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Globalisation and Corporate Real Estate Strategies

by

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Abstract

Purpose - The purpose of this paper is to examine the impact of globalisation on corporate real estate strategies. Specifically, it seeks to identify corporate real estate capabilities that are important in a hypercompetitive business climate.

Design/methodology/approach – This paper utilises a qualitative approach to analyse secondary data in order to identify the corporate real estate capabilities for a hypercompetitive business environment,

Findings - Globalisation today is an undeniable phenomenon that is fundamentally changing the way business is conducted. In the light of global hypercompetition, corporate real estate needs to develop new capabilities to support global business strategies. These include flexibility, network organization and managerial learning capabilities.

Research limitations/implications – This is a conceptual paper and future empirical research needs to be conducted to verify the propositions made in this paper.

Practical implications – Given the new level of uncertainty in the business climate, that is, hypercompetition, businesses need to develop dynamic capabilities that are harder for competitors to imitate in order to maintain what is considered a “momentary” competitive advantage. The findings of this paper are useful to guide corporate real estate managers in this regard.

Originality/value – This paper is original in two ways. First, it applies the strategic management concept of capabilities to corporate real estate. Second, it links the key challenge that businesses face today, i.e., globalisation, to the concept of capabilities as a means to maintain competitive advantage.

Key Words: Globalisation, Network Organizations, Flexibility, Hypercompetition, Corporate Real Estate Capability

Paper Type: Conceptual Paper
Globalisation and Corporate Real Estate Strategies

Learn From the Mistakes of Others.
You Can’t Live Long Enough to Make Them All Yourself! (My Father)

1. Introduction
Globalisation has fundamentally changed how business is visualized and conducted. The impact of globalisation on business operations is both pervasive and extensive requiring therefore, a review of existing business approaches and the historic rules of thumb (e.g., standard operating procedures) used in business. For example, a globalized business means business planning at all levels will now require knowledge that is local and global. Understanding of local regulatory requirements is as needful as global consideration of economic activity when setting out the strategic corporate goals. In addition, cultural practices and local customs must be acknowledged when setting in place business operations and procedures. Failure to modify the strategies of conducting business may result in significant impact on performance. Further, contemporaneously influential events, opportunities, constraints and strategic options relative to strategic decisions need to be considered when businesses go global (Rhinesmith, 1993; Akhter, 2003; Mayer, 2002). Managers cannot think of globalisation as being location-dependent in terms of performance - but rather that resources such as corporate real estate must be attuned to local areas/conditions but yet, tied into the global network of corporate real estate resources (Nash, 2000; Begley & Boyd, 2003; Friedman, 2005).

Corporate real estate is today regarded as an important strategic resource which can provide businesses with a difficult resource to duplicate (Wills, 2008). Real estate has come a long way from the stepchild of business research status in the 1980s. There have been a number of empirical studies that have explored corporate real estate’s ability to enhance organizational wealth (e.g., O’Mara, 1999, Mahlon, 1995). The proliferation of corporate real estate research has also been fuelled by the continued domination of real estate on the corporate balance sheet as well as the increasingly complex business environment compelling firms to discover their “hidden” real estate values (Liow, 1999; Carn et al., 1999).
Corporate real estate managers are becoming aware of the need to conceptualize globalisation as being location-responsive customizing real estate to country/customer needs to effectively compete with a wide variety of competitors (Begley & Boyd, 2003; Friedman, 2005; Harvey & Novicevic, 2006). In this regard, managers must think globally but act locally, i.e., “glocalization” in order to develop a well-articulated corporate real estate perspective. Specifically, globalisation necessitates the development of new corporate real estate capabilities that reflect a global mindset which can then evolve into a pluralistic management capabilities in relation corporate real estate decision-making (Parayre & Hurry, 2001).

This paper examines the interrelationship of globalisation and corporate real estate capabilities. The paper is divided into six sections. First, the factors driving globalisation will be discussed in relation to its impact on business climate. Second, the concept of dynamic capabilities will be introduced as a response to hypercompetition. This is followed by a discussion on the connection between business strategy and corporate real estate. Next, the corporate real estate capabilities that are needed to support global business management will be identified. Finally, we conclude with a deliberation of the implications for managers in the light of the propositions advanced in the paper.

2. Globalisation and Impact on Corporate Real Estate

Globalisation is growing in significance to corporate real estate managers in that to be competitive in one market/country, one has to be network into other markets to remain competitive in the global real estate market. A company may have no or little intention to become enmeshed in the global marketplace but due to foreign competitors entering their home real estate market a counter strategic thrust may be warranted. The drivers of the globalisation of corporate real estate may be attributed to three interrelated trends; 1) Economic Factors: differences in land regulations and taxation are attracting real estate managers from developed countries to invest in the markets of the future. Couple with attractive exchange rates between developed and developing countries real estate managers are attracted to the ‘bargain’ real estate opportunities. It is being estimated that 85% of the world’s population will live in these emerging economies
and therefore commercial activities should increase dramatically in these countries (Garten, 1996, 1997, 1998); 2) Political Factors: The liberalization of production factor inputs, particularly in regional trading blocs through the deregulation of capital, personnel, and raw material flows has promoted regional integration. Heightened attention to property protection in emerging markets has also given companies greater confidence in expanding their business (Nash, 2000; Petras & Veltmeyer, 2001); and

3) Technological Factors: The rapidly declining computing, communication and transportation costs means market expansion can be more operationally and financially efficient. Additionally, technological “leap-frogging” by firms in emerging economies means access to a trained and ready workforce (Mayer, 2002; Stiglitz, 2003).

As a result of this environmental turbulence in the global marketplace, a relatively hyper-intense form of competition (i.e., hypercompetition has emerged among local, international and global competitors). The Austrian School of Economics referred to this notion as competitive advantage through “creative destruction”. The primary strategic thrust of hypercompetition is the disruption of the marketplace “status quo” by management who recognize that the only enduring competitive advantage results from the ability to generate a continuous flow of new advantages (D’Aveni, 1994, 1997).

In hypercompetitive environments, the purpose of strategy is viewed less as a way to build and then defend a large sustainable competitive advantage, but more as a way to create a constantly changing series of small, temporary competitive advantages, thereby keeping competitors off-balance by forcing them to be in a reactive strategic mode and thus become a follower in the global marketplace (D’Aveni, 1997, 1999). The consensus seems to be that firms in volatile competitive environments should focus on their core corporate real estate competences as a flexible means of global networking to apply it in more or less transitory arrangements with other firms to enhance learning and better serve their markets (D’Aveni, 1997).
3. The Concept of Dynamic Capabilities

In response to an increasingly competitive environment, many management researchers have argued for a resource-based view (RBV) approach to maintain competitive advantage by focusing on the inside elements of the company (Barney, 1995; Grant, 1991). The RBV contends that organisations compete through control of unique and inimitable resources. Inimitable resources centre principally on the cumulative bodies of organisation-specific knowledge and skill that are the result of organisational learning processes. Under this framework an organisation’s long-term survival rests on the organisation’s ability to develop capabilities and innovation. Hence this perspective emphasises skill acquisition, organisation learning, and capability accumulation.

Capabilities can be thought of as the efficiency with which an organisation uses the resources available to it, and converts them into whatever output it desires. This reasoning suggests that capabilities are clearly an intermediate transformation ability’ between resources (i.e. inputs) and objectives (i.e. outputs). Since capabilities are an intermediate step between resources and outputs, only the inputs that an organisation uses and the outputs it achieves are observable. Their ability in converting one to the other remains invisible. If capabilities were indeed hard to observe, they would be hard to imitate or buy, as the theory suggests and therefore would lead to a sustainable competitive advantage position. Along the same vein, Srivastava et al. (1998) argued that while tangible assets, i.e., plant and equipment, raw materials, etc can be leveraged by an organization to improve its competitive position, it is the intangible assets that can give organizations a more sustainable form of competitive advantage. Intangible external assets such as knowledge and relationship with stakeholders are socially complex and tacit phenomena which makes them difficult to imitate. The intimacy of relationships with channels and customers attained by firms such as Nordstrom and Johnson Controls has proved almost impenetrable by many rivals (Treacy and Wiersema, 1995).

However, in a highly turbulent market, i.e., hypercompetition, it is important to understand the value-creating processes that respond to the fast-changing customer
needs and wants (Juttner & Wehrli, 1994). Recent research on capabilities has suggested that in a business environment that is undergoing rapid and unpredictable changes, it is the commingling, integrating and of both tangible and intangible capabilities to address the changing environments that are the real source of competitive advantage (Eisenhardt & Martin, 2000; Teece et al., 1997). This is known as dynamic capability.

Global dynamic capabilities relates to the creation of difficult-to-imitate combinations of resources, including effective coordination of inter-organizational relationships, on a global basis that can provide a firm a competitive advantage (Dyer and Singh, 1998; Teece et al., 1997). Global dynamic capabilities theory has two primary components: 1) developing systemic global coherence while recognizing the unique features of each country’s environment to facilitate customization of individual country strategies and; 2) adaptation, integration and reconfiguring of internal and external assets to match opportunities in the global marketplace (see Figure 1) (Eisenhardt and Martin, 2000; Teece, et al., 1997). Global dynamic capabilities is derived from a firm leveraging its internal and external assets which in turn enhance its power in its global relationships, thereby enabling it to coordinate inter-organizational activities and respond rapidly, in a flexible manner, to global competitors’ strategies (Eisenhardt and Martin, 2000; Teece et al., 1997).

This broader resource based perspective suggests that an organisation can gain a competitive edge not only by developing key assets and through multiple resource interaction (Smith et al., 1996) but also by developing new capabilities through skill acquisition, learning, and accumulation of organisational and intangible assets over time (Teece et al., 1997). Organisations can achieve an advantage over a longer term through the constant reconfiguration or recombination of different types of resources to generate new capabilities (Eisenhardt & Martin, 2000) and to meet changing market demands (O'Regan & Ghobadian, 2004).

The next section examines the relationship between business strategies based upon globalisation and hypercompetition as they relate to corporate real estate. It postulates
that corporate real estate can become one of the central sources of competitive advantage for organizations during the globalisation process.

**Figure 1**
A Resource View of Top Management Team's Value In a Global Acquisition

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4. Business Strategy and Corporate Real Estate

Kooymans (2000) defined corporate real estate as “real estate owned by a corporation, whether it is for investment or not. This included freehold and leasehold real estate that is used by an organization for its own productive purposes, whether or not the corporation also considers the same real estate to be an investment”. Among the
pioneers who first made the distinction between real estate and corporate real estate were Zeckhauser & Silverman (1983), Veale (1989) and Nourse (1990). Since then, there have been many studies which documented corporate real estate practices in different countries, for example, Ernst & Young (2002) for Europe, Tay & Liow (2006) for Singapore and Wills (2008) for Australia.

Nourse (1992) made the connection between corporate real estate and business strategy in which he argued that there was a need for real estate to remain flexible to complement business strategies. Following this study, there is now a growing body of literature examining the contribution of corporate real estate to business performance and global competitiveness. O’Mara (1999) used Porter’s (1980) five-force model as the basis to develop three generic corporate real estate strategies to support the global competitiveness of businesses under different operational climate. An “Incremental” strategy emphasizes a gradual approach to the use and procurement of space. It is recommended when there is a high level of uncertainty in the organization’s future and as such major commitments are best delayed or avoided until there is greater clarity in the organization’s direction. The second generic strategy is a “Value-Based” approach. This strategy uses corporate real estate as an expression of the organization’s culture and goals. It seeks to positively shape the behavior of employees and customers through the layout, quality and type of physical setting. Corporate image is enhanced through corporate real estate’s physical communicative power. Finally, a “Standardization” strategy is a control and cost-centered approach. Standards are applied across the design of facilities, space layout, furniture systems as well as corporate real estate operations such as space allocation.

As more corporations go global, the role of corporate real estate will become more a central source of creating and maintaining global competitive advantage (Wills, 2008). According to Roulac (2001), this can be achieved through transforming a firm’s property portfolios to increase market share and enhance shareholder value. While a firm’s global competitiveness can be achieved through the tangible/physical dimension of corporate real estate, Heywood & Kenley (2008) argued that intangible corporate real estate management practices may also be competitively valuable
through the organizational capabilities they produce. Similarly, Joroff et al. (1993) noted that the search for sustainable competitive advantage is implicitly conceived within the highest level of corporate real estate management practices. These practices may relate to real estate holding, financing, accounting, location/site selection, workplace styles, real estate information management as well as benchmarking (Heywood & Kenley, 2008).

The argument that corporate real estate can be a source of capability to give companies its competitive advantage in a hypercompetitive climate is intuitively reasonable. First, corporate real estate practices are non-tangible in nature and therefore harder for competitors observe and imitate. Further, corporate real estate is still a relatively less obvious resource for many organizations when developing a competitive strategy. Manning and Roulac (2001) found that while business dimensions external to the organization are probably of more interest to senior and business unit managers, there was a paucity of research connecting the external strategic business dimension to corporate real estate. Understanding of corporate real estate capabilities and its development as a response to maintaining competitive advantage is at best still at its formative stage compared to the understanding of corporate real estate as a facility within the internal environment and its management. To this end, the following section seeks to identify the corporate real estate capabilities that are important for responding to globalisation.

5. Corporate Real Estate Capabilities

5.1 Flexibility Capability

As more organizations attempt to compete in the time-sensitive global marketplace, one reoccurring issue appears to become a central edict of their global business strategy: increasing/maintaining corporate strategic flexibility. The rate of globalisation and the advent of hypercompetition necessitates that managers develop more flexible organizational platforms to address the accelerating rate of change. Time-based competition is not a temporary phenomenon, but rather represents the irreversible transformation of the future of global business. (Doremus, 1998; Bartlett & Ghoshal, 1998) (See Figure 2). This figure illustrates the four basic strategic
orientations organizations can adopt when looking into building a real estate portfolio. The ethnocentric focus is one-dimensional, in that, it concentrates property management and acquisition in the home country of the organization. The next step in expanding the real estate reach of the organization is the polycentric orientation that looks at property acquisition in international markets, but views these acquisitions as augmenting the existing book of real estate owned in the home country of the organization. The third degree of strategic orientation is the regocentric or clusters of countries in which property can be acquired. This strategic approach attempts to put properties together in a region rather than one country. And the final strategic orientation is geocentric or global property orientation where the entire world is envisioned as property opportunities. Each of these successive steps expands the market for property options and frequently increases risks and exposure to potential market/government/environmental problems.

Figure 2. Perceptual Mapping Competing Organizational Cultural Values

- **Flexibility**: level of decentralization
- **Control**: level of centralization
- **Internal**: maintain existing culture/systems
- **External**: adaptation to local/home country culture
The strategic necessity of addressing the range of economic, cultural, legal, technological diversity in 175 countries in shorter time-spans throughout the world has become a daunting strategic problem. Flexibility to “act locally” while maintaining the coherence of global strategic continuity is a difficult strategic goal. It requires the global organization’s management to reduce their path dependency by not building “static” corporate facilities to compete on a traditional “economies of scale” principle (Bartlett & Ghoshal, 1997; D’Aveni, 1997).

Intuitively, flexibility and corporate real estate do not appear to be compatible because one of the characteristics of real estate is that it is a large, complex and expensive product and therefore much less liquid when compared to stocks and shares. In this regard, any mistakes (e.g., leasing an inappropriate space) will be expensive and less likely to be corrected but tolerated with adaptations. Occupying inappropriate space may then impede the performance of the organization.

However, physical/tangible flexibility is only one aspect of the flexibility capability. Gibson (2000) suggests that to respond to an uncertain climate such a hypercompetition, the property portfolio has to become more flexible in three ways:

1) physical flexibility - the space can accommodate a range of reconfigurations from open plan to cellular arrangements.

2) financial flexibility – property is acquired based on short term contractual arrangement such a short leases, break clauses or serviced offices.

3) functional flexibility – property is sited on land where planning guidelines provide for multiple uses (e.g., commercial and residential use)

The author further argued that land-banking (i.e., holding excess land to its own operating needs) can create flexibility in the overall portfolio. This can allow for unexpected business growth or “agglomeration” value accretion to the surrounding land arising from the planned growth in business activity at that locality. Becker (2003) proposed that to maintain flexibility, companies should provide for zero-time space in their corporate real estate portfolio. This refers to space that can be procured
and/or constructed and be ready for use in as short a period of time (as close to zero as possible) such as fully serviced offices and modular construction. This will accommodate the shorter product life-cycle experienced in many industries today. Such space can be achieved through new approaches to construction, procurement, space design integrating technology and policies for allocating and using space. In addition, this view assumes that control of real estate holdings/leases can have a direct impact on the global capabilities of a firm (see Figure 3).
5.2 Network Organization Capability

In the wake of the forces of globalisation, organizations have converted the locus of their strategic game plan to include the concept of economies of scope i.e., how to effectively and efficiently compete in a large number of geographically diverse countries with significantly different economic, cultural and legal environments (Garten, 1996, 1997). To attain/gain economies of scope, many global organizations are utilizing a strategic real estate network perspective to enable their rapid expansion into a large number of diverse markets simultaneously.

The dynamic power of global networks is evidenced by the rate of mergers and acquisitions taking place in the marketplace and at the same time the increasing number of global strategic alliances being formed. The formation of relational organization structures such as joint ventures, strategic alliances, and formalized cooperative real estate relationships can have a dramatic impact on the type of real estate demands/needs of MNCs (Khanna, Gulati & Nohria, 1998; Gulati, Nohria & Zaheer, 2000). This strategic cooperative orientation allows organizations to rapidly expand in geographically disperse locations while conserving capital spent on real estate and at the same time, maintaining the greatest level of strategic stability and flexibility (Lippman & Rumelt, 1982; Dyer & Singh, 1998; Hitt, Keats & De Marie, 1998; Ahuja, 2000).

The endorsement of the economies of scope notion underlines the need to expand globally but yet, maintain local real estate inventory. This dynamic inter-organizational management therefore, may become a dominant operating logic and one that has received scant attention from academic researchers. If dynamic inter-organizational relationships represent the future of the global real estate business, how can these organizational configurations best be accomplished in differing environmental contexts?

One possibility might be the adoption of a core standardization approach to the procurement, design and management of corporate real estate. Broad standardized guidelines can be developed together with the network organization partners and
therefore achieve some level of consistency in the facilities. Standardization also allows for interchangeability and familiarity with operations when global employees move from one office to another across geographical borders. By not over-prescribing standards and only applying it to core areas of corporate real estate, it allows for flexibility in adapting to local cultures and practice, i.e., glocalization. Singer et al. (2007) conducted case studies in ten multinational firms in the Netherlands and found that seven out of ten companies used a standardization real estate strategy. The research further showed that a standardization strategy supported all three competitive business strategies: lowest costs, differentiation, and focus.

5.3 Managerial Learning Capability
Globalisation, deregulation, and advances in information and telecommunication technologies have intensified pressures upon multinational corporations (i.e., MNCs) to change their standard ways of organizing and managing corporate real estate activities (Hitt, Keats & deMarie, 1998). One of the most critical issues is the development of managerial capabilities that are unique and can be used to differentiate strategic thrust of the organization (Collins & Montgomery, 1995).

It is widely agreed that, in hypercompetitive environments, corporate real estate strategies need to be developed that provide organizational agility (i.e., flexibility and responsiveness to the continuing flux of strategic issues). The flux of internal and external strategic issues (i.e., strengths, weaknesses, threats and opportunities) becomes turbulent under hypercompetition conditions (Eisenhardt & Brown, 1998). To cope with the rapid changes, real estate managers over time develop a familiarity with the traits of these intervals and competence by learning not only their occurrence and relevance, but also the characteristics of their reciprocals (individual project rates) (Thomas & D’Aveni, 2004a, 2004b). In other words, they learn the contingency of whether-to-respond and when-to-respond decisions. The essential capability to support organizational agility is the learning of the contingency between the varying rate of issue emergence and some underlying state of affairs in the hypercompetitive environment (Bogner & Barr, 2000).
A real estate manager’s subjective estimate of whether and/or when to respond centers not only in the rational domain of probabilistic assessment about also the issue reinforcement, but also in the habitual domain based on past experience and habits. In effect, real estate managers develop an internal clock which supports their working frame-of-reference for transactions and completion of major projects (Parayre & Hurry, 2001). Consequently, the reference memories that preserve the concept of the past in time intervals are used as a criterion for making future decisions.

6. Managerial Implications
While extant literature has long acknowledged the need to align corporate real estate with business strategy, there is a lacuna in studies deliberating the effects of globalisation on corporate real estate. This study has shown that globalisation produces a hypercompetitive environment which demands a different management approach. Hypercompetition demands that managers develop dynamic capabilities by combining and commingling internal and external assets/resources in order to build a series of small and temporary competitive advantages. Mental agility is therefore necessary for making strategic reconfigurations that will help maintain the organization’s level of competitiveness.

Corporate real estate is recognized as a resource that can be leveraged to enhance the firm’s competitiveness. For most part, corporate real estate is considered as a physical asset on the company’s balance sheet and valued for its tangible characteristics. This study has shown that intangible assets are equally, if not more effective as a source of competitive advantage because it is not visible and therefore harder to imitate. To this end, managers need to discover the intangible aspects of corporate real estate which include local knowledge of a particular market, real estate holding arrangements as well as other corporate real estate management practices. For a start, managers need to audit their tangible and intangible corporate real estate assets to identify the capabilities that they now possess. In particular, organizations need to catalogue the corporate real estate capabilities that are important to counter the effects of globalisation. These relate to the extent of corporate real estate flexibility, corporate real estate network with partnering organizations and the learning ability of managers.
While hyper-competition may be the norm for tomorrow’s global business, corporate real estate as a source of competitive advantage has clearly yet to achieve widespread awareness and acceptance. A recent study by Wills (2008) showed that more than 50% of the corporations sampled did not understand or know what flexibility in corporate real estate means. In this regard, competitive advantage may be easily achieved for companies who are recognize the strategic potential of corporate real estate at the expense of competitors’ ignorance. The development of corporate real estate capabilities requires a fundamental shift in mindset, management and managerial competence. Consequently, it is important that senior management first recognizes the strategic importance of corporate real estate.

7. Conclusion

This paper aimed to examine the trend of globalisation and its impact on corporate real estate. It had been argued that globalisation rewrites the rules of business management and introduces a new level of competition, i.e., hypercompetition. In this regard, companies need to review their current practice to remain competitive. Corporate real estate is increasingly recognized as a business resource that is capable of supporting business goals and strategies. The concept of dynamic capabilities is a means of maintaining competitive advantage in a hyper-competitive environment. These capabilities relate to internal skills and intangible assets and they are a source of competitive advantage because they are less visible and therefore harder for competitors to imitate. In response to the competitive landscape of globalisation, the preceding discussion had proposed the development of three dynamic corporate real estate capabilities. These include flexibility, network organization and managerial learning capabilities.

It is hoped that the discussion on corporate real estate capabilities here will re-cast corporate real estate in a new light as a source of competitive advantage not only through its tangible characteristics but also through its intangible elements. In this regard, future research may take two streams. First, qualitative research through case studies and/or focus group interviews will be helpful in providing support or refining the propositions made here. Thereafter, quantitative methods can be applied to
statistically test for the existence and strength of the relationship between corporate real estate capability and performance. This would necessitate the development of measurement scales for each of the corporate real estate capability proposed in this paper.

References


Ernst and Young LLP (2002), “Views of corporate real estate from the boardrooms of Europe”, *Ernst & Young Corporate Real Estate Advisory Services*, Zurich.


Joroff, M., Lourgand, M. and Lambert, S. (1993), Strategic management of the fifth resource: Corporate real estate, IDRC, Atlanta, GA.


Rhinesmith, S.H. (1993), A manager’s guide to globalisation: Six keys to success in a changing world, American Society for Training and Development and Business One, Alexandria, VA.


