback loops allowing the firm and managers to learn from what has happened before. That should lead to CRE flexibility and a process of looking forward to considering the consequences of decisions. In particular the impediments that can follow from making long term commitments to CRE.

Historically an important area of CRE visibility within the business has been the 'lease versus own' discussion, which O'Mara (1999) identified as a critical decision for business. The impact on flexibility arising from such a decision does not appear to have been explored in any detail. The view of CRE that "the primary value to the organisation is not the investment value of the property, but its contribution to the way it does business" (Kenley & Heywood, 2000: 157) does not appear to resonate with every business. For example, in the 1990's many UK retailers divested themselves of owned property through sale and leasebacks (Killgren, 2001). The research into the lease-own debate has looked at returns (e.g., Liow, 2004; Lasfer, 2007), which suggested that those companies that tended to lease CRE rather than own provided better returns. However, the assessment of those returns covered a relatively short time horizon, whereas longitudinal studies including the effects on the ability to realign CRE would provide a more balanced view.

2.1.2 CRE Business Metrics

What is essential for managing resources of any type is the measurement of the performance of the business and its constituent parts (Neely & Bourne, 2000; Neely, 2005; Tangen, 2005). Performance systems need to be defined, explained and related to what their intention is: the improvement of the performance (Tangen, 2005). Business works by providing clear outcomes to assess the effect of an input. CRE Managers need to be able to "relate consequences of real estate decisions to corporate performance" (Krumm & De Vries, 2003: 62) as "a better understanding is needed of the impact of real estate on a corporations wellbeing" (Krumm & De Vries, 2003: 62). However, linking business and CRE through hard measurable data to show the influence of CRE strategy is difficult. Firstly, within firms CRE data has historically not been a high priority. Secondly researchers have struggled to get access to CRE and business data to examine the relationships. Despite the business-CRE relationship being complex, not a simple cause-effect one, managers frequently opt to make cost

reduction the CRE strategy. Cost reduction looks at efficiency only, the lowest input for a given output (Riratanaphong & Van der Voordt, 2015), it does not provide a wider perspective and "traditional belt tightening tools, such as cost benchmarking or process re-engineering typically do not recognise the value created by resources but focus instead on the costs incurred" (Krumm & De Vries, 2003: 66). The focus on annual CRE costs and the efficiency perspective ignores the lifetime commitment, effectiveness (De Vries et al., 2008) and risk of CRE. Risk is especially important with the mismatch between business strategy and CRE time horizons. The cost minimisation perspective (Stadlhofer, 2010) leads to annual costs being the primary measure which can lead to CRE costs being regarded as insignificant when compared to the total operating costs. When the total fixed commitment is viewed a different picture emerges (Cooke, 2003).

Van Ree (2002: 357) proposed that, "the profitability or performance of an organisation depends to a great extent on meeting the generic performance criteria", which are:

- Effectiveness the actual result achieved against the aimed for result.
- Efficiency aimed for resource use against actual resourced used.
- Productivity actual output to input.
- Flexibility "the ability to recognise and adapt to changing circumstances" (Van Ree, 2002: 359).

These provide a broader perspective and directly link profitability to CRE flexibility. Well-structured business/CRE metrics will highlight the capability of CRE for *dynamic alignment* and its effect on profitability and the ability for the firm to respond to change and seek opportunities.

As part of the consideration of business/CRE metrics is financial reporting. Firms, particularly those that are quoted, are judged on their financial reports and therefore changes to the underlying reporting standards can have a significant impact. Accounting regulations for leases changed on the 1st January 2019 when the International Financial Reporting Standard 16 (IFRS16) came into effect superseding International Accounting Standard 17 (IAS17). Under IAS17 leases were classified as either finance leases or operating leases. For operating leases, the accounts showed the annual rent commitment for three tranches of lease: less than 12 months; one to 5 years and over five years. Under IFRS16 a single lessee accounting model was introduced for all leases of more than 12 months. The new model changed to a provision for the right-of-use for the non-cancellable term each lease.

The framework for assessing unwanted operating leases is the International Accounting Standard 37 (IAS37) (e.g., Cooke, 2003). Leases with more than 12 months to expiry require that an SPP (Surplus Property Provision) is made. In effect a capital sum is required to cover the cost of the liability resulting from what has become a non-operational onerous lease, through to the first exit date (Cooke, 2004). The provision for surplus property is taken in the year of closure and reviewed annually, reducing profits in the year it is first made and in subsequent years when re-provisioning is

undertaken. The SPP is a specific charge that will reduce the profit for the year it is made and in subsequent years when reassessed. The existence of an SPP within accounts indicates insufficient legal flexibility to allow the portfolio to adjust to the new corporate and CRE strategies. Disposal of surplus property has been identified as one of the three key elements in successfully implementing a new CRE strategy (Kämpf-Dern & Pfnür, 2014). Therefore, the existence of SPP indicates that the new CRE strategy has not been successfully implemented in full.

2.1.3 CRE Alignment Models

Papers on the alignment of CRE with business strategy have either proposed new alignment models (e.g., Lindholm et al., 2006) or reviewed the literature on alignment models (e.g., Heywood & Arkesteijn, 2017). This section does not aim to repeat either of those approaches. Rather the intention is to provide pertinent observations on the perceived shortcomings of alignment models in the context of decision-making. This review does not include every CRE Alignment model proposed but focused on those that provided a development of current thinking. Papers that were not available in English were also excluded, although the concepts in such papers (e.g., De Jonge, 1996) have been picked up in subsequent articles.

An initial question to address, which is generally overlooked, is what CRE alignment actually is. Kotter (John Kotter citied in Beer et al., 2005) identified strategy as comprising formulation and implementation. Adopting that approach for CRE would suggest three possible options. Firstly, CRE alignment is the new CRE strategy arising from the change of business strategy. Second, it is the process of alignment, adjusting the CRE portfolio from its current state to that required by the business, namely implementation of the CRE strategy. Thirdly, it is both the new CRE strategy and the process of its implementation. The definition of CRE alignment has been categorised into four types: the strategy for alignment; the process of achieving alignment; the degree of alignment and behaviour (Heywood & Arkesteijn, 2017). The common ground between the findings of Heywood & Arkesteijn and Kotter's approach is that CRE alignment comprises both the CRE strategy and its implementation. The degree to which alignment has been achieved denotes progress whilst the mindset can be regarded as an inhibitor or facilitator of the process.

A number of alignment studies (e.g., Nourse & Roulac,1993; O'Mara, 1999) have focussed on CRE strategy options only, not the process of achieving alignment. This appears to be the default thought position for considering CRE alignment. Certain approaches to alignment have produced generic strategies. The problem is that two firms in the same sector will have arrived at their current position by different routes because they will have different histories which will result in different CRE portfolios and strategies. Consequently, generic CRE strategies have limited relevance in the real world.

There is a proposition that when CRE is aligned to business strategy there is added value (e.g., Lindholm & Leväinen, 2006; Gibler & Lindholm, 2012). However, alignment studies focus only on the development of CRE strategy, not the development and implementation of it. It may appear obvious that CRE alignment must comprise both strategy and implementation for added value to occur, but it is not a point that appears to have been recognised. If it had then the expectation would be that alignment models would also incorporate implementation. The manner in which added value is postulated suggests a perception that this is something that is exceptional, not the raison d'être of the CREM role. That approach extends beyond alignment, in that new CRE strategies should be sought to allow "corporate real managers to find new ways to add value to the firm" (Gibler & Lindholm, 2012:47). That could indicate that the use of the concept added value has a loose definition which is not grounded in the economic concept of Economic Added-Value (EVA). EVA was devised as a means of measuring shareholder wealth; it "measures differences between return on company's capital and the cost of that capital" (Young, 1997 p335).

Two approaches can be identified with CRE alignment research. The first group (e.g., Scheffer et al., 2006) are detailed models that consider business and CRE strategies. The second group (e.g., Weatherhead, 1997) provide broader strategic frameworks. To illustrate this both are discussed commencing with the detailed models.

• Detailed Alignment Models

Many alignment models have a common thread back to the work of Nourse & Roulac (1993). This work identified nine strategic driving forces for a business and from that eight CRE strategies, and thence fourteen CRE operating decisions. These were incorporated into a framework (Figure 2.3) that is rarely cited. Instead, researchers have focussed on the eight CRE strategies thereby missing both the strategic context and the importance of the inter-dependency of elements. In addition, the duality of influence between different elements is ignored and how by changing one attribute will change other elements. Nourse & Roulac's paper considers "the likelihood that a specific real estate decision will be consistent with the enterprises' real estate strategy and thereby supports realisation of corporate business objectives" (Nourse & Roulac 1993; 493). It is not positioned by the authors as an alignment model indeed the framework put forward and the discussion focuses on a firm choosing a new property. That the paper is not specifically strategic in nature and proposing a portfolio alignment model is generally overlooked by researchers, thereby potential limitations with it are disregarded.

Models that sought to develop the list of CRE strategies based on Nourse & Roulac (1993) include De Jonge (1996), Scheffer et al., (2006), Lindholm et al. (2006) and Gibler & Lindholm (2012). Lindholm et al. (2006) (Figure 2.4) indicate that the strategic drivers have a uni-directional approach and operate at a tactical, not strategic, level.

The model does not provide any inter-connectivity between the different elements, nor does it appear to be an iterative development process.

O'Mara (1999) was slightly more conceptual in approach identifying three generic CRE strategies: Incrementalism, Standardisation and Value-based Strategy. These strategies are derived from examining large US occupiers in the 1980's and early 1990's and assumed that major CRE decisions are made every three to five years (O'Mara, 1999). As such the approach can be regarded as dated and arguably too geographically specific.

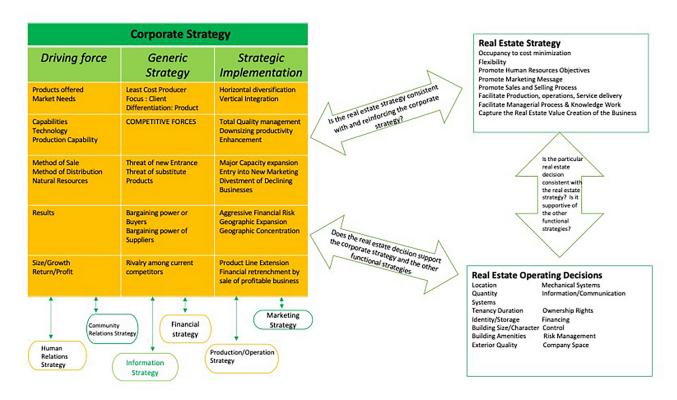


Figure 2.3 Business CRE decisions in a strategic management context (Source: Nourse & Roulac, 1993; 492)

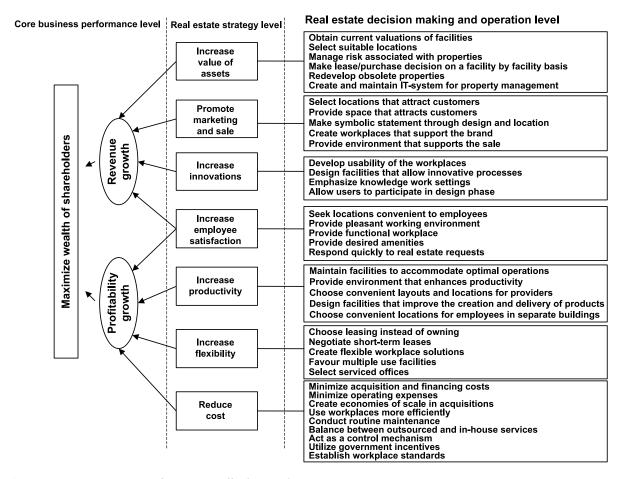


Figure 2.4 CRE strategy drivers (Lindholm et al., 2006)

The models that follow on from the work of Nourse & Roulac (1993) have a tendency towards simple cause-effect linkages whereas in reality the influence of one element can be extensive. For example, the real estate decision of 'redevelop obsolete property' (Lindholm et al., 2006) can have a number of consequences. It has the ability to increase the value of the asset; increase employee satisfaction by providing functional workspace; promote PR & Marketing and minimise operating costs to reduce overall costs. There is considerable complexity and interaction between different strands that need to be incorporated into models in the form of two-way linkages between elements.

• Strategic Alignment Frameworks

Those that suggest a framework rather than a detailed model includes Weatherhead (1997) who recognised that the business environment is dynamic with changing CRE requirements. Businesses differ from each other and change over time, therefore there is no fixed combination of CRE choices. The approach is holistic and considers the factors that influence CRE strategy being part of corporate strategy (Figure 2.5). This contrasts with other studies that indicate that CRE strategy stands apart from the corporate strategy. One shortcoming of the Weatherhead's framework is that it does not indicate any inter-relationships between the individual influences.

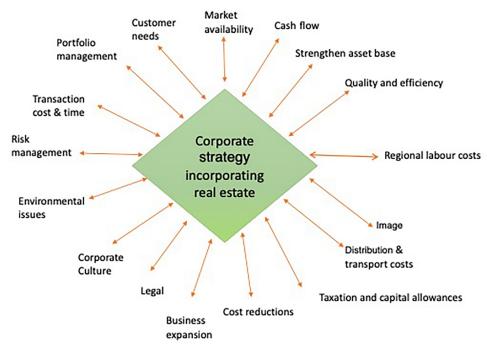


Figure 2.5 Influences when corporate strategy includes real estate (Source Weatherhead, 1997)

The analytical framework proposed by Edwards & Ellison (2003) (Figure 2.6) includes revising and reviewing feedback loops. These feedback loops are seen in Figure 2.6 and include links from performance evaluation to the external world and from the external world to property characteristics. The extent of the feedback is limited in number and function, whilst the framework is missing the over-arching presence of corporate strategy. Only organisational objectives are identified, and the external world is diagrammatically represented as a separate item not something that encompasses the whole.

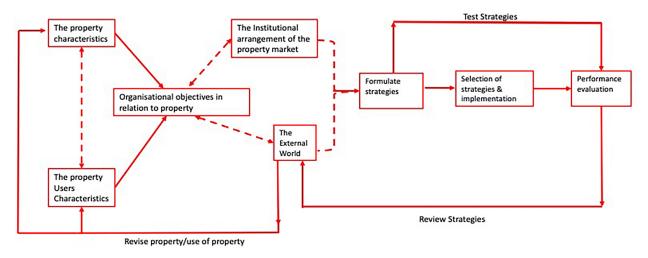


Figure 2.6 Strategic property management: an analytical framework to aid strategy formulation (Adapted from Edwards & Ellison, 2003)

Lindholm et al. (2006) also proposed how the CREM can be part of the firm's strategic framework indicating inter-relationships between different attributes (Figure 2.7). The focus is on the CREM, not the portfolio, but indicates feedback. The proposals differentiate between Vision & Mission, Business Strategy and Maximising Shareholder Wealth suggesting that objectives and strategy are fragmented.

Various shortcomings have been identified in the discussion above for both the detailed alignment model and the strategic alignment frameworks. Both groups appear to assume that alignment is a one-off or infrequent process, not a continual activity. In addition, there has been a lack of empirical testing in the real world of these theoretical approaches. Alignment research has remained a largely theoretical subject, with little use of data. Gibler & Lindholm used data in their 2012 study in the form of a questionnaire and from the results concluded that firms are following a set of, "complimentary real estate strategies that support the core business" (Gibler & Lindholm, 2012; 46). If the purpose of CRE strategy is to "support realisation of corporate business objectives" (Nourse & Roulac, 1993; 493) any CRE strategy that did not do so would be in conflict with business objectives. Strategic alignment is itself a continual process (Luftman et al., 1993) and, therefore, realignment of resources also needs to be continual. CRE alignment is the transition from one steady state to the next one, as "the common denominator is the need to constantly adjust to the next 'steady state' in response to external factors" (Then, 2005; 36). However, the models implicitly assume that CRE alignment is an infrequent event, no doubt reflecting the underlying assumption in the theory of sustained competitive advantage (Porter, 1985). The shrinking of the steady state time period means CRE alignment has become a continual process, which models need to reflect. In conclusion considerably more work needs to be undertaken on bringing CRE alignment theory closer to the real world.

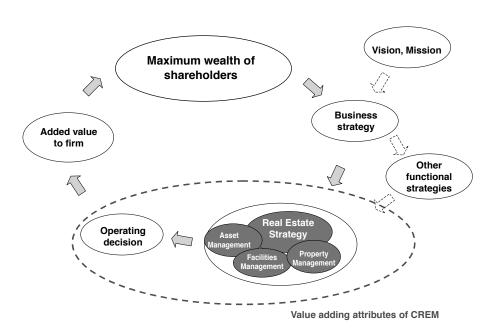


Figure 2.7 CRE Manager as part of the firm's strategic framework (Lindholm et al., 2006)

Recent work in the field of CRE alignment has focussed on the analysis of previous models rather than the creation of new models. From the analysis of fourteen models Heywood & Arkesteijn (2018) produced a graphical representation of the alignment process which identifies four elements, termed building blocks (Figure 2.8). The blocks do not explicitly demonstrate inter-connections between the elements, but feedback is shown between blocks. There is recognition that the making of CRE strategy is separate from implementing it, but both are part of CRE alignment.

This dissertation contextually comprises elements of Block 2 and Bock 4. Within Block 2: understanding real estate performance is the audit of existing real estate, which includes the capability for *dynamic alignment* and is covered in Chapters 3 and 4. Block 4: implementing real estate strategy and the actioning of CRE intervention includes CRE decision-making, Chapters 5 and 6 of this dissertation.

CRE is a significant asset for business, indeed the value of owned CRE in Europe is estimated to exceed the value of the total amount of investment property (Brounen & Eichholtz, 2005). Despite that significant value "decisions to manage CRE effectively and efficiently is more closely linked to attitudes of top management than with the nature, size, value or function of the properties themselves" (Veale, 1989:2). With the focus of business managers remaining on cost reduction (Stadlhofer, 2010) it is important to understand how business considers CRE and the basis for decision-making.

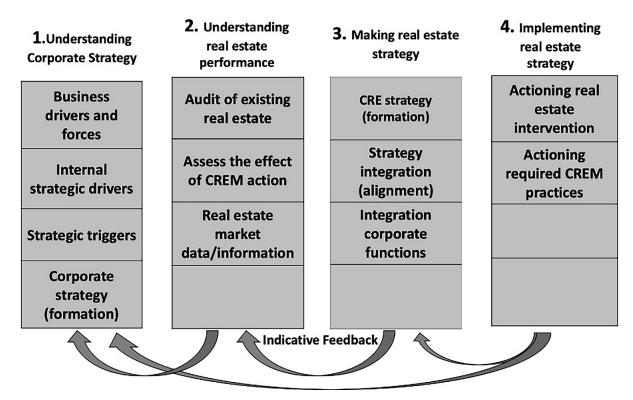


Figure 2.8 CRE alignment: the building blocks and components (Source Heywood & Arkesteijn, 2018)

2.2 Business

Business strategy is not a homogenous subject but encompasses a wide range of different approaches, which may or may not be explicitly acknowledged (Mintzberg et al., 2009). Strategic thinking has evolved away from military strategies to a broader view that reflects the needs of modern business. Similarities in fighting a war and running a business exist, but invariably military strategy operates over a shorter time frame and generally in the context of a political strategy. Business strategy has a longer time frame and represents plans that the management of the firm wish to attain that reflect and are consistent with the goals and mission of the firm.

Strategy sets the direction to be taken and identifies the focus for the organisation. For a business that can be multi-faceted; it can necessitate strategies at different levels within the organisation; at the overall company level; business unit level and for products and service lines. These different but complementary strategies create complexity. Included and ideally interwoven with these strategies will be the CRE strategy. Strategy concerns the organisation and its place in the wider environment; the firm cannot operate in isolation. As change happens strategy has to evolve to reflect those external influences and CRE strategy will evolve as well.

This thesis is examining CRE alignment and decision-making, as a consequence the emphasis on this part of the review has been on concepts that directly influence the two and provide context for the subject. The material sought considers the overall approach to business strategy; significant corporate strategy theories; the changing business environment and the alignment to a new strategy. Searches have originated with what authors and commentators on CRE alignment theories have identified in the field and also from a review of material collected from the Harvard Business Review. That has provided a list of authors to consider and track through to other material. Journals examined included British Journal of Management, Administrative Science Quarterly, Journal of Management, California Management Review, and the Strategic Management Journal.

Strategy is not a simple subject but comprises many different elements and approaches. A classification of the myriad of different approaches to business strategy has been developed by Mintzberg et al. (2009). That classification identified ten different schools of thought and it is pertinent to discuss them in brief detail and the role of CRE in the context of those schools of thought.

Design, Planning & Positioning Schools

These three schools follow on from each other and therefore are treated as one here. Collectively they have been very influential with the most important work being Michael Porter's sustained competitive strategy (Porter, 1985). Strategy is developed from an analytical process and proposes that only certain strategies work for a particular industry. Porter identified three generic strategies with an underlying concept across

all three of the *Value Chain*, which splits the business into primary activities (operations, logistics, etc.) and support activities (infrastructure, HR, etc.). The better a firm manages its *Value Chain* the better the margins and the greater the advantage over the competition. The work of Porter is the one most commonly referenced in respect of CRE alignment (e.g., Nourse & Roulac, 1993). Yet Porter does not identify CRE as a support activity in his work. Paradoxically, therefore, the theory most frequently cited in CRE alignment theories does not actually reference CRE. *Sustained competitive strategy* is aimed at larger industrial firms that are relatively stable with change, consequently the need for flexibility and agility is not considered.

A refinement of the *sustained competitive strategy* theory was *Resource-based View* (*RBV*) (Barney, 1991). *Sustained competitive strategy* assumed resources homogeneity, whereas Barney argued that resources are heterogeneous and the differences in resources between firms could add value and thereby provide a competitive advantage (Barney, 1991). Resources include tangible and intangible aspects (e.g., good decision-making) but omitted CRE. Resource management, which is the structuring of the resource portfolio, bundling and then leveraging those resources, can create value (Hamel & Prahalad, 1989). Despite the omission of CRE from *RBV* it is cited as the underlying strategy for CRE alignment by some authors (e.g., Krumm, 1999; Park & Glascock, 2010; Gibler & Lindholm, 2012). Heterogeneity of CRE, including knowledge and management, could be a significant differentiator of resources between firms. Building up physical resources as a means of competitive advantage works well for those firms that need materials but may be a weakness for those firms that require agility. Change may become difficult because of the inertia that CRE can create, therefore the build-up of CRE can inhibit the realignment of the portfolio.

• Entrepreneurial School

The Entrepreneurial School stresses the vision and drive provided by the figurehead, generally the founder of the firm. The figurehead's vision will determine the strategy and hence shape the direction of the firm, its culture and the decision-making process of the organisation. The prominence of one individual creates the risk that CRE decisions may be one that self-promotes the individual, especially for acquisitions (e.g., Mazzoral & Choo, 2003). A dominant individual in a firm may help or hinder the process of CRE alignment and change.

Cognitive School

The Cognitive School sees strategy formation take place in the mind of the strategist through mental models and schemas which are interpretations by the individual of the world. Strategy formation is a mental process and that changes between individuals. It recognises that strategy is not deterministic but influenced by individuals and the environment. However, bias will influence strategy development and decision-making,

for example sunk costs, anchoring, etc. (Hammond et al., 1998). There has been limited research into CRE decision-making, but it has identified the influence of individuals on the process (e.g., Greenhalgh, 2008; Mazzoral & Choo, 2003).

• Learning School

The concept of the Learning School is that strategy development and implementation is a complex iterative and emergent process, rather than a deliberate one, as the decision-maker (the Board) is an amorphous body with a multitude of different perspectives. The incremental approach to developing strategy makes the feedback loop an important feature of the whole process. A core competency of the approach is dynamic strategic fit, with the strategy and business changing, flexing and developing in response to the evolving world. It applies to resources and invisible assets, such as knowledge, and suggests that continual realignment is needed. Individuals and the organisation learn and acquire skills which can be used to align resources allowing the firm to generate value from that knowledge and those resources.

From a CRE perspective this approach provides a framework for strategy development and implementation. Change happens and the iterative emergent approach provides the ability to flex and adjust and should see mistakes in CRE decision-making reduced or eliminated. Consequently, overtime a firm should create a portfolio with the right level of *dynamic alignment* capability and thereby avoid the development of a surplus property portfolio.

Power School

The proposition here is that strategy formation is all about politics and the result of various negotiations and influences, with decisions manipulated by an individual or a cohort of individuals acting collectively to suit their own agenda(s) (Mazzoral & Choo, 2003). Prestige and other non-monetary factors can become important and frequently decisions are made ahead of meetings, the meeting simply ratifies those decisions (Greenhalgh, 2008). The results from competing groups can prevent or prolong CRE alignment.

Cultural School

The culture of the organisation emerges from the effects of social forces and shared beliefs; it holds a company together and differentiates companies in the same sector. From a CRE perspective the beliefs and values may manifest themselves in how the workspace is organised. Historically this could be seen in the contrast in the design and layout of offices between the more open collaborative space in North Europe compared to the hierarchical graded offices of North America. From a CRE alignment

perspective this can result in slow changes to the portfolio as a range of beliefs and values need to be considered.

Environmental School

Here the environment is the key driver of strategy, and a more dynamic business environment requires flexibility. CRE needs to have considerable flexibility under such dynamism and that will increase CRE costs. The lack of potential options in certain sectors may in itself influence corporate strategy and procurement of space, including outsourcing.

• Configuration School

The Configuration School is a synthesis of all the other schools. It recognises that a business will evolve over time with periods of stability interspersed with change. That change will comprise growth and contraction at different times and will see the underlying thought process of strategy development adjust. Consequently, there will be transitions between the various schools of thought discussed above and with the process of developing the corporate strategy. That will result in different aspects of strategy formulation, decision making and its implementation. For CRE this emphasises the challenge in trying to align the CRE strategy to the corporate strategy and predicting where the business will be at the point of intersection between the lines of travel of the business and the path of CRE alignment.

What applies to all of the schools is that business strategy will react and change in response to external stimuli. Over the past two decades, turbulence, uncertainty, novelty and ambiguity have become hallmarks of the business environment (Ramirez & Wilkinson, 2016). The future needs to be considered in a different way recognising that flexibility is an on-going requirement. The less stable environment with shifting internal and external dynamics means that the development of strategy and its implementation is no longer a controlled deliberate process. Rather it has become a complex emergent and iterative process (Mintzberg & Water, 1985) requiring scanning of the future to identify potential adjustments (Ramirez & Wilkinson, 2016). This includes those forces that are shaping the future of work, for example: accelerating technological change; growing skill demands; shifting labour demographics; changing expectations by employees and different work models.

Both sustained competitive advantage and RBV assume a stable environment. As that environment has become more transient the business theories have had to adopt to recognise the temporary or transient nature of competitive advantage. This can be seen with temporary sustainable advantages (Huang et al., 2015), or transient competitive advantage (McGrath, 2013), both of which reflect the short term and transient nature of any advantage. The performance of the firm now has to reflect the ability of the firm to respond to shocks arising from the environment the firm operates, such shocks will

underpin the performance of the firm (Argyris et al., 2019). Stability no longer means a 5-year plan centred around an extensive asset base (McGrath, 2013), instead it encompasses cultural and leadership attributes. To exploit new opportunities requires frequent readjustment necessitating inherent agility, the shape shifting needs to be smooth to avoid disruption. If resources are accumulated, then change can require disposal of resources and acquisition of new ones.

Transient competitive advantage differs from earlier strategies in that it assumes that change has become constant and that a firm needs to continuously evolve. What it is not suggesting is revolution, that is what blue ocean strategy proposes (Kim & Maugborgne, 2015). The proposition is the need to seek out uncontested marketplaces of new demand or to provide new creative solutions for existing demand and markets and represent disruptive innovation (Christensen et al., 2015). Creating the right environment for innovation is essential for established firms, but without strategy innovation shareholder wealth will not be materially different from that of the competitors (Hamel, 1998). To do so all elements of the business need to be able to change to what has become the new normal, therefore dynamic alignment has to be part of the fundamental thinking. Innovation of CRE strategy is equally as important. The increasingly homogenous approach to outsourcing of CRE can remove CRE strategy and management as a differentiator, rather CRE becomes a commodity.

Ensuring that the organisation is capable of implementing any new strategy within a short time period requires two characteristics. Firstly, the firm has to adopt strategic flexibility and with it a more iterative process of strategy development (Mintzberg et al., 2009) and secondly resource agility is needed. Strategic flexibility is the ability to respond to the external environment, identify new opportunities, respond to change, and then commit resources to new courses of action, including the capability to halt or reverse commitments (Shimizu & Hitt, 2004). Tension exists between being flexible and being strategic, as investment decisions benefit from stability but stability can lead to rigidity which inhibits agility (Doz & Kosonen, 2008). The constituent parts of strategic agility comprise resource fluidity, leadership unity (senior management working as a team) and strategic sensitivity (an openness to new ideas). However, "strategic agility decays naturally" (Doz & Kosonen, 2008:116) because over time the firm commits to resources and becomes set in its way, consequently rigidity will reassert itself. This applies to CRE as equally as to other parts of the business; CRE rigidity removes the capability for *dynamic alignment*.

The view that it is not the most intelligent or strongest of the species that survive, but the most adaptable (generally attributed to Charles Darwin) is very apposite for CRE. Adaptability and flexibility of the firm to the environment it operates in is not a one-off process, but a continuous one as the environment continues to change. A firm needs corporate structures and systems which embed change as a core value and provide minimal indigenous constraints. Organisations that espouse newer strategies seek to be unfettered by assets, because they can quickly become liabilities. The new strategy playbook is continuously changing, it places equal emphasis on lifecycle phases,

blends stability with dynamism and fluidity, and balances a stable vision with variety in its execution (McGrath, 2013). A lack of flexibility creates the risk of misalignment which can lead to the failure of the organisation (Heracleous & Werres, 2016). As the firm is continuously realigning its strategy, it needs to mirror this with "a continuous journey of transformation" (Luftman et al., 1993: 205) of its constituent parts.

Continuous change is not feasible for all firms all of the time, so what is more important is a firm having the capability for change. Possessing dynamic capability (Eisenhardt & Martin, 2000) allows resources to be configured to create value through more effective and efficient use of them. Dynamic capabilities allow a firm to gain competitive advantage particularly if they are difficult to imitate resources, such as organisational, functional and technical skills (Teece et al., 1997). Indeed, "the capacity to reconfigure and transform is itself a learned organisational skill" (Teece et al., 1997: 521). "Differences in dynamic capabilities are thought to underpin differences in firm performance and competitive advantage in dynamic environments" (Argyres et al., 2019; 360). The timing of the change process, with the sensing, assessing and reconfiguring of the firm are themselves dynamic capabilities (Wang & Wang, 2017). It is clear, therefore, that dynamic capabilities are complex, structured and multidimensional in nature (Winter, 2003). One of these dynamic capabilities is a CRE portfolio capable of dynamic alignment. Success can be seen as the constant ability to adjust the direction of the firm and develop new ways of creating value which with speed of reaction are intangible assets (Weber & Tarba, 2014).

An integral part of *dynamic capability* is building robustness and *anti-fragility* (Taleb, 2012). The latter is more than just resistance to shocks. It is the opposite of fragile. It is the ability to become stronger from shocks, volatility and stress. Rigidity within a firm exposes it to shocks making it fragile; agility can make it resilient, whereas benefitting from shocks and becoming stronger is *anti-fragility*. A portfolio with *dynamic alignment* capability will allow a firm to respond to change and exploit opportunities and pivot into new markets whilst competitors seek to cope with inflexible CRE.

A considerable body of work exists on the theoretical aspects of business strategy, how business is changing and the need for agility. However, CRE research and researchers have been criticised for not enhancing the knowledge base of CRE by utilising the knowledge from the business world. CRE researchers have continued to be narrow in their reading remaining within the confines of CRE literature (Lizieri, 2003). By extending into other areas of knowledge and theory and incorporating more empirical testing would provide CRE with a more robust conceptual base.

For CRE alignment models, the concepts individual cognition, learned skills, and the influence of the individual(s) are all pertinent. These need to be set against a backdrop of an environment that has become turbulent, unpredictable and complex, putting business in a continuous cycle of transformation. Consequently, strategy needs to be iterative, adaptable and emergent to allow it to respond to the new environmental characteristics (Barreto, 2010). For the CRE portfolio that requires a capability for dynamic alignment, otherwise it is not adaptive. The deftness of an organisation, its

capacity to flex and adapt has become a core capability (Chiva et al., 2014), which makes the ability to implement decisions to effect change an intangible resource (Teece et al., 1997). Therefore, business decision-making is linked to business strategy, where strategy provides the direction of travel whilst good decision-making will support its objectives.

2.3 Decision-Making

There is a large body of work on the subject of decision-making and specific aspects of the subject are covered in the two chapters on CRE decision-making (chapters 5 and 6). The objective of this part of the literature review is to provide a broad context of decision-making and highlight certain characteristics of CRE decision-making.

There has been extensive research on decision-making at the individual and organisational level (e.g., Kahneman, 2011). The world is large and complex and with limited brain processing capability rational decision-making requires effort. To deal with this, individuals use mental structures to organise knowledge (Mintzberg et al., 2009). The resulting schemas (mental maps) represent knowledge at different levels. Complexity leads decision-makers to seek to simplify the world through mental short-cuts (heuristics), but this can also lead to over-simplification and distortions. A default process that is iterative, innovative and differentiates between large and small decisions should be capable of dealing with complexity and continual adjustment (MacIntosh & MacLean, 2015).

Individual decisions require a process of evaluation of possible courses of action. The reoccurrence of events allows previous experience and decisions to create choice preferences, but when a new situation arises those prior experiences and decisions cannot provide an immediate solution. Instead, an active mental process is required to explore the problem and evaluate possible solutions. According to mental model theory (Johnson-Laird, 1983) individuals will construct a mental model to assess the consequences of possible actions before implementing them. The mental representation (MR) created will be a simplification of reality subject to the individual's bias but will not take into account all variables because of limitations in the working memory capacity. As a consequence, only those items perceived as relevant will be included (Arentze et al., 2008; Dellaert et al., 2014 and Arentze et al., 2015).

In the context of a firm, decisions are frequently the result of several individuals combining their own decisions into one decision for the firm. Those individuals have developed and learnt differently. Therefore, whilst the theory is that decisions are of the organisation, in practice they represent the responses of the individuals. The organisation cannot be independent of its people (Kim, 1993) and consequently it remains exposed to the whims of individuals because "people consistently act inconsistently" (Argyris, 1991: 4) and individuals can lack objectivity (Bond et al., 2010). To outperform their competitors a firm needs to utilise their decision-making skills

better than its rivals by obtaining greater clarity of information and having greater foresight (Kunc & Moorcroft, 2010). Decision-makers need to understand that organisational decisions do not stand in isolation but have a multitude of linkages and complexity. "The real leverage in most management situations lies in understanding dynamic complexity, not detail complexity" (Senge, 2006: 72).

The dilemma is that the effectiveness of decision-making impacts financial performance meaning that the value of a firm is in effect determined by the sum of the decisions made and executed (Blenko et al., 2010). However, the decision-making process is dependent upon individuals, not only have they learnt differently but they are susceptible to different influences and traps. Such traps follow from bounded rationality and have been termed biases and Hammond et al. (1998) discussed a number of them. Three of them are particularly pertinent for CRE decision-making. Firstly, the Anchoring Trap occurs when one party is constrained by their initial opening offer. An example within CRE would be when a decision-maker makes their opening offer for renting a building. If that is set too high, it is very difficult to remove that opening offer from the mind of all those involved in the transaction. Second is the Status Quo Trap, which puts boundaries on the thinking process and makes change difficult, for example trying to move people from cellular offices to open plan space. Finally, the Sunk Cost Trap reflects that it is difficult for people to turn away from a project of any type when a lot of time, money or emotion has been invested. Within the context of a property acquisition this can be seen when an announcement is made to staff of say a new facility and then when problems arise that should lead to the acquisition being cancelled that might not happen because the senior person would lose status. In addition, treating a decision as if it occurs at a discrete moment in time rather than it being part of an ongoing process can result in wrong decisions. Time horizon perspectives adopted can frequently be wrong (Garvin & Roberto, 2001). This can be seen with the focus on CRE costs (Stadlhofer, 2010), which was discussed earlier. A cost focus per se might not be an issue but to only look at the short term fails to consider the longer-term implications. The process of decision-making can be chaotic (Cohen et al., 1972) because individuals are inconsistent and by their very nature decisions are made with incomplete knowledge (Argyris, 1976). Finally, decision-making is frequently regarded as a linear process, but in reality there will be deviations and changes throughout the process (Langley et al., 1995).

Research into CRE decision-making is limited. This is surprising because it has long been recognised that, "effective real estate decisions are integral to the realisation of overall business objectives" (Nourse & Roulac, 1993: 476). What has been undertaken has primarily focussed on the acquisition decision. It includes factors that influence the decision (e.g., Nunnington & Haynes, 2011), the acquisition of a property (e.g., Greenhalgh, 2008) and the choice of location (e.g., Rothe et al., 2015). A second strand has examined the lease versus own choice (Lasfer, 2007) and decisions between purchasing space (leasing) or purchasing an asset (owning) (Barkham & Park, 2011).

The research on CRE acquisitions has identified that for small businesses the role of one or two individuals is crucial, whereas for a larger firm it is more likely to be an objective process (Mazzoral & Choo, 2003). However, "regardless of firm size is that the behaviour, personal preferences, priorities and perceptions of key individuals will influence the final outcome of the decision-making process" (Greenhalgh, 2008: 123). Mazzoral & Choo (2003) used face-to-face and telephone interviews in their research into acquisition of industrial land in Australia and Greenhalgh (2008) used telephone interviews to examine reasons for relocation in the North-East of England. Hence both studies used data to draw their conclusions on the role of the decision-maker. Their findings indicate that senior directors are the decision-makers. There is a frequent assumption in CRE alignment papers that CRE decisions are made by the CREM. Research suggests that is not the case and such an assumption would also conflict with corporate governance requirements. This would be especially the case for companies that have publicly traded shares.

Finally, CRE decisions frequently involve assessing technical CRE elements with the business and financial aspects of the firm. This creates complexity because of linkages between the different factors. A simple example is undertaking alterations to a leased property which will have legal and potential construction issues plus an external linkage to the landlord and internal business and financial considerations. Failing to recognise these linkages can cause delays and frustration within the senior management team. At critical times such as exercising a break clause such a failure to act correctly can have significant financial consequences (Cooke & Woodhead, 2008).

2.4 Conclusion

The different schools of thought (Mintzberg et al., 2009) implicitly have boundaries between them, whereas in the real world such delineation does not exist and as the authors recognised a firm will move between the different schools. The *Configuration School* recognises this transition and is the synthesis of all of the other schools. Both firms and individuals change in response to learning, either through external inputs or from lessons directly learnt, an internal feedback mechanism. To a greater or lesser extent both the individual and the firm will operate as rational entities. An individual will generally avoid repeating an action that caused them pain and a firm will generally avoid repeating an activity that caused a financial loss. How well the individual and the firm learn will vary. For the firm precedents, protocols and systems will have been created over time to provide a decision-making framework. The response to the event that caused loss may be proportionate but there could be an over-reaction or too little a response. What is critical though is the memory of the loss, if that is forgotten then the organisation may repeat the mistake

Complexity is created because response and learning will be at the firm level, but individuals are involved in the decision-making. However, decisions are not made independently of all individuals (Kim, 1993) and individuals do not always act

consistently (Argyris, 1991). Consequently, it is not plausible to assume that the firm and the individuals involved will have learnt the appropriate lessons from their previous experience. There is an additional dynamic factor for the firm in that the individuals involved in decision-making are not a static body. Not only will the views of the individuals evolve but new people will become part of the decision-making body and others will leave. Those new people may not have had the same experiences and attitudes as those they replace and may only have a limited tenure in their role.

Over the last thirty years there has been periods of a benign environment and those of unpredictability and recession. From the early 2000's the tendency has been for greater unpredictability and volatility, that reflects the shorter life cycles of goods and services, changing technology but also the financial crisis and recession that commenced in 2007. That has led to change becoming a permanent feature in the business environment.

There has been limited crossover between business researchers and CRE and CRE researchers and business (Roulac, 2001). As a consequence, there is a knowledge gap on the dynamics of the interface between business and CRE. There is evidence that CRE is still regarded as a cost to be minimised (Stadlhofer, 2010), but also of CRE being treated as a status symbol by Chief Executive Officers. Logically CRE needs to be aligned to the corporate strategy otherwise the firm will be operating at a disadvantage to the competition. The models and frameworks that have been proposed for CRE alignment to corporate strategy assume a relatively stable environment with infrequent change, although change has become a permanent feature of the business environment. To allow the CRE portfolio to adjust it needs to have a capability for dynamic alignment to give it agility and flexibility, so that it can be responsive. Research has not been undertaken to assess whether individuals and firms have learnt from previous unpredictability, volatility and the requirements for change and have created the capability for dynamic alignment. In the UK such change should have been incorporated in the 1990's reflecting the recession at the commencement of that decade and that commencing with the financial crisis in 2007, which lasted until 2014.

In responding to changes to the corporate strategy the implementation of the CRE realignment process involves the three elements of acquisition, asset management and disposal of surplus space (Kämpf-Dern & Pfnür, 2014). There has been some research into the acquisition aspects of the process (e.g., Greenhalgh, 2008) but not into the decision-making aspects of asset management disposing of surplus space. The two are inter-related as the first step before the actual disposal process will be assessing the portfolio to identify which assets to retain and those to dispose of.

In conclusion, there is a knowledge gap as to whether firms and the individual decision-makers have learnt from previous recessions and created a *dynamic alignment* capability in their CRE and what their considerations are when they undertake alignment.

Chapter 3¹

Adjustment of Corporate Real Estate during a Period of Significant Business Change

3.1 Introduction

The direction a business takes is, to a large extent, determined by its strategy. Strategic concepts exist for a long time, as techniques taught in business school stay with a manager throughout their professional life. Sustained competitive advantage (Porter, 1985) is a strategic concept that continues to have a long-lasting impact because of its widespread adoption by business schools. However, the financial crisis and recession (2007 to 2014) forced businesses to adjust rapidly and develop a 'new norm'. This norm is increasingly based on continual change, not the steady state that Porter assumed, making 'change' itself a significant factor in business strategy (McGrath, 2013).

Change continues to be disruptive, with volatility and uncertainty ensuring that there are only short periods of *competitive advantage* before change occurs. McGrath (2013) suggests that Porter's concept has evolved into *transient competitive advantage*. Disruption itself can create new business areas, *blue oceans*, where business has a *sustained competitive advantage* for a longer period than in existing markets (Kim & Maugborgne, 2015).

A fundamental aspect of Porter's approach is that business has to manage its individual operational elements to improve margins. Resources can be physical assets or less tangible concepts, such as knowledge, and can be leveraged to build an advantage and with it 'strategic intent' (Hamel & Prahalad, 1989). CRE is real estate "that house(s) the productive or business activities of an organisation" (CoreNet Global, 2015: 1), as such it is a physical asset of the firm, supporting the main business objectives but incidental to them. The way that it is acquired and managed is part of the firms' knowledge pool, which can provide a benefit that is difficult to replicate, and thus, in itself, is a *competitive advantage* (Park & Glascock, 2010). CRE is generally of secondary importance within an organisation to its 'people' and provides a supporting role to them. Accordingly, CRE managers face various issues and have to make trade-offs that impact their decisions on CRE issues.

A significant focus of CRE research has been the development of CRE models. However, none of the papers consider how the CRE portfolio adjusts relative to change of the organisation, its financial performance or business strategy. Papers that consider CRE and its management use measures that are narrow tactical definitions (e.g., reduce

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costs) rather than broader strategic performance ones. Van Ree (2002) created definitions that link CRE with the business overall and have been adopted in this paper as they will resonate with business decision-makers as well as CRE managers. The objective of this research is to look at the extent of adjustment and adaption of the CRE portfolio to changes in turnover, profitability and employee numbers during a recession. That process of CRE realignment needs to be dynamic and continual, not a one-off event. The authors have defined the process as *dynamic alignment* of CRE. This is a knowledge gap that is addressed in this paper.

Longitudinal CRE research has been limited. Studies have focussed on stock market performance as the relative balance of owned to leased CRE has changed. Rodriguez & Sirmans (1996) found that CRE could have a positive impact on stock market perception under various scenarios and more recent studies (e.g., Lasfer, 2007; Liow, 2004) have had similar outcomes. However, these studies do not consider the financial performance of a business and the impact on its CRE flexibility. Rather they consider financial performance through stock market returns, in particular how changes to the owned:leased ratio has affected investor sentiment. Longitudinal studies on how companies have translated significant change in their business environment into CRE flexibility and decision-making do not appear to have been carried out.

This study examines financial and CRE data collated from the financial accounts of companies in the FTSE350 over eight years during a period of significant change. Using a distributed time lag auto-regression model evidence has been sought of the relationship between financial performance and CRE flexibility to provide evidence of the link of *dynamic alignment* of CRE (or the lack thereof) to the business strategy. Three hypotheses are tested to seek to establish how CRE was realigned.

The remainder of the chapter starts with a Literature Review, which considers changes to business strategy and its influence on CRE, especially CRE performance measurement. Next, the development of the hypotheses is outlined through subhypotheses and is followed by the methodology adopted. Finally, the results and their discussion are followed by a conclusion that considers the implications for academics and practitioners and suggestions for further work.

3.2 Literature Review

Business strategy is not a homogenous subject but has a wide range of different approaches (Mintzberg et al., 2009). One of the most influential concepts has been that of sustained competitive advantage (Porter, 1985), and its development, the Resource-based View (RBV) (Barney, 1991). A business manages its value chain, comprising both primary activities (operations, logistics, marketing, etc.) and support activities (infrastructure, HR, etc.) to improve the profit margin and increase the competitive advantage. Managers have to focus on efficiency and effectiveness of the individual elements to drive the profit margin. However, the business environment has evolved, it now only offers a transient competitive advantage (McGrath, 2013) resulting from

change and innovation, leading to different approaches such as *blue ocean strategy* (Kim & Maugborgne, 2015).

Flexibility of CRE is essential to operate within a business environment that offers transient competitive advantage and/or to allow a firm to be empowered to consider blue ocean strategies. Even if the strategic approach remains as sustained competitive advantage, "firms wishing to obtain above-normal returns must have better foresight than rivals" (Kunc & Morecroft, 2010: 1166). Grantham et al. (2007) argued that the organisational view of space has changed from a focus on place to one on work itself. Consequently, there is a need for less but more efficient superior quality space. Dispensing with CRE altogether is generally not a realistic option, but corporate agility needs to be matched by CRE agility. CRE managers need the ability to dynamically realign their CRE portfolio in response to planned and unforeseen changes, dynamic alignment.

Business strategy develops and evolves over time. The influence of internal and external factors results in strategy development and its implementation not being a controlled deliberate process, but rather an emergent complex iterative process (Mintzberg & Water, 1985). Decision-making should improve over time providing closer alignment of CRE to operational needs, as well as other parts of the business, and therefore *dynamic alignment* of CRE should be evident.

However, the lack of attention by corporate strategic management researchers on CRE issues, (identified by Roulac, 2001) remains pertinent today (Heywood & Kenley, 2008). The linkage between business and CRE has been stated as being poor from both business strategy and CRE research perspectives. Heywood (2011) suggested that alignment models were too CRE focused whereas Stadlhofer suggested that in Europe, "CRE has almost entirely been seen as a cost factor" (Stadlhofer, 2010, p97). In conclusion, some CRE research appears too business focussed (Scheffer et al., 2006), other too CRE centric, but all indicate a poor link with business.

A body of CRE research has focussed on modelling the alignment of the CRE portfolio with business strategy (e.g., Nourse & Roulac, 1993; De Jonge, 1996 (cited by Appel-Meulenbroek et al., 2010); Lindholm et al., 2006). Despite the different categorisations of possible CRE strategies, many agree that the fundamental driver for business strategy is to maximise the wealth of shareholders (e.g., Gibler & Lindholm, 2012). That may hold true for a number of organisations, but it is not a universal proposition. A more complex set of influences can operate during decision making processes, including the self-interest of managers and corporate social responsibility (Mintzberg et al., 2002).

Heywood & Kenley (2008) considered how operational decisions could provide an advantage through functional strategies but recognised that they could generate contradictory effects. Heywood & Arkesteijn (2017) examined 20 different CRE alignment models concluding that the theoretical base of the subject is disorganised. More importantly, CRE alignment is "pluralistic and complex, being several things

simultaneously" (Heywood & Arkesteijn, 2017: 155). In an earlier study, Heywood (2011) concluded that none of the existing (ten) models had all the necessary components. These various studies consider the model itself, not the dynamics that impact the CRE portfolio, and they illustrate how individual CRE tactical decisions can influence business performance. The primary flow of decision-making is one directional; business strategy directs CRE strategy, which steers CRE decisions, the effects of which flow back into various business metrics. For example, to reduce CRE costs leases will not be renewed leading to an increase in profits from lower expenditure. Those CRE models that have been developed have considered various aspects of CRE including the efficiency and effectiveness of the CRE Manager (e.g., Nourse & Roulac, 1993); the alignment of CRE with business strategy (e.g., Lindholm et al., 2006; Haynes, 2012; Heywood, 2011); the own versus lease decision (e.g. Tipping & Bullard, 2007); company performance (e.g. Nappi-Choulet et al., 2009) and how CRE affects stock market performance (e.g. Lasfer, 2007).

Business decision-making is theoretically linked to business strategy, the latter provides the direction of travel for the company and decisions should support its objectives. Good decisions add value, whereas unrectified, bad decisions lose value. "Ultimately, a company's value is no more (and no less) than the sum of the decisions it makes and executes" (Blenko et al., 2010: 57). What is essential for managing resources is the measurement of the performance of the business, and its constituent parts (Neely & Bourne, 2000; Neely, 2005; Tangen, 2005). The measurement systems used need to be defined and explained and related to what their intention is, the improvement of the performance (Tangen, 2005).

Van Ree proposed that, "the profitability or performance of an organisation depends to a great extent on meeting the generic performance criteria" (Van Ree, 2002: 357). This generic framework provides a broader perspective than other models that have been developed and provides a link between business and CRE measures. These are:

- Effectiveness the actual result achieved against the aimed for result:
- Efficiency aimed for resource use against actual resourced used;
- Productivity actual output to input;
- Flexibility "the ability to recognise and adapt to changing circumstances" (Van Ree, 2002: 359).

These measures are qualitative and quantitative and business will need to choose which element has priority at a specific time. Ultimately though there will be a balance reflecting short and long-term goals of the business. Subsequent researchers have sought to develop the concept and have additionally suggested sustainability (Riratanaphong & van der Voordt, 2015) and IT (Stegerean & Gavrea, 2009). Others have structured a model along the lines of the Balanced Scorecard (Kaplan & Norton, 1996) for example Lindholm et al. (2006) who produced narrower tactical definitions.

Cost reduction is often regarded as the default strategy for CRE (Gibson & Lizieri, 2001), as "reducing cost in any area has a direct and immediate impact on the financial

performance of the firm" (Lindholm et al., 2006: 468). Cost reduction looks at efficiency only, the lowest input for a given output, it does not provide a wider perspective. On the other hand, effectiveness and productivity require consideration of both outputs and inputs together with their relative change. If demand falls the output needs to be adjusted downwards to reflect it, reducing the inputs required. The challenge of the 'CRE input' is that it can be relatively fixed. Declining output cannot be matched by an immediate reduction in the CRE input, which will have a negative effect on effectiveness, efficiency and productivity measures until the *dynamic alignment* process is completed.

Today's more fluid business environment requires rapid adjustment in a short period of time to make a contribution to strategy. The ability to change the dynamic tension between short time horizons (which require agility) and long-term strategic commitments (such as CRE) is now a required competency (Doz & Kosenen, 2008). Change and disruption require frequent re-calibration to re-align the business and maintain *transient competitive advantage* (McGrath, 2013), namely being lean and mean. Similarly, MacIntosh & MacLean (2015) stressed the requirement for double-loop learning (an emergent process) and continual adjustment.

Consequently, a fixed CRE portfolio is an impediment to business change and, therefore, its performance. Joroff & Becker (2017) identified the move to an agile portfolio as one of six primary shifts in CRE over the last twenty-five years. The move from static to agile portfolios reflects that "agility has become an overreaching objective" (Joroff & Becker, 2017: 33). Adaptability that results from a flexible CRE portfolio allows a business to change strategy to deal with threats or exploit opportunities that arise, or to recalibrate its operations and costs to maintain its efficiency and effectiveness. This requires short term occupational arrangements (licences, short leases and frequent, unfettered break clauses) or ownership. Legal and financial flexibility are two separate influencers of *dynamic alignment* and need to be explicitly stated, not implicitly dealt with (Gibson, 2000).

There has been a long running debate within CRE as to what offers business the greater flexibility, leasing or owning. Gibson suggested that owning a property is the only way to get total control, as "a lease always has both contractual and financial constraints" (Gibson, 2000: 152). Apgar (2009) took the opposite view that business needs to be nimble, therefore, own less and lease more, provided flexibility is built into the lease. Both arguments have a measure of validity and are not mutually exclusive; a nimble organisation will seek the least burdensome option for their specific business. A detailed review of the advantages and disadvantages is provided by Haynes & Nunnington (2010), who identified the importance of cultural, financial and business factors in the choice. The balance between owning and leasing has been discussed in a number of papers, but those studies have generally been from the perspective of total returns for shareholders (e.g., Lasfer, 2007). In practice, there is the reality of having to deal with the availability of supply, requirements for specialised facilities, the attitude of landlords, break clause restrictions, etc.

3.3 Hypothesis Development

If managers seek *competitive advantage* they should focus on effectiveness, efficiency, productivity and flexibility as readily ascertainable performance measures. They should recognise that the business, including its CRE, is a *complex adaptive system* (Reeves et al., 2016), which should be learning from past decisions. The outcome of that learning should be a more flexible CRE portfolio, capable of *dynamic alignment* to meet the future needs of business. Therefore, during any downturn in business performance the CRE portfolio should be capable of rapid adjustment, in particular, a reduction of capacity. A relatively short lease profile will provide inherent flexibility allowing change to be achieved without creating a surplus leasehold property.

As managers seek to extract more from the value chain they will seek to generate more from less. The CRE portfolio should reduce as a consequence of improvements in efficiency, effectiveness, and productivity, assuming no external drivers of change (e.g., acquisitions, mergers, etc.). A business will seek to generate more turnover and profit from less space. Allied to that will be the decision on the split between owned and leased space, what is best for the business. Therefore, a flexible CRE portfolio capable of *dynamic alignment* is required.

The adjustment of CRE, including the balance between leased and owned CRE, to reflect business performance changes between 2007 to 2014 could indicate how CRE flexibility and its capacity for *dynamic alignment* operates in practice. This period is chosen for this study because during the eight years business was subject to the impact of a financial crisis followed by a recession and then recovery. The resulting turbulence and financial pressures meant that businesses had to react to the instability by changing their strategy. With the change(s) to business strategy there should have been a corresponding re-alignment of the CRE portfolio and evidence of *dynamic alignment* should be seen.

Three hypotheses have been identified to test for the existence of flexibility and capability for *dynamic alignment*, to allow the CRE to facilitate improved efficiency, effectiveness, and productivity in the business.

Adopting the *sustained competitive advantage* approach (Porter, 1985) to strategy would assume that resources are worked harder to improve the value chain, therefore, over time, the business would get more from its CRE portfolio. From the perspective of *transient competitive advantage* (McGrath, 2013) the commitment to CRE would be kept short term because change occurs frequently.

Hypothesis 1: The length of commitment to CRE will reduce over time to reflect improved CRE flexibility and effectiveness of CRE use.

Shorter leases should provide the most flexible option for a business with low total commitment (Apgar, 2009). This hypothesis is operationalized in terms of three subhypotheses.

Hypothesis 1a: The length of lease terms >5 years will fall

Ownership provides a fixed cost (Apgar, 2009) and studies on the owned:leased ratio (e.g., Lasfer, 2007) indicate that owning CRE affects shareholder returns.

Hypothesis 1b: The ownership of CRE will fall over time

Different industries have different profiles of ownership and leasing. Therefore, a further indicator of CRE change is the total CRE commitment, and this would remove any bias on 'ownership' preference for a category. Reducing costs, in its broadest sense improves financial performance (Lindholm et al, 2006).

Hypothesis 1c: The total commitment to CRE will fall over time

The financial crisis and recession affected turnover, profits and profit margins, thereby impacting performance measures of efficiency, effectiveness and productivity. If there was a flexible CRE portfolio there should have been an appropriate response to reduce the total CRE commitment and allow a rebalancing of input costs to restore productivity measures, possibly with a time lag. Therefore, to maintain efficiency, effectiveness, and productivity levels a business will look at revenue and profitability and adjust its CRE, consequently the second hypothesis is:

Hypothesis 2: As turnover and profitability decline/increase a business will react by reducing/increasing the proportion of total costs committed to CRE.

Hypothesis 2a: The financial commitment to CRE will fall/increase as revenue and/or profits decline/increase

Hypothesis 2b: The financial commitment to CRE will fall/increase as the profit margin declines/increases

As a business adjusts to demand for its products or services it will change its various resource inputs, including the number of full-time employees (FTE), which will affect its space requirement and producing a corresponding contraction or expansion in the CRE portfolio. That will allow the business to maintain levels of efficiency, effectiveness, and productivity in its operations.

Hypothesis 3: As FTE numbers increase or decrease there will be a corresponding change to the CRE portfolio

Hypothesis 3a: CRE total costs will decline/increase as FTE numbers decline/increase

When revenue/profit contract there will be an FTE reduction leading to a decline in CRE needs. Leased space should be easier to reduce than owned space, therefore there should be an initial jump in the ratio of owned to lease space when FTE declines.

Hypothesis 3b: As FTE numbers decline/increase the ratio of owned to leased CRE costs will increase/decrease

As more output is being sought from less input to enhance productivity from increased efficiency, there should be a decline over time in the CRE costs relative to FTE numbers.

Hypothesis 3c: CRE lease costs will decline over time relative to FTE numbers

The next section explains how the data were gathered and analysed to test these hypotheses.

3.4 Methodology

This research examines the financial data of companies in the UK's FTSE350 Index, the largest companies by market capitalisation listed on the London Stock Exchange, for the period 2007 to 2014, the financial crisis, recession, and post-recession period. Following an initial analysis those companies that did not have accounts for the entire research period together with those non-typical in their use of real estate were excluded. The latter includes investment funds (vehicles run by banks), property companies (whose raison d'être is ownership) and natural resource companies (who focus on working land to remove minerals, etc.), resulting in data for 230 companies.

The companies were grouped into four CRE categories - Services & Technology Manufacturing, Miscellaneous and Retail. Information on CRE in the annual reports does not provide a breakdown of property types, therefore these categories will not be exclusively property type specific. For example, whilst the Services & Technology category will primarily comprise offices, it will also include other property types (e.g., retail banking premises and data centres). The quality of the data on financial cost of CRE in UK quoted companies is very good as UK accounting is governed by the International Accounting Standards Board (IASB), and the standards they issue provide a benchmark for the quality of the data in the accounts of individual companies, providing robust and reliable information for investors. The lack of a breakdown between property types and omission of data such as floor areas is recognised as a limitation of the data.

The data was extracted from annual reports, which were downloaded from the individual company websites. The year-end figures comprised turnover, profit before interest & tax, net book value (freehold and long leasehold), surplus property provision (SPP), operating lease costs and FTE's. The SPP is made by a company for leases of >1

year remaining that are no longer operational, in effect it is a capital sum set aside to pay for the liability (IAS37). Lease costs are split in the accounts between to those of < 1 year, 2-5 years and >5 years.

Four calculations were undertaken on the extracted data to create additional variables:

- Total CRE costs the summation of net book value and operating lease costs to give a view of the total commitment to CRE. The figure used in this paper reflects just the lease rent commitment and the net book value. It does not include other costs (e.g., service charge, property taxes, facilities costs) which are not stated in the annual reports. It is estimated that rent represents circa 35% of the total financial commitment for CRE (Cooke & Appel-Meulenbroek, 2015);
- Owned: Leased Ratio the net book value divided by the total CRE costs. It provides a view on the balance of owned and leased CRE;
- Lease length > 5 years an estimate of the lease term for leases >5 years to give an overview of the longevity of the leased portfolio. The calculation is the total cost for leases >5 years divided by the average annual rent. The latter is the sum of leases <1 year and 2-5 years, divided by 5. For example, a rent of £200m with the average annual rent of £49m produces a figure of 4.08 as the average term >5 years, indicating a predicted term for longer leases of 9.08 years (5+4.08);
- Profit Margin profit expressed as a percentage of turnover.

Two analysis techniques were used. The first is a descriptive to put the dataset and categories into context including trends over the eight-year period. Mean values were calculated for business and CRE metrics being the category total divided by the number of companies.

The primary technique is a distributed time lag auto-regression model to determine trend lines and the effects the independent variables have on the dependent variable. The nature of both the acquisition and disposal processes for CRE results in a slow speed of change, which leads to a lag between the decision and its implementation. A one-year lag reflects change of performance over 12 to 24 months impacting the CRE portfolio. A two-year lag would, in part, be a de-facto sign there is a lack of *dynamic alignment* in the portfolio. Whilst a business will monitor its performance on a daily, weekly or monthly basis, its decision-makers will only react once a specific trend has clearly developed, at that point change to the CRE portfolio will commence. Therefore, a one-year lag for the independent variables in the regression analysis was adopted.

The regression models were estimated for each category and all companies combined. The independent variables include the previous year's value of the dependent variable (the auto-regressions term), together with dummy variables for each year of the data, where the first year is taken as the basis. The dummy variables capture any year-specific effects, whereas the regression constant and auto-regression term pick up the general trend. A number of models look at trend-lines and only include as independent

variables the auto-regression term and the dummy variables for the years. To establish whether the estimated value of the auto-regression coefficient in a trend-line reflects a fall or increase overall the predicted values have been computed using the regression model for the different categories against each year for Hypothesis 1.

Other models test the relationship between the dependent variable and the business metrics. In these models the business metric is included as an independent variable along with the auto-regression term and the dummy variables. A correlation test was undertaken to identify multicollinearity between variables before a regression analysis was run, with the correlation threshold set at 0.7. Regressions were run for the individual variables against the dependent variable and the one with the highest R^2 (Adjusted) was selected. A check was made on the VIF to confirm the previous process had dealt with all of the collinearity issues. Throughout we have identified significance in tables by * p<0.1, ** p<0.05 and *** p<0.01.

3.5 Results - Descriptives

A brief summary of the key financial and CRE data, represented as mean per company, is shown in Table 3.1. The change in the key financial measures from 2007 to 2014 are shown in Figures 3.1 to 3.5, which have rebased the data to 2007 as 100 to show the relative change over the period.

There has been a relatively muted change over the period for measures for All Companies (Figure 3.1) with two exceptions. Profits fell significantly in 2008, recovered by 2010 and have been relatively flat since ending 4% below the 2007 level. Turnover has shown some variability over the period ending 45% higher than the start, but that rise has not been continual.

Figure 3.2 shows the measures for Services & Technology with both turnover and profits relatively volatile. A significant change in 2008 saw turnover fall by 21% and profits by 118%, creating losses. Turnover has recovered but profits struggled to regain the 2007 level ending 12% below their 2007 level.

Manufacturing (Figure 3.3) has probably been the strongest category over the period with growth in turnover, rising 48%, and profits, up 51%. The mean SPP per Manufacturing company proportionately grew the most of all categories, although from a relatively small absolute figure.

Table 3.1 Mean Values Per Company of some Key Variables (2014)

MEASURE	VALUE	CHANGE 2007 - 2014	MEASURE	VALUE	CHANGE 2007 - 2014				
ALL COMPANIES: 230 Companies									
Turnover	£5,522m	47%	Freehold Value	£797m	22%				
Profit	£475m	-4%	SPP	£17m	145%				
FTE's	27,842	11%	Lease Total	£544m	17%				
SERVICES & TECHNOLOGY: 108 Companies: Finance (39); Construction (15); Professional/Support Services (29); Techn/Media/Telecomms (25)									
Turnover	£5,575m	34%	Freehold Value	£177m	-4%				
Profit	£486m	-12%	SPP	£25m	150%				
FTE's	30,944	11%	Lease Total	£420m	4%				
MANUFACTURING: 54	MANUFACTURING: 54 Companies: Consumer Goods (15); Engineering (26); Industrials (13)								
Turnover	£3,730m	48%	Freehold Value	£1,666m	28%				
Profit	£514m	51%	SPP £3m		200%				
FTE's	18,768	8%	Lease Total	£189m	41%				
MISCELLANEOUS: 45 Companies: Health (12); Leisure (8); Transport (8); Utilities (7)									
Turnover	£6,579m	95%	Freehold Value	£687m	9%				
Profit	£465m	-28%	SPP £6m		133%				
FTE's	22,755	13%	Lease Total	£354m	18%				
RETAIL: 23 Companies									
Turnover	£7,417 m	36%	Freehold Value	£1,888m	39%				
Profit	£345.m	-1%	SPP	£40m	135%				
FTE's	45,268	13%	Lease Total	£2,330m	26%				

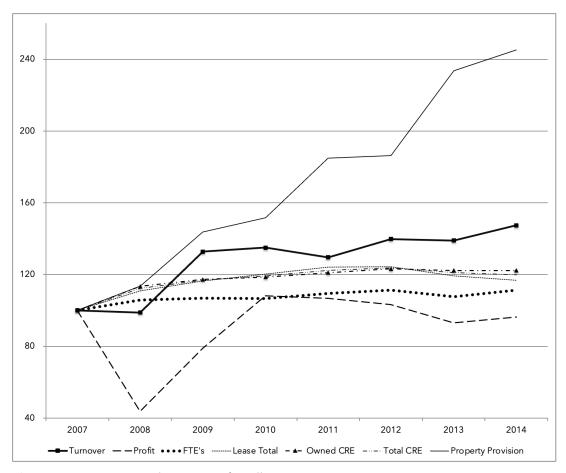


Figure 3.1 Key Financial Measures for All Companies

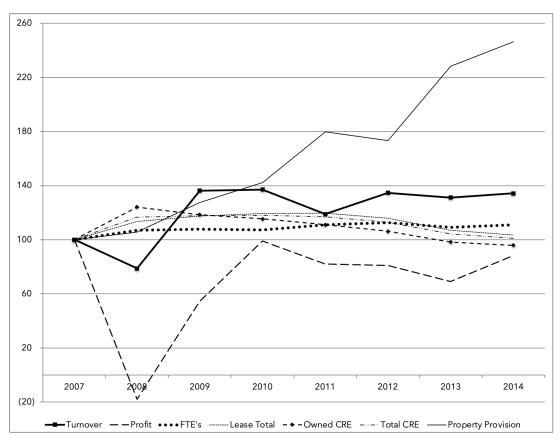


Figure 3.2 Key Financial Measures for Services & Technology

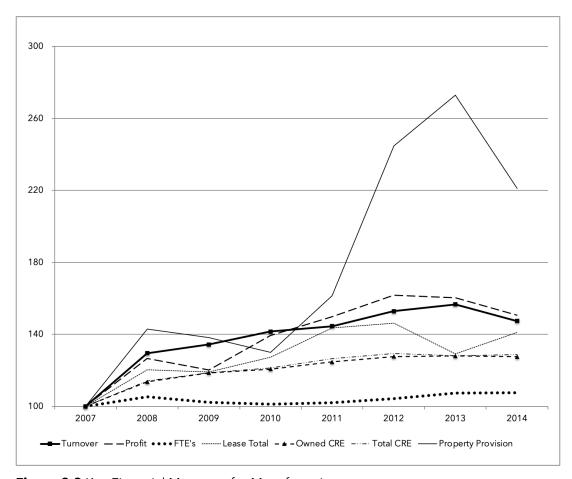


Figure 3.3 Key Financial Measures for Manufacturing

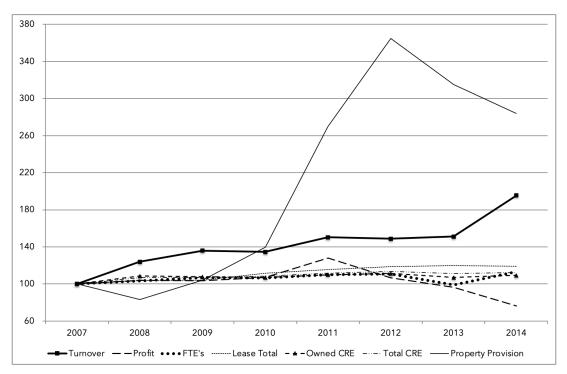


Figure 3.4 Key Financial Measures for Miscellaneous

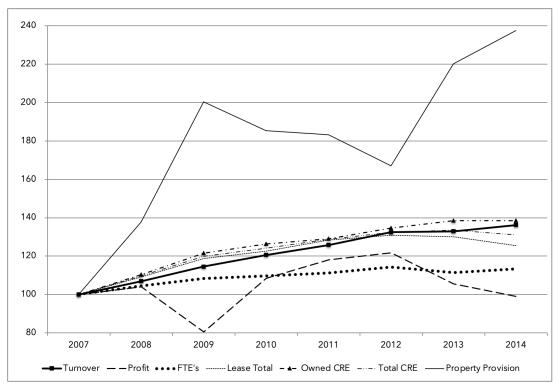


Figure 3.5 Key Financial Measures for Retail

Profits for the Miscellaneous category 2014 were 28% below their 2007 level, in spite of a near doubling of turnover (Figure 3.4). This category had the largest percentage increase in SPP, although it fell from a peak in 2012.

The profits of retailers dropped in 2009 by 20%, a year later than other categories (Figure 3.5). Profits rallied in 2011/2012 before declining to end 1% below their 2007 level. In financial terms the SPP per retailer was 60% higher than the mean for the next highest category, Services & Technology. The SPP profile showed unusual volatility between 2010 to 2012.

3.6 Results & Discussion of Hypothesis Testing

We will now turn to the stated hypotheses.

3.6.1 Hypothesis 1

A regression analysis tested Hypothesis 1a, that the lease length >5 years was reducing over time. The purpose of the regression analysis here is to identify a trend, consequently no independent variables are included in the model other than the autoregression term, the previous of the dependent variable, and the dummies for years. A regression model is estimated for each category and all companies. The results of the regression analysis are shown in Table 3.2.

Table 3.2 Results of trend-line regression analysis of long-term leases (> 5 years) (Hypothesis 1a)

	Constant	PY Average Lease Term >5	Dummy 2008	Dummy 2009	Dummy 2010	Dummy 2011	Dummy 2012	Dummy 2013		
ALL COMPA	ANIES (R2 0.7	'10; R2adj 0.7	'09, P<0.01)			•				
Estimate	3.187	0.664***	-0.692	-0.533	-0.324	0.115	-0.234	-0.137		
t-value	8.05	62.316	-1.317	-1.013	-0.616	0.218	-0.444	-0.26		
p-value	0	0	0.188	0.311	0.538	0.827	0.657	0.795		
SERVICES &	SERVICES & TECHNOLOGY (R2 0.681; R2adj 0.678, P<0.01)									
Estimate	2.942	0.683***	-0.539	-0.972	-0.73	-0.045	-0.86	-0.328		
t-value	5.465	39.532	-0.766	-1.381	-1.035	-0.064	-1.219	-0.464		
p-value	0	0	0.444	0.168	0.301	0.949	0.223	0.643		
MANUFACT	TURING (R2 ().837; R2adj (0.834, P<0.01	1)						
Estimate	-0.753	1.008***	0.354	1.059**	0.626	0.999**	1.033**	0.890**		
t-value	-2.003	43.419	0.789	2.358	1.396	2.228	2.305	1.986		
p-value	0.046	0	0.43	0.019	0.164	0.026	0.022	0.048		
MISCELLAN	EOUS (R2 0.	776; R2adj 0.	771, P<0.01))		•				
Estimate	1.521	0.801***	0.938	-0.292	0.893	0.934	1.07	0.326		
t-value	1.455	32.585	0.673	-0.209	0.64	0.669	0.767	0.233		
p-value	0.147	0	0.502	0.834	0.523	0.504	0.444	0.816		
RETAIL (R2 0.738; R2adj 0.726, P<0.01)										
Estimate	9.058	0.501***	-6.642***	-3.236	-3.565	-3.397	-3.756	-3.869*		
t-value	5.198	19.948	-2.886	-1.395	-1.536	-1.462	-1.616	-1.663		
p-value	0	0	0.004	0.165	0.127	0.146	0.108	0.098		
Significance	* p<0.1, ** p	o<0.05 and **	** p<0.01							

The predicted average lease term >5 years have been calculated for the period 2008 to 2014 (Figure 3.6).

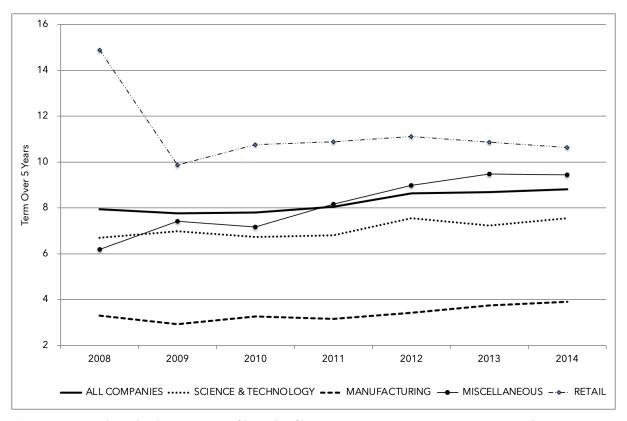


Figure 3.6 Predicted values (years) of length of long-term commitment to CRE (Hypothesis 1a)

There is an overall upward trend in leases >5 years for four of the five categories (Figure 3.6). The exception is Retail with a significant drop in 2009 before being relatively flat for the remainder of the period. The dip coincides with the doubling of the SPP (see Figure 3.5). The fit of the data to the regression equation is relatively high (R² (Adjusted) is between 0.681 and 0.837). Hypothesis 1a is not supported because the length of leases >5 years has risen for all categories, excluding Retail.

The descriptive analysis shows an increase in ownership of CRE for all categories, except Services & Technology (-4%). To test Hypothesis 1b trend-line regression models are estimated for the categories with total owned CRE as the dependent variable and previous year value of owned CRE and the dummies for the years as independent variables. The results are shown in Table 3.3.

To evaluate the trend, predicted values for each year were calculated by the regression model for each year and each category (Figure 3.7). This identified that Services & Technology and Miscellaneous categories had declined by 15% and 12% respectively, whilst for the other three categories ownership is increasing, with Retail highest (+26%). The very high R² (Adjusted) suggests a very good fit to the data. The analysis does not support Hypothesis 1b, ownership is increasing for three of the categories, not declining.

Table 3.3 Results of trend-line regression analysis of Owned CRE (Hypothesis 1b)

	Constant	PY Owned	Dummy 2008	Dummy 2009	Dummy 2010	Dummy 2011	Dummy 2012	Dummy 2013		
ALL COMPANIES (R2 0.992; R2adj 0.992, P<0.01)										
Estimate	51.486	1.028***	-53.739***	-61.077***	-56.406***	-60.215***	-71.218***	-68.277***		
t-value	5.277	438.547	-3.912	-4.446	-4.106	-4.383	-5.184	-4.97		
p-value	0	0	0	0	0	0	0	0		
SERVICES &	SERVICES & TECHNOLOGY (R2 0.970; R2adj 0.969, P<0.01)									
Estimate	49.545	0.973***	-53.687***	-49.425***	-51.865***	-53.061***	-58.867***	-49.192***		
t-value	4.865	154.345	-3.752	-3.454	-3.625	-3.709	-4.115	-3.438		
p-value	0	0	0	0.001	0	0	0	0.001		
MANUFACT	URING (R2 0	.955; R2adj (0.954, P<0.0°	1)						
Estimate	69.675	1.016***	-69.308***	-70.531***	-53.459***	-75.066***	-71.316***	-90.866***		
t-value	4.849	88.487	-3.452	-3.513	-2.662	-3.736	-3.549	-4.522		
p-value	0	0	0.001	0	0.008	0	0	0		
MISCELLAN	EOUS (R2 0.	985; R2adj 0.	985, P<0.01)						
Estimate	66.582	0.979***	-55.906**	-57.590**	-33.598	-43.688	-78.159***	-37.706		
t-value	3.249	142.26	-1.973	-2.033	-1.186	-1.542	-2.759	-1.331		
p-value	0.001	0	0.049	0.043	0.237	0.124	0.006	0.184		
RETAIL (R2 (RETAIL (R2 0.995; R2adj 0.995, P<0.01)									
Estimate	88.808	1.039***	4.155	-87.59	-119.073	-81.124	-107.625	-163.729*		
t-value	1.389	183.335	0.046	-0.976	-1.326	-0.903	-1.198	-1.823		
p-value	0.167	0	0.963	0.331	0.187	0.368	0.233	0.07		
Significance * p<0.1, ** p<0.05 and *** p<0.01										

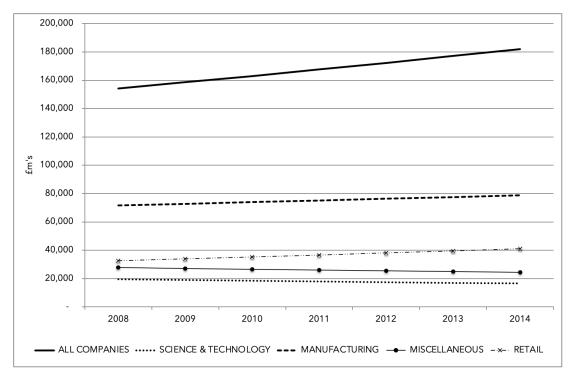


Figure 3.7 Predicted values (£m's) of ownership of CRE (Hypothesis 1b)

Total CRE costs continued to increase through the recession starting to fall from 2011 and 2012. The descriptive analysis showed increases for all categories (Services & Technology +4%; Manufacturing +41%; Miscellaneous +19%; Retail +26% and All Companies +17%). To test Hypothesis 1c a trend-line regression analysis of total CRE costs was conducted using as independent variables the dummies for the years and the previous year's value of total CRE cost. The results are represented in Table 3.4.

The predicted values from the equations are shown in Figure 3.8 the R² (Adjusted) figure being close to 1.0, similar to Hypothesis 1b. The trend line for total costs of CRE generally indicates a steady rise over the eight years for Retail (+33%), Manufacturing (+21%) and All Companies (+22%). In contrast, Services & Technology and Miscellaneous both declined, falling 14% and 4% respectively. Hypothesis 1c is not supported as the total commitment to CRE is increasing for three of the five categories.

Consequently, Hypothesis 1 is not supported. Certain categories are seeing a decline in some CRE commitment measures, but overall CRE commitment is not reducing over time. This suggests no improvement in flexibility nor in CRE effectiveness.

Table 3.4 Results of trend-line regression analysis of Total CRE Cost (Hypothesis 1c)

	Constant	PY Total CRE	Dummy 2008	Dummy 2009	Dummy 2010	Dummy 2011	Dummy 2012	Dummy 2013				
ALL COMPA	ALL COMPANIES (R2 0.990; R2adj 0.990, P<0.01)											
Estimate	84.339	1.034***	-81.315***	-97.417***	-92.473***	-115.175***	-149.577***	-134.648***				
t-value	4.28	389.825	-2.937	-3.519	-3.34	-4.16	-5.402	-4.863				
p-value	0	0	0.003	0	0.001	0	0	0				
SERVICES &	SERVICES & TECHNOLOGY (R2 0.997; R2adj 0.977, P<0.01)											
Estimate	112.956	0.976***	-90.335***	-94.742***	-103.304***	-120.385***	-147.802***	-117.210***				
t-value	4.796	177.546	-2.738	-2.871	-3.131	-3.648	-4.479	-3.552				
p-value	0	0	0.006	0.004	0.002	0	0	0				
MANUFACT	TURING (R2 0	.970; R2adj 0	.969, P<0.01)								
Estimate	89.441	1.032***	-100.166***	-88.539***	-61.431**	-102.159***	-124.641***	-105.043***				
t-value	4.411	108.803	-3.535	-3.125	-2.168	-3.602	-4.395	-3.705				
p-value	0	0	0	0.002	0.031	0	0	0				
MISCELLAN	EOUS (R2 0.9	981; R2adj 0.	981, P<0.01)									
Estimate	70.893	0.993***	-66.039	-47.279	-33.025	-45.312	-86.557**	-51.33				
t-value	2.599	127.306	-1.775	-1.271	-0.888	-1.218	-2.326	-1.379				
p-value	0.01	0	0.077	0.205	0.375	0.224	0.021	0.169				
RETAIL (R2 0.993; R2adj 0.992, P<0.01)												
Estimate	150.642	1.050***	3.115	-204.918	-207.129	-235.706	-324.429*	-450.115**				
t-value	1.072	143.608	0.016	-1.046	-1.057	-1.203	-1.655	-2.297				
p-value	0.285	0	0.987	0.297	0.292	0.231	0.1	0.023				
Significance * p<0.1, ** p<0.05 and *** p<0.01												
L												

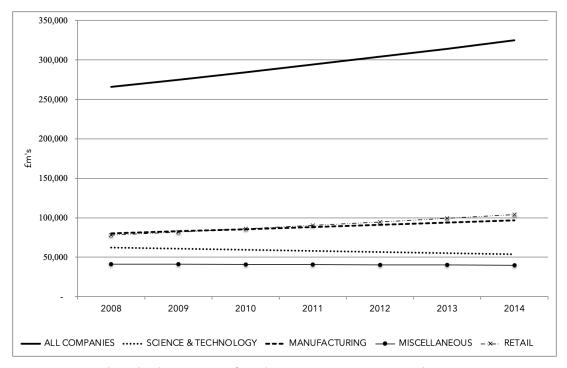


Figure 3.8 Predicted values (£m's) of total CRE commitment (Hypothesis 1c)

A reduction in lease length would build flexibility into the leased portfolio, however this metric only declined for the Retail category and that was only a nominal fall. This suggests that any improved lease negotiating position for occupiers during the recession was short lived, post-recession landlords have returned to seeking longer leases.

The increase in CRE ownership could reflect the view that owning is better than leasing (Gibson, 2000). However, the change in the ownership balance may be a reflection of opportunism arising from the recession. The property investment market was depressed after the financial crisis and into the recession. Banks and lenders forced companies to sell properties to reduce debt. Banks themselves became forced sellers as a number of property companies became insolvent, therefore low prices offered opportunities for occupiers to purchase properties cheaply.

The analysis suggests that businesses have not achieved greater flexibility and/or improved effectiveness (getting more from less) in its CRE portfolio. This could indicate that CRE strategies are not just about cost reduction as suggested by some (e.g., Gibson & Lizieri, 2001; Stadlhofer, 2010).

3.6.2 Hypothesis 2

This hypothesis examines the total commitment to CRE against the business metrics of profit, turnover and profit margin, all of which exhibited considerable variation over the eight years reflecting the impact of the financial crisis and recession. A positive relationship is hypothesized such that when turnover and/or profit and/or profit margin

falls/rises the CRE commitment will decline/increase. Therefore, the hypothesis encompasses single metric or combinations of them.

The regression analyses of total CRE costs was carried out for Hypotheses 2a, 2b and 3a. It included the independent variables of turnover, profit, profit margin and FTE, together with their previous year figures, as well as the previous year total CRE cost (the auto-regression term) and dummies for the years. This approach allows us to control for FTE in evaluating the effects of financial performance variables (for Hypothesis 2) and, vice versa, to control for the financial performance variables in evaluating the effects of FTE. Ideally, we wanted to include all business metrics simultaneously, but because of multicollinearity we have not been able to do this. The procedure for selection of the best variable is explained in the methodology. The results showing the best metric based on fit are shown in Table 3.5.

The regression for Hypothesis 2a identifies a significant positive relationship of total CRE cost with turnover for the Services & Technology and Retail categories and with profit for Miscellaneous but a negative relationship for Manufacturing. A significant positive relationship exists for Services & Technology between total CRE cost and the previous year profit, which corresponds to a negative relationship in the current year. Consequently, Hypothesis 2a is only supported for certain cases.

Hypothesis 2b regression identified a significant positive relationship between total CRE costs and profit margin for the Retail category. The previous year profit margin is significant and positive for All Companies, corresponding to a negative relationship in the current year. Therefore, Hypothesis 2b is only supported in certain cases.

A positive relationship between total CRE costs and turnover and/or profit and/or profit margin would indicate that CRE moves in line with business performance. Across all three metrics the relationships are not consistent with this hypothesis. The significant positive relationships that support the hypotheses are turnover for both Services & Technology and Retail, profit for Miscellaneous and profit margin for Retail. Hypothesis 2 is supported for certain measures, indicating an element of *dynamic alignment*, but not a consistent one. This suggests that businesses have not created flexibility in their CRE to facilitate portfolio adjustment when financial performance necessitates cost reduction.

-134.580*** -103.291*** -125.609*** -106.332** Dummy 2013 -2.414 -1.226 0.017 0.221 0 0 0 -149.649*** 148.576*** -84.097* -274.834 Dummy 2012 -1.615 5.404 -4.436 -2.281 0.023 0 0 0 -115.271*** -104.154*** -120.728*** Dummy 2011 -1.215 -3.641 0.225 0.211 0 0 -92.838*** -62.631** Dummy 2010 -2.208 -3.286 -0.997 0.319 0.028 -1.021 0.001 -96.331*** -89.754*** -89.800*** -154.769 -3.174 -1.296 0.196 0.001 101.890*** 82.188*** -66.251* -76.392** 61.922 Dummy 2008 0.017 -1.799 0.073 0.362 0.003 3.6 0 0.000** Table 3.5 Results of regression analysis of Total CRE Cost for all business metrics (Hypotheses 2a, 2b and 3a) 0 43.859** 2.047 0.041 1.041 9.585 -7.612 0.664 0.027 0 6.782 0.030*** -0.019* -0.004 -0.874 -1.894 Profit 0.005 0.917 0.359 SERVICES & TECHNOLOGY (R2 0.979; R2adj 0.979, P<0.01) 0.059 2.603 0.01 MANUFACTURING (R2 0.970; R2adj 0.969, P<0.01) MISCELLANEOUS (R2 0.982; R2adj 0.981, P<0.01) ALL COMPANIES (R2 0.990; R2adj 0.990, P<0.01) 0.003*** -0.001 0.673 7.081 Significance * p<0.1, ** p<0.05 and *** p<0.01 0 RETAIL (R2 0.995; R2adj 0.994, P<0.01) Total CRE PY 0.835*** 1.031*** 0.951*** 132.613 0.982*** 110.014 298.151 78.435 26.642 0 74.663 95.512 88.193 69.832 4.113 -0.416 3.655 2.258 0.025 0.678 3.794 p-value p-value p-value p-value t-value t-value t-value t-value t-value

3.6.3 Hypothesis 3

Hypothesis 3 examines the commitment to CRE relative to FTE. The absolute change in CRE commitment per FTE varies across categories, a decline in Services & Technology (-9%), static in Miscellaneous (-0.6%) and rising for All Companies (+8%), Retail (+16%) and Manufacturing (+20%). CRE commitment per FTE also exhibits considerable

variety, Services & Technology is the lowest at £19,289, Miscellaneous (£45,741), All Companies (£48,032), Retail (£93,170) and Manufacturing (£98,754).

The results of the regression analysis for Hypothesis 3a for FTE in Table 3.5 indicates that FTE has a significant (positive) effect on total CRE costs for All Companies only. Hypothesis 3a is supported at the portfolio level only.

For this Hypothesis 3b a regression analysis with the owned:leased ratio as the dependent variable was carried out with FTE as the independent variable. The results are shown in Table 3.6. FTE does not have a significant effect on the owned:leased ratio and Hypothesis 3b is not supported.

The regression analysis of total CRE lease costs was carried out for Hypothesis 3c with independent variables of the previous year's lease total, FTE, previous year FTE and dummies for the years. The results of the regression analysis are in Table 3.7.

The regression analysis of FTE, as the independent variable, and lease total, the dependent variable, indicates a significant negative relationship for Manufacturing and a positive one for All Companies, Services & Technology and Retail. Hypothesis 3c is not supported, lease costs are not declining against FTE over time, with the exception of the Manufacturing category. Hypothesis 3 is only supported in limited cases and lacks consistency across the sub-hypotheses.

Over the eight-year period there was not a decline in lease costs relative to FTE, with the exception of Manufacturing. In that category lease costs and FTE both increased, the latter at a quicker rate resulting in a small decline of lease costs per FTE. Elsewhere the increase in people appears to have been translated into a requirement for more space with the growth in the CRE metrics higher than in FTE numbers. This could reflect more space per person and/or more expensive space being taken. A question to consider is whether the same pattern exists relative to floor space, which the financial accounts do not provide.

One aspect of the recession in the UK that drew considerable comment at the time was the relatively small decline in employment levels through the recession. Businesses appear to have retained employees rather than reduce numbers when turnover and/or profits fell. This has been cited as a reason for poor improvement in UK productivity post-recession (Guardian, 2016). The lack of interaction between FTE numbers and CRE costs could suggest that business has been more focussed on the retention and development of talent compared to improving efficiency in their CRE portfolio.

Table 3.6 Results of regression analysis of Owned: Leased Ratio (Hypothesis 3b)

	Constant	Owned:Lea sed Ratio PY	FTE	Dummy 2008	Dummy 2009	Dummy 2010	Dummy 2011	Dummy 2012	Dummy 2013
ALL COMP	ANIES (R2 0.9	936; R2adj 0.9	36, P<0.01)	<u> </u>					
Estimate	0.019	0.963***	0	-0.002	-0.01	-0.002	-0.003	0.002	-0.002
t-value	3.297	153.121	-0.129	-0.299	-1.331	-0.28	-0.392	0.305	-0.333
p-value	0.001	0	0.897	0.765	0.183	0.78	0.695	0.761	0.739
SERVICES 8	k TECHNOLO	OGY (R2 0.890)	; R2adj 0.88	9, P<0.01)	•	•		•	
Estimate	0.023	0.937***	0	-0.012	-0.009	-0.008	-0.011	0.003	-0.004
t-value	2.565	77.707	0.046	-0.959	-0.765	-0.694	-0.877	0.236	-0.321
p-value	0.011	0	0.963	0.338	0.445	0.488	0.381	0.813	0.748
MANUFAC	TURING (R2	0.905; R2adj 0	.903, P<0.0°	1)					
Estimate	0.046	0.936***	0	0.004	-0.027**	-0.006	-0.008	0.001	-0.006
t-value	3.405	59.125	0.878	0.327	-1.996	-0.449	-0.59	0.064	-0.486
p-value	0.001	0	0.381	0.744	0.047	0.654	0.556	0.949	0.627
MISCELLAN	NEOUS (R2 0	.946; R2adj 0.	944, P<0.01)					
Estimate	0.013	0.967***	0	0.007	0.003	0.01	0.016	0.01	-0.003
t-value	0.943	70.545	0.366	0.41	0.205	0.635	0.974	0.607	-0.184
p-value	0.346	0	0.715	0.682	0.838	0.526	0.331	0.544	0.854
RETAIL (R2	0.955; R2adj	0.953, P<0.01	1)						
Estimate	0.003	0.964***	0	0.011	0.002	0.013	0.008	-0.012	0.017
t-value	0.224	49.708	0.248	0.648	0.131	0.785	0.51	-0.724	1.007
p-value	0.823	0	0.804	0.518	0.896	0.434	0.611	0.47	0.316
Significance	e * p<0.1, **	p<0.05 and **	* p<0.01						

Table 3.7 Results of regression analysis of Lease Total (Hypothesis 3c)

Constant	Lease Total PY	FTE	Dummy 2008	Dummy 2009	Dummy 2010	Dummy 2011	Dummy 2012	Dummy 2013
NIES (R2 0.9	82; R2adj 0.9	82, P<0.01)						
34.193	1.013***	0.000***	-26.303	-34.386*	-34.090*	-52.688***	-75.660***	-64.607***
2.569	263.06	4.632	-1.416	-1.851	-1.835	-2.836	-4.073	-3.478
0.01	0	0	0.157	0.064	0.067	0.005	0	0.001
TECHNOLO	GY (R2 0.975;	R2adj 0.974	, P<0.01)					
61.202	0.971***	0.000*	-36.374	-44.904*	-51.179**	-67.194***	-88.696***	-68.162***
3.361	159.752	1.931	-1.431	-1.767	-2.014	-2.644	-3.49	-2.682
0.001	0	0.054	0.153	0.078	0.044	0.008	0.001	0.007
URING (R2 0	.955; R2adj 0	.954, P<0.01)					
28.299	1.111***	-0.001***	-32.319*	-19.265	-10.21	-30.268*	-56.189***	-15.265
2.26	59.144	-3.757	-1.872	-1.116	-0.591	-1.75	-3.249	-0.884
0.024	0	0	0.062	0.265	0.555	0.081	0.001	0.377
OUS (R2 0.9	956; R2adj 0.9	755, P<0.01)						
8.056	1.011***	0	-9.619	10.807	0.551	-1.582	-8.396	-14.189
0.521	77.768	-0.107	-0.465	0.522	0.027	-0.076	-0.406	-0.685
0.603	0	0.915	0.642	0.602	0.979	0.939	0.685	0.494
.990; R2adj (0.990, P<0.01)						
63.117	0.931***	0.006***	12.282	-84.515	-49.394	-109.297	-159.515	-234.223**
0.842	56.982	8.366	0.119	-0.816	-0.476	-1.054	-1.537	-2.257
0.401	0	0	0.906	0.416	0.634	0.294	0.126	0.025
* p<0.1, ** p	<0.05 and **	* p<0.01						
	34.193 2.569 0.01 ECHNOLO 61.202 3.361 0.001 URING (R2 0 28.299 2.26 0.024 EOUS (R2 0.4 8.056 0.521 0.603 990; R2adj (63.117 0.842 0.401	Constant PY NIES (R2 0.982; R2adj 0.99 34.193	Constant PY FIE NIES (R2 0.982; R2adj 0.982, P<0.01) 34.193	NIES (R2 0.982; R2adj 0.982, P<0.01) 34.193				

3.7 Conclusion

The period 2007-2014 was one of volatility for business in the UK. By 2014 revenue had grown by 45%, but profitability remained below the 2007 level. Certain categories performed better than others, with Services & Technology and Miscellaneous categories the poorest performers. Against that backdrop both CRE and surplus property commitments grew, SPP increasing by 145%.

The findings suggest that businesses do not appear to have focussed on improving efficiency, effectiveness, and productivity by working their CRE portfolio harder and

using less space for more people. Rather they appear to have nurtured the workforce by improving the quality and/or quantity of CRE. In this study, we have focused on the actual relationship between various business (turnover, profit, profit margin and employee numbers) and CRE metrics (leases >5 years, ownership and total CRE costs). In particular, it has sought to identify evidence that businesses have incorporated dynamic alignment into their CRE. This would facilitate adjustment of CRE to changed operational requirements and improve efficiency, effectiveness, and productivity measures. That evidence has not been found other than in limited cases.

The limited *dynamic alignment* capability identified by the study could reflect the inertia in the CRE portfolio, acting as a drag on change. Extensive change to an existing inflexible CRE portfolio will be expensive and disruptive, it needs to evolve rather than undergo an immediate radical change. Alternatively, this could be that CRE is not seen as anything other than a cost (as identified by Gibson & Lizieri, 2001), therefore it does not receive adequate attention. This appears incompatible with the opinion that CRE is an asset of the business and CRE teams are moving from providing tactical to strategic advice (Joroff & Becker, 2017). What this study does demonstrate is that cost reduction is not an apparent strategy. If it was there would be a significant reduction in the metrics of lease total, ownership cost and the total CRE commitment over the study period. Nor does the concept of agility appear to have become embedded in the mind-set of occupiers (Joroff & Becker, 2017), otherwise there would have been a noticeable decline in lease length profiles.

The results showed evidence of dynamic alignment, but not in the way that theory suggested. The results suggest a more complex set of relationships rather than a simple cause and effect one, underpinning the view that a business (including its CRE) is a complex adaptive system (Reeves et al., 2016). What is apparent is that there has not been a significant adjustment to CRE strategy reflecting adoption of transient competitive advantage (McGrath, 2013) or blue ocean strategy (Kim & Maughorgne, 2015). Even if the business strategy remains as sustained competitive advantage (Porter, 1985) it is essential to have a dynamic alignment capability for the CRE. It is possible that decision makers have not adapted to the changed business environment and adjusted their thought process commensurately. Understanding what decisionmakers thoughts are in this respect would prove a useful study, both at the business level and for CRE. Alternatively, a more dynamic business strategy has been adopted, but dynamic alignment requirements has not been applied to CRE and its decisionmaking process. The theories of alignment of CRE to business strategy (e.g., Lindholm et al., 2006) assumed a one-off not a continual process. That indicated a disconnect between the CRE and business strategy, this disconnect could be the reason for the omission of a dynamic alignment capability. What is required is continual adjustment of the CRE resulting in a complex iterative process that is emergent rather than a deliberate single change.

This paper has sought to ascertain whether occupiers have built *dynamic alignment* capability into their CRE portfolio. The resultant flexibility enabling them to improve the

efficiency, effectiveness, and productivity of the portfolio and therefore the business itself. That agility would facilitate adjustment to future shocks to the organisation and from changes of business strategy. This research has identified mixed evidence of increased flexibility, but it is not a clear and unambiguous trend. Importantly it has closed a gap in the research by looking at what businesses actually did through a period of considerable change.

Several implications arise for those in practice from this study, in both business and CRE. The overarching point is how business and CRE inter-relate. In particular there is a need for a composite approach that builds *dynamic alignment* in to the CRE portfolio to avoid fettering the business in the medium to long term with unwanted CRE. The change to the accounting reporting standards that took effect on 1st January 2019 (IFRS16, 2016) may facilitate an improvement in future CRE agility. It will influence business and CRE metrics, consequently both business and CRE managers should be creating CRE flexibility ahead of their implementation. The bigger picture has to be a CRE portfolio that allows business to grasp transient opportunities and not be hampered by a fixed CRE profile and cost base.

3.8 Limitations and recommendations for further research

The effect of CRE slowing down change to strategy has been flagged for some time (e.g., Weatherhead, 1997). Further study is needed on why business has not built-in flexibility to their CRE over the last 20 years generally, but in particular since the recession commenced in 2008. There is a need to identify and understand why building CRE dynamic alignment through flexibility has not become a priority in the decision-making process. The study of CRE in Australia by Willis (2008) offers a potential insight, in that 56% of those dealing with CRE did not know what CRE flexibility was and 76% had CRE time horizons of > 5 years. If a similar approach existed in the UK, it could explain the lack of dynamic alignment capability.

Another influencing factor on the results found in this study could be the sample itself. These are quoted companies and generally long established consequently their ability to change direction may be limited in both extent and speed by factors such as management structure and providing shareholder returns. This study examines the net effects of decision-making, it does not look at the process itself. It is probable that changes to turnover, profit, profit margin and FTE will have been considered when CRE decisions were made. What is not known is the weighting applied to individual measures and knowledge of that is an important area for further research.

The results show that categories that are more narrowly defined by property type and/or business sector, such as Retail, appear to produce clearer result patterns than more diverse ones (e.g., Services & Technology). The aggregation into larger categories may not have been beneficial in that context, therefore analysis at a more granular business sector level may improve clarity. The approach to decision-making may be more consistent within business sector rather than across property types. The

downside of such an analysis could be small sample sizes, but nonetheless an exercise worth undertaking. A further line of research would be to extend the dataset forward into the post-recession period, a less volatile business environment, which may provide different insights into CRE adjustment.

Miscellaneous is a diverse category of both business sectors and property types. That might result in specific trends for business type being masked. For example, both Transport and Utilities are not typical CRE users, with large amounts of CRE relative to employees, as well as unusual property types, such as bus depots and reservoirs. Analysis by business sector should identify whether this is an issue and whether any should be treated as non-typical. A solution to some of these limitations would be to extend the sample size beyond the 230 companies in the FTSE350 and look at a greater variety of companies, not only those quoted but also those owned privately or through private equity vehicles, as well as those outside the UK.

Financial analysis provides one perspective of what has happened, which in itself is a limitation of the study. The data was drawn from published reports and those reports provide limited information. Ideally more specific detail of the CRE portfolio would help in the analysis.

The trend from the mid-1990's to 2003 of sale-and-leaseback's, especially in the UK, could be an explanation for the lack of flexibility. That process sought to release capital to support the core business and had the benefit that the total cost of the rent did not impact the balance sheet. That changed in January 2019 (IFRS16, 2016) when new accounting regulations will bring all leases on to the balance sheet. Whilst various studies (e.g., Rodriguez & Sirmans, 1996) have identified the shorter-term benefits of sale-and-leasebacks, there do not appear to be any studies that look at the long-term effects. A comparison between those companies that undertook sale-and-leasebacks and those who did not could be insightful. Which should include questioning whether the reduction in owned CRE and increase in long term lease commitment impacted CRE as a strategic long-term resource (Park & Glascock, 2010).

The increase in CRE ownership could reflect an opportunistic approach during a depressed point in the property cycle. Understanding the perception of decision makers of the merits of lease versus own would be a beneficial study area, together with a trying to determine whether there is an ideal balance between owning and leasing. Previous work (e.g., Lasfer, 2007) did consider an element of this but carrying out a detailed investigation of what organisations did and why would provide useful for CRE researchers.

Various CRE alignment models (e.g., Gibler & Lindholm, 2012) have held that the overriding objective of the business is to maximise shareholder wealth. The output of this study suggests that this does not necessarily hold true. It might be that the time horizon business decision-makers use is longer than the eight-year period of this survey. However, that would seem counter intuitive for quoted companies with performance announcements on a three-monthly cycle. Therefore, an implication of

this study is that CRE alignment models need to question this underlying assumption and the one-off process of alignment. Further research should look at creating alignment models based on an iterative process and the theory of *complex adaptive systems* (Reeves et al., 2016). This study indicates that CRE remains inflexible with long time horizons and the move to agile portfolios (Joroff & Becker, 2017) has not been achieved everywhere.

One aspect of the study has been to identify the significant increase in the SPP across the categories. The SPP may have been used as a mechanism to build 'flexibility' into the leasehold portfolio. Understanding the relationships, if any, between business measures, CRE metrics and the SPP may cast light on this point.

Without a *dynamic alignment* CRE capability there is a risk of adverse effects on performance. There have been studies on business performance (e.g., Neely & Bourne, 2000) and on CRE performance (e.g., Riratanaphong & Van der Voordt, 2015) but there does not appear to have been a study that considers the impact of CRE on business performance measures and vice-versa. To conclude, there is still a lot more research necessary to support management in being able to truly provide CRE agility.

Chapter 4²

Is the much discussed agility of Corporate Real Estate visible in practice? An empirical study of the relationship between business metrics and surplus property

4.1 Introduction

Internal and external factors operate to influence and change an organisation and latterly have impacted the rate of change. Change arises directly from strategic choice, such as business strategy, and from transformation in the external environment, such as economic recession. Indirectly it can be through the likes of generational differences, but change is itself an influencer of business strategy, especially the speed of change. The two dominant business strategy theoretical frameworks since the mid 1980's have been sustained competitive advantage (Porter, 1985) and the Resource-Based View (RBV) (Barney, 1991). Neither consider CRE, despite its importance to the business (O'Mara, 1999). Both assume change to be a gradual transition, therefore, CRE realignment with a new business strategy would evolve. However, increasingly these strategies have been challenged by more dynamic approaches. Transient competitive advantage (McGrath, 2013) assumes a short-lived competitive advantage in which business must continually change to find the next short-term gain. Whilst blue ocean strategy (Kim & Maughorgne, 2015) is more radical, stating that true competitive advantage can only be found in areas of new business or by applying new operating methods to existing business areas. Both of these new strategic models require the organisation to be agile and unencumbered by assets and liabilities from previous strategies, including ideas, people and CRE. When change occurs realignment of all resources needs to happen quickly.

Existing CRE alignment models focus on the dated business strategy models of sustained competitive advantage and RBV. For example, Nourse & Roulac (1993) and O'Mara (1999) are based on sustained competitive advantage, whilst Gibler & Lindholm (2012) adopted the RBV model. The newer, more dynamic strategies of transient competitive advantage and blue ocean strategy have not found their way into CRE alignment models. Changes to buildings, the way space is used, the impact of ubiquitous technology, generational differences and the requirement for CRE itself (Joroff & Becker, 2017) all require CRE to be agile and dynamic re-alignment a continual process. Alignment researchers "tend to advance their own model in isolation" (Heywood & Arkesteijn, 2018: 17), which has created a disconnect leading to a "disordered CRE alignment theory" (Heywood & Arkesteijn, 2017: 144).

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The current alignment models are theories (Heywood & Arkesteijn, 2018) that seek to provide a "better understanding of the complementary structure among corporate real estate strategies on the theoretical level" (Gibler and Lindholm 2012: 26). These models focus on how CRE strategies impact on the performance of the business, but are not always validated (Heywood & Arkesteijn, 2018) nor do they extend to the implementation of CRE re-alignment (e.g., Gibler and Lindholm 2012: figure 2: 36). Heywood & Arkesteijn (2018) identified a number of models that include implementing real estate strategy as a factor. However, none of these models examine the actual implementation of the strategy, rather they identify possible changes to CRE practices or strategic real estate options. Consequently, current alignment models exclude the practicalities of their own implementation, in particular the effects that arise from the creation of surplus space by closing operational units. Improvement of CRE alignment theory and how it can operate in the 'real world' is important, especially in bridging the gap between academic theory and practitioners and providing a cohesive approach to the subject (Heywood & Arkesteijn, 2017).

The three elements of CRE strategy implementation are the acquisition of new space, its asset management and the disposal of unwanted units (Kämpf-Dern & Pfnür, 2014). A capability for *dynamic alignment* should enable a CRE portfolio to rapidly re-align to the new business strategy. That should avoid the creation of a surplus property portfolio arising from unwanted space, although it may be impaired by a shortage of suitable new space. There are a number of complexities in acquiring new premises and in the asset management of CRE (Apgar, 2009), but arguably there are greater challenges with the disposal of unwanted space. Surplus property, in particular leasehold space, continues to be a financial drain on a business until lease expiry or the unit is disposed of. As surplus space does not directly impact business operations it has both a low visibility and a low priority within the business. Consequently, CRE managers might only be allocated limited resources to mitigate the problems of surplus property.

Each business is unique in its CRE requirements, including what it regards as *core* and *peripheral* (Gibson & Lizieri, 1999) and in how it structures ownership - the freehold-leasehold split (Haynes & Nunnington, 2010). In practical terms the disposal of unwanted freehold property generally offers more potential solutions and fewer restrictions than that of a comparable surplus leasehold. Both have to deal with the effects of market demand together with internal financial constraints and issues, such as writing off the costs of fit-outs. The disposal of surplus leases has the added complexity of the involvement of the landlord and their consent to subletting etc which has an effect on the cost and risk profiles. Whilst the lease provides the framework for disposal decision-making it does not provide certainty. The reality is that the landlord is the ultimate decision maker, despite the interests of the two parties not being aligned; often even polar opposites. In practice a landlord will most likely primarily focus on asset value with cashflow probably a secondary consideration, whereas for the occupier cashflow is likely to be the primary consideration, followed by any write-off of capital investment. Consequentially, a tenant's proposal to solve a surplus leasehold

problem will have to be acceptable to the landlord. Principally this will need to improve the asset value, whilst compensating for any cashflow differential over the current lease term. Even with such a holistic solution there is no obligation on the landlord to act collaboratively or in a logical manner. The landlord has the potential to delay or prevent transactions, whilst actions to force a landlord are generally commercially unviable. There is a lack of research into the behaviour of both landlords and tenants in the operation of lease clauses, despite the impact it has on the operation of leases. The limited literature is focussed on specific issues, such as break clauses (e.g., Cooke & Woodhead, 2008).

Surplus leaseholds have been an issue for a number of years in the UK reflecting the traditional long lease structure (Cooke, 2004). The limited research on the subject indicates an increasing rather than decreasing problem for FTSE350 companies (the largest 350 companies by market capitalisation listed on the London Stock Exchange) with the surplus property provision (SPP) rising from £1.6bn in 2007 to £4bn in 2014 (Cooke & Appel-Meulenbroek, 2015). The paucity of research reflects wider issues around CRE research, which includes; a relatively limited number of CRE researchers (Heywood, 2011), the omission of a cross disciplinary approach in CRE (Lizieri, 2003), a lack of corporate strategy researchers considering CRE issues and seemingly no CRE researchers looking at business (Roulac, 2001). The limited and generally dated research on surplus property has focussed on disposal of freeholds (e.g., Gale & Case, 1989), considered specific categories (e.g., Avis & Dent, 2004 on the NHS), assessed the scale of the issue (e.g., Cooke & Appel-Meulenbroek, 2015), considered the practical issues of the problem (e.g., Cooke & Foster, 2016) or examined accounting regulation change (e.g., Maiona, 2013). The limited research reflects the lack of attention the subject receives academically and professionally, despite it being a key factor in the success of business change and CRE realignment. Intrinsic to that success of CRE realignment is the removal of 'unwanted properties' together with their drain on cash and management resources.

This chapter poses hypotheses which are tested with the aim of understanding the relationship between business and CRE parameters and the surplus leasehold portfolio, including whether individual categories of business (e.g., retail, financial services, etc) behave differently. It examines empirical data drawn from financial reports of companies, including business data (turnover, profitability, and employment numbers) and CRE data (lease profile and the SPP made for surplus leasehold property) over an eight-year period. The primary analysis is based on a distributed time lag autoregression model.

The remainder of the chapter is structured as follows. The following section discusses the literature with respect to the question how CRE operational requirements can alter as business changes and the creation of a surplus portfolio when CRE requirements change. Next, the research questions are formulated and the adopted methodology described. Then, in the following section the results and discussion are presented. The

paper concludes with a discussion of limitations, issues for practitioners and suggestions for further research.

4.2 Corporate Real Estate Management & Surplus Property Provision

Neither of the two business strategy models used by CRE researchers expressly state that CRE is a resource of an organisation. Although resources are regarded as assets they are rarely seen as a source of competitiveness. The most common real estate strategy, especially for larger firms, remains that of cost reduction, which Gibler & Lindholm (2012) identified as the number one priority for 31% of CRE Managers, with productivity and flexibility someway behind at 10% each. When assets are bundled or linked within the organisation, they can drive superior performance (MacIntosh & Maclean, 2015) but they can also create rigidity (Bingham et al., 2011) and impair dynamic capability to react and adjust to a new business strategy. CRE is a resource which can create rigidity and impair the organisation if dynamic alignment capability is not built in. The change from a static to an agile portfolio was identified by Joroff & Becker (2017) as one of the primary shifts in CRE over the last two decades. Indeed, they identified it as a paramount objective. The ability to adjust CRE to provide this agility requires a dynamic alignment capability. The link between business and CRE decision-making is important because "effective real estate decisions are integral to the realisation of overall business objectives" (Nourse & Roulac, 1993: 476).

The development of a business strategy is not a defined process, rather it is an iterative, emergent, and adaptive one (e.g., Mintzberg et al., 2009; Kay, 2010). If this iterative process, with feedback loops, has been adopted both the organisation and all of its managers should have learnt about the risks that CRE rigidity poses and, consequently, have amended their business decision-making process. Business should have built flexibility into its CRE through *dynamic alignment* capability, enabling it to exploit opportunities and avoid creating surplus property. A holistic view of strategy decision-making is required as moving away from a snapshot approach will remove the risk of overlooking "important seismic shifts in business" (Krumm & De Vries, 2003: 66). It will allow the likes of the longevity of CRE lease decisions to be taken into consideration.

A common method of categorisation of CRE is by cost and increasingly internal performance measures (Riratanaphong & Van der Voordt, 2015). However, occupiers also need to classify it from defensive and offensive perspectives. Defensively the business needs to know in advance which units it will close if there is a downturn requiring a reduction in CRE. Whilst CRE flexibility allows the smooth integration of new business acquisitions or changing to more suitable premises. The decision-making process needs to be structured with these points in mind and implemented for each CRE decision thereby building *dynamic alignment* into the portfolio.

Gibson & Lizieri (1999) proposed a framework for CRE to reflect the changes to new employment structures and working practices. They identified the *core* and *periphery* elements of CRE. The *core* portfolio is characterised by properties that the business

needs to control all aspects of, including an ability to change, which will comprise the likes of the HQ and manufacturing plant, and will be owned or held on long leases. *Periphery* properties make up the remainder of the portfolio and comprise two *periphery* elements. Those required for one to five years will be held on short leases (<5 years), whilst project space will be on very flexible *pay as you go* arrangements (e.g., serviced offices). Such an approach provides the CRE Manager with a blueprint for implementing change to the CRE.

An often-cited approach to assessing the worth of CRE is its added value which is identified as a decision-making driver in a number of CRE alignment papers (e.g., Lindholm et al., 2006). The definition of added value is used loosely and does not appear to be grounded in the economic concept of economic value added (EVA) (Worthington & West 2001), a more exact and complex definition. Yet for CRE a significant consideration is understanding all of the ramifications of the effects a change to CRE strategy has, as the impact will not be as simple as an increase in the market value of a property. Jensen et al. (2012) identified the need for a more holistic solution and a number of models have been reviewed by Heywood & Arkesteijn (2017) who identified various short comings. Van der Voordt et al. (2016) created the Value Adding Management model which assumes a continuous cyclical process of Planning, Doing, Checking and Acting. This is illustrated as a closed loop system which provides internal feedback, but does not explicitly show where external factors, such as the business environment and the business itself, can influence the models' parameters. Whilst they may be dealt with by evaluating circumstances a schematic that shows a closed loop system conveys a sense that CRE operates in isolation from the business itself. There has not been the recognition that business is a complex adaptive system (Reeves et al., 2016), and CRE is part of that broader ecosystem. Another limitation of CRE alignment models is that they are office-centric and omit other property types, to the detriment of the overall debate and engagement with practitioners.

To identify any added value there is a need to measure CRE performance and the effects of change over time. However, CRE performance measurement predominantly comprises input indicators (e.g., operating costs) with insufficient attention paid to those measures that affect strategic decision-making (de Vries et al., 2008). CRE added value is not viewed as a multi-dimensional concept. In particular, the impact of 'time' is overlooked and the disconnect between the relevant periods such as business strategy cycle (< 2 years), the life span of the leases (circa 10 years) and CRE investment write down periods (> 20 years). The theory-based approach of CRE alignment to business strategy generally discounts time as a factor. It does so by the simple expediency of ignoring it and assuming it is a one-off event rather than a continual dynamic process. In the same way relocation strategy is not considered in the context of what happens to the existing property. The added value approach too frequently defaults to the lean management ideology of reducing costs as that is readily understood by both property and non-property managers.

Various techniques have been proposed to assess alignment models, for example, the Balanced Scorecard (BSC) (Kaplan & Norton, 1996). The financial perspective in the BSC matrix should include SPP arising from a strategy change. Underpinning the BSC technique is long-term strategic learning and feedback from the BSC outputs to improve business performance and the BSC itself. To be effective, performance measurement needs to measure the right things and for the output to be relevant in the context of a decision-making process (Neely & Bourne, 2000). This necessitates a holistic approach to strategy development, decision-making, and implementation, including consideration of the entire life cycle to understand the inter-relationship between business and CRE strategy development, decision-making, lease lengths and SPP. It needs to include how the risks and costs of surplus property are mitigated, including their impact on the performance of the business, together with an assessment of the performance of the CRE team in alleviating the SPP impact. The iterative feedback loops within strategy development and decision-making should review decisions and assess the ultimate consequences to correct the criteria for the future, namely take an emergent strategy approach (Mintzberg et al., 2009). This needs to form the basic framework of CRE alignment decision-making.

There appears to be an underlying assumption in alignment models that the *added value* approach is one-sided. Either value is added, or the effect is neutral, with zero influence. This is despite wider discussions on *added value* itself and omits the idea that a wrong decision on CRE can remove value, namely there can be a negative effect. For example, mis-specifying a production facility can impact production capacity. Creating surplus space can reduce value. If the property is owned writing off fit out costs and writing down asset value negatively impacts business value. In addition, for surplus leasehold property it will necessitate the making of a provision. An example is when the USA IT company Cisco, in anticipation of business expansion, took a number of leases in the Dot-com boom (1997 to 2001) on office units at Green Park near Reading, UK. The planned expansion did not take place and the company only occupied about 25% of the leased space. The remaining office building of approximately 550,000 sqft remained vacant for over a decade until leases were surrendered close to expiry following a change in ownership of the office park (CoStar, 2012).

Under International Accounting Standard 37 (IAS37) surplus leases with more than 12 months to expiry require that an SPP is made. A capital sum is required to cover the cost of the liability resulting from what has become a non-operational onerous lease, through to the first exit date (Cooke, 2004). The provision for surplus property is taken in the year of closure and reviewed annually, reducing profits in the year it is first made and in subsequent years when re-provisioning is undertaken. An annual review is required under IAS37 to ensure that the cash drain arising from payment of rents, etc. is topped up as necessary, ensuring the provision remains adequate to cover the liabilities. When an operational leasehold is closed a number of events take place. Firstly, the rent liability is removed from the operating lease profile, with a reduction in the lease total disclosed. Secondly, any remaining book value will be written down to

zero. Finally, a provision is made for the liability of the lease (the SPP), assuming it has more than 12 months to an exit date. The SPP is calculated in several stages, firstly the gross liability is calculated based on costs to exit (including rent, service charge, property taxes, dilapidations etc.). Then an assessment of cost mitigation is undertaken based on disposal assumptions (including rents receivable, marketing, and other disposal costs). This element is deducted from the gross liability to create the net liability, the SPP.

The SPP is a specific charge that will reduce the profit for the year it is made (or reassessed). Thus, perversely at the point when the business is under financial pressure a reduction in profits is required because of the deduction for the provision. There is the potential to see a lag between the decline in revenue and/or profits and the timing of the SPP. This reflects the process of assessing issues and determining a revised strategy with CRE change implemented subsequently. Once business recovery is underway any surplus property should be brought back into use before new space is acquired. There should not be an increase in lease liability without the SPP having been removed.

4.3 Research questions

If a business has learnt from previous experience, it will have both a flexible organisation and a CRE portfolio capable of *dynamic alignment*. CRE will be structured to facilitate the rapid implementation of any change, any significant downturn in business and/or change to business strategy will see the organisation shed its shortest lease commitments first. This will begin with the second *periphery* group (pay-as-you-go space), followed by first *periphery* (short-term leases initially < 1 year then 2-5 years) before longer leases in the *core* portfolio are considered for closure. The greater the *dynamic alignment* capability the greater the proportion of leased space in the *periphery* group. A flexible organisation will be able to re-align its CRE to a new business model without the need to create an SPP. Only if change is extensive will leases with an unexpired term closer to five years be affected and with that a need to create an SPP, but because leases are short it will be a temporary phenomenon.

A change to business strategy frequently results from significant internal or external change, such as a recession or disruptive technological innovation; the period 2007-2014 included both. Businesses came under pressure from reduced revenue and/or profitability and from new entrants introducing new products and services (often technology driven) but unencumbered by existing CRE. Data on business metrics and CRE was extracted from the annual financial reports of companies in the FSE350 for that period to test hypothesised relationships in four research questions.

The first research question (Q1) considers whether business and CRE metric profiles differ between those companies that make an SPP and those that do not. We hypothesise that companies that are agile are less likely to create an SPP because they will be able to adjust their CRE to the changing environment (Q1). Larger companies

are likely to be less agile and therefore slower to change direction and hence more likely to make an SPP.

The second research question (Q2) considers what triggers the making of an SPP. Our hypothesis is that a decline in turnover and/or profits and/or profit margin and/or full-time employee numbers (FTE's) indicates a deterioration in the business. This will trigger a cost reduction exercise commensurate with the severity of the decline, which will result in a contraction in production and/or FTE's and/or fixed overheads (including CRE). Consequently, the relationship between SPP and the metrics of turnover, profit, profit margin and FTE numbers are expected to be inverse; SPP will increase as they decline (Q2).

The third research question (Q3) considers the relationship between the longevity of the SPP and CRE dynamic alignment. SPP will decline as leases expire, breaks are exercised or surrendered, although in practice, landlords generally only accept a surrender close to a break or expiry date. A decline in SPP might indicate business recovery and re-occupation of surplus space, but in practice businesses have exhibited a reluctance to do so. Operational teams regard such space as 'tainted'. The SPP total increases when new surplus properties are added and when re-provisioning for existing surplus properties is required. Initial cuts to CRE should be to pay as you go space followed by short-term leases. If CRE has an inherent dynamic alignment capability it will be structured around a core and periphery model (Gibson & Lizieri, 1999), therefore the SPP will only exist for a short time (2-3 years). Consequently, the speed that SPP reverts to zero of the SPP is a measure of CRE dynamic alignment capability (Q3).

The fourth research question (Q4) considers the inter-relationship between SPP and the lease profile. If business performance declines, there will be a reduction in shorter-term leases (< 5 years) as an SPP is made. This indicates a structured portfolio with *dynamic alignment*, whereas a decline in longer leases (> 5 years) indicates a lack of CRE *dynamic alignment*. We hypothesise that a negative relationship between SPP and short-term leases but no relationship between SPP and long-term leases indicates the existence of *dynamic alignment* of CRE (Q4).

4.4 Methodology

This research examines the annual reports for UK companies quoted in the FTSE350 Index for the period 2007 to 2014 inclusive: the period of the financial crisis and recession. After an initial analysis certain companies were excluded because they were atypical in their use of CRE, including property companies (who own to lease), investment funds (generally virtual organisations from a CRE perspective), natural resource companies (who own land for extraction purposes), health, transport, and utility companies (CRE is generally owned) and those who did not have accounts for the entire period. The first stage of analysis splits the dataset between companies that made an SPP in the period and those that did not. As a consequence, the sample size

for both the construction and leisure categories became too small (< 10 companies) and were excluded from the analysis. This provided a final dataset of 170 companies split in 99 SPP companies (those companies that make a surplus property provision) and 71 non-SPP companies (those that do not make a provision at all in the eight year period).

The analysis consolidated the companies into broad business categories, each with a mixture of property types:

- Finance include offices and retail, the bank branch network
- Professional Services include offices and storage facilities
- Technology, Media, and Telecommunications (TMT) comprises offices plus more technical space such as telephone exchanges and data centres
- Manufacturing whilst predominantly industrial units will include offices
- Retail will primarily be shops but includes offices and the warehouse distribution network.

For all 170 companies a profile was created for business and lease metrics by rebasing the data to 100 in 2007 to illustrate the general trends for the metrics over the eight year period. The second stage was to provide a broad context for the different categories split between SPP companies (those that make a surplus property provision) and non-SPP (those that do not make a provision). This was carried out by using an independent samples t-test of differences in means in 2014 of the business and CRE metrics between the SPP and non-SPP groups. A further t-test was carried out on the percentage change between 2007 and 2014 for variables. This analysis allowed us to examine the business and CRE metrics over the period and consider differences between the SPP and non-SPP groups (Q1). The sample sizes for the non-SPP categories of Retail, TMT and Professional Services are relatively small, which raises the question as to the reliability of the outcomes of the t-test. However, this does not necessarily invalidate the test because a sample of 8 companies is not regarded as very small (N < 5) (de Winter, 2013). Although the test works for small samples there is a question as to the extent to which a small sample like this is representative for the companies in the sector. This is a consideration to be kept in mind. The only very small category was Retail non-SPP (4 companies), and the t-test does not indicate any significant relationship between the two groups for this category.

The non-SPP can be categorised into three sub-sections: (i) companies that do not have surplus leases; (ii) those with surplus leases but deemed it insignificant to require an SPP; and (iii) those with surplus leases in their total provision, but do not identify SPP separately from their overall provision. As there is not the information available to determine the exact status an assumption has been made that if a company does not state an SPP figure it is because they do not have any surplus leasehold property. The 71 non-SPP companies have been excluded from the subsequent regression analysis as the SPP is zero for that group for all years.

The primary analysis technique used on the SPP companies was a distributed time lagged auto-regression model. The model includes SPP as the dependent variable and the previous year's SPP value as the auto-regression term to take the time-series nature of the data into account. The independent variables are turnover, profit, profit margin, FTE's, net assets, owned CRE and operating leases (grouped into leases < 1 year, leases 2-5 years and leases > 5 years). The profit figure adopted was the stated profit less any increase in the SPP for that year. Any increase in SPP will decrease the profit for that year, therefore, to identify the underlying profits for the business the effect of that deduction needs to be removed by adding back in the increase in the SPP. Profit margin is calculated using the adjusted profit expressed as a percentage of turnover. In addition, the Total CRE was calculated (lease total plus the owned CRE) allowing us to assess the proportion of the Total CRE that leases comprise.

Regression models were estimated for each category and for the whole portfolio, All Companies, with 2007 as the base year. A high degree of multicollinearity was expected between the metrics which could give rise to estimation problems. To identify the most significant variable amongst those variables that are strongly correlated (a correlation ≥ 0.700), we undertook regression analysis with the metrics individually whilst retaining the auto-regression term and the dummy variables. The variable that provided the highest goodness of fit (R² Adjusted) was identified as the most significant variable and selected for the final model. When the regression was run, a further check for the effects of multi-collinearity was undertaken by examining both the Variance Inflation Factor and tolerance level measures. Dummy variables for encoding the year are included as independent variables, one per year, to capture any fixed effects that are year specific as the regression constant and auto-regressions pick up general trends.

For Q2 and Q3 the independent variables were turnover, profit, profit margin and FTE's for each category. The estimated coefficients of the independent variables offer information about the triggers of SPP (Q2). The estimated coefficient of the previous year's SPP (the auto-regression term) offers information on the speed of decline/increase in the SPP (Q3). If the coefficient equals 1.0 the SPP is static, below 1.0 indicates a decline, with < 0.5 a rapid decline, whereas > 1.0 indicates that the SPP is increasing. Finally, regressions were run for Q4 with the independent variables consisting of the value of short-term leases (< 1 year), medium-term leases (> 5 years) and long-term leases (> 5 years).

Implementing change to CRE is generally slow but changing a property from operational to non-operational can be virtually instantaneous. An annual report of a company reflects the position at a moment in time, the end of the financial year. However, the actual change to business strategy and CRE can occur at any time during the twelve-months of the financial year. To factor in an allowance for implementation a one-year lag has been assumed to be a possibility for each independent variable.

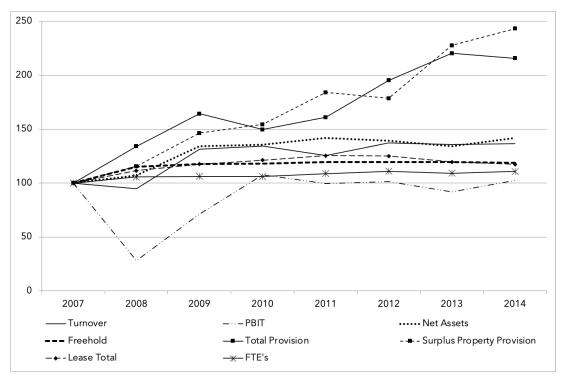


Figure 4.1 Key Measures for All Companies (n=170)

Checks were undertaken to verify that the residuals for each regression were normally distributed by examining the histogram of the residuals. For brevity PY has been used for Previous Year throughout and we have identified significance in tables by * p<0.1, ** p<0.05 and *** p<0.01.

4.5 Results & Discussion

4.5.1 Descriptive Results - Question 1

For the total sample the profile over the eight years is illustrated in Figure 4.1. It clearly shows the effect of the recession on profits between 2007 and 2010, and whilst turnover also dropped in 2008 it recovered the following year. The net assets, FTE's and owned and leased CRE remained relatively steady through the period. However, substantial increases were seen with the surplus property provision (SPP) and the total provision, not only in 2008 but continuing through the period.

The analysis of the difference in means between SPP and non-SPP groups are shown in Table 4.1 and of the percentage changes in Table 4.2. A number of metrics show a significant difference between the SPP and non-SPP groups, but fewer than anticipated. That appears to be the result of large standard deviations for many of the means. A number of metrics have relatively low p-values, but do not reach the (low) significance level of p < 0.1. We will now discuss the results of the analysis. Firstly, we consider the significant differences between SPP and non-SPP means in 2014 followed by the change from 2007 to 2014.

All Companies: No financial metric in 2014 indicated a significant difference between the two groups, although the net assets metric was close (p=0.106) to significant, indicating that SPP companies might have a larger asset base than non-SPP ones. Significant differences in CRE metrics between SPP and non-SPP companies in 2014 were identified for the metrics of lease total; total CRE and leases as a percentage of total CRE. In all cases the mean is larger for the SPP than the non-SPP group. Thus, SPP companies have a larger CRE portfolio with a greater emphasis on leasing than non-SPP companies. Looking at change over the eight years the non-SPP companies grew their turnover and net assets together with increased leases as a percentage of total CRE and the cost of leases per FTE more than SPP ones. The lease total (p=0.107) supports the view that non-SPP companies are expanding their business and with it their leased CRE at a greater rate than SPP ones. The increase in the SPP itself rose from £15m to £37m, a 151% increase.

Finance: Financial measures showed no difference between SPP and non-SPP companies. The lease total as a percentage of profit was significantly higher for SPP companies, indicating a longer commitment to leases relative to profit generation. No difference was found on the change measure for financial metrics or CRE measures. The SPP rose by 218% from 2007 to £44m in 2014, the largest rise of all categories, but was not the largest absolute sum.

Professional Services: The analysis did not generate any significant differences between the SPP and non-SPP means for 2014. The change in leases as a percentage of total CRE was significant indicating that non-SPP companies have increased the proportion of total CRE they lease more than SPP companies. The amount of surplus leasehold space grew by 41% to £14m.

Table 4.1 Mean values per company per category in 2014 (n=170)

MEACHDE	2014	MEAN	T-Test Non SF	P to SPP 2014	2007 to 20	14 Change
MEASURE	SPP	NON-SPP	t- value	p-value	SPP	NON-SPP
All Companies	99 Companies	71 Companies				
Turnover (£'m)	£5,949	£4,568	-0.833	0.406	31%	63%
PBIT (£'m)	£483	£512	0.141	0.888	-16%	49%
Profit Margin (%)	13%	16%	1.160	0.248	-4%	-7%
Net Assets (£'m)	£5,246	£2,154	-1.631	0.106	40%	54%
FTE's	33,124	26,632	-0.553	0.581	11%	16%
SPP (£'m)	£37	£0	N/A	N/A	151%	N/A
Freehold (£'m)	£577	£233	-1.399	0.165	29%	24%
Lease Total (£'m)	£868	£267	-2.598	0.010**	13%	44%
Total CRE (£'m)	£1,445	£500	-2.088	0.039**	19%	34%
Lease % Total CRE (%)	71%	56%	-3.224	0.002***	-3%	3%
Lease Total As % Years Profit (%)	51%	1208%	1.194	0.234	-90%	1850%
Owned CRE per FTE (£)	£10,310	£12,310	0.987	0.325	25%	35%
Lease Total per FTE (£)	£44,539	£27,382	-1.279	0.203	2%	78%
Total CRE per FTE (£)	£54,849	£39,692	-1.106	0.270	5%	62%
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Finance	24 Companies	15 Companies				
Turnover (£'m)	£9,192	£9,106	-0.016	0.987	23%	91%
PBIT (£'m)	£1,130	£664	-0.665	0.510	-28%	35%
Profit Margin (%)	22%	20%	-0.378	0.708	-13%	-27%
Net Assets (£'m)	£14,671	£4,581	-1.466	0.154	53%	60%
FTE's	30,915	11,365	-1.407	0.169	-11%	1%
SPP (£'m)	£44	£0	N/A	N/A	218%	N/A
Freehold (£'m)	£373	£114	-1.510	0.141	-4%	-35%
Lease Total (£'m)	£552	£241	-1.106	0.276	-10%	29%
Total CRE (£'m)	£925	£355	-1.463	0.154	-8%	-2%
Lease % Total CRE (%)	81%	76%	-0.637	0.528	2%	-4%
Lease Total As % Years Profit (%)	116%	31%	-2.323	0.029**	130%	21%
Owned CRE per FTE (£)	£6,470	£7,880	0.528	0.600	1%	-6%
Lease Total per FTE (£)	£40,874	£41,387	0.036	0.971	-7%	96%
Total CRE per FTE (£)	£47,343	£49,267	0.128	0.899	-6%	67%
rotal one port re(2)	247,545	247,207	0.120	0.077	-070	1 0770
Professional Services	20 Companies	9 Companies				T
Turnover (£'m)	£3,015	£2,137	-0.662	0.513	54%	59%
PBIT (£'m)	£150	£217	0.429	0.671	6%	77%
Profit Margin (%)	8%	14%	1.300	0.205	-15%	18%
Net Assets (£'m)	£550	£732	0.838	0.410	28%	90%
FTE's	45,888	90,819	0.768	0.449	32%	31%
SPP (£'m)	£14	£0	N/A	N/A	41%	N/A
Freehold (£'m)	£60	£40	-0.704	0.488	13%	30%
Lease Total (£'m)	£295	£131	-0.76	0.454	48%	36%
Total CRE (£'m)	£355	£172	-0.863	0.396	41%	35%
Lease % Total CRE (%)	74%	74%	0.014	0.989	0%	12%
Lease Total As % Years Profit (%)	244%	72%	-0.831	0.413	18%	17%
Owned CRE per FTE (f)	£5,934	£3,042	-0.786	0.413	43%	-13%
Lease Total per FTE (£)	£29,676	£6,724	-0.788	0.437	18%	9%
Total CRE per FTE (£)	£35,610	£9,766	-1.019	0.371	22%	1%
Significance * p<0.1, ** p<0.05 and		17,700	-1.019	0.317	2270	1 70

Table 4.1 continued

MEASURE	2014	MEAN	T-Test Non SF	PP to SPP 2014	2007 to 20)14 Change
WEASORE	SPP	NON-SPP	t- value	p-value	SPP	NON-SPP
TMT	17 Companies	8 Companies				
Turnover (£'m)	£5,757	£833	-2.083	0.053*	21%	142%
PBIT (£'m)	£305	£152	-0.313	0.757	7%	140%
Profit Margin (%)	17%	18%	0.212	0.834	26%	24%
Net Assets (£'m)	£5,549	£594	-0.805	0.429	6%	103%
FTE's	25,799	3,665	-2.411	0.028**	13%	30%
SPP (£'m)	£73	£0	N/A	N/A	167%	N/A
Freehold (£'m)	£130	£27	-1.282	0.213	4%	52%
Lease Total (£'m)	£965	£100	-1.743	0.100	-2%	146%
Total CRE (£'m)	£1,094	£127	-1.807	0.089*	-1%	117%
Lease % Total CRE (%)	80%	74%	-0.553	0.585	-5%	2%
Lease Total As % Years Profit (%)	-216%	10124%	1.043	0.332	-115%	39006%
Owned CRE per FTE (£)	£6,148	£9,366	0.869	0.394	58%	121%
Lease Total per FTE (£)	£67,111	£92,796	0.309	0.760	17%	135%
Total CRE per FTE (£)	£73,259	£102,162	0.343	0.735	20%	134%
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Manufacturing	19 Companies	35 Companies		T T		
Turnover (£'m)	£2,723	£4,276	1.059	0.295	55%	45%
PBIT (£'m)	£290	£636	1.334	0.188	31%	57%
Profit Margin (%)	14%	14%	1.050	0.299	19%	-3%
Net Assets (£'m)	£1,105	£1,982	0.963	0.340	61%	43%
FTE's	12,433	22,207	1.364	0.179	11%	7%
SPP (£'m)	£9	£0	N/A	N/A	121%	N/A
Freehold (£'m)	£209	£332	1.076	0.287	34%	48%
Lease Total (£'m)	£107	£232	1.113	0.272	22%	47%
Total CRE (£'m)	£317	£564	1.230	0.225	29%	47%
Lease % Total CRE (%)	39%	37%	-0.397	0.693	-18%	5%
Lease Total As % Years Profit (%)	76%	64%	-0.407	0.686	-28%	12%
Owned CRE per FTE (f)	£15,881	£17,119	0.361	0.720	29%	49%
Lease Total per FTE (£)	£20,942	£9,144	-0.928	0.365	10%	36%
Total CRE per FTE (£)	£36,823	£26,263	-0.969	0.337	17%	44%
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Retail	19 Companies	4 Companies				
Turnover (£'m)	£8,336	£3,049	-0.697	0.493	37%	27%
PBIT (£'m)	£368	£239	-0.399	0.694	2%	-19%
Profit Margin (%)	7%	12%	1.662	0.111	2%	-12%
Net Assets (£'m)	£2,155	£873	-0.684	0.502	32%	78%
FTE's	49,720	24,120	-0.550	0.588	13%	15%
SPP (£'m)	48	0	N/A	N/A	138%	N/A
Freehold (£'m)	£2,146	£661	-0.565	0.578	41%	8%
Lease Total (£'m)	£2,546	£1,304	-0.605	0.552	24%	42%
Total CRE (£'m)	£4,692	£1,965	-0.600	0.555	31%	28%
Lease % Total CRE (%)	77%	72%	-0.367	0.718	-1%	1%
Lease Total As % Years Profit (%)	-21%	350%	0.186	0.854	-102%	13%
Owned CRE per FTE (f)	£17,922	£13,596	-0.363	0.720	23%	0%
Lease Total per FTE (£)	£68,216	£50,094	-0.598	0.556	-10%	17%
Total CRE per FTE (£)	£86,138	£63,689	-0.728	0.336	-5%	13%
Significance * p<0.1, ** p<0.05 and		200,007	0.720	3.47.4	-070	1076

Table 4.2 Mean values and t-test of change for variables 2007 to 2014 (n=170)

CHANGE 2007 to 2014	SPP	Non-SPP	t- value	p-value
All Companies	99 Companies	71 Companies		
Turnover	65.9%	98.1%	2.345	0.02**
Profit	180.3%	132.1%	-0.350	0.727
Profit Margin	28.7%	29.2%	0.012	0.991
Net Assets	5.5%	142.3%	1.679	0.095*
FTE's	41.7%	55.4%	0.948	0.344
Freehold	143.2%	394.6%	1.099	0.274
Lease Total	83.4%	692.0%	1.635	0.107
Total CRE	83.4%	609.4%	1.458	0.149
Leases as % Total CRE	-2.2%	64.3%	2.005	0.049**
Lease Total as % Years Profit	-77.1%	-619.4%	-0.542	0.589
Owned CRE per FTE	105.9%	134.8%	0.305	0.761
Lease Total per FTE	43.3%	284.3%	1.816	0.073*
Total CRE per FTE	42.9%	209.6%	1.328	0.188
Finance	24 Companies	15 Companies		
Turnover	75.0%	104.6%	0.997	0.325
Profit	96.8%	75.2%	-0.299	0.767
Profit Margin	-7.2%	-12.3%	-0.254	0.801
Net Assets	109.0%	100.8%	-0.139	0.890
FTE's	77.8%	89.4%	0.228	0.821
Freehold	13.8%	249.4%	1.573	0.165
Lease Total	215.5%	850.6%	1.551	0.140
Total CRE	218.4%	862.4%	1.466	0.161
Leases as % Total CRE	-4.1%	117.4%	0.964	0.352
Lease Total as % Years Profit	128.4%	948.5%	1.525	0.151
Owned CRE per FTE	7.3%	113.7%	1.292	0.236
Lease Total per FTE	143.3%	300.3%	0.957	0.345
Total CRE per FTE	147.3%	285.3%	0.815	0.420
Professional Services	20 Companies	9 Companies		
Turnover	64.7%	67.4%	0.111	0.912
Profit	29.4%	63.8%	0.348	0.731
Profit Margin	-25.9%	62.2%	1.067	0.295
Net Assets	-145.0%	136.3%	0.606	0.550
FTE's	35.0%	47.8%	0.549	0.587
Freehold	64.6%	38.3%	-0.326	0.747
Lease Total	51.9%	95.3%	0.966	0.343
Total CRE	50.2%	60.2%	0.283	0.779
Leases as % Total CRE	-0.3%	17.7%	1.816	0.080*
Lease Total as % Years Profit	9.0%	48.4%	1.05	0.303
Owned CRE per FTE	30.4%	-10.7%	-1.081	0.290
Lease Total per FTE	32.9%	28.9%	-0.104	0.918
Total CRE per FTE	26.5%	5.8%	-1.115	0.275

Table 4.2 continued

CHANGE 2007 to 2014	SPP	Non-SPP	t- value	p-value
TMT	17 Companies	8 Companies		
Turnover	45.7%	225.2%	3.588	0.002***
Profit	720.2%	240.2%	-0.498	0.623
Profit Margin	206.4%	5.6%	-0.757	0.457
Net Assets	-18.5%	300.8%	3.539	0.002***
FTE's	22.5%	154.7%	3.202	0.012**
Freehold	266.9%	2376.8%	1.128	0.296
Lease Total	28.3%	3374.6%	1.062	0.324
Total CRE	29.3%	3360.0%	1.083	0.314
Leases as % Total CRE	0.3%	21.7%	0.879	0.404
Lease Total as % Years Profit	-361.7%	-7614.0%	0.404	0.436
Owned CRE per FTE	327.1%	719.6%	0.658	0.519
Lease Total per FTE	-1.1%	1136.2%	1.046	0.330
Total CRE per FTE	-0.7%	1100.6%	1.036	0.335
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Manufacturing	19 Companies	35 Companies		
Turnover	87.3%	75.5%	-0.528	0.599
Profit	95.0%	156.1%	0.650	0.518
Profit Margin	-4.0%	48.3%	1.088	0.282
Net Assets	-14.0%	126.8%	1.504	0.139
FTE's	33.8%	22.5%	-0.795	0.430
Freehold	88.8%	73.8%	-0.476	0.636
Lease Total	24.5%	242.3%	2.271	0.029**
Total CRE	48.0%	77.7%	1.160	0.251
Leases as % Total CRE	-11.1%	72.0%	1.393	0.169
Lease Total as % Years Profit	-13.7%	109.0%	2.082	0.044**
Owned CRE per FTE	43.8%	47.2%	0.205	0.839
Lease Total per FTE	1.6%	180.5%	2.499	0.017**
Total CRE per FTE	12.4%	49.1%	3.072	0.003***
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Retail	19 Companies	· · ·		
Turnover	52.3%	85.3%	0.888	0.384
Profit	46.5%	72.0%	0.384	0.705
Profit Margin	5.0%	-10.4%	-0.343	0.735
Net Assets	74.0%	130.7%	0.447	0.660
FTE's	28.1%	35.2%	0.243	0.810
Freehold	306.8%	32.6%	-0.428	0.673
Lease Total	64.7%	48.6%	-0.161	0.873
Total CRE	39.0%	47.3%	0.148	0.884
Leases as % Total CRE	4.9%	0.8%	-0.327	0.747
Lease Total as % Years Profit	-225.3%	7.2%	0.827	0.418
Owned CRE per FTE	184.7%	5.6%	-0.434	0.669
Lease Total per FTE	14.6%	8.2%	-0.189	0.852
Total CRE per FTE	3.5%	7.0%	0.187	0.854

TMT: Turnover and FTE's are larger for SPP companies and, no doubt to facilitate those additional people, the total CRE is larger, primarily through leasing (lease total p=0.100). Turnover, net assets, and FTE's all increased more for non-SPP companies over the period, although that is not reflected in the CRE change metrics. The category grew its SPP by 167% to £73m, the highest absolute SPP sum across all categories.

Manufacturing: This is the only category where the number of non-SPP companies (35) exceeds the SPP ones (19). There are no differences between SPP and non-SPP companies for financial or CRE measures in 2014. Over the eight years the change for non-SPP companies of CRE metrics of lease total; lease total as a percentage of profits; lease total per FTE and total CRE per FTE increased more than SPP companies. This indicates that non-SPP companies are increasing their leases at a greater rate in absolute terms and relative terms, but the change is not matched by a significant change in business metrics. That would suggest that expansion in leases is speculative, rather than reacting to actual growth. The SPP total grew by 121% to £9m, the smallest absolute sum of all categories. The larger proportion of non-SPP companies in this category (65% against 42% for All Companies) may reflect the high CRE capital investment (buildings, their adaptation and the production plant contained in them), which could mean that only a significant long-term decline would trigger lease closures.

Retail: This has the smallest non-SPP sector (4 companies) which as mentioned earlier is regarded as very small (N < 5) (De Winter, 2013), and would raise the question of validity on the test outcomes, but the t-test did not identify any differences. SPP jumped in 2009, 2013 and 2014, reflecting a decline in profits and suggesting an inverse relationship with profit levels, the total in 2014 being £48m (+138%).

Taking a broad view and recognising that the *t*-test does not identify all the differences as significant, the data and analysis indicates that there are differences in the profiles for those that make an SPP and those that do not (Q1). SPP companies are generally larger, based on turnover, net assets and FTE's, but generate lower profits from a larger CRE portfolio. Over the eight years non-SPP companies have grown their business and expanded their CRE at a greater rate, in particular their leased space. The profile of a smaller CRE portfolio could suggest that the non-SPP group are more agile and flexible with *dynamic alignment capability* and able to react more quickly to business change, thereby exploiting *transient competitive advantage* opportunities (McGrath, 2013) or *blue oceans* (Kim & Maugborgne, 2015). This could reflect a smaller organisation, certainly in terms of FTE's, which may mean they have flatter management structures. If so, they are more likely to benefit from iterative learning loops (Mintzberg et al., 2009) and the key decision-makers may have greater visibility of CRE issues (Greenhalgh, 2008; Nunnington & Haynes, 2011).

The CRE analysis appears to be counter to the generally accepted view that space consumption has declined with new ways of working as the increased cost commitment indicates space is not being reduced. There is an argument that the cost increase could reflect rent reviews, but the period 2007 to 2014 saw significant falls in rental values because of the impact of the recession. An alternative explanation might be that

businesses have built expansion space into their portfolios. However, that is unlikely for a few reasons. During the period business profits were under pressure (Figure 4.1) and there was considerable uncertainty in the world. Taking space and immediately designating it as surplus would hit profits even harder and would be unpalatable to investors. Secondly it would be something that auditors would not approve of because it breaches IAS37 requirements. Table 4.1 indicates that the SPP companies have a significantly higher commitment for CRE for various measures, including the commitment per FTE and the lease commitment expressed as a proportion of profit.

One potential explanation of the increase in freehold ownership is that the recession resulted in a number of forced sellers of commercial property and occupiers could have exploited the depressed market by acquiring freeholds at relatively low prices.

4.5.2 Auto-Regression Model Results - Questions 2, 3 & 4

The regression model of the best fit business metrics (Q2) was run following the multicollinearity checks and the output is in Table 4.3. Those business metrics that were excluded due to multicollinearity are indicated in the table. The previous year metrics for turnover, profit and FTE were excluded across all categories and therefore have not been included in the table.

The regression models for business metrics show a good fit of data for most of the categories, with an R² Adjusted over 0.750 (bar Manufacturing - 0.458).

Following the multicollinearity exercise the predominant significant metric was turnover, which showed a relationship with SPP for All Companies, TMT, and Retail. Manufacturing had a significant positive relationship between FTE and SPP. Profit exhibited a significant negative relationship with SPP for All Companies and TMT, whilst the negative relationship for Finance was very close to the significance threshold of p<0.1 (0.104). Profit margins had a negative relationship for Retail and positive for TMT. Professional Services did not exhibit any significant relationships for SPP with business metrics. The regression models anticipated a negative relationship between the SPP and all the business metrics as per Q2, however, only the relationship between SPP and profit was as anticipated. Both turnover and FTE had positive relationships, the converse of what had been hypothesised, whilst profit margins provide contradictory results.

 Table 4.3
 Regression analysis of SPP with business metrics as independent variables.

					-								
	Constant	УН РУ	Turnover	Profit	FTE	Profit Margin	PY Profit Margin	Dummy 2008	Dummy 2009	Dummy 2010	Dummy 2011	Dummy 2012	Dummy 2013
ALL COMPANIES (R2 0.756; R2adj 0.	VIES (R2 0.7)	56; R2adj 0.	753, P<0.01)										
Estimate	-1.993	1.006***	0.001***	-0.003***	Excluded	0.353	Excluded	2.126	-1.117	2.486	-2.385	6.853	0.370
t-value	-0.580	38.484	6.543	-4.945		0.138		0.449	-0.235	0.524	-0.502	1.445	0.078
p-value	0.562	0.000	0.000	0.000		0.890		0.654	0.814	0.600	0.615	0.149	0.938
FINANCE (R2 0.828; R2adj 0.817, P<	. 0.828; R2aα	dj 0.817, P<	0.01)										
Estimate	-5.152	1.142***	0.000	-0.001	Excluded	-0.270	Excluded	6.529	3.191	14.579	-4.741	5.838	7.313
t-value	-0.674	25.394	1.213	-1.637		-0.094		0.630	0.308	1.407	-0.458	0.564	0.701
p-value	0.502	0.000	0.227	0.104		0.925		0.529	0.759	0.161	0.648	0.574	0.484
PROF SERVICES (R2 0.768; R2adj 0.7	ES (R2 0.76)	8; R2adj 0.7	51, P<0.01)										
Estimate	3.802*	0.883***	0.000	Excluded	Excluded	-4.268	Excluded	0.590	-2.179	1.841	-3.091	-3.878	-4.313
t-value	1.695	16.363	0.628			-0.696		0.192	-0.706	0.596	-0.991	-1.246	-1.394
p-value	0.092	0.000	0.531			0.488		0.848	0.481	0.552	0.324	0.215	0.166
TMT (R2 0.879; R2adj 0.867, P<0.01)	,9; R2adj 0.8	167, P<0.01)											
Estimate	-3.403	0.595***	0.008***	-0.039***	Excluded	62.205***	-31.082	-17.220	-1.230	-9.283	6.494	13.379	-7.612
t-value	-0.341	10.833	13.231	-12.164		2.794	-1.445	-1.261	-0.091	-0.687	0.479	0.985	-0.553
p-value	0.734	0.000	0.000	0.000		0.006	0.151	0.210	0.928	0.494	0.633	0.327	0.581
MANUFACTURING (R2 0.505; R2adj	JRING (R2 0.	.505; R2adj	0.468, P<0.01)	01)									
Estimate	2.430	0.738***	0.000	Excluded	0.000**	-11.541	Excluded	-1.275	-1.302	0.197	2.562	1.063	-1.929
t-value	0.921	9.783	-0.693		1.990	-1.183		-0.412	-0.421	0.064	0.825	0.340	-0.615
p-value	0.359	0.000	0.490		0.049	0.239		0.681	0.675	0.949	0.411	0.734	0.540
RETAIL (R2 0.804; R2adj 0.791, P<0.01)	.804; R2adj (0.791, P<0.0	11)										
Estimate	10.117	0.858***	0.001***	Excluded		-94.144**	Excluded	3.461	-8.229	-5.756	-9.157	3.885	-2.081
t-value	1.466	14.457	4.406			-2.215		0.394	-0.935	-0.654	-1.042	0.443	-0.236
p-value	0.145	0.000	0.000			0.029		0.694	0.352	0.514	0.299	0.658	0.814
Significance * p<0.1, ** p<0.05, *** p<0.01	* p<0.1, ** p	<0.05, *** p	<0.01										

The hypothesised inverse relationship between profits and SPP is supported: as profits decline operational space is closed and the provision for surplus property is increased. The expectation that a decline in revenue and/or profit margin and/or FTE will see the SPP increase is not supported. SPP is increasing when the business is expanding (as measured by turnover and FTE numbers), which indicates that CRE *dynamic alignment*

capability is lacking. Businesses are not able to change the CRE profile without making an SPP.

The coefficients of the auto-regression term, the previous year SPP, are positive as expected (Table 4.3). The coefficient indicates the rate of decline of the surplus portfolio (Q3). The calculation 1/(1-coefficient) gives an estimate of how many years it takes before SPP tends towards zero. Three possible outcomes are projected: short term decline (< 5 years), long-term reduction (> 5 years) or continued increase in the SPP. The short-term decline group includes TMT (2.5 years) and Manufacturing (3.8 years), the long-term group comprises Retail (7.0 years) and Professional Services (8.6 years). Those indicating a continued growth in SPP consists of Finance (increasing by 14.2% per annum) and All Companies (growing at 0.6% per annum, albeit virtually a static position). Only TMT has the relationship between longevity SPP and CRE as proposed under Q3.

The expectation that SPP will be short term (< 5 years) because the CRE has *dynamic* alignment capability was only identified for TMT and Manufacturing. For Retail and Professional Services, the slow rate of decline (>7 years) indicates a limited CRE *dynamic alignment* capability. The Finance sector with its continued SPP expansion suggests a commitment to long term leases and a continuation of operational property closure. CRE portfolios do not appear in practice as agile as some expect them to be (Joroff & Becker, 2017).

The same regression analysis process for business metrics was adopted for the lease metrics (Q4) (Tables 4.4), including multicollinearity checks. Those lease metrics excluded due to multicollinearity are indicated in the table.

The data fit (R² Adjusted) is reasonably good (>0.700) except for Manufacturing (0.436). Significant positive relationships were identified between SPP and leases <1 year are All Companies and Retail, whilst for leases 2-5 years it is Finance. TMT had a positive relationship between SPP and the previous year leases < 1 year but a negative one with the previous year leases > 5 years. A positive previous year is akin to a negative relationship in the current year, whilst a positive one indicates negative for the current year. Therefore, TMT indicates a negative relationship for leases <1 year and a positive one for leases >5 years. Professional Services and Manufacturing did not exhibit any significant relationships between SPP and lease metrics. It had been anticipated that the relationship between SPP and leases <5 years would be negative (Q4); however, both are positive as short-term leases increase SPP increases.

Table 4.4 Regression analysis of SPP with lease metrics as independent variables

	Constant	SPР РҮ	<1 Year	PY <1 Year	2-5 Years	PY 2-5 Years	>5 Years	PY >5 Years	Dummy 2008	Dummy 2009	Dummy 2010	Dummy 2011	Dummy 2012	Dummy 2013
ALL COMPAN	IES (R2 0.7	ALL COMPANIES (R2 0.757; R2adj 0.754, P<0.01)	54, P<0.01)											
Estimate	-2.067	0.993***	0.052***	Excluded	Excluded	Excluded	Excluded	Excluded	1.782	-2.299	1.010	-3.457	6.215	-0.500
t-value	-0.612	37.633	7.186						0.378	-0.488	0.214	-0.733	1.317	-0.106
p-value	0.541	0.000	0.000						0.705	0.626	0.830	0.464	0.188	0.916
FINANCE (R2	0.827; R2a	FINANCE (R2 0.827; R2adj 0.818, P<0.01)	.01)											
Estimate	-5.172	1.136***	Excluded	Excluded	0.01***	Excluded	Excluded	Excluded	5.563	1.582	12.714	-5.593	5.274	6.101
t-value	-0.709	25.125			1.665				0.550	0.156	1.257	-0.551	0.520	0.600
p-value	0.479	0.000			0.098				0.583	0.876	0.211	0.582	0.604	0.550
PROF SERVICE	ES (R2 0.76	PROF SERVICES (R2 0.766; R2adj 0.752, P<0.01)	2, P<0.01)											
Estimate	4.027*	0.905***	Excluded	Excluded	-0.001	Excluded	Excluded	Excluded	0.333	-2.492	1.555	-3.484	-4.229	-4.565
t-value	1.795	20.498			-0.183				0.109	-0.813	0.508	-1.130	-1.375	-1.488
p-value	0.075	0000			0.855				0.913	0.418	0.613	0.261	0.172	0.139
TMT (R2 0.737; R2adj 0.716, P<0.01)	7; R2adj 0.7	716, P<0.01)												
Estimate	-7.655	***676'0	Excluded	0.142***	Excluded	Excluded	Excluded	-0.010***	-0.202	1.641	-4.845	968.0	31.134	3.275
t-value	-0.547	11.023		5.292				-1.700	-0.010	0.084	-0.248	0.046	1.595	0.165
p-value	0.585	0.000		0.000				0.092	0.992	0.933	0.805	0.963	0.114	0.869
MANUFACTU	RING (R2 0	MANUFACTURING (R2 0.470; R2adj 0.436, P<0.01)	.436, P<0.01)											
Estimate	2.632	***592'0	Excluded	Excluded	0.002	Excluded	Excluded	Excluded	-1.526	-1.723	-0.185	2.227	0.782	-2.201
t-value	1.123	10.077			660'0				-0.484	-0.546	-0.059	0.705	0.246	-0.689
p-value	0.264	0.000			0.921				0.629	0.586	0.953	0.482	908.0	0.492
RETAIL (R2 0.7	789; R2adj	RETAIL (R2 0.789; R2adj 0.776, P<0.01)	(
Estimate	2.345	0.879***	0.049***	Excluded	Excluded	Excluded	Excluded	Excluded	4.844	-10.274	-8.603	-12.057	0.940	-4.931
t-value	0.363	14.755	4.357						0.544	-1.148	-0.964	-1.350	0.105	-0.550
p-value	0.717	0.000	0.000						0.587	0.253	0.337	0.179	0.916	0.583
Significance * p<0.1, ** p<0.05, *** p<0.01	p<0.1, ** p	><0.05, *** p<	:0.01											

In summary, the broad pattern between SPP and both financial and CRE parameters is that SPP increases as profits decline (All Companies, Finance and TMT) and when turnover and/or FTE increases (All Companies, TMT, Manufacturing and Retail). This is reflected in the mean data values showing turnover at +31%, FTE's at +7% and profits -5%. This would indicate a more complex set of relationships than envisaged.

The increase of SPP when profit declines, matches the original expectation reflecting closure of CRE when the business is under pressure. This decline in profits is not caused by the creation of the SPP itself, as explained in the methodology, an adjusted profit was used to remove the effect of any SPP increase. The increase of SPP when turnover and/or FTE's increase suggests a different rationale for closing space. If business is expanding production and/or increasing employment levels it may seek supplemental space and/or better space to deal with the capacity. Space that is replaced and added to the SPP indicates that portfolio's lack *dynamic alignment* capability. Supplemental space may be indicated by the increase in short-term leases for some business. What the analysis has shown is a lack of CRE *dynamic alignment*, which raises the question as to whether CRE agility has improved significantly over the last two decades (Joroff & Becker, 2017).

The study identified that only in TMT did SPP revert to zero within three years. It also identified that 42% of the total survey sample (71 of 170 companies) did not make an SPP. Assuming the 71 companies do not have any surplus space, just 10% of the total sample indicate a possible *dynamic alignment* capability to facilitate CRE agility.

Business does not appear to be re-cycling surplus space. The expectation was that when additional space was needed the business would reduce surplus property first before taking new units. That does not appear to be the case, the commitment to CRE is increasing at a greater rate than the SPP is being removed. The additional CRE costs and the continuation of SPP will put pressure on future profit margins. As such it does raise the question as to how business is measuring the performance of its CRE and whether it is looking for added value from it.

4.6 Limitations & Recommendations

A key benefit of using the data from the financial accounts of companies is the requirement that they report information in a set format, which provides consistency of data across companies. However, because the data provided in the company accounts is in this set format, it was not feasible for this research to provide supplementary data. For example, additional data on the number of units and total square metres would have been very beneficial. It would enable a more extensive analysis of the CRE portfolio and link the spatial and financial elements. The lack of knowledge on the 71 non-SPP companies is a limitation of this study. The solution could be to approach those companies to seek to ascertain the status of surplus property throughout the eight years. However, getting cooperation and identifying personnel with appropriate knowledge across the period is likely to be difficult. The SPP forms part of the total

provision and whilst the research could have considered the change in the total provision without directly approaching companies it would not be possible to draw any conclusions about the SPP from any increase in the total provision. The only option would be a study of the 71 companies individually. An alternative approach to compensate for the 71 companies could be an extension of the sample group. This could match the business sector profile of the 170 companies, or it could resolve another limitation of the study by extending beyond quoted UK companies. The addition of unquoted UK companies might offset the disproportionate representation of financial services in the FTSE350, whilst including companies from other countries could provide a comparison of the impact of the UK lease term on *dynamic alignment capability* between countries.

It is possible that the relatively consistent growth in turnover over the eight-year period may have been a factor in the positive SPP relationship identified, rather than the projected inverse one. A more in-depth search on specific companies that have undergone volatility in turnover might prove enlightening, although the strength of the relationship between SPP and turnover would suggest any change in the results unlikely.

Short term occupational agreements that comprise the second *periphery* group are not identified in company accounts and therefore analysis of them has not been possible. It would be beneficial to research the extent to which business utilised *pay as you go* agreements and whether they were the first tranche of space closed when profits declined. Indeed, extending the research to look at the proportion of the total portfolio that *pay as you go* space comprises would extend the knowledge on CRE portfolio structuring and the capability for agility.

A feature of the UK economy over the last decade has been poor productivity (Guardian, 2016). Despite profits being depressed over the period (-5%) there was a 7% increase in FTE numbers A further line of research is whether companies sought to avoid headcount reduction to ensure they had the right people for when the economic climate improved, but this does not explain the 19% increase in CRE. An understanding of this dynamic might shed light on changes to the SPP and the relationship with CRE metrics, as this is another indication that is contrary to the notion that there is an ongoing reduction in space consumption. An additional consideration on the use of space use is not only the square metres of consumed but an examination of the CRE cost commitment (the total cost of CRE over the life of the lease) and how that relates to FTE's. This would provide both the absolute and relative costs of space. Research that considers the rationale of CRE change at a company level with case studies should provide additional knowledge on CRE decision-making and whether direct evidence can be found linking the size of company, the length of business strategy time horizon and the flexibility through the length of lease commitments.

What the research does illustrate is that surplus property is not a transitory effect of realignment. The analysis identifies that 90% of companies with an SPP still have the liability three years later, all things being equal. The realignment of CRE is not a

seamless process as there appears to be obstacles in the way. Therefore, alignment models such as Lindholm et al. (2006) need to be adjusted to include the process of realignment itself and its consequential effects. Joroff & Becker (2017) suggested that CRE has become an agile asset over the last 25 years, indeed "agility has become an overarching objective" (Joroff & Becker, 2017: 33). This research suggests that in practice CRE has not become agile. Whilst agility may be sought so far it does not appear to have been universally implemented. Consequently, there is a disconnect between what is being said about CRE agility and what the financial analysis shows. The suggestion that decision-making has become more holistic, might apply in certain elements of the workplace, but not for the consequential effects of change for the portfolio.

There are hidden costs associated with surplus property management relating to risk, financial reporting compliance, etc that impact on business performance. Decision-making techniques need to incorporate the consequences of creating surplus property to ensure they function adequately (Neely & Bourne, 2000). The research indicates that decision making structures, such as the BSC (Kaplan & Norton, 1996), and iterative learning processes (e.g., Mintzberg et al., 2009; Kay, 2010) need to include all CRE and surplus property aspects as part of the overall assessment.

What the research confirms is that CRE *dynamic alignment* capability has not been fully adopted by occupiers and the manner in which CRE change takes place and its interrelationship with the SPP does not follow anticipated patterns. That would suggest that a line of research would be to investigate individual company decision-making processes. This would look to identify the factors considered by the decision-makers in dealing with CRE in times of change and adoption of a *dynamic alignment* capability.

This research provides a number of elements for practitioners to consider. Firstly, the need to review their CRE portfolio and ascertain its *dynamic alignment* capability. Allied to that is an understanding of the relative importance of individual units to the business allowing the CRE Manager to differentiate between *core* and *periphery* space. From that point there should be a CRE Asset Management strategy to build flexibility into the portfolio, for example, by means of break clauses or short-term leases to create CRE *dynamic alignment* capability that links with the status of each property. Together with an examination of CRE costs per FTE and to determine whether they are declining or are actually rising as new ways of working are implemented. The broader approach for the business involves developing management and decision-making systems that reflect the iterative, emergent nature of business strategy and acting to avoid the creation of a surplus property portfolio.

4.7 Conclusions

This chapter has sought to understand how surplus leasehold property has changed and with it the inter-relationship with financial and CRE parameters over an eight-year period. It identified mixed evidence of *dynamic alignment* of CRE. CRE *dynamic*

alignment capability appears to remain a theoretical concept for many organisations as this research indicates a lack of evidence of it in the financial reporting of CRE. Businesses appear to have used the SPP as a means of enabling them to react to business change because the portfolio lacks flexibility that short term leases and break clauses provide. This lack of dynamic alignment capability will hamper a company in responding to change arising from business or economic downturn or from opportunities. As such a lack of CRE agility will impair the ability of a business to exploit opportunities and respond to the effects of transient competitive advantage (McGrath, 2013) and/or blue ocean strategy (Kim & Maugborgne, 2015) opportunities.

Chapter 5³

Lifting the Lid on the Black Box of Corporate Real Estate Decision Making; dealing with surplus property

5.1 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 & 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 & Kosenen, 2010). A dynamic resource capability and the ability to implement change affects the performance of the firm (Barreto, 2010).

CRE 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: 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 & 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 & Brier, 1999: 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, CREM (CRE Manager) decision-making must be linked to the strategic decision-making level of the organisation" (Lindholm et al., 2006: 468). However, research on CRE decision making has been limited to specific issues. CRE alignment research has focused on creating higher, strategic level models (see Heywood & 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

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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 & 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 (MR's) 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:

Question 1a - 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?

Question 1b - What is the relative importance of the decision, attribute, benefit and situational variables?

Question 2 - 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 chapter is structured as follows. The next section discusses decision-and specific CRE decision-making interventions, followed by the description of the methodology. In the following section the results are presented, followed by conclusions and discussions ending with limitations and suggestions for further research.

5.2 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 & 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 & Leväinen, 2006: 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 & 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: 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 (e.g., Nunnington & Haynes, 2011), location choice (e.g., Rothe et al., 2015) and acquisition (e.g., Greenhalgh, 2008). Research suggests small businesses decisions are made by individuals, whereas in larger firms the process is multi-facetted multi-person and more objective (Mazzoral & 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: 123).

There has been research on CRE alignment with corporate strategy (e.g., Haynes, 2012; Gibler & Lindholm, 2012) and consideration of how CREM's can add value (e.g., 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 & Roulac, 1993; 476). The disposal of surplus property is disregarded despite its importance to CRE strategy implementation (Kämpf-Dern & 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 & van der Voordt, 2015: 789) and see the whole picture around CRE decisions.

There has been extensive research on decision-making (e.g., 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 5.1. 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 outcomes and represents their knowledge of the problem. Finally, the values assigned by the individual to the possible states are the utility weights.

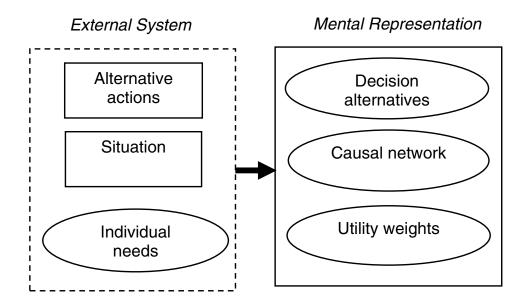


Figure 5.1 Mental Representation: Components of a Decision Problem (Arentze et al., 2008, Fig 1: 848)

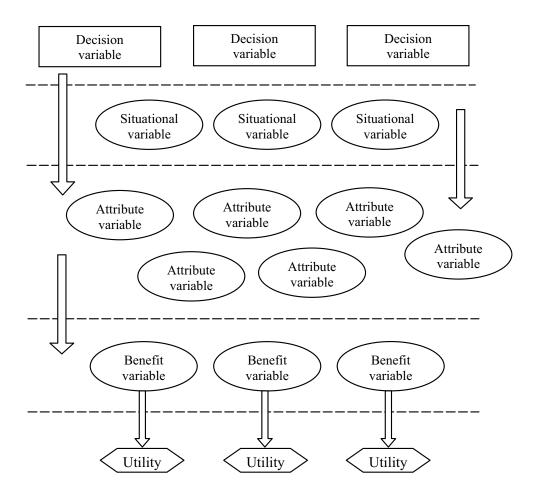


Figure 5.2 Classification of Decision Problem Variables and Directions of Causal Relationships (Arentze et al. 2008 Fig 3: 852)

5.3 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 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 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 MR's 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 MR's 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 (see 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:

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 & 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 (9). This provides the degree of centrality for the ingoing or outgoing links. Comments from individual experts are referenced E1, E2, etc.

5.4 Results & Discussion

5.4.1 Question 1: Types of Variables

After categorisation, 7 situational, 4 decision, 29 attribute and 19 benefit variables were identified. Table 5.1 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.

• 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. Second, Lease Events includes decisions that break a lease contract and those that operate the lease expiry, both are specified in the lease. Thirdly, Third Party Deals refers 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 that CRE decision-making is undertaken by the CREM (e.g., Gibler & Lindholm, 2012). This research suggests that, certainly in the present sample, this is not the case, only tactical decisions are made by the CREM.

Table 5.1 Frequency of occurrence in MR's of decision makers of each variable across 9 interviews

	DECISION VARIABLE			ATTRIBUTE VARIABLE	BENEFIT VARIABLE				
CRE	Landlord Deal	9	CRE	Lease Detail	9	CRE Implementation Benefits	8		
CRE	Lease Event	9	FIN	Cost	9	MAN Financial Stakeholders	8		
	Third Party Deal	9	FIN	IFRS16	9	MAN Risk Reduction	7		
	Space Utilisation	6	MAN		9	CRE CRE Profile	6		
	Decision Total	33	CRE	CRE Designation	8	MAN Operational Benefits	6		
	Decision Mean	8.25		CRE Tactics	8	FIN Cost Reduction	5		
		1	CRE	Proposed Portfolio	8	HR HR Benefits	5		
SITUATIONAL VARIABLE			CRE	Space utilisation	8	HR Motivational Drivers	5		
MAN	Business Strategy	9	FIN	Business Metrics	8	MAN Stewardship	5		
CRE	Data	9	FIN	Financial Analysis	8	CRE CRE Future Proofing	4		
CRE	Property Market	8	CRE	Prop Mgt	7	FIN Business Metrics	4		
MAN	Business Environment	4	CRE	Restructure	7	CRE Proposed Portfolio	3		
CRE	Landlord	4	CRE	Workplace Strategy	7	FIN Profit & Loss	3		
MAN	Corporate Solution	2	MAN	Decision Making	7	HR HR Talent	3		
MAN	Supply Chain	1	CRE	CRE Metrics	6	CRE CRE Metric Improvements	2		
	Situational Total	37	CRE	Current Portfolio	6	FIN CAPEX	2		
	Situational Mean	5.29	CRE	Implementation	6	FIN Cash	2		
	CRE Situational Mean	7.00	FIN	CAPEX	6	MAN Business Prospects	2		
	MAN Situational Mean	4.00	FIN	Cash	6	CRE Prop Mgt	2		
			HR	HR Profile	6	Benefit Total	82		
			MAN	Corporate Governance	6	Benefit Mean	4.32		
			MAN	Operational Issues	6	CRE Benefit Mean	4.17		
			MAN	Stakeholders - External	6	FIN Benefit Mean	3.20		
			CRE	Landlord	5	HR Benefit Mean	4.33		
			MAN	Business Strategy	5	MAN Benefit Mean	4.67		
				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				
				FIN Attribute Mean	7.67				
				HR Attribute Mean	4.00				
				MAN Attribute Mean	6.29				

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, whilst 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.

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 shareholders (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, 2001), 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 subtenancy 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).

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 categorized 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 & 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), whilst 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 1b, 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'.

5.4.2 Question 2: Flow between Decision-Attribute-Benefit Variables

Now that the individual variables (the key considerations of the expert in their decisionmaking) 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 5.2 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 5.3) for a selected group of variables to illustrate the complexity of the networks.

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).

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 Table 5.2
 Occurrence frequencies of Decision-Attribute links and Attribute-Benefit links across 9 Experts

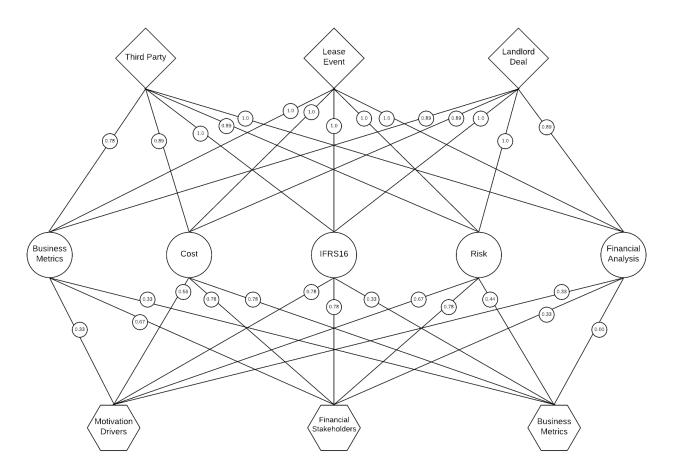


Figure 5.3 Decision Network Example

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 & 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.

5.5 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 (e.g., Gibler & Lindholm, 2012). The acquisition process has been discussed (e.g., Nunnington & 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' (e.g., Gibler & 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 (e.g., 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 (e.g., 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 (e.g., Gibler & 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 & 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 & Arkesteijn, 2018: 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.

5.6 Limitations & 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 decisionmaking 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 chapter 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.

Chapter 6^⁴

Inhibitors & Facilitators of Corporate Real Estate Dynamic Alignment

6.1 Introduction

Over the last decade, turbulence, uncertainty, novelty, and ambiguity have become hallmarks of the business environment (Ramirez & Wilkinson, 2016). Business theories have evolved from those that assume stability (e.g., sustained competitive advantage (Porter, 1985) and Resource-based View (RBV) (Barney, 1991)) to those that assume frequent change (e.g., transient competitive advantage (McGrath, 2013) and blue ocean strategy (Kim & Maugborgne, 2015). Fluid strategies require strategic flexibility to respond to change (Shimizu & Hitt, 2004) and an iterative strategy development process (Mintzberg et al, 2009). Strategic alignment is the link between the overall goals of the firm and those of each business unit (Andolsen, 2007), it is a continuous process, not a one off event (Luftman et al., 1993). Dynamic resource capability provides the ability to reconfigure resources (Teece et al., 1997) but investment decisions benefit from stability which can create rigidity (Doz & Kosonen, 2010). Consequently, a tension exists between flexibility and efficient investment decisions.

CRE is a tangible resource providing the physical environment to house people and equipment whose primary value to the organisation is "the contribution to the business operations" (Kenley & Heywood, 2000: 157). It is both a significant on-going cost and an asset. In 2014 the mean rent commitment for an FTSE350 company was £544m whilst the book value totalled £797m and the mean profit was £475m (Cooke et al., 2019a). From 2007 to 2014 profits fell by 4% but rents grew by 17%, book value by 22% and surplus leases by 145%. As profits fell, businesses, counter-intuitively, increased their CRE but simultaneously created a surplus portfolio to align their operational portfolio (Cooke et al., 2019a).

Granular research on the alignment has been discussed conceptually in a number of papers (e.g., Shimizu & Hitt, 2004), but is more limited on alignment processes. The definition of alignment is elusive with terms such as 'integrate' and 'melding' used synonymously with it (Luftman & Brier, 1999), but denotes a strategic fit of the resource framework and capabilities (Brown & Blackmon, 2005). Research into alignment with business strategy includes the supply chain (Rodriquez-Escobar & Gonzalez-Benito, 2017) and IT (e.g., Luftman et al., 1993). Research into IT alignment has considered variables that facilitate or inhibit alignment (e.g., Luftman & Brier, 1999). This identified that facilitators and inhibitors tend to be the converse of each other and consistency of

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terminology and studies on how firms undertake alignment is missing (Avison et al, 2004), as with CRE research.

It has been suggested that firms have increasingly adopted a dynamic CRE portfolio (Joroff & Becker, 2017), but evidence suggests that implementation of a capability for *dynamic alignment* remains limited (Cooke et al., 2019a). Papers on CRE alignment with business strategy have either proposed new models (e.g., Gibler & Lindholm, 2012) or reviewed previous models or literature (Heywood & Arkesteijn, 2017), but rarely define CRE alignment itself (Heywood & Arkesteijn, 2017). Decision-making literature is extensive and ranges from the individual to the organisational level (e.g., Kahneman, 2011). Two CRE decision-making research strands can be identified, firstly the impact of CRE on a firm's market value (Nappi-Choulet et al., 2009), secondly property acquisition (Greenhalgh, 2008) and the influence of individuals (Mazzoral & Choo, 2003). A model of Mental Representations (MR) of the decision problem and identification of variables that facilitate or inhibit CRE *dynamic alignment* are missing. This research is an extension of the previous chapter which used the Causal Network Elicitation Technique (CNET) (Arentze et al., 2008; Dellaert et al., 2008) whereby semi-structured interviews are undertaken to model MR's in a specific decision scenario.

The purpose of this study is twofold. Firstly, to create a decision model for the CRE realignment decision-making process and secondly, to evaluate variables as facilitators or inhibitors in the *dynamic alignment* process. Accordingly, questions are posed against the scenario set of a decline in the business requiring a reduction in CRE. To model the decision-benefit relationships, the importance of each variable has to be ascertained. Hence the first objective involves two research questions: 1) what are the importance weights of the benefits and 2) what are the utilities assigned to the decision variables? The second objective requires an examination of the attributes and the following research question: 3) what are the inhibitors and facilitators of CRE *dynamic alignment* and what is their significance?

The structure of the remainder of the chapter is as follows. First, this section is followed by a review of pertinent literature on alignment, decision-making and CRE. Next, the methodology is described followed by the results and a discussion. The paper concludes with a discussion of limitations and thoughts for further research, and the impact of the paper for practitioners.

6.2 Alignment decision-making

More fluid strategies have emerged from the turbulent business environment (Barreto, 2010) requiring frequent changes in the shape of the business. Consequently, managers actively avoid accumulating fixed resources. Organisational deftness has become a core capability (Chiva et al., 2014) making adaptability an intangible resource (Teece et al., 1997). Decision-making effectiveness impacts financial performance (Blenko et al., 2010) but contains inherent weaknesses. These include bias (Hammond et al., 1998), failing to regard it as an ongoing, iterative process (Lovello & Kahneman,

2003; Luftman & Brier, 1999), not recognising that decisions are made with incomplete knowledge (Argyris, 1976) and because "people consistently act inconsistently" (Argyris, 1991:4).

Strategy encompasses both formulation and implementation plus decision-making (Chaffee, 1985). The successful execution of a strategy is 10% formulation and 90% implementation (Kotter citied in Beer et al., 2005). As a firm's environment continues to change, alignment must be a dynamic process (Luftman & Brier, 1999), although most research regards alignment as seeking a fixed target (Avison et al., 2004). Research examining alignment hurdles focusses at the organisation level, and identified factors such as poor co-ordination (Beer et al., 2005). At a granular level insight into what facilitates and inhibits alignment for the more technical parts of the business (including CRE) is missing. The goal of CRE alignment is to achieve a strategic fit with corporate strategy to achieve corporate goals (Appel-Meulenbroek & Haynes, 2014). Therefore, alignment timelines have focussed on the long-term (e.g., Manning & Roulac, 2001). However, "CRE strategies must also be linked with short term goals to ensure continuous adaption to the external environment" (Ntene et al., 2020: 185).

Company performance rests on CRE meeting performance criteria as well (Van Ree, 2002). However, the business-CRE relationship has received only limited attention in research (Lizieri, 2003). Researchers have focussed on developing their own model (Heywood & Arkensteijn, 2018). The models proposed do not reflect new, more transient strategies as they pre-date the current turbulent environment. The tendency for CRE researchers to confine themselves to CRE literature (Lizieri, 2003) has previously hindered the development of more realistic models. Limited CRE coverage in business journals would appear to reflect that whilst CRE is a strategic resource "it rarely captures senior managements' attention" (Apgar, 2009: 100). Consequently, the relationship between business and CRE still requires a lot more research.

Certain commonalities exist across CRE alignment models that do not reflect what happens in practice. Firstly, the assumption that aligned CRE adds value (e.g., Gibler & Lindholm, 2012) does not recognise that misalignment can create a negative impact. This was seen in the recession with the growth in the surplus property provision (Cooke et al., 2019a). Second is *maximising shareholder wealth* as the ultimate objective of alignment (e.g., Gibler & Lindholm, 2012). Criticisms of this theory includes shareholders not being identical; having different objectives; holding shares for different time periods and having different perspectives (Stout, 2012). Additionally, company directors are not agents of shareholders and may have different objectives, as they are officers of the company with their own agenda(s) (MacIntosh & MacIean, 2015).

Inflexible CRE has been demonstrated to incur direct financial penalties. Cooke et al (2019b) identified that between 2007-2014 FTSE350 companies increased surplus property provisions by an average of 145%, with a corresponding decrease in profits. To achieve *dynamic alignment* requires physical, functional, financial and legal flexibility (Cooke et al., 2019a). The *core* & *periphery* classification (Gibson & Lizieri,

1999) proposes that *core* buildings should be owned and the remainder, the *periphery*, should be leased with short term requirements satisfied by service contracts. Flexible leases are more expensive as landlords seek compensation through higher rents and/or reduced incentives to reflect a perceived increase in risk. As "decisions regarding CRE have been driven by cost considerations only" (Stadlhofer, 2010: 97), improving the *dynamic alignment* capability through flexible leases creates an inherent conflict with cost minimisation. Senior managers are likely to focus on the current company performance, not what it might be in five years' time.

To make the CRE alignment models closer to the real world and in line with how this alignment operates, will require more data. Therefore, the purpose of this study is to model the relationship between decisions and benefits and to identify those attributes that facilitate or inhibit the *dynamic alignment* process, drawn from real world experts' knowledge and experience.

6.3 Methodology

The research questions addressed in this study seek to gain in-depth insights into decision-making and the variables that experts consider important. Nine experts were interviewed in 2019, they were all senior CRE Managers and intentionally selected from different sectors to represent a wide range of backgrounds. The last three interviews saw repetition of what had been found previously indicating saturation of information and convergence of insights. Convergence meant that no further expert opinions were required. In the previous chapter (published as Cooke et al., 2021a), pertinent variables and the MRs of the same experts were revealed using CNET to create Causal Networks. This paper discusses additional data and data-analyses.

The CNET process seeks to elicit information from experts by getting them to think aloud in response to the scenario presented. The task of the interviewer is that of an interpreter and a classifier of both variables and comments, together with encouraging the experts to fully explain their thought process. The scenario posed to the experts was that they are tasked with the implementation and tactical decision-making of a new CRE strategy following a change to the business strategy:

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, both square metres and annual cost, in the short term. Consequently, the leased part of the CRE portfolio needs to be realigned to meet these new requirements.

The experts were specifically instructed not to consider the scenario in the context of their current role. The rationale for this was to remove any inhibitions that their responses might reveal commercially sensitive material if it was firm specific. Secondly, it would enhance the ability to capture all of their experience rather than be constrained

by their current roles. The choice opportunities for the individual are the *decision* variables. The outcome of a decision may be either an *attribute*, a direct consequence of the decision (e.g., for subletting an increase in property management), or a benefit. A *benefit* is more abstract and is based on the individual's goals and needs, in effect it is the end value which identifies the motivation of the individual (e.g., a benefit of subletting might be improved cashflow).

Post interview the experts were asked by email to undertake two additional tasks. Firstly, they were asked to allocate 100 points to each of the decision and benefit variables according to the size of the influence the variables within the group - decisions or benefits - have in their decision-making process. Secondly, the email introduced the concept of dynamic alignment and asked each expert to designate each attribute as one that facilitated dynamic alignment (Facilitator), inhibited the process (Inhibitor), or made no discernible impact (Neutral).

The nine experts identified in total 39 situational, 75 decision, 472 attribute and 136 benefit variables The variables were categorised into groups, for example cost saving and cost reduction were categorised as Cost (see Tables 6.1 and 6.4). Categorisation reduced the numbers to 4 decision, 29 attribute and 19 benefit variables. Next the number of times a variable was mentioned and points allocated to it were identified. Due to the categorisation, a particular variable (e.g., an attribute) could occur multiple times in the MR of an expert. Both the total mentions of a variable and the net (a maximum of one mention per variable per expert) were determined. This process avoided the risk of skewing the broader picture by one expert's particular concern, while the total mentions would provide a sense of that. An indication of the central tendency in the whole group of experts was calculated by the arithmetic mean per variable. An average was calculated based on the experts who mentioned it (M) and for the group (the total divided by nine, G).

Following the logic of a causal network, the utility of a decision option (i.e., a decision variable) is calculated as:

$$D_i = \sum_j w_{ij} \cdot A_j \tag{1}$$

where D_i is the utility of decision i, w_{ij} is the strength of the link between decision i and attribute j (the strength is zero if there is no link) and A_j is the utility of attribute j. The utility of an attribute is given by:

$$A_j = \sum_{k} w_{jk} \cdot B_k \tag{2}$$

where w_{jk} is the weight of the link between attribute j and benefit k (the strength is zero if there is no link) and B_k is the importance assigned to benefit k. Thus, the utility of a decision is determined by the utilities of outcomes on attributes and, in turn, the utilities of outcomes on attributes are determined by the outcomes on benefits. Hereby, the (back) propagation of utilities is moderated by the link strengths, w. The link strengths are determined as the proportion of times the link occurs in the MRs across the experts

(w = 1 if it occurs in all MRs and w = 0 if it occurs in none of the MRs). The importance assigned to a benefit (B_k) is indicated by dividing the total number of points allocated to the benefit by the experts by the theoretic maximum of 900 points (all experts allocated all 100 points to the benefit).

All the variables were tabulated, together with the weights of the A-B and D-A links (see Table 6.1). A threshold was set for the importance value of attributes (≥ 0.01) and benefits (≥ 0.1) for discussion. From this a model is constructed graphically for the Decision - Benefit links to show the benefits the decision-makers seek for specific decisions.

The tabulation of the attributes as Facilitator (F), Inhibitor (I) and Neutral (N) was based on a similar method of categorisation. In this case an expert might identify an attribute in multiple ways when the attribute after categorisation consists of various elements. For example, the category of HR Profile can facilitate alignment through flexible work but inhibit it with fixed locations in the employment contracts. Therefore, a ratio was produced per attribute per expert for each designation (F, I and N) based on the mentions per designation over the total F, I and N mentions for the attribute. Thus, if an attribute has five specific attributes mentioned by an expert, say three of which are labelled as F's, two as I's and zero as N, the resultant ratios would be 0.6 (F), 0.4 (I) and 0 (N). The sum of the ratios for F, I and N across experts were calculated, together with the net figure (Facilitator minus Inhibitor).

From this table lift ratios (p) were calculated for each designation. The lift ratio of a designation (p(F), p(I) or p(N)) for an attribute A is defined as the probability that that designation is assigned to A divided by the (overall) probability that an attribute in general would be allocated to that designation. Thus, this measure considers the a priori probability of a designation as a base line and expresses the actual probability relative to this base line. A lift ratio of p=1 means that there is no association, that is, the probability of associating it with that category is equal to the base probability that an attribute is associated to that label. The assessment of the attributes as Inhibitors or Facilitators of *dynamic alignment* allows us to consider the attributes' role as an intermediary step between decisions and benefits.

Table 6.1 Utilities of Decisions and Importance Weights of Attributes & Benefits

	stitene8 AH	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.05
	CRE Profile	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	90.0
	CRE Future Proofing	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.09
	Profit & Loss	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	GidsbaswetZ	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	Operational Benefits	0.01	0.01	0.01	0.01	0.02	0.02	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.11
fits	Cost Reduction	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.12
Benefits	Motivation Drivers	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	Risk Reduction	0.05	0.01	0.01	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.01	0.00	0.02	0.00	0.00	0.20
	Business Metrics	0.03	0.02	0.03	0.02	0.02	0.00	0.01	0.02	0.01	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.22
	stiteneB noitstnemelqml	90.0	0.04	0.00	90.0	0.02	0.02	0.00	0.02	0.04	0.02	0.02	0.04	0.00	0.02	0.04	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.44
	Financial Stakeholders	0.07	0.07	0.08	0.07	90.0	0.03	0.05	0.05	0.02	0.03	0.03	0.03	0.02	0.02	0.00	0.03	0.02	0.03	0.01	0.00	0.01	0.01	0.82
	lstoT 8-A	0.261	0.208	0.182	0.250	0.159	0.106	0.085	0.112	0.120	0.079	0.088	0.110	0.106	0.074	0.050	0.045	0.080	0.083	0.037	0.043	0.035	0.024	2.497
	A-B Ranking	1	3	4	2	2	6	12	7	9	15	11	8	6	16	17	18	14	13	20	19	21	22	
Attributes		Risk	Cost	IFRS16	Lease Detail	Business Metrics	Financial Analysis	Stakeholders - External	Cash	CRE Tactics	CAPEX	Decision Making	Proposed Portfolio	Prop Mgt	CRE Metrics	Implementation	Corporate Governance	Space utilisation	HR Profile	Landlord	CRE Designation	Operational Issues	Current Portfolio	Total
	D-A Ranking	-	2	3	4	2	9	7	∞	6	10	11	12	13	13	15	16	16	18	19	20	21	22	
	lstoT A-Q	0.869	0.624	0.607	0.472	0.442	0.330	0.180	0.150	0.147	0.131	0.097	0.086	990.0	990.0	0.061	0.045	0.045	0.028	0.025	0.019	0.016	0.014	4.549
Decisions	Lease Event	0.26	0.21	0.18	0.22	0.16	0.11	90.0	90.0	0.07	0.04	0.03	0.05	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.00	0.01	0.01	1.62
Deci	Third Party Deal	0.23	0.19	0.18	0.08	0.12	0.11	0.07	0.05	0.03	0.04	0.04	0.02	0.05	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	1.29
	Landlord Deal	0.26	0.19	0.18	0.11	0.14	0.09	90.0	0.04	0.04	0.04	0.03	0.01	0.00	0.01	0.01	0.02	0.02	0.01	0.01	0.00	0.00	0.00	1.28
	Space Utilisation	0.12	0.05	90.0	90.0	0.02	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.37

6.4 Results and Discussion

The results are presented by firstly examining benefit and decision variables together with the weighting applied by the experts, which identifies the importance of those variables to them (research questions 1 and 2). This is followed by the classification of the attributes and whether they facilitate, inhibit or are neutral in the process of *dynamic alignment* (research question 3). The detailed results are shown in the Appendix.

• Decision Utilities and Benefit Importance Weights

The individual categories of the benefit and decision variables are shown in Table 6.2.

Table 6.2 Categorisation of Benefit and Decision Variables

DECISION VARIABLE	COMPRISES THE FOLLOWING DECISION OPTIONS
Landlord Deal	Surrender; Regear & Freehold Purchase
Lease Event	Lease Expiry & Lease Break
Third Party Deal	Assignment; Subletting; New Lease & Portfolio Disposal
Space Utilisation	Single Site; Mothballing & Back Filling Space.
BENEFIT VARIABLE	COMPRISES THE FOLLOWING BENEFITS
CRE Profile	Disposability of Space; Short Term Solution; Non-Core Operation & Retention
CRE Metric Improvements	Improvement in Flexibility & Footfall
CRE Future Proofing	Future Proofing: HQ Retention; Potential CRE Problems & Consolidation
Implementation Benefits	Achievability; Hitting Deadlines: Quick & Immediacy
Proposed Portfolio	Fit for Purpose
Business Metrics	Business Metrics
CAPEX	Capital Expenditure & Write Down
Cash	Cash & Cash Conservation
Cost Reduction	Cost & Cost Savings
Profit & Loss	Profitability & Balance Sheet
HR Benefits	Work: Life Balance; Commute Times & People Benefits
HR Talent	Age Profile of Workforce & Attracting & Retaining Talent
Motivational Drivers	Individual & Team Benefits, including Bonuses
Business Prospects	Disconnection of Strategies & Growth Prospects
Stewardship	Accountability; Stewardship; Regulatory Environment & Accountability
Operational Benefits	Operational Benefits
Risk Reduction	Risk Dependence; Risk of Default: Least Risk Option
Financial Stakeholders	Earnings Per Share; City Perception; Dividend; raising Finance; etc

Decision Utilities

Decision variables are the possible solutions the decision-maker considers (Table 6.3), their mentions and means (M_i and G_i) together with their utilities (D_i) are shown in Table 6.3. The variables are ordered from high to low utility. Three decisions achieved a utility of $D_i \ge 1.0$ and were mentioned by all experts. Lease Event ($D_i=1.62$) comprises lease

break and lease expiry. Both options can provide certainty for the decision-maker without the involvement of a third party, such as the landlord or potential tenant. They can be relatively straight forward solutions to implement, although in the UK lease breaks can be difficult to operate because of lease conditionality. Therefore, lease details are important for this decision option.

Decision Variables	Total	Net Mentions		Utility		
	Mentions		Total	M;	G;	Weights
	Weildons		Iotai	, w,	0,	Di
Lease Event	18	9	350	38.9	38.9	1.62
Third Party Deal	26	9	232	25.8	25.8	1.39
Landlord Deal	19	9	283	31.4	31.4	1.28
Space Utilisation	5	3	35	11.7	3.9	0.37
Total	68	30	900	30.0	100	4.55

The category Third Party Deal (D_i =1.39) includes lease assignment, subletting and portfolio disposal. The first two require the involvement of both a third party (a new tenant) and the landlord. A significant concern was that neither assignment nor subletting provides immediate certainty; liability and risk remain until headlease expiry. Portfolio Disposal is the disposal of a portfolio of surplus leases and was mentioned by all experts, bar one. Third Party Deals provide solutions the experts regarded as not as good as Lease Events or a Landlord Deal because of greater risks to the firm due to a lack of immediate certainty.

For Landlord Deal (D_i =1.28) three possible solutions were identified, namely surrender, freehold purchase and regear. Surrender was regarded as the best decision because it provided an all-encompassing exit from the property without any residual issues. Lease break and expiry both generally leave dilapidations to be resolved post event. The freehold purchase serves one objective immediately, namely the removal of the lease liability, but does not immediately remove the space liability. It is an interim step until the subsequent sale of the freehold. Some experts separated reduction of space from cost reduction, for example, a regear can reduce costs but not the space commitment.

Finally, Space Utilisation (D_i =0.37) was mentioned by only three experts. This probably reflects the fact that specific decisions, such as Mothballing, seek to minimise costs rather than remove costs and space. In the context of the scenario here Space Utilisation is only likely to be used when all other solutions fail.

Benefit Weighting

Benefit variables are the considerations of the decision-maker relating to the outcomes, they are the end values of the options for realignment. The mentions and means (M_k and G_k) of the benefit variables plus their importance weights (B_k) are shown in Table

6.4. In the table the benefits are ordered by B_k . Financial Stakeholders (B_k =0.82) comprises financial institutions, banks and creditors, plus shareholders, with eight of the nine experts identifying it on average 2.75 times each, making them significantly important benefits sought by decision-makers. Within alignment models (e.g., Gibler & Lindholm, 2012) shareholders are seen as the primary objectives of alignment, which was mirrored in the interviews (e.g., "you always want to keep the shareholders happy" (Expert 4)). However, the results indicate that a broader base of stakeholders are actually considered by decision-makers. Business Metrics (B_k =0.22), such as cost versus income and Earnings Per Share, "are important because that is what the analysts look at" (Expert 7). An element of calculating Business Metrics is Cost Reduction (B_k =0.12) as it is not "just the property costs, it is everything that goes with ... having a physical footprint" (Expert 4), "ultimately the only way to reduce cost is to have a smaller footprint" (Expert 7). Both Business Metrics and Cost Reduction are items that stakeholders will examine in detail.

Table 6.4 Benefit Variables across Nine Experts

	Total			Importance		
Benefit Variables	Mentions	Net Mentions	Total	M _k	G _k	Weights B _k
Financial Stakeholders	22	8	81	10.1	9.0	0.82
Implementation Benefits	16	8	155	19.4	17.2	0.44
Business Metrics	5	4	62	15.5	6.9	0.22
Risk Reduction	14	7	84	12.0	9.3	0.20
Motivational Drivers	11	5	24	4.8	2.7	0.16
Cost Reduction	7	5	67	13.4	7.4	0.12
Operational Benefits	7	6	68	11.3	7.6	0.11
Stewardship	8	5	42	8.4	4.7	0.10
CRE Future Proofing	8	4	46	11.5	5.1	0.09
Profit & Loss	4	3	30	10.0	3.3	0.09
CRE Profile	8	6	65	10.8	7.2	0.06
HR Benefits	7	5	47	9.4	5.2	0.05
Cash	2	2	30	15.0	3.3	0.00
Proposed Portfolio	3	3	25	8.3	2.8	0.00
CRE Metrics Improvement	2	2	20	10.0	2.2	0.00
Prop Mgt	3	2	17	8.5	1.9	0.00
Business Prospects	3	2	15	7.5	1.7	0.00
HR Talent	4	3	15	5.0	1.7	0.00
CAPEX	2	2	7	3.5	0.8	0.00
Total	136	82	900	11.0	100	2.50

Implementation Benefits (B_k =0.44) are general benefits of completing the action, in this case implementing the decision. As such it includes the achievability and speed of delivery of a decision. Operational Benefits (B_k =0.11) are more specific including productivity and freeing management time. Risk Reduction (B_k =0.20) comprises crystallising liability, the ongoing risk profile and risk dependency. Collectively, Implementation, Operational Benefits and Risk Reduction indicate seeking direct

benefits of business certainty for least risk, as "you always look at your least risk scenario" (Expert 3).

Motivational Drivers (B_k =0.16) are the individual and team benefits that may flow from successful attainment of the strategy, such as bonuses and self-esteem, for the C-Suite and CRE team. Finally, Stewardship (B_k =0.10) encompasses good governance and ensuring that protocols are followed. Failure to comply will have repercussions on the company and the individual.

Decision-Benefit Model

The analysis has identified what the experts regard as those decision and benefit variables of most value, that is the greatest utility. For the decisions these are Lease Event, Third Party Deal and Landlord Deal. From this analysis we are able to graphically create a model within the top layer the decisions and in the bottom layer benefits. The result is shown in Figure 6.1. What is not shown are the individual attributes that link the decisions and the benefits (see the Table 6.1 for the complete set of D-A and A-B links). With the complexity of so many links in the Causal Network a threshold of $B_k \ge 0.12$ was set for the inclusion of benefits. Given this threshold, the model includes only the most significant links. In Figure 6.1 the model is shown graphically with the decision utility weights and benefit importance weights shown.

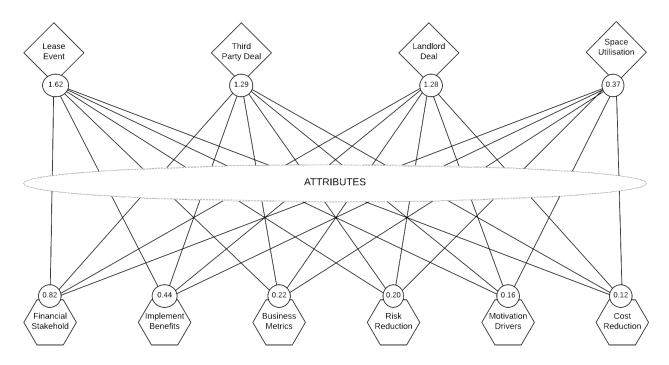


Figure 6.1 Derived Decision-Benefit Network Model

The Decision-Benefit model (Fig. 6.1) identifies the decisions deemed important and benefits sought for each decision for the scenario of a contracting portfolio arising from a decline in the business. The model includes all four decisions (Lease Event (D_i =1.62), Third Party Deal (D_i =1.39), Landlord Deal (D_i =1.28) and Space Utilisation (D_i =0.37)), but only includes those benefits above the threshold of $B_k \ge 0.12$ thereby reducing the number in the model from 19 to 6. Different decisions generate different benefits with positive or negative effects on utility. For example, a surrender will create a cost increase at completion, but subsequent operational costs are reduced. Consequently, assessment timing of the benefits is important. The link between decisions and benefits runs via attributes and the link from a specific decision to a specific benefit may be constituted by several attributes with different link strengths.

The model reflects the reasonings and considerations of CRE managers. Financial Stakeholders (B_k =0.82) includes shareholders and banks and the benefits that arise may be direct (dividend payments) or indirect (reduced cost of borrowings). Implementation Benefits (B_k =0.44) are more inward facing and look at speed and achievability of transactions. A lease break or expiry will have a greater benefit than an assignment because the lease event will be on a fixed date, whereas an assignment is dependent upon finding a suitable party, negotiating a deal and obtaining landlord consent.

All of the decisions will to a greater or lesser extent effect Business Metrics (B_k =0.22). A surrender deal will increase costs from the surrender premium, but operating costs are reduced. A subletting may result in the same reduction in operational space and indeed net ongoing costs, but the rent and other costs will still need to be paid by the firm before rents etc. are recovered from the sub-tenant. The overall commitment has not actually changed, but the net costs have reduced. Cost Reduction (B_k =0.12) can differ between organisations depending upon how they assess cost, for example, as total outgoings or net cost.

Risk Reduction (B_k =0.20) encompasses transaction itself as well as the longer term assessment of the deal. Both a sub-letting and a surrender might reduce the risk equally, but the ongoing risk for the latter is zero whereas it remains an issue for the subletting. The inward looking Motivational Drivers (B_k =0.16) considers how a successful outcome or a failure of a decision impacts the individual decision-maker and the CRE Team: difficult to achieve decisions when they are successfully implemented bring substantially more credits for the individual.

• Facilitators and Inhibitors of Dynamic Alignment

This section considers the attributes, which are the consequences of decisions but not the end value (the benefits). The attributes connect the decisions to the benefits and potentially can inhibit *dynamic alignment*. The categories of the attributes that emerged from the interviews and what they comprise are set out in Table 6.5.

Table 6.5 Categorisation of Attribute Variables

ATTRIBUTE VARIABLE	COMPRISES THE FOLLOWING ATTRIBUTES
CRE Designation	Core Sites; Peripheral Units & Surplus Space
CRE Market Risk	CRE Market Risk
CRE Metrics	CRE Metrics & Space Efficiency
CRE Tactics	CRE Tactics; Short & Long Term CRE Needs & Unit Protection
Current Portfolio	Adaptability; Knowledge & Limitations
Implementation	Constraints; Implementation; Options & Timing
Landlord	Capital or Income Focus or Both
Lease Detail	Specific Lease Provisions including Break Details
Prop Mgt	On-going Property Management Requirements
Proposed Portfolio	Space Required including Location, Configuration, etc
Restructure	Reshaping Lease; Owing Property & Extracting Value
Space utilisation	Space utilisation; Meeting Rooms; Open Plan Space; Configuration
Workplace Strategy	Workplace Strategy; New Ways of Working: Home Working; etc
Business Metrics	Business Metrics & Benchmarking
CAPEX	Capital Expenditure
Cash	Cash and Cash Performance
Cost	Total Cost; Cost Profile; Funding; etc
Financial Analysis	Financial Metrics; Gap Analysis; Profit & Loss Per Property; etc
IFRS16	IFRS16; Lease Accounting & Accounting Treatment
HR Practices	Staff Well Being; Team Working & Working Groups
HR Profile	Headcount; Home Location; Office Location; projected Headcount; etc
Motivation	Personal Credibility & Motivation
Business Strategy	Business Strategy & Model
Corporate Governance	Corporate Governance; Variation Public & Private Companies & Confidentiality
Decision Making	Decision Making; CEO & CFO Decisions; Priorities; etc.
Operational Issues	Operational Issues & Needs; Flexibility Requirements; Brand Impact; etc.
Risk	Risk; Contingent Liability & Risk Analysis
Stakeholders - External	Shareholders; Potential Investors; Customers & Interaction; Stock Market; etc
Stakeholders - Internal	CEO; CFO; C-suite & Colleagues

The highest occurrence frequency in the MRs are Risk and Cost (n=35), IFRS16 and Lease Detail (n=32), Proposed Portfolio (n=28), External Stakeholders and Financial Analysis (both n=27). Table 6.6 identifies for the attributes the lift ratios for Facilitator, Neutral and Inhibitor (p(F), p(N) or p(I)) of dynamic alignment. The table is ordered firstly by the facilitator score above 1.00, then inhibitors and finally neutral attributes. As explained, the lift ratio indicates the strength of the relationship between the probability of a specific attribute designation against the probability of that designation overall. The individual attributes are discussed stating the lift ratios before providing the attribute utility (A_i).

Table 6.6 Attributes categorised using lift ratios ordered by Facilitator, Inhibitor and Neutral

Attributes	Mentions	Inhibitor	Neutral	Facilitator	Net	Lift Ratio Inhibitor p(I)	Lift Ratio Neutral p(N)	Lift Ratio Facilitator p(F)
Facilitators					-			
HR Practices	4	0.00	1.00	3.00	3.00	0.00	0.58	2.08
CRE Metrics	6	0.00	1.70	4.30	4.30	0.00	0.66	1.99
Workplace Strategy	7	0.00	2.50	4.50	4.50	0.00	0.83	1.78
Current Portfolio	6	1.00	1.50	3.50	2.50	0.79	0.58	1.62
CRE Designation	8	1.67	2.00	4.33	2.67	0.99	0.58	1.50
Business Metrics	8	1.75	2.00	4.25	2.50	1.04	0.58	1.47
Motivation	2	0.00	1.00	1.00	1.00	0.00	1.17	1.39
Restructure	7	1.50	2.00	3.50	2.00	1.02	0.67	1.39
Space utilisation	8	1.07	3.14	3.79	2.71	0.64	0.92	1.31
Stakeholders - External	6	0.80	2.40	2.80	2.00	0.63	0.93	1.29
CRE Tactics	8	1.68	2.88	3.43	1.75	1.00	0.84	1.19
Inhibitors	•			•		•	•	•
CAPEX	6	4.00	1.00	1.00	-3.00	3.17	0.39	0.46
Landlord	4	2.67	1.33	0.00	-2.67	3.17	0.78	0.00
HR Profile	6	3.33	1.83	0.83	-2.50	2.64	0.71	0.38
Implementation	6	2.40	1.83	1.77	-0.63	1.90	0.71	0.82
Lease Detail	9	3.00	2.87	3.13	0.13	1.58	0.74	0.96
Cost	9	2.62	3.75	2.63	0.02	1.38	0.97	0.81
Operational Issues	6	1.70	2.43	1.87	0.17	1.35	0.95	0.86
Risk	9	2.45	3.47	3.08	0.63	1.29	0.90	0.95
Proposed Portfolio	8	1.92	3.43	2.65	0.73	1.14	1.00	0.92
Neutral								
CRE Market Risk	1	0.00	1.00	0.00	0.00	0.00	2.33	0.00
Prop Mgt	7	0.50	6.00	0.50	0.00	0.34	2.00	0.20
Corporate Governance	6	1.00	5.00	0.00	-1.00	0.79	1.94	0.00
Cash	6	1.00	4.50	0.50	-0.50	0.79	1.75	0.23
Business Strategy	5	0.00	3.50	1.50	1.50	0.00	1.63	0.83
Stakeholders - Internal	5	1.00	3.00	1.00	0.00	0.95	1.40	0.55
Decision Making	7	1.00	4.00	2.00	1.00	0.68	1.33	0.79
IFRS16	9	0.83	4.92	3.25	2.42	0.44	1.27	1.00
Financial Analysis	8	0.50	4.15	3.35	2.85	0.30	1.21	1.16
Total	187	39.39	80.14	67.47	28.08			

Facilitators

HR Practices (p(F)=2.08; A_j =0.004) comprises staff well-being and agility together with the ability to implement new workplace strategies. These are change orientated attributes indicating operational flexibility and three of the four experts who identified it designated it a Facilitator.

CRE Metrics (p(F)=1.99; A_j =0.066) refers to performance criteria of the CRE portfolio before, during and after the alignment process. This provides insights into the efficiency of units and hence the strategy per unit. A broader perspective is provided

by Business Metrics (p(F)=1.47; p(I)=1.04; $A_j=0.442$) which considers the effects of CRE change on business performance via cost effectiveness, liquidity, etc. With p(F) and p(I) scores both over 1.0 this indicates that the experts view this attribute primarily as a facilitator, but it can also be an inhibitor to *dynamic* alignment. External Stakeholders (p(F)=1.29; p(N)=0.93; $A_j=0.180$) also influences longer term share value as shareholders and banks are very important as end values (benefits) but at the attribute level the strength of the Facilitator relationship is not as important and is tending towards Neutral.

The Current Portfolio (p(F)=1.62; $A_j=0.014$) indicates how existing lease flexibility (lease expiry and breaks) can provide certainty from a proposed action or the property has the ability to be reconfigured. "Knowledge is probably more valuable than anything" (Expert 7) and provides the framework for decision-making and decision implementation. CRE Designation (p(F)=1.50; p(I)=0.99; $A_j=0.019$) denotes the status of the unit as core, peripheral or surplus, which may facilitate *dynamic alignment*, but can also be a strong inhibitor. Whilst Workplace Strategy (p(F)=1.78; $A_j=0.007$) encompasses new ways of working; flexible working can lead to reduced CRE needs and facilitate alignment (Ekstrand & Hansen, 2016). These three attributes are considering a similar aspect in that they define the nature of the properties, whether they are core or otherwise and how the space can be used.

Inhibitors

Of the nine inhibitors of *dynamic alignment* the strongest is CAPEX (p(I)=3.17; A_j =0.131). This indicates that the specific capital cost can inhibit alignment. Surrenders require a significant payment to compensate for remaining rent liability and both assignments and subletting have capital costs of property improvement works and the payment of incentives. Down-sizing is frequently associated with scarcity of capital and cash and, therefore, capital shortage can prevent realignment taking place. "Property is a huge cost and huge drain on the business" (Expert 4) and Cost (p(I)=1.38; p(N)=0.97; A_j =0.624) is primarily regarded as an inhibitor, even though once alignment has been completed there should be a reduction in on-going costs, reflected in the p(N) figure.

Most decisions of leased properties will require the involvement of the Landlord (p(I)=3.17; A_j =0.025). This indicates the potential for the landlord to control any deal, either because it is direct with the landlord, a surrender or a regear, or because their control on other transactions through the requirement to provide consent. A Third Party Deal (subletting or assignment) requires landlord approval, and their attitude can impact on the operation of a lease break. The lift ratio indicates the recognition of the degree of control landlords have in achieving *dynamic alignment* for a portfolio. It illustrates the pessimism CREM's have in successfully transacting with landlords because of, "the vagaries of the landlord" (Expert 6) and the inability to control them. Risk (p(I)=1.29; p(N)=0.90; p(F)=0.95; A_i =0.869) is important because a firm will be

reluctant to instigate a plan if there is uncertainty on the outcome. The strength of all three designations indicates how Risk influences alignment and decision-making and the experts took different perspectives on its influence on alignment.

HR Profile (p(I)=2.64; A_j =0.028) comprises HR elements that can create rigidity and impede change, such as head count, employment contracts and staff home locations. It operates through restricting flexibility of location and working practices, and contrasts with change orientated HR Practices. The potential for success of the chosen decision (Implementation, (p(I)=1.90; A_j =0.061)) and its assessment prior to commencement can inhibit alignment because CREM's recognise the challenges of achieving a realignment strategy. Specific strategies can be discounted before they start because the potential for success is deemed difficult. A lease is restrictive by nature and will impact what can be done, therefore Lease Detail (p(I)=1.58; p(F)=0.96; A_j =0.472) includes clauses relating to use of the premises and options for third party disposal. The high p(F) score indicates that certain aspects can promote alignment, for example, lease breaks.

Neutral

Five Neutral attributes are above the threshold. CRE Market Risk (p(N)=2.33; A_j =0.000) is mentioned by one expert as an attribute. Property Management (p(N)=2.00; A_j =0.066) may change through an increase or decrease depending upon the decision, hence the neutral designation. Corporate Governance (Np=1.94; A_j =0.045) is an internal factual attribute, in this case the protocols that need to be followed with any decision-making to ensure internal and statutory compliance. The Neutral designation of Cash (p(N)=1.75; A_j =0.150) was not anticipated. Without change lease costs continue, achieving alignment involves cash expenditure whilst post alignment costs will be reduced. Business Strategy (p(N)=1.63; A_j =0.004) in this context is the transformation process that aligns with corporate strategy and Internal Stakeholders (p(N)=1.40; p(I)=0.95; A_j =0.003) is ensuring that senior management supports the CRE realignment strategy. The high p(I) may reflect the inertia in getting internal stakeholders to buy into CRE strategies of change.

Certain attributes have a high number of mentions but all of the lift ratios are p<1.4. This includes IFRS16 (p(N)=1.27; p(F)=1.00; $A_j=0.607$). IFRS16 was discussed in the interviews as a facilitator, in that post transaction it will reduce the IFRS16 figure. However, some decisions (e.g., assignment and subletting) leave the firm exposed to an IFRS16 increase if the assignee or sub-tenant fail and the liability reverts. There would appear to be an interdependency with Risk. Financial Analysis (p(N)=1.21; p(F)=1.16; $A_j=0.330$) includes Profit & Loss, Gap Analysis, etc. It is a narrower definition than Business Metrics, although the latter attribute has a longer time perspective than the former which is more focussed on half and full year results. Proposed Portfolio (p(I)=1.14; p(N)=1.00; p(F)=0.92; $A_j=0.086$) indicates a tendency of balance across the three options, suggesting neutrality in the broader sense.

Conclusion

The attributes that facilitate CRE *dynamic alignment* centre around the knowledge and designation of the existing portfolio, its measurement through metrics and potential opportunities. The very act of using metrics seems to encourage *dynamic alignment*, which suggests that a framework is created by using metrics linking to business performance (Van Ree, 2002). The importance of business metrics to CREM's does support the view that such relationships need to be more widely researched (Lizieri, 2003).

The inhibitors creating barriers are capital expenditure, costs, the landlord and HR profile. To achieve *dynamic alignment* many solutions, require significant capital expenditure (e.g., surrender premiums; refurbishment costs; etc.). If a business is under pressure with a cost reduction programme, capital will be limited and, consequently, capital intensive decisions will be less attractive than those with limited expenditure (breaks and expiries). It could also indicate that the CREM's do not believe that sufficient change can come from lease events only because inherently the portfolio lacks a *dynamic alignment* capability. This reiterates that the cost focus of CRE remains an important consideration (Stadlhofer, 2010). The role of landlords as an inhibitor and how they can frustrate a transaction highlight how individuals, including those outside the firm, can influence decisions (Mazzoral & Choo, 2003). That reaffirms that the creation and implementation of strategy needs to be iterative and emergent (Mintzberg et al., 2009). Risk reflects the lack of control the external environment (Ramirez & Wilkinson, 2016) and internal politics (MacIntosh & Maclean, 2015) can bring to the decision-making process.

Corporate Governance and Business Strategy (Neutral) deal with potential disputes and their resolution (e.g., staff relocations) to smooth approval processes (MacIntosh & MacIean, 2015). By recognising that strategic development is iterative the decision-maker can be attuned to strategy changes (Mintzberg et al., 2009) and react quickly. In the context of the decision-benefit model, the attributes, as the intermediate variables, are identified in their role as Facilitator or Inhibitor of *dynamic alignment* or as having no effect on the process.

Taking a broad perspective a number of the inhibitors (e.g. CAPEX) are not in the direct control of the CREM, whereas, a number of facilitators (e.g. Workplace Strategy) are. Some of the neutral attributes can be regarded as matters of fact (e.g., CRE Market Risk). This would suggest that CREM's do have a measure of control over a number of attributes that can facilitate *dynamic alignment*, if they choose to recognise it.

6.5 Conclusions

The contribution of this research to theory is that it has demonstrated that CRE decision-making and alignment is affected by a multitude of internal and external variables that reflect the complex and pluralistic nature of CRE (confirming Heywood & Arkesteijn,

2017). The research has confirmed that a single over-riding objective of *maximising* shareholder wealth is not correct (Stout, 2012). Shareholders are an important consideration, but a much wider range of benefits are sought when implementing alignment. Consequently, alignment models (e.g., Gibler & Lindholm, 2012) need to be redefined and consider the inclusion of the extensive list of benefits identified here.

The research has identified a decision-benefit model for CRE decision-making at a time of a declining business necessitating a reduction in the CRE portfolio. The number of variables overall indicates the complexity of the issue and that the ability to execute good decisions can be an intangible resource for the firm (Teece et al., 1997) and add to the value of the firm (Blenko et al., 2010). To achieve *dynamic alignment* requires flexibility which costs money and CAPEX is a significant inhibitor. Consequently, cost minimisation (Stadlhofer, 2010) remains important, but this is contrary to the idea that CRE flexibility is increasing (Joroff & Becker, 2017).

The importance of the Landlord as an inhibitor reflects the ongoing lack of *dynamic alignment* capability in CRE, because if the portfolio had flexibility the importance of the landlord would be diminished. Therefore, creating a portfolio with *dynamic alignment* capability would remove the dependence on the landlord (Cooke et al., 2019a). Inconsistency of landlords in their reaction to requests for assignments, sublettings, etc. was an issue for the experts (Argyris, 1991). Consequently, it would appear that landlord decisions are linked to behavioural attributes and benefits that they seek and, therefore, an understanding of these could assist in improving the operation of the market and landlord-tenant relationships. It would assist CREM's by reducing the incompleteness of their knowledge (Argyris, 1976).

The study illustrated that individual experts focus on specific issues that, whilst not important to others, were important or prominent in the thinking of the individual. An example was that one expert mentioned the supply chain twice as a situational variable but none of the other experts raised it suggesting that, possibly, for the one individual it has been an important issue recently and was at the forefront of his or her mind. Such an occurrence illustrates the possible existence of bias in decision-makers considerations (Hammond et al, 1998) which ideally requires decision systems to compensate for such bias.

An important theoretical contribution of this research is that it is believed to be the first CRE research into the variables that facilitate and inhibit *dynamic alignment*. Secondly, the variables identified are substantially more granular than those identified in other work on alignment (e.g., Beer et al., 2005). The attributes that inhibit the alignment process are not simply the converse of those that facilitate it. Instead, there is a clear difference between the two groups (unlike the work on IT alignment e.g., Luftman et al., 1993). Additionally, the present study has identified that variables that are neutral are not necessarily the default position, but they are specifically chosen. The methodology adopted here offers an approach that other sectors of a firm can utilise to consider how they can improve alignment with the business strategy and provide greater understanding of the process (Avison et al., 2004). Further research into the

facilitators and inhibitors of *dynamic alignment* could extend into the specific business units responsible for the area, such as HR, to seek to explain matters further.

Whilst the chapter does not provide a detailed model of the CRE decision-making process it does model the decision-benefit relationships, and, hence, what the major considerations in CREM decision making are. This offers considerable insight into the overall decision-making process. The methodology used here offers a tool for developing more detailed knowledge on the decision-making process (Arentze, et al., 2008) and has not been applied much in CRE research before. By extending research outside the confines of CRE literature (Lizieri, 2003) new insights into the relationship between business and CRE might be found. For example, IT alignment identified comparable issues to those that CRE face.

The importance of dynamic alignment for occupiers has been highlighted by the Covid-19 pandemic. The pandemic has affected different CRE sectors disproportionately. For example, the retail sector in certain countries has seen restrictions on openings for certain trade (e.g., clothing), whereas others (e.g., food) have traded throughout with all sectors seeing a switch to online sales. The office sector has been typified with a move to home-working. These actions have seen considerable debate within the CRE community as to what the consequences will be for physical space. This emphasises the importance of a portfolio capable of *dynamic alignment* and the benefits for those able to adjust to reflect what might become the new norm.

6.6 Limitations & Recommendations

The interview sample size could be regarded as small, and an initial concern was to get enough participants to elicit adequate expert knowledge. Getting nine experts to participate in the interviews and undertake follow up work to provide the depth of knowledge they did was gratifying. The concern on quantum of expert knowledge was dissipated after the fifth interview when clear evidence of saturation of elicited expert knowledge became apparent.

This research sets a specific scenario and ignored other decision contexts. Future research using the same technique (CNET) for different scenarios could provide further insights into the decision-making process for CRE. The indication from this work is that a small number of experts could provide more than adequate expert knowledge to provide these insights.

The methodology adopted in this research was of an interview followed by an email request for the allocation of points and identification of facilitators or inhibitors of *dynamic alignment*. Additional information may have been gleaned if a further face-to-face session had been held for the point allocation and attribute classification, in particular, the thought processes of the experts in their designation of attributes as Facilitators or Inhibitors. Alternatively, research specifically focussed on the thought process behind Facilitators, Inhibitors and Neutral attributes could be undertaken.

What the research has not done is provide a comprehensive decision-making model for CREM's. Rather the findings indicate a range of variables and links between them that are considered during CRE decision-making. For the less experienced CREM they can provide a list of variables and reasoning chains to include in their decision-making thought process. A comprehensive decision-making model would require other scenarios to be researched. In particular, it highlights the importance of the landlord and therefore CREM's should seek to minimise that influence by creating a portfolio with a *dynamic alignment* capability.

The research approach requested the experts to apply all their knowledge and not approach it in the context of their present role. Future research could be sector specific and seek to understand how for example retailers differ from office users in set scenarios. An area of additional research could be examining CRE strategies in literature and linking the variables identified by the experts to those strategies which could provide an understanding as to how some of the variables came about.

Chapter 7

Building Blocks of Alignment Models

This chapter is split into four parts. Firstly, there is an overview of the findings of this dissertation regarding CRE alignment models. Secondly, a brief review of the framework created by Heywood & Arkesteijn (2018) from fourteen theories of alignment is given. Following that a proposed adaption of the framework that augments the original framework with the real world data from this research is outlined, before concluding with the possible benefits of the revised framework.

7.1 Findings on CRE Alignment Models

The Literature Review included a critique of a number of CRE alignment models in the context of CRE decision-making. The evaluation identified several perceived shortcomings. Firstly, CRE alignment models have focussed on strategy formulation, not strategy formulation and strategy implementation. The latter is a requirement for a successful strategy (Kotter citied in Beer et al., 2005). The second weakness is that a number of models create a generic strategy. However, each firm has a different history and different needs; a generic strategy is consequently of limited relevance in the real world. Thirdly CRE alignment theory has not drawn in alignment theories from other parts of the business. Research on IT and manufacturing business units exhibit commonality to those issues that CRE faces plus they have identified that realignment is a continual process (Luftman et al., 1993), necessitating a continual transition from one steady state to another. In contrast CRE alignment models have an underlying assumption that alignment is an infrequent event. That might have been the case in the late 1980's and early 1990's when many of the CRE alignment theories were initially formulated (e.g., O'Mara, 1999; Nourse & Roulac, 1993). However, it is no longer apposite in the current more turbulent and uncertain environment business operates in (Ramirez & Wilkinson, 2016). The review concluded that more work is needed on CRE alignment models.

7.2 CRE alignment: the building blocks and components

The most recent work on alignment examined previous models to understand their constituent parts (Heywood & Arkesteijn, 2017) and to provide a graphical representation of those models (Heywood & Arkesteijn, 2018). The latter paper analysed alignment models to derive commonalities in alignment theories from which four building blocks and 12 component parts were identified and conceptualised in a framework (Figure 7.1). This thesis was contextualised against that framework, in particular, Building Blocks 2 and 4.

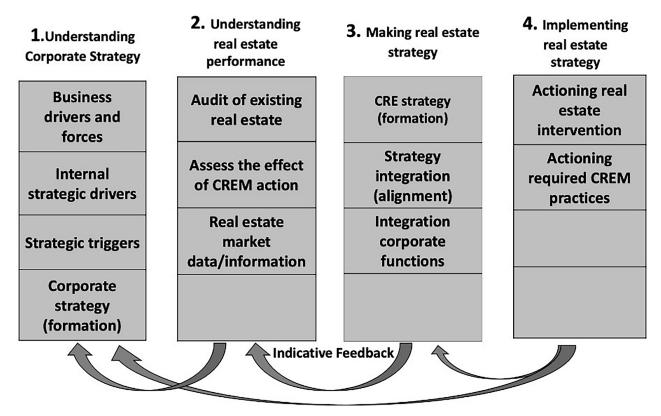


Figure 7.1 CRE alignment: the building blocks and components (Source: Heywood & Arkesteijn, 2018)

This framework synthesises the concepts of 14 alignment models from 1993 (Nourse & Roulac) to 2013 (Then & Tan), and, therefore, draws from the thoughts and research of a multitude of researchers. CRE research has been identified as conceptually weak because it is inward looking and lacks empirical evidence (Lizieri, 2003). This is especially pertinent for CRE alignment models as many of them are derived from previous work, in particular that of Nourse & Roulac (1993), plus they lack real world data to support them. However, the Building Blocks structure provides a good base to develop a more realistic and relevant framework.

7.3 Augmented Framework

This research has shown that there are a considerable number of variables that influence decision-making. The scenario posed to the experts was tightly defined in that it provided a very specific situation of a declining business environment leading to a new corporate strategy that necessitated a new CRE strategy (a reduction in space and costs). A large volume of material was produced thereby providing a considerable quantity of new real-world data for CRE researchers to consider in the context of alignment models and decision-making. Variables have been identified that deserve further examination in their own right as to how they influence CRE decision-making. In this chapter, revisions to the Heywood & Arkesteijn (2018) framework are proposed to incorporate many of this study's findings and the discussion below highlights those variables that have not been explicitly identified previously. Further research is needed

to provide additional detail arising from the strategy implementation options not covered in this study: acquisitions, asset management and CRE practices which could follow a similar research methodology to that adopted here.

The findings in Chapters 3 to 6 have shown that many companies lack a capability for dynamic alignment in their CRE portfolio and have compensated for that omission by using Surplus Property Provision (SPP) to facilitate flexibility. The relationship between business performance and CRE is complex with a large number of variables influencing decisions. The Literature Review ascertained that research on alignment and strategy from other business areas can provide insights into CRE alignment and decision-making. Those insights also prompt areas for improvement to the original framework. The adapted version proposed in this chapter is shown in Figure 7.2. Below, it will be explained what changes are proposed and why they are deemed necessary from looking at the results of this dissertation's empirical studies.

The adaptation of the framework introduces new components (termed sub-blocks), relabels certain others, and re-orders some. Throughout the framework the term CRE has been adopted rather than real estate as the former is explicit in that it refers to occupiers and is common terminology for occupiers. The original framework has indicative feedback loops between some of the blocks, whereas the augmented version provides feedback loops between all blocks. There is a natural flow from top to bottom of each block in the adapted model, namely sub-block to sub-block, then from the bottom of one block to the top of the next. Overall, the flow through the four blocks moves from understanding the business and CRE (Blocks 1 and 2) to CRE Strategy Formulation (Block 3) and finally to CRE Strategy Implementation (Block 4). It is not a prescriptive flow but a logical progression that broadly replicates what happens in the real world. Kotter's view was that a successful strategy resulted in 10% formulation and 90% implementation (Kotter in Beer et al., 2005). Graphically the framework suggests a different balance between the two and includes an understanding of both the business and CRE.

The transient nature of *competitive advantage* and, therefore, the life span of a corporate strategy means that adjustment is continual. However, adjustment to the CRE portfolio cannot be continual because the very nature of property acquisition, occupation and disposal creates a mis-match from the time lags of change. However, incorporating *dynamic alignment* will significantly improve the fluidity in the portfolio, whilst feedback loops throughout allow changes to flow through the matrix in a more seamless manner. In this way strategy formulation and implementation can be iterative and emergent (Mintzberg & Water, 1985) with a CRE portfolio capable of *dynamic alignment*.

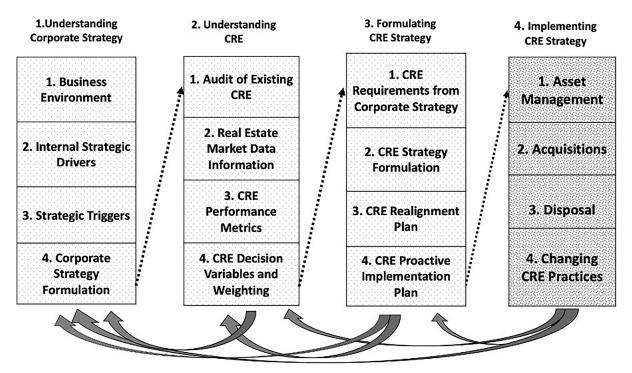


Figure 7.2 CRE alignment framework: building blocks and components (adapted from Heywood & Arkesteijn, 2018)

The MRs elicited based on the CNET interviews (Chapters 5 and 6) define causal relationships between decision variables, attributes, and benefits. The framework defines a decision-making process that starts with understanding of corporate strategy and ends with implementation of the strategy. The attributes and benefits represent considerations of decision-makers. It could be argued that considerations will relate to the steps preceding the decisions and, therefore, that the attributes and benefits involved in the MRs can be allocated to specific steps in the process model. The framework was refined and adapted by allocating the variables that emerged from the CNET interviews to the different blocks/sub-blocks on that basis. The interviews focussed on the disposal of surplus space as part of the implementation of the CRE strategy. Consequently, the decision variables have been allocated to that sub-block.

Although the focus was on disposal decisions, certain decisions identified under this study will also apply to asset management and acquisition. For example, a landlord deal is an option for asset management and will include a lease regear or the purchase of the freehold. The framework has been augmented by including those variables considered to be relevant utilising comments from experts and thirty years' practical CRE experience. Further research will be required to validate or disprove this allocation and more fully populate the framework. Once that is undertaken the decision-attribute and decision-benefit weightings from all four decision studies could be incorporated throughout the model. That would provide a more comprehensive view of the importance of specific variables such as Risk.

• Block 1 Understanding Corporate Strategy

This Block focuses on the Corporate Strategy including the context of the business (the specific business environment for the firm), what the internal drivers are, what triggers change to the corporate strategy and the formulation of the new corporate strategy.

Sub-Block 1.1 Business Environment

The title *Business drivers and forces* is replaced by *business environment* which is a more holistic term for all the influences that directly or indirectly impact a business. The term *force* is synonymous with the work of Porter (1985) on *Competitive Advantage*, whereas *business environment* reflects the broader terminology under the more recent theories on corporate strategy (e.g., McGrath, 2013). The external environment is continually changing in response to many factors encapsulated by the anacronym STEEPLE (Social, Technological, Environmental, Economic, Political, Legislative and Ethical). Uncertainty in the external environment is creating unpredictability and volatility (Ramirez & Wilkinson, 2016), which together with competition is reducing the period of sustained competitive advantage and making it more transient (McGrath, 2013). The business environment is the background against which the corporate strategy has to be formulated (see Table 7.1).

Table 7.1	Sub-	block	1.1	- Business	: Environment	Variables	s
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Variable Type	Variable	Elements
Situational	Business Environment	Business Environment & Customers
	Supply Chain	Legal & Physical Supply Chain
Benefit	Business Prospects	Disconnection of Strategies & Growth Prospects

Sub-Block 1.2 Internal Strategic Drivers

The *Internal Strategic Drivers* constitute the internal environment of the firm (see Table 7.2). They are a continual presence and influence on the firm and include different business units and departments (such as HR, Production, IT) as well as individuals and groups (Internal Stakeholders). Individually and collectively, they will influence the firm.

Risk emerged from the decision-making analysis as a significant factor. This encompassed risk attached to an activity plus the variance from a successful (or predicted) outcome across other variables, for example, the risk of exceeding budgeted expenditure on the refurbishment of an office. Consequently, it should be

incorporated into theory and organisations as a specific CRE decision-making factor. Additional variables are the motivational ones of personal credibility and direct motivational drivers for both the C-Suite and the CREM. The influence of the individual on decision-making had not been included in existing models. Models have an implicit assumption of rationality and focus on primary drivers, but individuals are not always rational. Their feelings, actions, etc. are important in influencing decisions and outcomes. These outcomes were integrated into the amended framework.

Table 7.2 Sub-block 1.2 - Internal Strategic Drivers

Variable Type	Variable	Elements
	Risk	Risk; Contingent Liability & Risk Analysis
	Stakeholders - Internal	CEO; CFO; C-suite & Colleagues
	Operational Issues	Operational Issues & Needs; Flexibility Requirements; Brand Impact; etc.
	Motivation	Personal Credibility & Motivation
	HR Practices	Staff Well Being; Team Working & Working Groups
Attribute	HR Profile	Headcount; Home Location; Office Location; projected Headcount; etc
	Business Metrics	Business Metrics & Benchmarking
	CAPEX	Capital Expenditure
	Cash	Cash and Cash Performance
	Cost	Total Cost; Cost Profile; Funding; etc
	Financial Analysis	Financial Metrics; Gap Analysis; Profit & Loss Per Property; etc
Benefit	Stewardship	Accountability; Stewardship; Regulatory Environment & Accountability
	Risk Reduction	Risk Dependence; Risk of Default: Least Risk Option

• Sub-Block 1.3 Strategic Triggers

These reflect internal operational aspects that bring about strategic change (See Table 7.3). The difference between Drivers and Triggers is that the former is the internal environment and the latter group precipitates change. There is some commonality

between the two sub-blocks' but Triggers can also be external variables. The key is the variable that triggers a change. Triggers therefore may be fixed events, typically the annual review of the corporate strategy. They may be more ad hoc in nature and can include changes to the financial markets requiring a response within a sector overall, longer term changes to staff issues or direct responses to specific events. The latter can include the sale of a business unit or how the organisation responds to the Covid-19 pandemic. A significant variable highlighted by the research is External Stakeholders, which is a broader category than 'Shareholders', which previous models use (e.g., Gibler & Lindholm, 2012), as the former incorporates potential investors, customers, etc. External Stakeholders can act as a Trigger as a result of stock market change, banking requirements or shareholder pressure.

Table 7.3 Sub-block 1.3 - Strategic Triggers

Variable Type	Variable	Elements
Situational	Business Strategy	Business Strategy & Change Programme
	Business Strategy	Business Strategy & Model
Attribute	Stakeholders - External	Shareholders; Potential Investors; Customers & Interaction; Stock Market; etc
	HR Practices	Staff Well Being; Team Working & Working Groups
	Risk Reduction	Risk Dependence; Risk of Default: Least Risk Option
Benefit	Financial Stakeholders	Earnings Per Share; City Perception; Dividend; raising Finance; etc
	Profit & Loss	Profitability & Balance Sheet

Sub-Block 1.4 Corporate Strategy Formulation

A change was made to the label from *formation* (a noun) to *formulation* (a proactive verb), the action of expressing something clearly and precisely. Different organisations have different thoughts on what are the important elements of strategy for them (Mintzberg et al., 2009). How that process is undertaken is beyond the scope of this study and will be unique to each organisation, but the end product will be the corporate strategy. The variables identified by the CRE experts that can be associated to this step are shown in Table 7.4. There will be consequences from the new strategy that flow throughout the business to HR, Production, Finance, etc. These building blocks now focus just on CRE and for simplicity the outflow from corporate strategy is to CRE (Block

2.0) whereas in reality there will be simultaneous flows elsewhere within the firm. Within corporate strategy formulation is consultation, discussion, and feedback with all the pertinent parts of the firm. Ideally within this is a broad view of the CRE needs and CRE strategy, making it integral to the overall corporate strategy (Weatherhead, 1997). What this illustrates is the complexity and inter-connectedness of the corporate entity, it can be regarded as an ecosystem (Reeves et al, 2016). CRE researchers need to recognise that CRE is just a small part of the firm, of that ecosystem. Consequently, CRE researchers need to have due cognisance of the importance CRE within the firm.

Table 7.4 Sub-block 1.4 - Corporate Strategy Formulation

Variable Type	Variable	Elements
	Business Strategy	Business Strategy & Model
Attribute	Motivation	Personal Credibility & Motivation
7 100 150 000	Corporate Governance	Corporate Governance; Variation Public & Private Companies & Confidentiality
Benefit	Financial Stakeholders	Earnings Per Share; City Perception; Dividend; raising Finance; etc
	Business Prospects	Disconnection of Strategies & Growth Prospects
	Stewardship	Accountability; Stewardship; Regulatory Environment & Accountability

• Block 2 Understanding CRE

To an extent this building block operates in parallel with *Block 1 Understanding Corporate Strategy*. A firm needs to know what CRE it has and how it performs irrespective of any change to the corporate strategy. The feedback between blocks 1 and 2 should be perpetual as CRE responds to adjustments arising from rent reviews, landlords, costs, etc., together with internal drivers, for example, changing layouts for business units. When a new corporate strategy is determined the process of understanding the CRE portfolio in the context of that new strategy needs to be assessed.

Sub-Block 2.1 Audit of Existing CRE

A firm needs to have clarity on its CRE data, requiring it to be continually updated. The adapted framework has narrower definition of *audit of existing CRE* as it excludes benchmarking, that is standalone item - *CRE Performance Metrics*.

The study identifies the importance of third parties in the realignment process (see Table 7.5). The research focussed on disposal and crucially emphasises the importance of the landlord in the alignment process. The profile of the landlord is an important consideration. The view of the landlord will differ depending on whether they are a private individual, a property company, an institution, or another body. In the same way their financial focus of capital, income, or both will influence their views. This will apply to the three options of Asset Management, Acquisition and Disposal.

Table 7.5 Sub-block 2.1 - Audit of Existing CRE

Variable Type	Variable	Elements
Situational	Data	Portfolio Data
	Landlord	Landlord Profile
	Landlord	Capital or Income Focus or Both
	Current Portfolio	Adaptability; Knowledge & Limitations
Attribute	CRE Designation	Core Sites; Peripheral Units & Surplus Space
	Lease Detail	Specific Lease Provisions including Break Details

Sub-Block 2.2 Real Estate Market Data/Information

Relocated between 2.1 Audit of Existing CRE and 2.3 CRE Performance Metrics this subblock seeks to understand the real estate market in its broadest sense (see Table 7.6). The rationale is that market data is required for CRE performance assessment. It is especially pertinent for freehold properties to understand their market value, but it is also necessary to evaluate the likely impact from rent reviews, etc. that have yet to take place. This provides context for the properties and seeks to mitigate a major disadvantage of performance metrics; it is a backward-looking process. It is suggested here that the use of market data can make benchmarking a more proactive tool.

Table 7.6 Sub-block 2.2 - Real Estate Market Data/Information

Variable Type	Variable	Elements
Situational	Property Market	Property Market
Situational	Landlord	Landlord Profile
Attribute	CRE Market Risk	CRE Market Risk

• Sub-Block 2.3 CRE Performance Metrics

A new sub-block assimilates information from CRE audit and the real estate market in the form of performance metrics. Ideally these comprise measures that are not only CRE focussed (e.g., costs per square metre) but relate CRE to business performance (e.g., profit, turnover, headcount). Only at a granular level (Table 7.7) is it possible to decide on the contribution of each property unit to the firm.

The research identified the importance of a number of financial measures including *Cost, Cash* and *CAPEX*, that are direct consequences of realignment on the financial performance of the business. The accounting treatment of CRE decisions (*IFRS16*) was shown to be critical in the decision-making process, both financial and accounting measures are significant.

Table 7.7 Sub-block 2.3 - CRF Performance Metrics

Variable	Variable	Elements
Type		
	CRE Metrics	CRE Metrics & Space Efficiency
Attribute	IFRS16	IFRS16; Lease Accounting & Accounting
Attribute		Treatment
	Business Metrics	Business Metrics & Benchmarking
	CRE Metric Improvements	Improvement in Flexibility & Footfall
Benefit	CAPEX	Capital Expenditure & Write Down
	Cash	Cash & Cash Conservation

Sub-Block 2.4 CRE Decision Variables and Weighting

The incorporation of a new sub-block brings together the factors that are important to the firm and to provide it with all the salient information in one place when making CRE decisions. This study considers disposals but relevant variables across all decision options can include asset management, acquisition, regears, freehold purchase and sale-and-leaseback. What has been identified from the literature and the research is that the bias and preferences of individuals can influence CRE decisions. By formalising what the preferences are of the firm an objective framework is provided. An example for disposal might be that the firm prefers sub-letting to assignment because the former provides them with more control and reduces risk. However, either of those may be preferential to a deal with the landlord. Hence at the company level it is setting preferences and consequently will be aiming to mitigate the impact of individuals.

Table 7.8 Sub-block 2.4 - Decision Variables and Weighting

Variable Type	Variable	Elements
	Landlord Deal	Surrender; Regear & Freehold Purchase
	Lease Event	Lease Expiry & Lease Break
Decision	Third Party Deal	Assignment; Subletting; New Lease & Portfolio Disposal
Decision	Space Utilisation	Single Site; Mothballing & Back Filling Space.
	Acquisitions	Freehold; leasehold and serviced space
	Asset Management	Regear
Attribute	Workplace Strategy	Workplace Strategy; New Ways of Working: Home Working; etc

Block 3 Formulating CRE Strategy

The research focussed on the formulation and implementation of CRE strategy and consequently the greatest proposed adaptation of the framework is in blocks 3 and 4. The original framework uses the term *making* which can also encapsulate implementation. This is replaced by the more precise term of *formulating* for block 3 and *implementing* for block 4, and as such follows the view of Kotter (in Beer et al., 2005) on strategy.

Conceptually block 3 interprets corporate strategy against the existing CRE and the future CRE needs and plans, whereas block 4 deals with the activities relating to implementation. Crucially what this study identified is that it is not the CREM that determines the CRE strategy but the C-suite. The first two sub-blocks (Sub-Block 3.1 CRE Requirements from Corporate Strategy and Sub-Block 3.2 CRE Strategy Formulation) reflect work undertaken by the C-suite and CRE Team to create the CRE

strategy. This melds the needs of the business and CRE together in an iterative and emergent process (Mintzberg & Water, 1985). It examines what is proposed, challenging, and adjusting with input from relevant department heads, etc. The CRE strategy should not be an edict from the CEO but a collegiate thought process to arrive at a CRE strategy. From that a CRE Realignment Plan (Sub-Block 3.3) needs to emerge, which provides more detail than the strategy document. It is the transition stage from strategy to tactical decision-making and is an iterative process incorporating site specific individuals for an understanding of the operational consequences of the CRE strategy. From that the CRE Team produces the CRE Proactive Implementation Plan (Sub-Block 3.4). This examines the output to determine the tactical decisions required to incorporate specific property knowledge to the implementation.

Decisions to replace an existing property have significant consequences including capital write down, IFRS16 issues, cashflow impact, etc. A corollary of this is that business is not unfettered by its decision-making as theoretical models assume. In the real-world alternatives will be assessed on some form of cost-benefit basis. Consideration might be given to costs for altering an existing property; the disruption to production arising from the alterations work compared to a new facility; cost of moving equipment, etc. This highlights another shortcoming of a lot of CRE research in that it is office centric and does not consider other sectors.

• Sub-Block 3.1 CRE Requirements from Corporate Strategy

This sub-block does not occur in the existing framework but is newly introduced to identify the implications for CRE of the new corporate strategy. Consequences of a new corporate strategy will vary between sectors and organisations. A large retailer's new corporate strategy may simply be expressed in terms of additional floorspace whereas a manufacturer may be site specific. This sub-block syntheses the different corporate threads and CRE requirements (see Table 7.9).

• Sub-Block 3.2 CRE Strategy Formulation

As a consequence of introducing *CRE Requirements from Corporate Strategy*, this subblock links the broad CRE requirements to the CRE strategy itself (see Table 7.10) in the creation of the CRE blueprint. Included considerations here are the timing and achievability of the outcomes (*Implementation Benefits*) together with the direct *Operational Benefits* obtained.

Sub-Block 3.3 CRE Realignment Plan

To improve clarity *Strategy integration (alignment)* has been relabelled to make it explicitly about CRE. This sub-block combines the CRE the firm has, its performance and what new properties are required. It is the interface between what the portfolio

looks like now to what the new aligned portfolio will be. With the emphasis on *dynamic alignment* in this study categorisation of the portfolio into *core* and *periphery* properties is a prerequisite along with the broad CREM needs (see Table 7.11). This forms the nexus of CRE implementation and links it to the clients of CRE, which are the various business units (e.g., HR, Finance, etc). The interface is crucial because if a property is to be replaced it will require acquisition, internal fit-out, transfer of staff and disposal of the existing. Unless there is immediate adjacency between the two there will be consequences for staff travel times etc.

Table 7.9 Sub-block 3.1 - CRE Requirements from Corporate Strategy

Variable Type	Variable	Elements
	Workplace Strategy	Workplace Strategy; New Ways of Working: Home Working; etc
	Operational Issues	Operational Issues & Needs; Flexibility Requirements; Brand Impact; etc.
	IFRS16	IFRS16; Lease Accounting & Accounting Treatment
Attribute	HR Profile	Headcount; Home Location; Office Location; projected Headcount; etc
	Business Metrics	Business Metrics & Benchmarking
	CAPEX	Capital Expenditure
	Cash	Cash and Cash Performance
	Cost	Total Cost; Cost Profile; Funding; etc
	Financial Analysis	Financial Metrics; Gap Analysis; Profit & Loss Per Property; etc
	Risk Reduction	Risk Dependence; Risk of Default: Least Risk Option
	CAPEX	Capital Expenditure & Write Down
Benefit	Cash	Cash & Cash Conservation
_ 55	HR Benefits	Work: Life Balance; Commute Times & People Benefits
	HR Talent	Age Profile of Workforce & Attracting & Retaining Talent

Table 7.10 Sub-block 3.2 - CRE Strategy Formulation

Variable Type	Variable	Elements
Attribute	CRE Designation	Core Sites; Peripheral Units & Surplus Space
	Motivation	Personal Credibility & Motivation
Benefit	Proposed Portfolio	Fit for Purpose
	Implementation Benefits	Achievability; Hitting Deadlines: Quick & Immediacy
	CRE Profile	Disposability of Space; Short Term Solution; Non-Core Operation & Retention
	Operational Benefits	Operational Benefits
	Motivational Drivers	Individual & Team Benefits, including Bonuses

Table 7.11 Sub-block 3.3 - CRE Realignment Plan

Variable Type	Variable	Elements	
	CRE Designation	Core Sites; Peripheral Units & Surplus Space	
	Proposed Portfolio	Space Required including Location, Configuration, etc	
	Motivation	Personal Credibility & Motivation	
Attribute	CAPEX	Capital Expenditure	
	Cash	Cash and Cash Performance	
	Cost	Total Cost; Cost Profile; Funding; etc	
	IFRS16	IFRS16; Lease Accounting & Accounting Treatment	
	Implementation Benefits	Achievability; Hitting Deadlines: Quick & Immediacy	
Benefit	Operational Benefits	Operational Benefits	
	HR Benefits	Work: Life Balance; Commute Times & People Benefits	
	Motivational Drivers	Individual & Team Benefits, including Bonuses	

• Sub-Block 3.4 CRE Proactive Implementation Plan

This is the plan the CREM needs to deliver in order to achieve what is needed. It includes changing the existing portfolio by means of asset management, disposals and acquisitions and incorporates the tactical requirements of implementation (see Table 7.12). This is tactical, providing the roadmap for how the CREM will facilitate the strategy implementation with a focus on the required surveying skills together with the constraints imposed by the existing portfolio to achieve the realigned portfolio.

Table 7.12 Sub-block 3.	- CRE Proactive Im	plementation Plan
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Variable Type	Variable	Elements	
	CRE Tactics	CRE Tactics; Short & Long Term CRE Needs & Unit Protection	
Attribute	Implementation	Constraints; Implementation; Options & Timing	
	Motivation	Personal Credibility & Motivation	
	IFRS16	IFRS16; Lease Accounting & Accounting Treatment	
Benefit	CRE Future Proofing	Future Proofing: HQ Retention; Potential CRE Problems & Consolidation	
	CRE Profile	Disposability of Space; Short Term Solution; Non-Core Operation & Retention	

• Block 4 Implementing CRE Strategy

This is the most important of the building blocks. It is the execution phase of the realignment process. Kotter's (in Beer et al., 2005) view that successful achievement of a strategy was 90% due to implementation. The original framework placed greater emphasis on strategy formulation, which is represented by actioning real estate intervention, which understates the importance of implementation. This study considered one of the three realignment actions identified by Kämpf-Dern & Pfnür (2014), namely disposal. The others being asset management and acquisition. The adapted framework orders the actions to reflect the logic of seeking to utilise what the firm already has before acquiring or disposing of space. What the CRE Proactive Implementation Plan will have provided the CREM is a strategy per property together with an alternative if the preferred solution is not obtainable. The crux of this block is

execution, making it completely tactical in emphasis and reflecting where value can be added by the CREM in transaction negotiations.

The experts emphasised that the C-suite is responsible for CRE strategy, whereas the CREM deals with tactical decision-making and the implementation of the CRE strategy. These tactical actions are "called strategic real estate options but essentially they are transaction-based decisions" (Heywood & Arkesteijn, 2018; 32). This research supports the view that using this incorrect terminology causes confusion. The output from the experts in this study highlighted the separation between formulation of CRE strategy by the C-suite and implementation by the CREM.

• Sub-Block 4.1 Asset Management

Asset Management encompasses a broad range of activities and can include alterations to provide greater functionality; regearing to extend the lease term; purchase the freehold of a unit; etc. The objective is to maximise the utility of the unit, and in doing so extract, in its broadest sense, maximum value. Table 7.13 identifies the variables in this sub-block. What has not been undertaken is research in the format used here of asset management. Such an exercise would add to our body of knowledge.

Variable Type	Variable	Elements
Decision	Space Utilisation	Single Site; Mothballing & Back Filling Space.
	Landlord Deal	Regear & Freehold Purchase
Situational	Corporate Solution	Sale of Business Unit & Compulsory Voluntary Arrangement
	Landlord	Landlord Profile
Attribute	Space utilisation	Space utilisation; Meeting Rooms; Open Plan Space; Configuration
	Restructure	Reshaping Lease; Owing Property & Extracting Value

Sub-Block 4.2 Acquisitions

As with Asset Management the sub-block of Acquisition can be linked to specific events, such as a lease expiry, building obsolescence, expansion, etc. (see Table 7.14 for variables). As with acquisitions further research is needed to build our knowledge base.

Table 7.14 Sub-block 4.2 - Acquisitions

Variable Type	Variable	Elements
Decision	Third Party Deal	Assignment; Subletting; New Lease
Decision	Landlord Deal	Acquisition & Freehold Purchase
Situational	Landlord	Landlord Profile

• Sub-Block 4.3 Disposals

This research has examined the consequences of decisions on units that are no longer required operationally. The liability remains a drain on corporate time, management and finances until lease expiry or the successful implementation of a break clause. This can comprise leasehold and freehold property, although this study only considered the former (see Table 7.15). Additional research should be carried out on surplus freehold properties and be extended to include sale-and-leaseback decisions, which is also a form of disposal.

Table 7.15 Sub-block 4.3 - Disposals

Variable Type	Variable	Elements
	Landlord Deal	Surrender & Freehold Purchase
Decision	Lease Event	Lease Expiry & Lease Break
	Third Party Deal	Assignment; Subletting; & Portfolio Disposal
Situational	Landlord	Landlord Profile

Sub-Block 4.4 Changing CRE Practices

How a firm manages its CRE can make a competitive difference. The formulation and implementation of realignment is itself an intangible resource (Heywood & Kenley, 2008). Changing CRE Practices focusses on what needs to change, such as CRE staff, outsourcing, etc. (see Table 7.16). The original label of Actioning required CREM practices suggested general implementation only, therefore the definition has been altered to focus on change.

Table 7.16 Sub-block 4.4 - Changing CRE Practices

Variable Type	Variable	Elements
Attribute	Prop Management	On-going Property Management Requirements; Outsourcing
	Workplace Strategy	Workplace Strategy; New Ways of Working: Home Working; etc

7.4 Conclusion

The augmented framework that has been discussed above is not positioned as a final version, rather it is a development step. Additional research is required in a number of areas to complement what has been carried out here. This may add new variables, amend existing ones, or change the importance weighting. This work has taken a theoretically derived framework and applied knowledge acquired from CREM experts to improve it. It is a first step. The research has identified that *dynamic alignment* does not exist in the way it has been envisaged in the literature and brings in expert input into CRE decision-making for one implementation option.

This research has established that it is too simplistic to assume the role of CRE is to maximise shareholder wealth. It is not appropriate for not-for-profit organisations and increasingly is it is regarded as too narrowly defined for business, especially as the importance of corporate social responsibility increases (Business Roundtable, 2019). Organisations are not the same and their CRE needs differ. Consequently, a model with generic strategies is less usable than a broader framework that can cope with todays' turbulent and uncertain environment (Ramirez & Wilkinson, 2016). The migration from "disordered alignment theory' (Heywood & Arkesteijn, 2017: 144) to a framework that provides greater completeness and is simple to employ (Appel-Meulenbroek & Haynes, 2014), would help to facilitate the move to an agile portfolio (Joroff & Becker, 2017). The application of such a viable framework within an organisation could mitigate the effects of individual personal considerations in decision-making (Greenhalgh, 2008) and raise the profile of CRE as a strategic resource. A well-developed CRE framework would provide a firm with better foresight into their CRE and aligning it with corporate strategy, which would lead to better returns (Kunc & Moorcroft, 2010). Such a framework needs to incorporate alignment as a "continuous journey of transformation" (Luftman et al., 1993) to remove the historic view of alignment as being a one-off process and make it more suitable for the current environment. The CRE Alignment Framework (Figure 7.2) is aimed to be a step towards achieving that, but it is recognised that further research is required to bring in more real world data and make the framework more relevant.

Chapter 8

Conclusion

This chapter is structured in four parts. Firstly, there is a reprise of the objectives and conclusions of the four individual elements of research which comprise chapters 3 to 6. Second, the implications of the findings for theory and practice are discussed. This is followed by reflections on the chosen methodology and research choices to identify the limitations of this research, before concluding with recommendations for further research.

8.1 Summary of the Chapters

The goal of the research was to identify whether and how companies incorporate dynamic alignment into their CRE portfolio to allow the firm to respond to change. It sought to do so by investigating how CRE adjusted through a period of significant change, and what variables the CRE decision-makers considered when undertaking realignment. To facilitate the investigation four sub-questions were formulated, each relating to an individual chapter of this thesis. The first two questions are focused on revealing actual behaviour and the second two considered the underlying alignment decision-making.

Research Question 1: Have companies developed a flexible CRE portfolio that allows them to dynamically re-align it to the financial performance of the firm?

Research Question 2: Do companies create a surplus property portfolio to allow them to adjust to changing business circumstances when their CRE lacks dynamic alignment capability?

Research Question 3: What variables do CRE decision-makers consider important when realigning their portfolio?

Research Question 4: Which variables facilitate or inhibit the process of dynamic alignment of CRE?

• Revealing Dynamic Alignment

To answer the first two questions, financial and CRE information from the Annual Reports of companies in the FTSE350 for the period 2007 to 2014 was examined. This specific eight-year period was selected as it was a period of significant disruption (the financial crisis and recession) and provided a sufficient timeline to allow any longer-term trends to be identified across 230 corporate occupiers. The extracted data was analysed initially using descriptive techniques to put the dataset and categories

adopted into context. The primary method of analysis was a distributed time lagged auto-regression model.

Chapter 3 sought to establish the relationship between CRE flexibility and the firm's financial performance to establish whether *dynamic alignment* existed (Research Question 1). The descriptive analysis identified that turnover and people numbers grew but profits fell for all categories bar Manufacturing between 2007 and 2014. Both freehold book value and lease totals increased with the exception of a decline in the freehold value for Services & Technology. The most significant change was the growth in the Surplus Property Provision (SPP) across all categories. The regression analysis identified that longer-term (>5 years) lease commitment increased (except Retail); that ownership and total CRE costs grew (bar Services & Technology and Miscellaneous), whilst the expected decline in lease costs against FTE's did not occur (except Manufacturing). The anticipated improvement in CRE flexibility and effectiveness through a decline in CRE commitment and reduced lease costs relative to FTE's was not evident. The anticipated positive relationship between CRE and business metrics was only found for certain measures in certain business categories indicating limited *dynamic alignment* capability across the companies examined.

The conclusion to Chapter 3 is that firms do not appear to be improving efficiency, effectiveness, and productivity by utilising less CRE (Van Ree, 2002). In addition, the omission of significant reductions in metrics related to CRE costs (such as rent commitment) could indicate that cost reduction does not appear to be the primary CRE strategy, opposite to the conclusion drawn by Stadlhofer (2010). The dataset extracted from the financial accounts does not provide details on lease incentives to enable an assessment of whether such incentives are obtained at the expense of increasing costs in the longer term. Lease incentives can improve CRE and financial metrics (including boosting profits) in the short-term but have a negative effect for subsequent years. Those short-term gains could possibly enhance shareholder dividends and possibly senior staff bonuses. The second conclusion is that the suggested increased agility (Joroff & Becker, 2017) by creating CRE dynamic alignment capability has been limited. That may be the result of limited change to agility because it has not been sought or the eight-year period of the dataset is too short to see a measurable effect, or that any move to greater agility only commenced part way through the recession. Different datasets are needed to be able to answer this point. Overall, it would appear that there is a complex set of relationships in operation that could not be ascertained from the financial data alone.

The second strand of the analysis of the financial data was considered in Chapter 4. The existence of limited *dynamic alignment* and the significant increase in the SPP through the period suggested that there might be a link, namely that without the capability of *dynamic alignment* a firm might use the SPP to provide flexibility. The descriptive analysis identified that firms that provided for surplus leases (SPP companies) were predominantly larger, measured by turnover, assets, FTE's and CRE, but produced lower profits than the non-SPP companies. The smaller non-SPP companies were shown

to grow their business and CRE portfolio (especially leased space) at a faster rate than the larger SPP firms. This could suggest that non-SPP firms are more agile and, as hypothesised, less likely to create an SPP because their CRE has a *dynamic alignment* capability. This would make them more adroit at reacting to change and more capable of exploiting opportunities. Agility appears to be an inverse relationship to the size of the firm, the bigger the firm the less agile it is, which intuitively would be expected. Larger firms are less nimble and smaller firms grow their business quicker.

The amount of SPP increased as turnover and FTE numbers increased contrary to the hypothesis. Existing surplus space was not recycled by being made operational again when business grew. It appeared that firms used SPP as a mechanism to provide portfolio agility when business expanded taking new space and less suitable existing space recategorized as SPP. Such a recategorization could reflect a lack of a *dynamic alignment* capability. The quicker the SPP reverts to zero the greater the *dynamic alignment* capability of the portfolio is, and the analysis found that for two sectors it was less than 4 years and one sector continued to expand its SPP for longer. For the overall portfolio the SPP was static suggesting surplus space was being added at the same rate as existing SPP leases expired.

The results indicate that firms have not created lease flexibility through shorter leases, but rather that flexibility is achieved through the use of SPP when the need arises. The firm is in effect self-insuring the costs of lease inflexibility and avoiding additional costs through the higher rents that flexible leases command. It raises the question as to whether firms make an explicit assessment of risks and returns or not at the point when they make the decision.

Collectively the analysis carried out in Chapters 3 and 4 has shown that only a small proportion of the sampled companies exhibit a *dynamic alignment* capability. An unexpected finding is that that firms appear to use SPP as a tool to create agility and facilitate portfolio change. The SPP figure does not reflect the total liability for the surplus leasehold properties, it is the sum the firm itself decides is appropriate for the liability being created. In practice there is a tendency to manage the provision to spread the reduction to the profits over as many years as possible. At the point the firm takes new space and provides for new liabilities it will get the benefit of incentives for the new property but not fully provide for its liabilities, potentially flattering financial metrics in the short-term and pushing the adverse effects into the future.

Alignment Decision-Making

The second research strand of this dissertation examined decision-making and sought to lift the lid on the CRE decision-making process. It investigated the Mental Representation of the decision-makers (in this case, experts) when making decisions to re-align their portfolio to reduce space in light of a new corporate strategy. It used the Causal Network Elicitation Technique, in the form of semi-structured interviews, to identify *decisions*, what the considerations are (*situational* and *attributes* variables) and

what *benefits* are sought. For each expert a network was produced. This was followed by collation and categorisation of the variables identified with an analysis to identify their importance.

The outcomes to Chapter 5 suggest a wider range of considerations are sought than those identified in previous literature (e.g., Nourse & Roulac, 1993; Gibler & Lindholm, 2012). The situational variables were broadly in line with expectation focussing on business strategy, the portfolio itself and the property market. Decision variables also followed expectations with the exit routes prioritised with those not requiring the involvement of the landlord or a third party (such as lease expiry). This was followed by those where dependency on the landlord is minimised by the lease terms (e.g., subletting) and finally ones which are totally landlord dependent (e.g., surrender). Attributes and benefits had a much wider perspective than current alignment models propose, which is maximising shareholder wealth (e.g., Gibler & Lindholm, 2012). Shareholders were found to be important but are part of a wider group that includes other internal and external financial stakeholders. In addition, variables such as risk and lease accounting were regarded as significant in the decision-making process. This study has highlighted differences between alignment models and what the experts regard as important illustrating the complexity of the decision-making process. This suggests a need to reconsider the content and structure of alignment models.

Chapter 6 draws on the same material as the previous chapter but additionally asked the experts to allocate 100 points to each of the *decision* and *benefit* variables to indicate the influence of the individual variables in their decision-making process. From that a *Decision*-Benefits links model was created. Secondly the experts were asked to designate each previously identified *attribute* as a facilitator or inhibitor of CRE *dynamic alignment* from which a lift ratio was calculated giving the probability of a specific designation as a base line, representing it as a probability against the base line.

The benefit weights identified reinforced the findings that a wider group of financial stakeholders is important than just shareholders. It also ascertained that benefits that accrue to the CRE Manager and the C-Suite are important. These can be direct (financial benefits and status) from achieving targets or indirect. Similarly, risk was deemed critical especially meeting financial targets. Firms that are quoted on a stock exchange place an emphasis on achieving targets that have been communicated to the outside world (shareholders and analysts) and reducing risk includes minimising the risk that those targets are missed. Likewise, the decision utility weights emphasised the greater relative certainty of reducing cost and space of the portfolio. The facilitators of dynamic alignment were those that provided an ability for change (such as workplace strategy) to be implemented. Whereas those that inhibited dynamic alignment were variables that impede change, specifically the landlord.

Overall, the findings indicate that *dynamic alignment* has not been a capability that has extensively been incorporated into a firms' CRE. As a consequence, the ability of a firm to respond to change is compromised and agility will have been reduced. This inflexibility indicates that individuals and organisations have not learnt lessons from

previous downturns and applied them to the more turbulent environment that now exists. In addition, inflexible CRE impedes the ability of a firm to react to "important seismic shifts in business" (Krumm & De Vries, 2003: 66). Such inflexibility was demonstrated in this study with the constrained response to the recession.

8.2 Implications of Results in Context of Literature and Practices

Contribution to theory

CRE as a complex resource

Irrespective of which strategic approach is taken, sustained competitive strategy (Porter, 1985); RBV (Barney, 1991); transient competitive advantage (McGrath, 2013) or blue ocean strategy (Kim & Maugborgne, 2015), resource agility is a necessity. CRE is a significant resource. It houses the function of the firm (Carn et al., 1999). It forms a large cost component of the firm (Haynes, 2007) and its value is a consequence of the use of the space, not necessarily from its investment value (Kenley & Heywood, 2000). The lack of recognition of the role and importance of CRE in business and management theories (e.g., Porter, 1985) has undoubtably led to it being downgraded as a company resource. Consequently, CRE inflexibility is not recognised as an impediment to the recalibration of the firm (Doz & Kosonen, 2010).

The contribution to theory of this research is that it has demonstrated that CRE decision-making and alignment are affected by a multitude of internal and external variables. These reflect the complex, pluralistic (Heywood & Arkesteijn, 2017) and multi-facetted nature (Park & Glascock, 2010) of CRE. Adopting a *complex adaptive system* approach (Reeves et al., 2016) could provide CRE with a suitable structure for the development of a theoretical framework and body of literature. Such a system would move alignment theory from a simple uni-directional format to a multilateral complexity one, which would incorporate emergent and iterative aspects (Mintzberg et al., 2009) facilitating the movement of CRE strategy to becoming an integral part of the corporate strategy (as proposed by Weatherhead, 1997).

• CRE agility

This research indicates that in practice CRE has not become more agile contrary to what some authors believe is the case (e.g., Joroff & Becker, 2017). A consequence is that SPP has been used to circumvent the lack of dexterity. A practical impact is likely to be an increase in the workload for the CREM. Rather than being able to terminate contracts and break leases within a flexible portfolio, the CREM has had to become involved in creating the infrastructure to manage the unwanted non-operational (i.e., surplus) properties. That entails actions such as calculating the liability; setting up different reporting systems; a new accounting system; preparing for running a sublet portfolio;

instructing letting agents; etc. This research has shown that the length of time the SPP exists is relatively long (at least three years). Accordingly, systems for dealing with surplus property need to be robust and long-lasting and run in parallel with those for operational properties.

The decision model created has provided clarity on the separation between formulation of CRE strategy and its implementation. CRE strategy is formulated and decided by the C-suite, with appropriate input from the CRE Team along with other relevant departments (e.g., Finance, Production, Retail, etc.). The implementation of the CRE strategy is undertaken by the CREM which will involve transaction-based actions (Heywood & Arkesteijn, 2018) and tactical decision-making. The CREM facilitates the implementation process, but they do not formulate the strategy. In many studies of CRE (such as Jensen et al., 2012) the assumption is that the CREM is the strategic decision-maker, this research clearly shows that this is not the case. Theory needs to be updated.

This study indicates a disconnect between the stated desire for more agile CRE (Joroff & Becker, 2017) and behaviour towards this in reality. A large proportion of UK occupiers have not developed a capability for *dynamic alignment* in their CRE. A possible cause of this inflexibility is the ongoing view that CRE is a cost to be minimised (Stadlhofer, 2010). The decision model created shows that increased flexibility results in a higher cost. Consequently, it appears that the desire for cost minimisation overrides any drive to improve flexibility. Therefore, CRE performance continues to be assessed on input measures (e.g., De Vries et al., 2008) and in practice the proposition that flexibility is the key to CRE decision-making (Lindholm & Levaïnen, 2006) is being disregarded in favour of cost reduction. The core & periphery classification (Gibson & Lizieri, 1999) or a similar methodology does not appear to have been widely adopted in practice, as indicated by the lack of *dynamic alignment*. Otherwise, the reaction to the recession would have been evident with actions undertaken to reverse or mitigate lease commitments (Shimizu & Hitt, 2004), such as not renewing leases, exercising breaks, and terminating service contracts.

This study has found that larger firms appear to have less flexible CRE which necessitated them artificially creating flexibility when change happened. We now know that this flexibility was engendered through the mechanism of an SPP to facilitate realignment. The view that overall larger firms have less flexibility appears to be supported by this study. Reduced flexibility arises because systems have become too embedded and rigid over time (Doz & Kosonen, 2008), although that has not been directly tested here. The evidence of inflexibility identified in this research might be an indication of a lack of foresight that change will happen. That in turn would suggest a failure to adopt an iterative and emergent strategic approach (Mintzberg et al., 2009) which would incorporate change as a core principle with nimbleness an underlying tenet. The evidence that returns have diminished over time (Kunc & Morecroft, 2010) is confirmed by the poorer performance of those firms with an SPP.

Schools of strategy

In the context of the Schools of Strategy this study has identified a number of lessons. The Positioning School (incorporating the Design and Planning Schools) includes sustained competitive strategy (Porter, 1985) and the Resource Based View of the firm (Barney, 1991). These two strategies have been the most prevalent business theories and are the primary business theories used in CRE alignment models. In the past the build-up of CRE as a resource has been seen to be an advantage, especially for site sensitive occupiers such as retailers. Now long term fixed commitment is no longer an advantage because it inhibits change. This investigation has indicated that CRE heterogeneity does appear to provide a competitive advantage (Barney, 1991). From the descriptive analysis it could be inferred that those firms that did not create a surplus property provision, the non-SPP companies, performed better than those who had to make a provision. Better management can create value for a business (Hamel & Prahalad, 1989) and this research found that companies with greater CRE flexibility (the non-SPP companies) exhibited higher profits and better growth. In addition, the theoretical basis of this thesis has highlighted the dated nature of sustained competitive strategy (Porter, 1985) and the RBV (Barney, 1991). Future CRE studies should explicitly state their reasons for choosing a specific business strategy model to underpin their work and consider the question whether the propensity for change makes these theories as relevant as they used to be.

The Entrepreneurial and Power Schools are considered together because of their similarities. The experts indicated the importance of the benefits that accrue to the C-suite and to the CREM from decisions, including monetary and less tangible benefits (e.g., prestige). To date CRE researchers have treated the firm as a single uniform entity; what has been demonstrated here is that different agendas operate in different firms, so they are not homogenous. This study extends the limited work on CRE decisions (e.g., Mazzoral & Choo, 2003; Greenhalgh, 2008). The research did not explore strategy formation in the minds of individuals, but it clearly identified the influence of individuals on decisions, which forms part of the Cognitive School. The influence of individuals on the firm (Kim, 1993) was not directly examined in this investigation but the results indicate that a small number of individuals, the C-suite, are pre-eminent in making CRE decisions. This influence should be considered for incorporation in future CRE studies.

This study suggests that some firms have learnt from the past (*Learning School*) and have avoided the consequences of rigidity. If firms adopt an emergent and iterative approach to their corporate and CRE strategy processes (Mintzberg & Water, 1985) it will allow them to identify change and make the necessary adjustments to those strategies (Ramirez & Wilkinson, 2016). Logically the lessons from previous economic recessions and downturns would influence decision-makers not to assume that there will be only continued expansion. Indeed, adoption of a learning approach provides an intangible benefit for a company across all aspects. The lessons from previous downturns should have identified that CRE flexibility enhances growth by removing the

burden of surplus property management and need for an SPP, whereas this study identified that a large proportion of firms needed to make a provision in the period 2007 to 2014. If learning has not become a universal core competency (Heracleous & Werres, 2016) nor has organisational deftness (Chiva et al., 2014), that raises the question as to whether the skills to reconfigure and transform the organisation (Teece et al., 1997) have not been learnt or have been forgotten.

Under-estimating volatility and the consequences of risk leading up to the recession may explain why the experts included risk as an important variable; the recession itself may have changed the profile of risk. By allowing CRE rigidity to develop, firms have increased the risk of failure from strategic misalignment (Heracleous & Werres, 2016) and missed the opportunity to make the firm stronger by developing an *anti-fragility* capability (Taleb, 2012). The responsibility for navigating the conflicting priorities and ensuring that learning skills are developed to allow an organisation to reconfigure and transform itself (Teece et al., 1997) sits with the C-suite and the Chief Executive Officer.

The Cultural School emphasises shared values and beliefs. The investigation undertaken here has provided considerable information on variables that encompass those values and beliefs for the organisation to give us a clearer indication of them. The recession has had a varied impact across sectors. The variables and their relative importance provided insights into beliefs that we previously did not have for CRE. For the likes of financial services, the repercussions were long-lasting, but for all sectors change to the business environment became a permanent factor. The Environmental School is focussed on the business environment and the dynamism that flows from change. This dissertation has highlighted that in the majority of cases in the sample of firms investigated they do not appear to have adapted their CRE, or CRE practices or both, to the new dynamic environment and the need for flexibility. The consequences and lessons for the Configuration School are covered above as this school is a composite of the others. Looking historically at the issues before and through the eightyear period of this study firms have failed to create a CRE portfolio that was capable of rapid readjustment to the new environment. Focus has remained on CRE as a cost, apparently not the total committed cost just the annual cost. Therefore, the broader value aspects of CRE seemed to have been overlooked by default.

CRE alignment

CRE alignment research has focussed on strategy formulation rather than both formulation and implementation (Kotter in Beer et al., 2005). There has been limited research on the three elements of alignment implementation: asset management, space acquisition and the disposal of surplus space (Kämpf-Dern & Pfnür, 2014). This study has identified that acquisitions of CRE took place when space was being designated as surplus, suggesting a disconnect between the three aspects of alignment implementation or that business decision-makers had different decision

criteria. The increase in the SPP illustrates the lack of success in disposing of unwanted units.

The study has added real world data to the building blocks alignment framework of Heywood & Arkesteijn (2018), a model created from analysing theoretical models and, therefore, missing such data. The scenario posed to the experts was tightly defined in that it provided a very specific situation of a declining business environment leading to a new corporate strategy that necessitated a new CRE strategy: a reduction in space and costs. A large volume of data was produced resulting in a considerable quantity of new material and ideas for CRE researchers to consider in the context of alignment models and decision-making frameworks. For example, a significant factor that has emerged from the analysis is risk. Encompassing risk of an event happening, or not, and the risk of failing to achieve budgeted outcomes (especially financial budgets). The latter appears to carry as much weight with CREM's as the risk of an event itself. Yet risk, in its broadest sense, is omitted from CRE alignment models. This research suggests that it should be included, it is included in the adaptation of the Building Blocks framework (following Heywood & Arkesteijn, 2018). Risk in the context of CRE has tended to be used as a narrow property specific manner (e.g., the risk of someone slipping in an office entrance in Nourse & Roulac, 1993). The networks derived from the individual interviews with experts illustrated the diversity and inter-connectivity between decision-making variables. This study has demonstrated their importance and accordingly these variables should be considered for inclusion in alignment models. Complexity would increase but they would be closer to representing the real world, thereby, increasing their appeal to practitioners. Significant variables identified from empirically derived decision model merit consideration for inclusion in alignment models includes risk, the role of the landlord, motivational drivers, the broader stakeholders of the organisation and the accounting consequences.

Added value

A number of researchers have identified the need to show the added value aspects of CRE through asset management initiatives (e.g., Jensen et al., 2010). The concept is frequently expressed in a way that implies a binary choice; value is added (positive) or there is no consequence (neutral). However, there are three possible options: positive, neutral, or negative. The latter occurring when action (or inaction) involving CRE reduces the value of the business. That may be simple budget overruns on a project resulting in reduced profitability for the year. This research has highlighted the negative impact arising from the inability to efficiently and effectively realign the CRE portfolio. The creation of an SPP is the visible reflection of the inability to realign and with it the consequent reduction in profits from the making of the provision is a directly measurable negative outcome.

CRE research

The underlying philosophy of this study was positivism with the development of the theories based on bounded rationality. The iterative approach in this study to the creation of the conceptual framework and testing of hypotheses has proved fruitful. Multiple methods were used with regression analysis of quantitative data derived from company financial outputs and the qualitative data from interviews with nine experts used the Causal Network Elicitation Technique from Bayesian Network theory for the decision-making investigation. CNET proved very suitable as a technique for the interviews and extracting data from the experts. It produced a considerable amount of data and showed itself to be a technique that offers considerable scope for use within CRE. To date the general approach for obtaining responses to CRE issues from experts, etc. has been the use of questionnaires and interviews. CNET has provided an approach that allows a more detailed and structured investigation of issues.

• Implications for Practice

Inflexibility

The unanswered question as to why firms allowed themselves to become inflexible is an area for further research. The possible reason could relate to the predominance of *Shareholder Primacy* (Friedman, 1970) for the last 40 years. At the same time there has been an emphasis on self-interest of directors (Mintzberg et al., 2002) and there have been recent calls for change in both areas (Business Roundtable, 2019). Additionally, the focus on the next quarters earnings; pay in the C-suite or CRE vanity projects (e.g., Financial Times, 2009) may influence business leaders. Research has identified that firms focus on CRE as a cost (e.g., Krumm & De Vries, 2003; Stadlhofer, 2010), which the present study has also found but in a more nuanced manner. This emphasis on cost may have inhibited managers in their understanding of the true nature of CRE with its specific attributes and liabilities. In particular the scale, longevity, and inherent lack of agility of CRE could have been overlooked when CRE *dynamic alignment* is missing. If the emphasis on cost remains a broader perspective of considering both annual costs and the total commitment could assist firms.

Metrics

An expectation of this study was that *dynamic alignment* would be missing in a proportion of firms leading to the creation of an SPP to facilitate realignment. The creation of the SPP to facilitate realignment did occur and interestingly it does not appear that the SPP had any or sufficient influence on business and CRE metrics to result in a correction. That might reflect the scale of the change or that the metrics do not consider surplus property. The lease profiles did not change, suggesting that

business and CRE performance metrics were not impacted by the SPP. The question arises as to whether the metrics have been properly formulated, as performance systems that are not adequately defined need to be reconfigured (Neely & Bourne, 2000; Neely, 2005; Tangen, 2005). Further evidence of the disconnect between the business and CRE metrics would appear to be the lack of recognition of the influence of CRE on the criteria effectiveness, efficiency, productivity, and flexibility (Van Ree, 2002). In order to obviate such a disconnect firms could consider a reconfiguration of their metrics, to include SPP and composite metrics. The desire for simple dashboard metrics may be obscuring important detail and risk. CRE is complex with complicated consequences for a firm, the performance metrics adopted need to reflect this ramification.

CRE Skills

This study has identified a large range of issues that CREM's require a competency in and highlights the extent of knowledge and skills that are essential for this role. Accordingly, educational programmes for CREM's need to ensure they provide the breadth and depth of the necessary learning. Making such courses/material accessible to those that will become or already are the CRE decision-makers should broaden their knowledge of CRE issues. Incorporating these elements and the learning outcomes into business courses would be of great assistance in the dissemination of such knowledge throughout the firm. It is time that the long-term consequences of CRE decisions are properly understood (especially the impact of ill-advised decisions), which inclusion in business management courses would facilitate. Circulating the consequences of the focus on short term cost minimisation, including the failure to create a flexible CRE portfolio, might alleviate such issues in the future. If a learning mindset is adopted by a firm, that would also be a move towards reducing the likelihood of such issues arising again.

Third Parties

This research identified the importance of third parties in successfully achieving implementation of a decision. In particular, it highlighted the role of the landlord as an inhibitor of *dynamic alignment* and that the lack of lease events to provide flexibility increases the landlord's importance. Consequently, the self-insure approach to CRE flexibility increases dependence on the landlord thereby changing the firm's risk profile. The output of this study should aid practitioners in their endeavours to create a more flexible portfolio by illustrating the consequences and costs of short-termism and inflexibility. Instead of a 'strategic mindset' (O'Mara, 1999) it might be more pertinent in the new turbulent, uncertain, novel, and ambiguous environment (Ramirez & Wilkinson, 2016) to adopt a 'flexible mindset' for CRE decision-making. There has been a large body of work on dynamic resource capabilities (e.g., Eisenhardt & Martin, 2000) on creating skills in the organisation to reconfigure and transform it (Teece et al., 1997)

and developing the capability to flex (Chiva et al., 2014). CRE systems and protocols would benefit from the inclusion of these concepts.

8.3 Limitation of the Research Choices

The structure of this dissertation comprised four papers with chapter related to each one of the papers. The papers have already provided an opportunity for a reflection on limitations of the research. This section, therefore, only reflects on the overall process.

The examination of the financial data using regression techniques identified certain relationships between business and CRE metrics and disproved expected relationships. It has brought hard data into CRE research (Lizieri, 2003). The financial analysis provides a perspective of what happened during the period 2007 to 2014. That relatively short time frame is a limitation of the study. Compliance requirements necessitate making assumptions and those are, therefore, part of the data. For example, the SPP figure is the net liability not the gross liability. Incorporating an increased timeframe and relaxing the assumptions made on the financial data would give a clearer perspective, as would the actual numbers of leases. Extending the timeline of the research before and after the recession could provide further insights but is likely to increase the number of smaller samples per sector. It is possible that clearer patterns may emerge from a more granular analysis, such as a comparison of individual companies against their sector. Possibly greater benefit would be gained by obtaining data of individual CRE portfolios showing the size, shape, and granular cost detail. However, obtaining data directly from corporates poses two challenges. Firstly, there is the principal question as to whether they will share data because they regard all data as a source of competitive advantage, consequently confidentiality is a significant barrier. Secondly, it is unlikely that access will be provided to check data against source material which in itself may create a weakness for the research.

In the real world the process of consideration of a problem of the type posed in the research would provide the decision-makers with a short period of contemplation. The argument against providing time for contemplation in this research is that by posing and seeking a response immediately one is able to garner from those instant thoughts what is regarded as most important to the expert when the scenario is first posed. An alternative could have been to provide to each expert the network produced from their interview to allow reflection and comments. That might have created additional or different insights between the initial response and the considered one. A risk that might arise from seeking a response is that the expert edits (consciously or unconsciously) the responses to suit the current corporate policy of their firm.

In this study a significant gap between the theoretical modelling of CRE alignment and the real world was identified. Alignment models need to be re-thought in light of these findings and incorporate those variables that are pertinent, in particular the attributes and benefits that decision-makers seek. The work here focussed on one particular scenario and further investigation is needed using different scenarios to produce a

comprehensive list of variables for incorporation into alignment models. The form of alignment models may need to evolve to facilitate the inclusion of the variables. This study has taken the initial step in this regard with proposed amendments to the Heywood & Arkesteijn (2018) building blocks model. But further work should be undertaken to improve that model using additional real-world data to refine it.

8.4 Recommendations for Further Research

Within the individual chapters recommendations for further research have been made in the context of the research question posed. A broader general set of recommendations are considered here.

This research has established that there is a discontinuity in the CRE alignment concept with too much emphasis placed on strategy formulation. Alignment models need to incorporate the implementation of the new CRE strategy as well. As part of the implementation the trilogy of actions comprising asset management, space acquisition and the disposal of surplus space (Kämpf-Dern & Pfnür, 2014) could be specified. CRE research needs to delve more into the practicalities of implementation to make theory more robust.

One finding of this study is that the *Core & Periphery* (Gibson & Lizieri, 1999) approach does not appear to have been widely adopted. The non-SPP companies exhibited enhanced performance through quicker growth and higher profitability. Knowledge of how they avoided surplus property and whether they use the *core & periphery* model could be very useful for both practitioners and researchers. An approach may be case study based, possibly undertaking a compare and contrast investigation of two firms in the same sector, one with and the other without an SPP. Alternatively, a sampling exercise of firms might establish whether a *core & periphery* classification or something similar is used.

Consideration had been given at the start of the research to forensically examine the text in the Annual Reports of companies to identify reference to change in the corporate strategy and whether there was any corresponding mention of the CRE strategy. A small sampling exercise indicated that CRE received very limited coverage. Therefore, this line of investigation was discarded for this thesis as being unlikely to provide adequate data. However, it may be a consideration for future research following the recent introduction of new lease accounting regulations. One of the experts stated that they expected a change in how CRE is considered and reported following the introduction of IFRS16. Therefore, in a couple of years there may be sufficient data to undertake such research.

Throughout this study several clear statements were made by the experts that the CREM was not the CRE strategy decision-maker; that role rests with the C-suite. Models need to be adjusted to reflect this, but investigation is needed into the CREM decision-making role and in particular the split between tactical and strategic decision-making.

As part of such a study it would be very useful to try and gain an insight into the decision-making processes within the C-suite along with an understanding of the rationale for decisions made. That would provide a firm grounding for future theories of alignment. The CNET approach has been shown that it provides the interviewer with considerable information and as a technique offers opportunities to explore CRE issues in the way questionnaires do not. This thesis did not provide a detailed model of the CRE decision-making process, but it did reveal the perceived decision-benefit relationships and provided considerable insight into the decision-making process overall. Research examining the inter-relationship between CRE decision-making processes and the financial outcomes in a longitudinal study could identify a number of relationships. For example, the dynamics that inhibit the creation of greater capacity for *dynamic alignment* in CRE, especially how managers balance the benefits of short-term cost savings against the impediments arising from reduced CRE flexibility.

What did become apparent through the review of literature is that both the terms 'strategy' and 'strategic' are used imprecisely. Frequently, strategic is used when tactical is meant. Several experts emphasised that CRE Managers do not make strategic decisions. Rather they provide advice and recommendations to the C-suite, the C-suite then makes the strategic choices. The CREM will then make tactical decisions through the implementation process. There is a need for a more precise use of these terms, but the broader consideration is an investigation of the differentiation of strategic and tactical decision-making for CRE in corporate occupiers. Different organisations and different countries may show divergent practices.

This research has shown the benefit of combining financial data along with a detailed understanding of decision-making. One area to consider in light of the finding and techniques used would be the own-lease debate. Previous work has looked at the impact on share price and market capitalisation in the context of the owned-leased balance. What appears to be missing is a longitudinal study on the subject through at least one combined economic and property cycle. This analysis did not examine which firms have undertaken a sale-and-leaseback exercise and the relative performance of those that did and did not. A broader study should also include tracking the performance of firms to ascertain whether those that opted to undertake sale-andleaseback transaction benefitted in the long as well as short term. It will probably be unlikely that the decision-makers who opted to undertake a sale-and-leaseback will still be with the same firm after a period, nor will the discussion and considerations at the time be readily identifiable. Therefore, the understanding of the decision-making could form two parts. Firstly, seeking the views of the C-suite of those companies that previously carried out the sale-and-leaseback and, in particular, whether in hindsight they regard the exercise as a good decision or not. The second line would be to identify companies with a greater weighting towards ownership of CRE than the rest of their sector. In that case the line of questioning would focus on what considerations have been given to such a transaction and why it was not undertaken.

Cognition, together with bias, plays a significant role in decision-making in property but is a subject with little research into it. Investigation of this under different scenarios will greatly enhance knowledge for both practitioners and researchers. Ideally the knowledge gained should feed through to business schools and to courses for CREM's. The technical skills on dealing with physical issues, say of the fabric of a building, are important, but little is provided on the more complex aspects of dealing with people and their decision-making. Research has not examined whether "people consistently act inconsistently" (Argyris, 1991: 4) in CRE decision-making. The Causal Network Elicitation Technique would provide an ideal method for such an investigation.

A final observation is that a paradigm shift is needed for CRE alignment research. The shift needs to encompass changing the underlying theoretical base; recognising that alignment is both strategy formulation and implementation and incorporating cognitive influences into the process. There is considerable research material in other fields of business that are very pertinent to CRE research and CRE researchers need to follow the suggestion of Lizieri (2003) and examine and incorporate that material into their thinking. To paraphrase Nicholas Taleb (2010); CRE researchers appear to be over-estimating what they know and under-estimating the value of what others know.

This research undertook a longitudinal study of the financial data for FTSE 350 companies over the period 2007 to 2014 and examined CRE decision-making to ascertain the underlying benefits sought. Longitudinal studies are relatively rare in CRE research, whilst the technique used to investigate CRE decision-making appears to be innovative and has not been used previously in this sector. Both approaches offer considerable opportunity for future research within CRE. The study has shown that there is much to be learnt by those in the field of CRE from researchers and writers in other business areas. Only by putting CRE into the context of broader management literature will there be an opportunity to begin to change the view of CRE as a cost to be minimised. At the moment CRE academics and practitioners are only debating this amongst themselves and not reaching the wider audience that have the ability to influence and bring about change.

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10. Curriculum Vitae

Howard Cooke received his Bachelor of Science degree in Geography from the University of Hull in 1978. Following a period working in a New Town Development Corporation he trained as a Chartered Surveyor and qualified in 1984. Subsequently he completed the Royal Institution of Chartered Surveyors Post-Graduate Diploma in Property Investment becoming a Fellow of the RICS in 1992. He has then held various positions in organisations acting as a landlord and as an occupier, but predominantly as an advisor. Throughout his career he has lectured for a number of universities and was an Associate Tutor at The University College of Estate Management for over 20 years. In addition, he has been a member of the Editorial Advisory Board of the Journal of Corporate Real Estate for over a decade and was Co-Editor from 2013 to 2017. He has acted as a reviewer for over fifteen years and also acts in that capacity for the International Journal of Strategic Property Management and the Journal of European Real Estate Research. He was appointed a Visiting Fellow in January 2020 and as a Lecturer in Corporate Real Estate in January 2021 at the School of Real Estate & Planning, Henley Business School, University of Reading. He commenced his PhD project at Eindhoven University of Technology at Eindhoven, the Netherlands in January 2016. Howard has presented his research at the European Real Estate Society annual conferences and published the findings in the International Journal of Strategic Property Management and the Journal of European Real Estate Research.

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