Risk Management
and the
Corporate Real Estate Portfolio

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Risk Management & The Corporate Real Estate Portfolio

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Abstract
In a global business economy, firms have a broad range of corporate real estate needs. During the past decade, multiple strategies and tactics have emerged in the corporate real estate community for meeting those needs. We propose here a framework for analysing and prioritising the various types of risk inherent in corporate real estate decisions.

From a business strategy perspective, corporate real estate must serve needs beyond the simple one of shelter for the workforce and production process. Certain uses are strategic in that they allow access to externalities, embody the business strategy, or provide entrée to new markets. Other uses may be tactical, in that they arise from business activities of relatively short duration or provide an opportunity to pre-empt competitors. Still other corporate real estate uses can be considered "core" to the existence of the business enterprise. These might be special use properties or may be generic buildings that have become embodiments of the organisation's culture.

We argue that a multi-dimensional matrix approach organised around three broad themes and nine sub-categories allow the decision-maker to organise and evaluate choices with an acceptable degree of rigor and thoroughness. The three broad themes are Use (divided into Core, Cyclical or Casual) – Asset Type (which can be Strategic, Specialty or Generic) and Market Environment (which ranges from Mature Domestic to Emerging Economy). Proper understanding of each of these groupings brings critical variables to the fore and allows for efficient resource allocation and enhanced risk management.

Introduction
During the last two decades, corporate real estate mangers have gained a greater understanding of how real estate and associated facilities support their organisations. They have developed tools to assist them with managing the workplaces and performance measures to assess their efficiency and effectiveness. They are now searching for innovative ways to procure, deliver and manage this infrastructure so that it adds ever-greater value to the enterprise.

One area that has generated considerable interest is strategic outsourcing arrangements that seek to transfer the entire portfolio to a third party who then provides an "accommodation service". The key drivers are the potential to release considerable cash to the corporation, to gain greater organisational flexibility and to transfer some of the risks associated with more traditional patterns of owning and leasing property. However, in order to evaluate this new approach, corporate real estate managers need to understand the impact of the corporate portfolio on the core business in greater depth than ever before. They must differentiate between those properties that might be "mission critical" and those that provide necessary but less crucial support. They must understand the value that is created by the properties, not only as a factor of production, but also in its less tangible role as a mechanism for developing a brand or creating or maintaining a corporate culture. Additionally they need to consider the market value and market factors that, if changed, can alter the value or utility of these underpinning assets.

At the heart of this is an understanding and evaluation of the risks, and particularly the strategic risks associated with corporate real estate. The aim of this paper is to address two key questions:

- *From a strategic perspective, what are the risks associated with an organisation's corporate real estate portfolio?*
- *How can corporate real estate managers assess these risks within a portfolio context in order to decide which risks might be transferred?*

In order to respond to these questions the paper first considers the context in which strategic risk assessment has emerged as an area of importance. It then reviews the management framework within which strategic business risks are considered and shows how corporate real estate might contribute to the key sources of business risk. The way in which corporate real estate portfolios are traditionally considered is challenged to help establish a classification for the sources of strategic corporate real estate risk. This then is developed by returning to the portfolio and demonstrating that it can be categorised in a way that helps a corporate real estate manager better understand the level of risk across the different segments of portfolio. The paper concludes with a summary of the key points and ideas for further research.

The Increasing Importance of Risk Management in CRE

Corporate real estate managers have long understood the concept of risk. Much of their work is driven by transactions and projects related to new or changing workplace requirements. They have developed tools to ensure that these projects come in on time and within budget in an attempt to manage both the financial and operational risk at the single asset level. Nevertheless, there has been little concentration on the risk across the portfolio or the way in which that portfolio interacts with the wider property market.

The 1990s was a period that raised the awareness of occupiers of the strategic risks which corporate real estate could expose the enterprise to. During the growth phase, the ability to locate and fit out new facilities was paramount to the success of the business strategy. Organisations that could keep pace with the growth in demand had a competitive advantage over their rivals. Corporate real estate was integral to that strategy in that new workplaces were needed or alternative workplace solutions developed in order to facilitate the growth. Therefore corporate real estate was a source of potential risk.

When the downturn came, corporate real estate managers and their Finance Directors then became acutely aware of another type of risk- their exposure to the property market. Many had signed leases that were now well above market rates and, because of the upward only lease[1] in the U.K. or long-term leases in the U.S. at high rent levels[2], there was no opportunity to realign the rent to the current market. This was a risk that had not been identified or considered when the decision to acquire new space had been made. Additionally, as the recession impacted firms, one of the management strategies adopted was to downsize by reducing the workforce. This in turn led to surplus property assets, many of which were unmarketable either because of the location and quality of the space or because their lease prevented them from assigning to a third party. In the U.S., the situation was that a glut of sub-lease availability made the option moot in the tech markets. Again this brought to the fore the financial and the property market risk to which the organisations were exposed.

This experience had a significant impact on how major corporate players made decisions about their future property requirements and their attitude to flexibility and cycles. There was a new desire to connect their business requirements, often of varying length, to their property requirements. One of the developments was to think of the portfolio in terms of the length of requirement and the type of flexibility needed. Gibson and Lizieri (1999) divided the portfolio into core and periphery elements in order to provide a new framework for evaluating corporate property.

At the same time there was growing interest in outsourcing existing corporate real estate portfolios. Not only were organisations considering the transfer of low level tasks, such as security, cleaning and catering, they were also examining the possibility of transferring ownership, for a capital sum, to a new kind of accommodation provider. If this was feasible, the funds generated could be reinvested directly in the core business. However, there were a wide range of unknown costs, liabilities and potential capital value changes embedded in an existing portfolio. Additionally, it was not easy to predict how, and how much of, the portfolio would be required in the future as, the nature of, and approach to, the work processes within all types of organisations was changing.

The decision to integrate a function or not will depend on the degree to which the organisation is ready. Christensen (2001) considers three factors that are necessary for a function to be outsourced. First, the function must be able to be specified so that both parties understand the requirements. Secondly, measures must be developed, in a transparent way, which assess when the requirements are being satisfied. Thirdly, the organisation will need to understand the impact on overall performance of a failure to meet the specified and agreed requirements. In other words, the downside risks. This, therefore, has created the need for a more sophisticated approach to outsourcing contracts requiring both new data and a new methodology for evaluating the risks. The type of risks that need to be understood and are key to

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[1] The standard lease in the UK not only has a relatively long duration (usually in excess of 15 years) it also has a clause (upward only reviews) which means that rents can not be reduced

[2] see Louargand and Gately, "After the Bubble" ;PREA Quarterly, Winter 2001, for a discussion of the "leasing panic" in the U.S. during the year 2000.

negotiating successful outsourcing contracts are those that could undermine the very essences of the organisations. The following section examines these strategic business risks and the link to the corporate real estate resource.

Strategic Business Risks and Corporate Real Estate

When developing and implementing strategies, organisations are exposed to risk and therefore need tools to determine when, and if, these risks become unacceptable. Strategic risk is defined by Simons (1999) as "*an unexpected event or set of conditions that significantly reduces the ability of managers to implement their intended business strategy*" p1

The sources of strategic risk are often articulated in the strategic management literature in general terms such as technological and production risk, financial risk, product and market diversification risk, managerial ability and competence, environmental risk and competitive risk (Thompson, 2001). However, according to Simons (1999), there are three key sources of strategic risk that impact all organisations: operations risk, asset impairment risk and competitive risk. This framework provides a coherent way of grouping risks and taking each one in turn, the relationship to corporate real estate can be determined.

Operations Risk

Operations risk results from a breakdown in a core operating, manufacturing or processing capability (Simons 1999). At the strategic level, it is related to the activities of the organisation that are critical to the creation of value. From a corporate real estate view, the potential for structural failure of a key facility could create operations risk. For instance, a leaky roof or a power failure in a data centre of a financial services organisation might lead to loss of revenue and reduced customer confidence thus inhibiting future growth and overall competitiveness.

This demonstrates the link between corporate real estate and an organisations operational capability. Understanding the severity of the impact of a structural failure on the business is essential in any risk assessment. A similar problem in a building that is not critical to the core operations would have much lower risks. For instance, leaks in the roof of a sales support office might lead to no more than minor disruption. Although the property failure is identical, the consequences for the organisations are divergent.

Asset Impairment Risk

Asset impairment risk is focused on three aspects. First the potential for impairment in the value of balance sheet assets, secondly a reduction in intangible value, and finally the physical impairment of the assets (Simons 1999). Given that corporate real estate is a key asset and a significant proportion of the net tangible assets of most corporations, this type of risk is highly relevant.

The potential for the decline (or increase) in the value of real estate assets is driven by both the property market and its regional and national economy. Properties whose market value is below book value are common in the corporate world. Recognition through write-downs may impede the execution of strategy by adversely affecting credit ratings and analyst's outlook for public companies. Similarly, especially when operating in less mature markets, property values can be impacted not only by rapid currency shifts, as in Argentina, but also by a change in policy by a national government, as in Zimbabwe with the focus on the repatriation of land to the native population. Unlike operations risk, which is often controllable through robust management systems, exposures to property market and economic / political risks are often unpredictable.

The second source of asset impairment risk is related to the intangible value created by the corporate real estate. Properties often carry an organisation's brand, especially in the retail and leisure sectors. A lack of investment in these facilities can undermine the brand and reduce the value of the organisation. Additionally, the workplace is often a key symbol in creating corporate culture and any misalignment between the corporate mission and the working environment can also impede the implementation of strategy. In the retail sector, successive format shifts or innovations cause obsolescence in existing stores without any change in the physical condition or the surrounding market.

The final dimension of asset impairment relates to physical damage to an asset. Property assets are exposed to fire, floods, terrorist attacks and other catastrophes. The corporate real estate manager must assess these risks in each situation determining to extent to which on the one hand they are likely to occur and on the other hand whether the facility houses operations that affect the business value. Organisations insure themselves against many of these risks but it is the corporate real estate manager who must develop contingency plans for re-housing the critical operations. The terrorist attacks in New York in 2001 drove this point home permanently.

Competitive Risks

Competitive risks relate to changes in or actions by competitors, regulators, customer or suppliers. Organisations are at risk if any of these changes reduce their ability to create value and differentiate their products or services (Simons 1999).

Again these risks can be linked to corporate real estate. A competitor could secure a key site that gives it some strategic advantage. For instance, a major pharmaceutical company could secure a new research and development location, in co-operation with a leading university, giving it access to research collaboration and highly trained manpower. A government may change its planning and transport policy, not only affecting current values, but also restricting future growth. Property costs could escalate due to a lack of new supply. Although these risks cannot be control, there needs to be a free flow of information on the emerging threats and opportunities within the competitive environment.

Overall it is apparent that corporate real estate can be a source of strategic risk for the enterprise. But how do corporate real estate managers think about these risks and develop a methodology for evaluating the level of risk. This is essential, not only to decide which risk can be transferred through outsourcing ideally to an organisation that is better able to manage that risk, but also to help corporate real estate managers focus their own effort and resources on the properties which contribute to strategic risk.

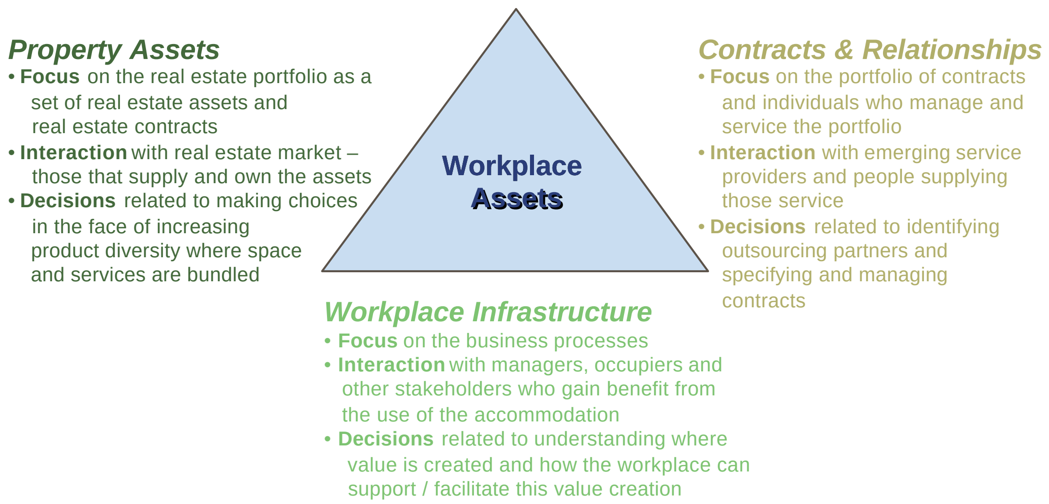
In order to develop such a framework it is necessary to first examine the workplace portfolio that is now being managed by organisations. The following section considers the portfolio in a new way and then develops a classification of the key sources of corporate real estate risk.

Thinking Differently about Corporate Property

Managing a New Type of Portfolio

Organisations are faced with managing a very different kind of portfolio than they have in the past. Traditionally the concern was almost exclusively focused on the real estate assets; the bricks and mortar supporting the organisation. These same assets can be viewed from two additional perspectives (see Figure 1: Three Dimensions of the Corporate Workspace). First, the assets are held and serviced on a wide range of contractual arrangements as organisations have developed arrangements with other firms to supply and service their space. What therefore needs to be managed is a portfolio of contracts that link and interact with each other. The second perspective is that these assets represent a portfolio of workplace infrastructure that supports a wide variety of activities and functions throughout the organisation. The management focus therefore is understanding how this workplace infrastructure can add more value to the business and is therefore related to operations and operations risk discussed earlier.

Figure1: Three dimensions of the corporate workspace



The importance of recognising these perspectives lies in the fact that each aspect relates to different suppliers, users and markets all of that need to be understood. This in turn leads to a broader range of skills from those traditionally required to manage the property portfolio especially at the strategic level. Ultimately, it can be related back to the risks to which the business is exposed depending on the structure and form of their corporate real estate portfolio. Therefore corporate real estate managers need new frameworks to understand the risks and evaluate their impact on the organisation.

Risk Management

If organisations are attempting to manage the corporate real estate risk, then they need a framework to identify the sources of risk in a similar way to that developed for strategic business risk by Simons (1999). We believe that there are three general categories of risk associated with corporate property: financial risk, property market risk and business risk. Although there is some overlap, each of these need to be understood and managed.

Financial risks: Currently, few organisations can predict their on-going workplace costs with any degree of certainty and therefore this exposes them to financial risks. Additionally, they do not know when they are likely to require more or less accommodation and therefore this adds another layer of financial risk as both the cost of entry and exit from space are unknown. Because, in the main, additional accommodation is purchased in blocks, organisations often find that they are either under or over utilising their existing space. The fixed cost nature of workplace infrastructure therefore makes it difficult to calculate either the average cost (cost per unit) or marginal cost (cost of making one additional unit) in any decision-making situation. Consequently the business units perception of real estate is one of an uncontrollable and inflexible resource.

The financial risks are both direct and indirect. They potentially affect both the short-run cash flow events and have long-run impact on total enterprise value. In this element of risk the focus relates to the impact of real estate on both the income statement and the balance sheet. Some examples of these risks include:

- the resulting impact on the income statement of a decision to use floating rate debt for capital investment programs if unanticipated inflation occurs;
- a lowering of the firm’s valuation multiple due to the presence of substantial real estate on the balance sheet; or
- the impact on the firm’s financial ratios or credit rating due to a change in the accounting treatment of long-term leasehold obligations.

Property market risks: Related to the general financial risk is the property market risk to which all occupiers are exposed. Firstly as an owner-occupier, a corporation is exposed to the same risk as any other property investor, both in terms of the rate of return and the volatility of those returns. Corporate occupiers are often in a situation where downturns in their own market that lead to business contraction occur on a widespread basis. The result is that the disposal of surplus assets occurs in a falling real estate market leading to reduced value and the possibility of holding vacant surplus assets due to a moribund transactions market

As a tenant, they are also exposed to the property market both at the time of initially signing a lease, and at every review period. Corporations cannot align their expansion and contraction requirements to the property cycle and therefore can get trapped signing leases at the top of a market, only to find that rents fall from this peak. This situation of being tied into over-rented properties was common during the recession of early 1990s and reappeared in the US towards the end of 2000. The widespread leasing bubble of 2000 in the US has left many firms with substantial unused space to bring to the sublease market in a period of little or no leasing activity and falling asking rents. A secondary effect is the consumption of part of the firm's credit capacity in guaranteeing the sublease.

The sorts of property market risks that then need to be evaluated are wide ranging. Some examples of the impact of property risk are:

- sharp increases in occupancy costs due to rent escalation as seen in U.S. markets in the year 2000;
- deteriorating location quality due to a shift in external agglomeration generators such as transport nodes or neighbourhood deterioration or a shift in the types of sub-market occupancies;
- divestiture of assets resulting in a charge against book value due to market value decline; or
- tax obligations created by the sale of appreciated assets.

Business risks: The final type of risk is that linked back to the business. If an organisation is either unable to function or can only function inefficiently, then there is a risk of financial loss in terms of lower business revenues or increased costs. On the one hand, some of these risks are considered in depth such as the risk of a building being bombed or sabotaged where a contingency strategy may be developed. On the other hand, there are more subtle risks such as a failure of the heating or air conditioning systems, halting work temporarily or the inability to acquire contiguous space thus impeding operations. These latter business risks, although much more common, are more difficult to predict or even estimate.

Again some specific examples of these business risks include:

- inefficient floor plates leading to decreased employee productivity;
- deterioration of retail sales due to evolution of retail formats;
- legal and financial liability as a result of environmental contamination; or
- lack of flexibility in the physical structure hampering business operations.

In each of these cases the ultimate impact is on the business either in terms of sales, costs or productivity.

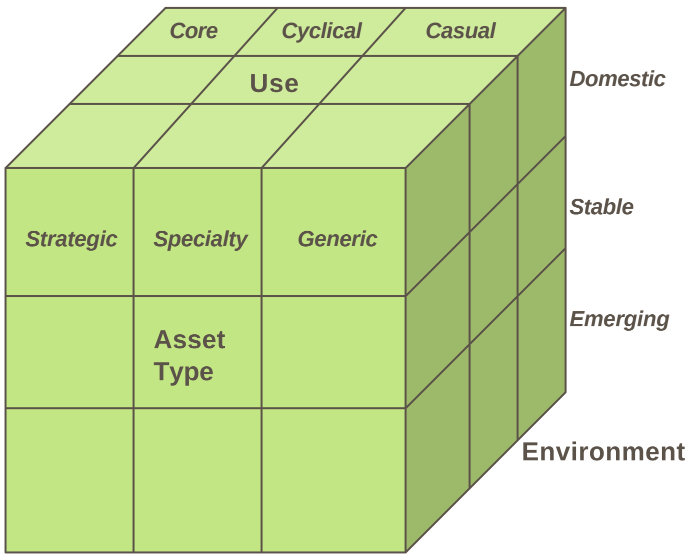
All three of these types of risks need to be reviewed in order to assess the overall risk profile of the assets. Which risks is it possible to transfer and which can best be managed by the organisation itself? Which properties are more vulnerable and how should these be treated? To answer these questions, the individual properties within a portfolio need to be grouped into common categories. The following section develops a way of categorising the portfolio to aid this risk assessment.

Evaluating the Corporate Real Estate Portfolio in New Ways

From much of the analysis we have concluded that there are three categories a real estate portfolio can be divided into in order to assist with this strategic risk assessment. These categories have been selected because they relate in some way to the sources of both business and corporate property risk. The first is the type of asset in terms of its potential value in the real estate market based on the degree to which it is generic or specialist. The second category considers how the asset is used by the organisation and the degree to which it is a short-term or long-term requirement. Finally, the environmental setting in which the asset is located will have implications for the organisation's risk exposure.

Each property can be mapped on to a three dimensional framework (see Figure 2: Mapping a Corporate Real Estate Portfolio). In order to understand how properties might be categorised, each of the three dimensions is explored below.

Figure 2: Mapping a Corporate Real Estate Portfolio



Asset Type

Properties can be classified in a typology of strategic, specialty or generic. Strategic assets may come in many forms, but the common thread is that they are literally a physical execution of an element of business strategy. Strategic properties may be unique in their location, their design or function, but may also be unremarkable in two of those three characteristics. An example might include the gasoline service station facilities for a traditional oil company where a vertical integration strategy requires that the firm control key sales locations in order to benefit from its economies of scale of exploration, transportation and refining operations. Similarly, a strategic asset could be a research facility for a high-tech firm that is located in close proximity to a leading-edge university in the field. An interesting note here is that a location may be strategic while the particular building within it may not be.

Specialty assets are those that are often traditionally thought of as “special purpose”. These specialty properties by definition represent a deployment of capital that can not be expected to be recoverable in the property market although they are often key infrastructure for the firm. Some examples of specialty property might include wind farms created for the purpose of generating electricity from wind turbines, “server farms” - windowless buildings housing arrays of computer servers powering the internet, and signature retail buildings, theatres and the like. The implementation of a business strategy via the use of specialty properties can be expected to have an effect on total enterprise value, typically in the form of earnings multiples. Investors are likely to place lower multiples on a firm that relies on specialty real estate to execute its business strategy, since that reduces flexibility and the ability to re-deploy capital.

Finally most corporate real estate falls into the generic category, even those facilities often identified as “special purpose”. Generic real estate decisions should be made within a joint framework of operational and financial efficiency. The examples here all fall into traditional real estate categories including office, distribution and retail property. Although this is the area in which corporate real estate managers feel they have the greatest understanding, there are still significant risks to be managed. For instance, distribution warehouses are a good example of the problem of mismatching the duration of tenure with the half-life of the building's technology. Obsolete warehousing can have a devastating effect on competitiveness in many industries. Similar problems have arisen in office provision where the existing portfolio can no longer support the increasingly rapid business change thus threatening an organisation’s competitiveness. The functional differences between a 19^{th} century office building and a modern one can have a significant effect on the productivity of a business service firm, for instance.

Use

Property use is defined by the duration of the asset’s utility to the business enterprise. Core assets are those that are expected to be used for extended periods of time. The need for these facilities is “core” in that there is little volatility in demand for their service. These are the assets that the organisation sees as adding significant value to the organisations and is therefore willing to invest in and manage for the long-term. The definition should be independent of the tenure choice, but the duration of tenure may be a critical factor. An example of properties that could fall into this category is corporate headquarters facilities. These may be owned or leased, but they typically are not footloose. Thus, the capital investment decisions regarding them tend to follow traditional capital budgeting models. Tenure choice can be examined using tools like NPV and IRR. Another type of core facility might be a manufacturing site for base compounds. Again, the location and physical structure could be core to the success of operations however, the real investment is often in the plant and equipment. Finally in organisations where some properties are close to the core business, for instance quarries for a cement manufacture, these can also be seen to be core assets.

Cyclical assets are those that are used to a varying degree as the business cycle or the product cycle waxes and wanes. These are the properties that are more tightly linked to the ultimate level of demand for the organisation’s products or services and therefore need to expand and contract with the firm’s market. Regional sales offices might fall into this category where the staffing may vary over the business cycle and may also vary over the product life cycle, reflecting a “ramp-up” to maturity for the product and/or its market. Call centres house another type of function that is directly impacted by the state of the market and must flex with growth and contraction. Finally, properties that are required to accommodate staff managing contracts are another manifestation of the cyclical nature of the requirement. The contract may have a limited life and there is no guarantee that the contract will be renewed or that a new contract will require the same infrastructure. In all these cases the emphasis is on matching the duration of the tenure to the business or contract cycle.

Casual assets are facilities that are needed on either a seasonal or a random basis. Maximum flexibility in the long run is more important than short run cost in these assets. Examples here are also wide ranging. Income tax teams, audit teams, holiday phone banks and other seasonal teams need housing for a few weeks or months might be located in very short-term space provided by a serviced office operator. Similarly, project teams assembled around a goal-oriented behaviour such as the implementation of new technology throughout the organisation, or crisis teams assembled to deal with a specific issue are examples of situations where speed of start-up are critical. These facilities are unique in that their need is not predictable in terms of size, configuration or geography. Another source of demand for casual assets is specialist functions that require specialised space but the internal demand cannot justify a permanent facility. Training centres and conferences facilities are typical of this type. In this group of asset, rapid availability and a broad array of options are critical factors.

Environmental Risk Setting

Despite the fact that most large firms are multi-national or global today, there remains a considerable difference between the property markets. Not only do regulatory environments and legal infrastructure vary between countries, they are at different stages of development and varying stages of evolution. Decision-making and risk management must recognise those differences. One way of thinking about these environmental risks is to categorise them as residing in the domestic economy, another stable economy or in an emerging economy.

In the domestic setting the property rights, legal procedure, contract execution and business practice in the real estate market are well understood. The legal and political risk can be minimised by accepted due diligence procedures. In many cases, firms can execute pre-negotiated documents with serial providers, saving significant amounts on legal costs alone. This has a significant impact on the organisation's ability to and attitude towards outsourcing.

Executing real estate decisions in a mature economy that is foreign to the decision-makers presents a series of manageable risks. The situation is stable, and although not necessarily well understood, is possible to examine and explore. Paramount among the issues is the fact that the organisation's strategy is being executed in a cross-cultural setting. Implicit assumptions about execution therefore can be dangerous in that setting.

However the risk in corporate real estate in emerging economies has several characteristics that may not appear in other settings. For instance, a global business presence in an emerging economy may draw political activism unrelated to the business purpose. The activism might well target physical infrastructure. Therefore security may be a much more important feature of the bundle of facilities services in this environment. Additionally the entry into the market itself could be hampered by immature legal systems and infrastructure to the point of impeding the successful completion or operation of the planned facilities. Finally the local custom may work contrary to the contractual relationships envisioned in the corporate real estate strategy.

Understanding Risks and Informing Decision Making

In order to demonstrate how the risks might be assessed across the three dimensions outlined above, we have developed a Corporate Real Estate Risk Matrix, a tool for organising and prioritising the analytical and decision-making process associated with accommodation decisions. Although the matrix can be viewed in three dimensions, the example below (Figure 3) focuses on only one layer of the matrix representing the domestic environmental setting, but explores the *use* and *asset type* in detail.

Figure 3: Examples of Corporate Workplace Assets in Domestic Market by Asset Type and Use

Domestic Setting	**Use**		
Asset Type	***Core***	***Cyclical***	***Casual***
Strategic	R&D Facility for a pharmaceutical company	Retail outlet which carries brand but where profitability may vary over business cycle or location may lose value over time.	Retail kiosks and carts. Olympic marketing tents Hotel ballrooms for sales or product events
Specialty	Plant for manufacturing base compounds	Server farms housing equipment which drives internet applications (likely rapid obsolescence)	Short term requirement for manufacturing a particular drug (ie. Vaccines for Foot and Mouth)
Generic	Corporate Headquarters (in some organisations these may be strategic)	Regional sales office space to support staff during periods of economic boom	Touchdown space in serviced office centres available on an ad hoc basis

The aim of this approach is to understand in greater detail the risks that are related to the different assets within a portfolio so that the risk exposure of any asset can be evaluated. Using the risk matrix as an organising theme for planning and execution may help to forestall elisions in the decision-making process or to ward off unintended consequences.

Assessing Risks in the Structured Framework

It may be difficult to estimate a quantitative value for all three types of risks (financial, property market and business risk) for each of the cells within the matrix. However, it is acknowledged in the management literature that the issues are qualitative rather than finite and judgement must come to bear (Thompson 2001). We believe that these risks are likely to vary across asset type and the usage pattern as demonstrated in the table below (Figure 4). For example, generic property used in a core setting should be managed with the expectation that it is fairly low risk asset from the operating side since it is expected to have a long duration of use and be well understood from a design and operation standpoint. But its long duration might cause it to have high financial risk due the fact that it will appear on a firm's balance sheet in some form. Since it is a generic type of property in long-term use, it is moderately well insulated from the property market risk.

In contrast to this, special purpose properties are likely to bear a high level of risk in all three areas. They are typically not easily saleable, investors charge a premium for supplying them, they have little value in the marketplace and design flaws can render them inefficient or obsolete thus negatively impacting business operations.

Figure 4: Level of Risk by Asset Type and Use

Domestic Setting	Use		
Asset Type	***Core***	***Cyclical***	***Casual***
Strategic	Financial Property Market Business	Financial Property Market Business	Financial **Low** Property Market **Low** Business **High**
Specialty	Financial Property Market Business	Financial **High** Property Market **High** Business **High**	Financial Property Market Business
Generic	Financial **High** Property Market **Moderate** Business **Low**	Financial Property Market Business	Financial Property Market Business

However, the actual level of risk in each of these cells will be related to the individual circumstances of the organisation; its core processes, markets and existing corporate real estate portfolio. The real benefit of this risk matrix is that it provides a structured framework to allow management to thoughtfully identify both the type and intensity of the risk in different parts of the portfolio. They can then concentrate their efforts where risks are greatest. From an outsourcing perspective, this analysis can influence an organisation's decision regarding which risks it is willing to transfer, and thus which properties. It also provides a framework with which to develop the contractual and partnership arrangements. Therefore, this tool may have more value in its role of providing a focus for discussion, than as an instrument for any more formal or detailed evaluation. If organisations are increasingly to work toward strategic outsourcing arrangements, then a mechanism to help develop a shared understanding of the corporate real estate portfolio will be essential.

Conclusions

We have specified a framework for thinking about the critical variables in most corporate real estate settings. We propose that there are two over-arching issues for management to confront. First, fully understand the nature and source of the risks borne or created in any real estate decision. Second, understand the intensity of each risk and the appropriate risk management strategy before contemplating the legal and organisational structure that will deliver the real estate assets and services.

Research in this area of real estate has expanded considerably in the past decade, but remains heavily weighted to descriptive and normative works. Empirical study of employee satisfaction, productivity, creation or destruction of shareholder value and economic efficiency of real estate costs all need to be pursued from the foundation that these earlier works have established. Research into the true impact on the firm of corporate real estate decision-making must eventually become part of the managerial strategy literature as well since it represents typically the second or third largest element of expense in most firms. The contribution of this work has been to provide a framework on which empirical work could develop by testing its validity and usefulness in practice. It could also help in the elusive search for understanding and evaluating the real contribution of corporate real estate to organisational performance.

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