

The Future of Office Property

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Abstract

The following paper considers the question, where to office property? In doing so, it focuses, in the first instance, on identifying and describing a selection of key forces for change present within the contemporary operating environment in which office property functions. Given the increasingly complex, dynamic and multi-faceted character of this environment, the paper seeks to identify only the primary forces for change, within the context of the future of office property. These core drivers of change have, for the purposes of this discussion, been characterised as including a range of economic, demographic and socio-cultural factors, together with developments in information and communication technology.

Having established this foundation, the paper proceeds to consider the manner in which these forces may, in the future, be manifested within the office property market. Comment is offered regarding the potential future implications of these forces for change together with their likely influence on the nature and management of the physical asset itself.

Whilst no explicit time horizon has been envisioned in the preparation of this paper particular attention has been accorded short to medium term trends, that is, those likely to emerge in the office property marketplace over the coming two decades. Further, the paper considers the question posed, in respect of the future of office property, in the context of developed western nations. The degree of commonality seen in these mature markets is such that generalisations may more appropriately and robustly be applied. Whilst some of the comments offered with respect to the target market may find application in other arenas, it is beyond the scope of this paper to explicitly consider highly heterogeneous markets. Given also the wide scope of this paper key drivers for change and their likely implications for the commercial office property market are identified at a global level (within the above established parameters). Accordingly, the focus is necessarily such that it serves to reflect overarching directions at a universal level (with the effect being that direct applicability to individual markets - when viewed in isolation on a geographic or property type specific basis – may not be fitting in all instances).

Keywords: office property; future; change; demand; economic; demographic; work practices.

Introduction

The profound impact of the built environment on each and every aspect of our daily activity cannot be overstated. Property assets provide the physical infrastructure which underpins almost all economic and non-economic activity within our society. Further, these built assets exert an enormous influence over the quality of our daily lives. The fundamental role and importance of our built environment, and in particular, the commercial office property resource, is evident when one considers that 95% of the Australian population work in the built environment and 90% of Australia's GDP is produced there (Newton, 1999, p. 1).

This important resource and the property industry more generally, are undergoing dramatic change around the world. Challenges facing the industry include globalisation, advances in technology, environmental issues, changing economic and demographic structures and new expectations from clients. The forces at work within the world's office property markets are likely to engender a number of changes within the sector over the coming decades, many of which will undoubtedly represent a natural progression in the trends witnessed to date.

In light of the growing impetus for change these forces represent this paper considers the question, where to office property? In doing so, it focuses, in the first instance, on identifying and describing the key drivers for change within the contemporary operating environment in which office property functions. Having established this foundation, comment is then offered regarding the potential future implications these forces for change may have within the office property market.

Whilst no explicit time horizon has been envisioned in the preparation of this paper, in considering the future of office property, particular attention has been accorded short to medium term trends, that is, those likely to emerge in the office market over the coming two decades.

The report is neither intended nor designed to be comprehensive or exhaustive in nature. Given the increasingly complex, dynamic and multi-faceted character of the contemporary environment in which office property operates, such an analysis falls outside the scope of this paper. Accordingly, the discussion seeks to identify only the principal forces for change, within the context of the future of office property, and offer comment as to the manner in which these forces may be manifested within the office property market. The principal forces for change within the office market have been identified as including a range of economic, demographic and socio-cultural variables, together with developments in information and communication technology. In particular, the core change drivers considered for the purposes of this discussion include economic structures and trends; demographic structures and trends; modern business practices; flexible work practices; new locational requirements; and information and communication technology.

The paper addresses these issues within a framework defined in its scope on an economic/geographic basis. It addresses the question posed, in respect of the future of office property, in the context of developed western nations. The degree of commonality seen in these more mature markets is such that generalisations may more appropriately and robustly be applied. Whilst some of the comments offered with respect to the target market may find application in other arenas, it is beyond the scope of this discussion to explicitly consider heterogeneous markets. As such, the paper necessarily focuses on generalities, which whilst not necessarily applicable to individual markets (when viewed in isolation at a geographic or property type specific basis), serve to reflect overarching directions at a more universal level

Economic Structures and Trends

Over the last decade the major economies of the world have undergone unprecedented economic restructuring. Within mature markets, this period has been characterised by widespread macroeconomic reform, deregulation across key sectors of the world's economies, privatisation and a general decline in the use of protectionist policies – all of which have served as powerful enabling forces in the area of globalisation. The effects of this economic reform have been undeniably significant with the ensuing changes being felt far and wide.

It is argued that the dynamics of this new economic world have created more flexible and resilient economies (Department of Treasury, 1998). Such structural changes have enabled most economies to more quickly and effectively respond to unfavourable conditions and look set to underpin a pattern of longer and more stable expansionary periods with shorter and milder contractionary periods (Zandi, 1999, p. 7). As such, longer and less volatile economic cycles will, in the future, likely be seen. These in turn will result in less pronounced property cycles within the world's office property markets. Thus, over the subsequent decades office property may come to display increased stability in terms of both demand and rental levels.

Further, this new economic order may serve as a moderating force capable of curbing the wild excesses witnessed in the world's office property markets' over recent decades. The high levels of disequilibrium historically experienced within this market (stemming from cyclical over-development), and the ensuing destabilisation, are perhaps less likely to be repeated in the future. The key reason cited for this is the increased efficiency achieved in capital allocation within most economies (Zandi, 1999). Zandi suggest that more efficient capital market allocations have been achieved through a number of underlying developments, such as the growth of property securitisation, which have all worked to improve the overall level of efficiency achieved in the marketplace. A number of accompanying factors have provided further support in the area of stability gains, including improvements in the type, quality and quantity of real estate market information available; more frequent and robust pricing (daily in the case of listed property trusts); and increased transparency within this market (Zandi, 1999). These factors, when taken together, represent a powerful force which should serve to ensure that greater equilibrium is maintained within the world's office property markets than has historically been achievable. With the likelihood of less speculative overbuilding comes not simply less cyclical market behaviour but also less volatility, with the extreme highs and lows typical of this market in the past unlikely to be repeated. This outcome is further supported by a number of economic initiatives including the effective inflation targeting regimes adopted by most OECD economies.

In addition to the potential for greater supply-side stability to be achieved within the office property market, the new economic environment may also provide the means by which greater demand-side stability is achieved. Take, for example, the recent economic woes of the world's major economies. In similar economic downturns, the business reaction has often been to cut costs and, typically, the most immediate and effective way to achieve this has been to reduce staff numbers. Although Australian Bureau of Statistics (ABS) figures show that the retrenchment level was largely static, at about 5% of the total workforce, for each year between 1975 and 2000, it did jump sharply to 6.4% in 1992, at the height of the last recession (Harley, 2002). However, anecdotal evidence suggests that no such jump will be evident when the ABS figures for the recent downturn are published in 2003 (Harley, 2002).

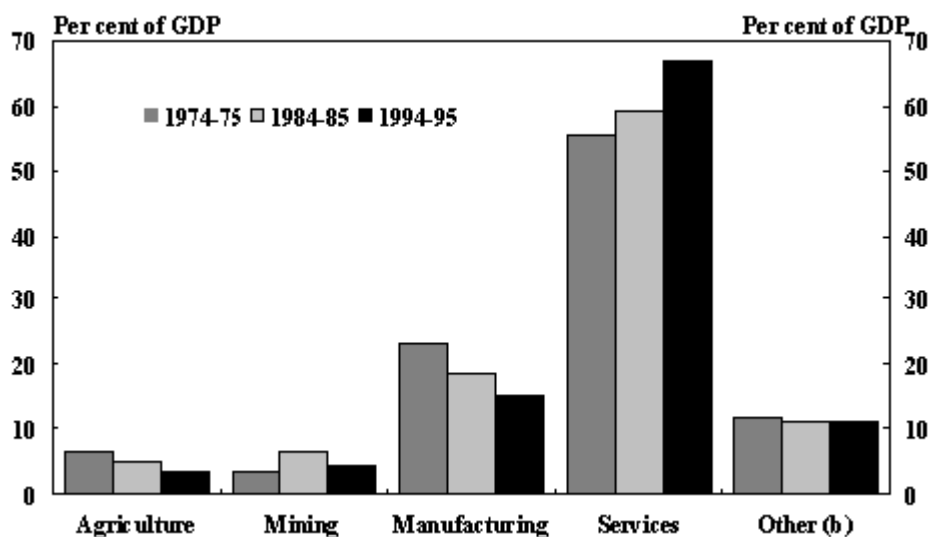
Part of the reason for this undoubtedly lies in the fact that, after two decades of continual restructuring, reorganisation and rationalisation, most organisations now find themselves in a

situation in which there exists little capacity to cut costs by shedding labour. The modern 'lean and mean' business model simply leaves little or no 'fat' to be excised. There may also be a growing realisation of the often counter productive nature of such knee-jerk reactions to downward movements in the economic cycle. Beyond the obvious, that is, companies lose skills they simply have to replace when the economy picks up, a growing appreciation of the costs (both in term of time and money) of replacing these skills may well underpin this changed organisational response. Way (2002) notes that during the recent economic downturn companies have contained costs in different ways, suggesting they were more likely to cut training, research and development, advertising or executive programs than cut staff. This to may reflect the increasing emphasis organisations are placing on retaining skilled staff.

A further force exerting a strong influence over the office property markets of the world is the structural change seen in the economies of all developed nations with respect to the sectorial composition of their economies. A recent report released by the Australian Department of Treasury (DOT, 1998) considered the drivers for such structural change, its nature and its consequences. The reports key points include the following:

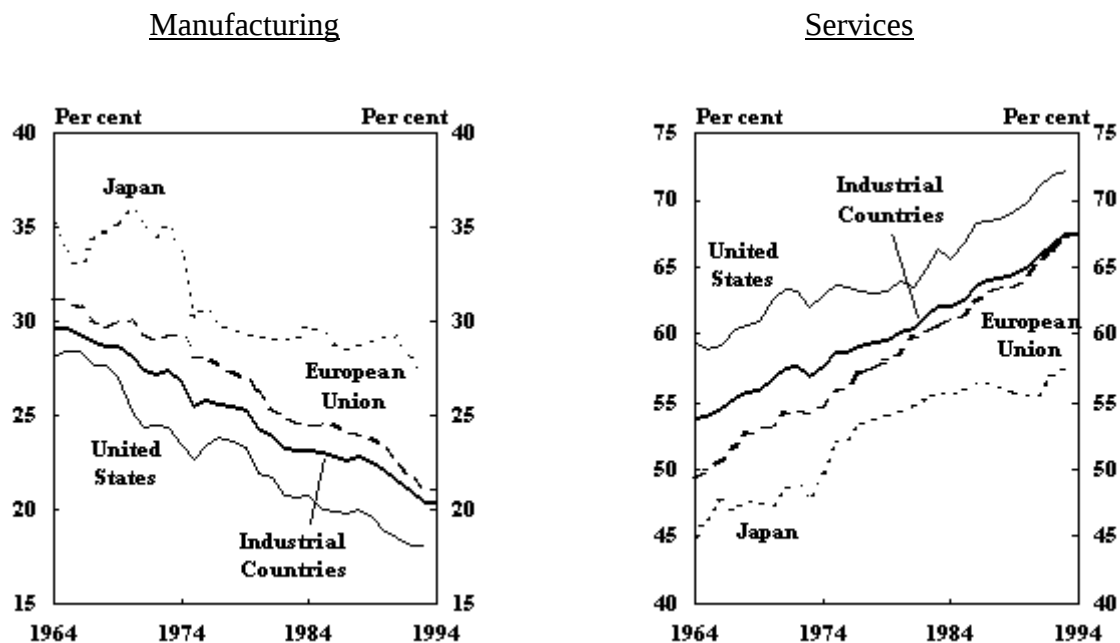
- The continued urbanisation of society; greater international integration and increased trade flows; more specialised means of production; technological developments; and an expanding array of new products are some of the more obvious features of structural change. One consequence of such change is continual adjustment in industry composition. For example, a common feature of economic development around the world has been a shift in the share of output from manufacturing to the services sector, a trend clearly evident in Australia in recent decades (as seen in Figure 1 below) and, in industrial countries generally (as seen in Figure 2 overleaf).

Figure 1: Sectorial Shares of Australian Output 1974 - 1995



Source: DOT, 1998, p. 2.

Figure 2: Sectorial Values of Value Added – Industrial Countries



Source: DOT, 1998, p. 2-3.

Whilst the report does not specifically consider employment growth on a sectorial basis it notes that employment patterns by industry have generally mirrored the pattern seen in output by industry. Similarly, the paper does not explicitly attempt to offer forecasts with regards to future structural change, but suggests that the patterns established in Figures 1 and 2 show no signs of abating in the near term, noting that, the industrial structure of the economy and employment is expected to shift further away from primary and manufacturing industries and towards the service sector over the coming decades (DOT, 1998). As such, the continued trend in service industry growth and, in parallel, white collar employment, looks set to underpin office space demand into the future, certainly over the short to medium term.

Demographic Structures and Trends

In considering demographic structures and trends it is axiomatic to observe the all-pervasive nature of demographic forces. Demographic factors influence work preferences and labour force participation and affect the types of goods and services purchased, and hence the sources of labour demand. From a property perspective, they exert a strong influence over the nature of the physical work environment, the types of facilities and amenities employees seek and the aggregate level of demand for office space within the marketplace.

Whilst a great many demographic factors affect the property resource, perhaps the most significant is the issue of the ageing of the population. Forecasters project a profound demographic shift over the next two decades within all developed western nations. In Australia, the proportion of the population over the age of 65 is expected to rise from its current level of 12% to approximately 16% in 15 years' time and 25% within 30 years (BIS Shrapnell, 2002). In parallel, over the next 15 years, more than 80% of the projected growth in the labour force will be in the 45+ age group (BIS Shrapnell, 2002). Though the ageing of the baby-boomer generation is the most frequently cited reason for this phenomenon, declining

immigration levels and falling birth rates also play a significant role. In particular, the long term pattern of decline in birth rates seen in almost all developed countries over the previous two decades has come to represent an increasingly significant contributor to ageing. This phenomenon is also noteworthy as it may indicate that a top-heavy age structure is becoming a permanent feature of western societies (BIS Shrapnell, 2002). The continual downward trend in birth rates will lead to a rapid slowing in the levels of working age population growth over the coming decades. Current projections for Australia suggesting that growth in the working age population will decline from a current figure of some 180,000 a year to 140,000 over the next decade, 60,000 over the following five years, and zero by the late 2020's (Jones, 2001, p. 24).

The impact of the ageing population problem will undoubtedly lead to fundamental shifts in the labour market and in labour relations. Further, it will increasingly limit the extent to which governments can continue to lift labour force participation. BIS Shrapnell (2002) also suggest that, as a consequence of population ageing, general labour shortages will noticeably intensify from the end of this decade. Similarly, economists expect the increasing labour shortage to push the unemployment rate down within all industrialised western nations over the coming decades (BIS Shrapnell, 2002). Whilst this is good news for job seekers, it does not bode well for the world's developed economies, as it represents a significant constraint on growth. With decelerating labour force growth, long-term employment growth moderation is inevitable (without significant increases in immigration – a strategy few countries currently appear to view favourably). In parallel, a similar pattern in long-term economic growth is likely to emerge over the coming decades. As a consequence of these two factors, mitigation in the level of growth seen in demand for office accommodation is inevitable over the coming decades¹.

The demographic transition ahead also places a number of new challenges before organisations. Clearly, current corporate attitudes towards older workers will become increasingly unsustainable. No longer will it be feasible for workers of 40 to be considered 'over the hill' or 'past their prime'. Further, in an increasingly tight labour market organisations will need to become much more innovative and flexible. The ageing population, and hence workforce, will create both the demand and need for phased retirement programs and more flexible working conditions for mature aged workers. It will also place greater pressure on employers to retain their skilled staff as it becomes increasingly difficult to recruit younger workers. Employers will need to create more flexible approaches to workplace arrangements not simply to encourage the participation of semi-retired and older workers, but also to attract and retain female employees with young children.

A wide range of additional initiatives that will impact upon, and have implications for, the office property resource may be introduced by organisations in anticipation of the upcoming demographic shift. For example, a number of more progressive organisations have already begun implementing systems designed to address the ageing workforce issue. Among these are programs that allow employees to manage their own ageing; the provision of elder care centres (IBM and American Express); office equipment and furniture redesigned to cope with gender differences, thus extending the time both men and women can work (Alcoa); and policies to encourage older workers to remain in employment by allowing them access to a range of flexible work arrangements (Thomson, 2002, p. 66).

¹ However, in the near term, the continued urbanisation of the world's population and the need for many workers to continue in at least part time employment (not having saved enough for their retirement) may act to offset some of this impact.

A further influential demographic shift is seen in the increasing proportion of women in employment. This trend has been accompanied by a slow but steady rise in the proportion of women attaining top-level positions. Sectorial change, and in particular the growth in service sector employment, has been one of a number of key factors underpinning this change. Women currently constitute nearly half of the U.S. labour force, and occupy a significant and growing proportion of entry and mid-level managerial positions. In 1972 women held 17% of all managerial positions; however, by 1995 this figure had risen significantly to 42.7% (U.S. Department of Labour, 1996, p. 21). A similar, though less pronounced pattern of growth is also evident in top-level management positions. In 1999 the U.S. Federal Glass Ceiling Commission released a report indicating that 7%-9% of senior managers at Fortune 1000 firms were women (Korn-Ferry and Catalyst, 1999, p. 7). This figure has increased significantly over the previous two decades, with the proportion of top level positions in Fortune 1000 companies held by women only 0.5% in 1979 and 2.9% in 1989 (Catalyst, 1996, p. 2). A similar pattern to that indicated in the above statistics has been seen in all developed western nations over the previous two decades.

As women become increasingly well represented in the workforce and assume a greater presence in upper level management positions (with more responsibility for decision making), they will undoubtedly exert a progressively more pronounced influence over the work environment. In parallel, this will have implications for the amount and type of office property demanded, the design, layout and organisation of the workspace, and the types of services and amenities required in the work environment. Clearly, in the coming years, in response to a tighter labour market and the growing imperative to attract and maintain skilled staff, more family friendly workplaces are almost certain to emerge. For example, it is likely that child care facilities will become a more common offering within the workplace. Similarly, these factors provide a strong force for growth in the use of flexible work practices, both in terms of greater flexibility in the hours worked, and the location from which work is performed. Furthermore, as greater proportions of women reach senior decision making positions within organisations their influence over both the tangible and intangible aspects of the work landscape will become ever more apparent. This will have wide ranging implications, the manifestations of which could include the emergence of more caring workplaces, more empathetic office design and a more appropriate balance between work and personal lives.

Modern Business Practices

It is commonly argued that a number of trends have combined in the late twentieth century to alter the nature of business activities (Lockwood, 1999). These include globalisation and the ensuing increase in exposure to competitive pressures which has driven the need for increased efficiency and flexibility within organisations; an ever increasing pace of change within the business environment; the widespread emergence of flatter organisational structures; innovation and convergence in information and communications technologies (ICT); reorganisation of the workplace and work activities e.g. the automation/outsourcing of process based work; increasing complexity and variety of work tasks; changing economic and demographic structures and trends; and the increasing relative importance of knowledge work², which underpins much of the move to team-based work. These forces have altered the way that business activity is conducted and the location of that activity. Changes in organisational behaviour are themselves, a response to, and a key driver of, change within the office property environment. They have implications for the manner in which work is organised, the nature of the tasks performed, the size of organisations and the types of skills

² Knowledge-based industries now make up more than 25% of the U.S. economy (Rifkin, 2001, p. 28).

required of workers - all of which ultimately influence the physical property resource itself. As such, these factors have enormous implications in relation to the type, amount and location of office space demanded and for the functioning of the office property market in general. For example, ICT developments will increasingly enhance locational flexibility, new working practices will continue to alter functional requirements in the workplace and downsizing, de-layering and teleworking will affect the aggregate level of office space demanded.

The key characteristics of the modern work environment were succinctly identified in a recent Australian study, in which the following features and values were identified:

Characteristics of the Modern Workplace

- * Equality: egalitarian not hierarchical
- * Open plan: everyone is part of the team
- * Feedback: regular, informal chats
- * Praise: so they know they are doing okay
- * Listen: to input
- * Teach: provide new skills and courses
- * Atmosphere: relaxed and sociable, where you can be yourself

Modern Views on Management, Work and the Workplace

New

Mentoring and support
Flexible
Open and strong communication
Personal
Lateral
Rotation of duties
Less hierarchy
Dynamic

Old

Little recognition
Not understanding
Removed, behind closed doors
Bureaucratic
Expects the impossible
Dominating
No personal contact
Stagnant

(Korn, 2000, p. 41-42).

Duffy suggests that these “*new values and characteristics – egalitarianism, transparency, stimulus, lateral thinking, creativity, accelerated responsiveness – each have an exact physical correlate in the language of design ... The challenge is to unlock the enormously persuasive and eloquent capacity of design to reinforce business performance by expressing business ideas for business purposes*” (2000, p. 373).

Clearly, there exists the potential for an ever increasing and intensifying range of forces for change to flow from the contemporary work environment. The future implications for office property will undoubtedly be both many and varied. The following highlights a number of key affects these driving forces for change may have on office property over the coming decades.

- In the context of modern business, office design will become increasingly strategic; in the future greater emphasis will be placed on integrating design with corporate strategy. Duffy contends that:
Strategic office design can reduce occupancy costs, but good design also achieves other corporate goals... Cost cutting is not everything, too sharp an emphasis on saving money by space use intensification has always been the curse of

conventional office planning and has always tended to run counter to innovation. More important is the use of design to add value to business by stimulating more effective ways of working. (Gleeson, 2001, p. 46)

- The historical predominance of supply-side values will progressively give way to demand-side values. Organisational matters will become much more relevant in, and central to, the design process over time. In the future, office buildings will be expected to do more than merely reflect organisational cultures. Increasingly they will be required to play a value-adding role in actively supporting the attainment of organisational goals and objectives. Further, in office design, a greater emphasis will be placed on the needs of the work and employees, as well as the structure and culture of the organisation. Property value will increasingly come to be determined more by function and less by form or location. The planning of real estate requirements will also likely come to be viewed as more integral to the wider business planning process.
- In the future, growing emphasis will be placed on the provision of office buildings that provide better environments for staff in response to a growing awareness of the relationship between the physical environment, employee well being and organisational performance. Studies have, for example, demonstrated that naturally ventilated buildings have up to 6% less absenteeism (Harley, 2001, p. 52). Similar productivity enhancements have also been associated with the use of natural light. Such features will undoubtedly be used to better advantage in the future as, in the face of mounting competitive pressures, organisations are increasingly focusing on all aspects of their operations in order to enhance performance.
- The future role of the office building will be to help establish social and knowledge networks. Traditional regimented designs, restricting the flow of ideas, will give way to environments which support and actively promote collaboration, social interaction, and rich communication (Rifkin, 2001, p. 28).
- Given the ever more dynamic nature of the operating environment in which organisations find themselves, users will demand ever-greater levels of adaptability and flexibility from their office property resources. Future office buildings will need to be planned and designed with greater foresight (i.e. with change firmly in mind). For example, more careful consideration will need to be accorded planning grids and the size of vertical risers to achieve greater flexibility and adaptability in internal layouts.
- Organisations will increasingly come to appreciate the importance of the qualitative aspects of the physical work environment, particularly as business activities become more knowledge-based in nature. With this shift organisations are faced with new challenges with respect to attracting and retaining skilled staff. Organisations are growing ever more aware that employee wages and conditions are not the only answer to attracting and retaining skilled workers (Korn, 2000). The focus will shift to the workplace, with greater emphasis placed on creating high quality physical work environments in an effort to both attract and retain skilled employees. Initiatives applied here may include design specifications that provide staff with greater personal control over their immediate work environment and allow them to personalise the space they occupy; the provision of a greater range of on-site services and facilities such as cafes, child care centres and gymnasiums; and design briefs that focus on delivering more comfortable, humane and less formal offices.

- The growth in knowledge based industries also introduces new design challenges in terms of the provision of environments that enable, and in fact encourage, staff to share their knowledge. Further, as workplace values continue to progressively shift from being territorial and hierarchical to more equal status and respect-oriented, from management directives to self-directed work, and from individual to team focused activities, new design imperatives are also introduced. In response to these changes, it is likely that office buildings will, in the future, feature larger uninterrupted floor plates (with the traditional central core replaced by a side core) and make growing use of open-plan layouts (Gleeson, 2001, p. 46). This style of workspace fits well with the structure, culture and activities of many modern organisations. For example, it provides highly efficient horizontal and vertical circulation paths, and allows a more lateral form of communication between workers (Gleeson, 2001, p. 46). However, this style can also introduce a different set of design challenges, particularly in regards issues of privacy and visual and aural distractions.
- Office design will increasingly reflect the new corporate culture in which casual interactions are not simply condoned but, rather, actively encouraged. Increasingly, office users will look to office space design to support and promote such behaviour. This may be achieved in a number of ways including the incorporation of more social spaces within office buildings
- Contemporary organisational structures have resulted in new ways of working, namely more interaction, collaboration, and individual autonomy, which in turn will increasingly be reflected in new patterns of space use, including more group spaces, more shared spaces, and increased intermittency in space use (Duffy, 1993, p. 6). In response to this latter point, organisations will likely adopt more non-territorial office accommodation solutions in the future in a bid to ensure that optimal space utilisation is achieved.
- Greater heterogeneity in all facets of the physical office environment i.e. location, design, interior layout, size, shape, etc., will likely emerge in the future. The growing diversity seen within the business environment and in particular, within the organisations operating in this environment, suggests a parallel increase in the diversity present within the office property market will emerge over time. The prevailing 'one size fits all' ethos, characterised by the prevalence of high-rise CBD located offices with open-plan workspaces for low and mid-ranked employees and cellular office for management, will slowly give way as more focus is placed on achieving a better fit between organisations and their property resources.
- More inspiring work environments will become the norm - in response to a growing realisation that such environments benefit organisations by promoting creativity, encouraging collaboration and communication, and boosting staff morale. Examples may include the use of more visual stimuli and colour in the workplace.
- The trend toward increased growth in teamwork based activities within organisations will create an ongoing need for both the provision of more group areas and different types of group spaces within office buildings, well beyond the simple inclusion of a number of conference rooms.

Information and Communication Technology

It is axiomatic to note the all-pervasive nature of technological change and the unprecedented pace at which it has advanced. The impacts of such innovation, on the way people work and live, on the forms of economic and social organisation seen within society, and, ultimately on the patterns and structures of spatial organisation, have been immense. Information and communication technology (ICT) has redefined relationships and altered the way people interact with the built environment. Perhaps nowhere is this affect more pronounced than within the modern work landscape. Here, ICT is creating a huge evolution in office design, affecting where, how, when, and what work is performed.

At a physical level, one of the major features of the modern office building has been the proliferation of technology, especially the Internet, email, and networked computer systems. The enormous infrastructure demands placed on buildings by such technologies have meant that offices designed even in the very recent past have not necessarily kept pace with the technology requirements of office users. For example, few existing office buildings had their air conditioning capacity designed around a personal computer on every desk. Loftness, Hartkopf & Mill suggest that the technological requirements for buildings designed to accommodate the needs of the modern office tenant include:

- broadband copper and fibre-optic connection to public communications carriers;
- extensive facilities for receipt of satellite and microwave information;
- generous riser space to allow tenants to install their own secure systems;
- provision, often under-floor, for tenants to install integrated modular cabling systems for voice and data; and
- wireless communication systems within tenancy spaces (1999, p. 72).

Clearly, meeting current ICT requirements, as well as the rising comfort and security requirements of office building occupants is likely to become increasingly central in office design. But more than this, users will demand greater foresight from designers. Office space will be required to provide higher levels of flexibility and adaptability than has traditionally been seen, enabling existing ICT systems to be reconfigured with ease in response to changing organisational requirements and new ICT to be readily accommodated within existing space. Such considerations will likely grow in importance over the short to medium term, particularly as increasing competitive pressures drive organisations to seek improved performance from all their corporate resources. However, it is possible that ICT related physical design specifications will become less onerous and assume a role of reducing importance over the longer term in response to new ICT developments. Advances in wireless technology may, for example, significantly reduce the infrastructure requirements currently necessary within office buildings. Further, whilst acknowledging the significant implications of ICT on office design, the need to balance this one factor against other considerations will likely become of greater importance to organisations in the future. Some commentators suggest ICT has assumed too dominant a role in guiding office design over recent years, to the detriment of office users, citing that offices have been designed around ‘computers’ rather than ‘people’ (Duffy, 1996, p. 12). A more appropriate balance, reflecting the importance of the human element in design, will likely become more widely adopted in the future, in line with the increased organisational focus on providing employees with quality work environments.

ICT has had, and will no doubt continue to have, a profound impact on the structure and nature of work. It represents a key determinative of, and force for, change in the spatial requirements of organisations. ICT has, for example, put the control of time much more in the hands of employees (Macken, 2001, p. 2). Organisations are increasingly focusing on the outputs/outcomes produced by their employees with ever reducing concern placed on where, how or when the work activities are performed. In parallel, ICT has enabled unprecedented mobility; increased the complexity of work activities; is continually altering the nature of the activities undertaken and the manner in which they are structured and organised; and underpins much of the growth in team-based work (Loftness et al., 1999, p. 70). Further, ICT is increasingly weakening the connection workers have traditionally had with their workplace, with the effect that, within knowledge industries, a much more flexible relationship often now exists between employees and their conventional work environments (Loftness et al., 1999, p. 70). These developments have significant implications for organisations with respect to overall space requirements and the manner in which they organise space and optimise its use. Already, for example, non-territorial open plan design options for individual employees (e.g. hotelling) are becoming more common place - a trend which looks set to continue into the future. Similarly, such ICT developments also provide a strong driving force for future growth in the use of flexible work arrangements³.

Further, in changing the nature of work structures and processes, ICT has altered the way in which work is conducted, with the effect of supporting and enabling the separation of functions within organisations. For example, the creation of call centres which may be geographically distant from head office locations. In doing so ICT has provided both the technical key allowing increased disaggregation within organisations and the vehicle by which unprecedented locational flexibility has been realised (this latter point will be considered in more detail in the following section). The implications for office property in the future are enormous. Perhaps foremost amongst these is the unrivalled range of choices organisations now face, which, undoubtedly will lead in the future to new levels of diversity within the commercial property market.

Whilst the significant role ICT will play in shaping the future of office property cannot be denied, it is easy to overstate both its relevance and impact. ICT is but one of a number of factors influencing this market and operates not as an isolated element but rather as part of a complex and dynamic network of interrelationships and interdependencies. Accordingly, identifying individual cause and effect relationships is near impossible. Many of the issues dealt with in this section may just a correctly have been considered under alternative headings. Likewise, much of the material presented here on the likely future impact of economic, demographic, environmental and socio-cultural factors on office property also implicitly or explicitly reflects an ICT dimension. Given the all pervasive nature of ICT few of these factors have themselves remained unaffected by ICT, and they in turn carry this influence through to the property market.

The Location Dimension

The industry mantra 'location, location, location' must be seen in a new light in ICT enabled economies. The strong growth in knowledge based industries, underpinned by ICT developments, has resulted in an ever declining need for organisations to remain within close proximity to customers, suppliers and, in many cases, even other sections within an organisation itself. Ginsberg (1999) suggests that technological innovations have now made it

³ Please refer to the following section on flexible work practices for further details.

possible to perform all but the 'personal interface' functions of organisations from anywhere in the world. Whilst this perhaps overstates the situation a little, the nature of the modern marketplace is such that location is becoming increasingly of less relevance, whilst new considerations, such as access to bandwidth, are assuming growing importance in location decisions. Of course, this does not mean that location is unimportant, but rather that its historical level of importance has declined and will likely continue to do so. A further important dimension to the location decisions faced by organisations lies in the increasing availability and viability of alternative location choices. The quasi-monopolistic position often held by central business district (CBD) locations has given way in many instances as new location options have become available to office space users. The choices facing organisations will increasingly move beyond the CBD-fringe, CBD-suburban scenario, with regional and rural location choices becoming more viable for some enterprises. The growing number of public and private sector organisations locating within 'university towns' is but one such example. However, even beyond this, organisations are increasingly faced with location decisions in which their available options include both intra and inter-country alternatives. Take for example, the recent growth seen in the offshore siting of call centre and help-desk type operations, particularly within sectors that have embraced the concept of decentralisation such as the banking, finance and insurance. Here, in the future, organisations will undoubtedly use the growing pool of options available to them as a means by which to respond more effectively to competitive pressures.

Lockwood (1999) notes that there is a discernible trend within the U.S. towards high technology using organisation locating their headquarters in low-rise, multiple-building, outer-suburban campuses. This trend is evident also in Australia, as seen in the growth of technology parks in the southern suburbs of Brisbane and medical research/bio-tech parks in Brisbane's northern suburbs. Such non-central location decisions may offer a number of advantages to organisations, particularly in providing greater flexibility and supporting a wider range of development types. They can, for example, make the provision of additional facilities and services such as child care centres, staff gymnasiums and car parking, more viable and cost effective. Similarly, non-central locations can provide the opportunity to site offices within close proximity to an organisations labour force. As such, non-central locations can, in some instances, provide a powerful tool by which to attract and retain skilled staff and enhance employee satisfaction and wellbeing, and hence employee productivity.

However, CBD locations still hold a great many advantages for certain types of operations. Winger (1997) suggests it is unlikely that we will see a withering away of cities over the coming decades. Although ICT makes this theoretically possible, there still exists a strong spatial relationship in which organisations and people doing similar things tend to cluster together in geographical space. The potential advantages of CBD locations identified by Porter (1995) include:

- Strategic Location – at the population, transport and communications centre level. Urban consolidation, a boom in inner-city apartments and continuation of a radial transport system with a CBD hub in most cities means that CBD businesses have easy access to the available labour pool.
- Local Market Demand – the post-war decline seen in a number of CBD populations is now being reversed. When combined with the increasing inner suburban population for whom the CBD represents a logical centre, demand for services is very likely to increase, particularly given the relative affluence of many inner city populations.
- Agglomeration of Competitive Clusters – as seen, for example, in the clustering of legal and financial firms within Sydney's CBD (Porter, 1995).

In addition, Lockwood (1999) suggests that the advantages extend to cover human resource issues in the following manner:

- Human Resources – a recent trend towards inner city living amongst managerial and professional people, as evidenced by demand for residential real estate, may well tip the locational decision balance for some organisations in favour of CBD locations. Further, there is now a realisation that location does matter in attracting and retaining qualified younger staff who may prefer access to city shopping, eating and entertainment over the facilities of a remote campus (Lockwood 1999).

Increasingly, decisions to locate in more central locations will see the issue of more efficient and effective space use rise in prominence. Such locations do not typically provide the same degree of flexibility as is associated with less central locations, particularly in terms of the types of development supported. As such, in the future organisations who select central locations will need to pay more careful attention to space planning and design in order to ensure that the activities of ICT use intensive, knowledge based and team oriented businesses are appropriately supported by the property resource. Part of this will likely involve the use of large, open, internal communicating stairways between two or three floors, as well as the usual lifts and fire stairs, to facilitate internal communications and the incorporation of small social centres on each floor to promote casual gatherings and internal communication (Lockwood 1999, p. 46).

Clearly, neither central nor non-central locations represent a panacea for the modern organisation. Each option involves tradeoffs and will offer a different mix of advantages and disadvantages to individual organisations. As such, the future dominance of one or other alternative is by no means guaranteed. What can be said with certainty is that location decisions will assume an increasingly strategic dimension in the coming decades. Organisations are faced with an ever growing array of viable location options, all of which accord varying levels of support to different types of office developments and different forms of organisational structures, cultures and activities. Those organisations which judiciously weigh the costs and benefits associated with the alternatives available to them, in order to optimise location decisions, will be provided with an effective means by which to respond to the ever increasing competitive pressures they face.

Flexible Work Practices

Whilst the technological revolution has enabled organisational functions to become much more flexible and global in location, the same revolution has also had a significant impact on the performance of office functions - a development Becker & Joroff (1995) suggest has produced a 'reinvented workplace'. One of the effects to have received the most attention has been the concept of telecommuting, whether from home or from a dedicated telework centre.

Statistics recently released by the Australian Bureau of Statistics indicate that some 11% of the paid workforce (980,300 people) now regularly work from home, a figure which reflects a pattern of slow and steady growth over the last decade (Ball, 2001, p. 55). However, only 3% of all employees solely or mainly work from home (Ball, 2001, p. 55). Whilst uptake varies slightly amongst developed nations, for example, in the U.S. the figure is a little higher, the above statistics are generally archetypical of the situation that exists in other western countries (Ball, 2001). The level of use does however fall well short of that forecast by many commentators during the 1990's.

Telework arrangements offer a number of potential advantages to organisations, with the most obvious relating to potential cost savings, particularly in the area of property expenses. In 1999, investment bank Merrill Lynch reported that each office desk vacated by a U.S. telecommuter was worth an annual saving of between \$5,000 and \$6,000 USD in real estate expenses alone (Way, 2000, p. 104). Whilst this indicates the considerable savings which such initiatives may deliver it is necessary also to consider that less than 1% of U.S. based home office users reported they did not have an office at their place of employment (Linneman, 1999, p. 6). The potential cost reductions are accordingly not as pronounced as they may at first appear. This said, teleworking practices, coupled with a number of other factors such as the growing mobility of the workforce, increasingly enable organisations to adopt non-territorial office provision strategies to accommodate individual workers (e.g. hot-desking, hotelling, etc.). Such strategies may not deliver radical cost savings, but in moderately reducing or stabilising space demands they offer a means by which noticeable improvements in the 'bottom-line' may be achieved, and in doing so, provide another mechanism by which organisations may respond to the intensifying competitive pressures they face.

Whilst organisations undoubtedly find the idea of reducing property costs attractive, recent research undertaken in the U.S. indicates that, for most organisations, these savings are only by-products and the real benefits lie elsewhere (Tepper, 1998). In a survey of 2000 IT professionals, the research found that progressive companies are increasingly using telework as a staff incentive in order to attract or retain skilled personnel. Given that some estimates suggest that as many as one third of all skilled jobs remain vacant, and that this is as true in Australia as in the U.S., the importance of such initiatives is self evident (Bennett, 2001, p. 3). It is frequently suggested that finding and retaining skilled staff is now the single biggest problem for most companies, particularly for those in knowledge-based industries (Sims et al., 1996; Tepper, 1998; Green et al, 2000). In parallel, it is these industries that are most suited to the use of telework practices. Given the widening set of criteria applied by modern workers in selecting their employers, and the fact that skilled workers view the opportunity to telework for all or part of the work week as a major draw card (Way, 2000, p. 105), the use of teleworking within modern organisations will undoubtedly continue to increase over the coming decades. Its use is also likely to become increasingly feasible as new, improved and more cost effective ICT developments enter the market. Accordingly, the influence of teleworking on office property in the future will likely grow, particular as it relates to aggregate levels of demand⁴ and office design and layout (e.g. the increasing provision of non-territorial individual workspace).

Further, telework may be variously classified to include not simply home based work but also work conducted in satellite or neighbourhood work centres and flexible work hours and/or arrangements. Whilst the latter forms may not provide the same degree of cost saving potential as offered by home-based work, they all provide the opportunity for enhanced productivity to be achieved by allowing workers the flexibility, within defined boundaries, to choose when and how they work and provide additional weapons in the battle to attract and retain skilled workers. These telework variants also have implications for the type, location, quantity and layout of office property users will demand in the future. In particular, they will require an

⁴ It is however easy to overplay the potential impact of concepts such as teleworking and hotelling on the future demand for office space. Clearly, such concepts are unsuitable for certain types of work, do not fit well with all organisational cultures, and can run counter to the human need for social interaction. Further, even significant growth in the use of teleworking is likely to produce only negligible change in aggregate levels of demand for office space. For example, research suggests that if the number of U.S. teleworkers were to triple over the next decade this would elicit, at best, a reduction in demand of less than 0.5% of the U.S. office stock (Linneman, 1999, p. 3).

improved focus by organisations on space planning to ensure that optimal space utilisation is achieved, and will underpin growth in the use of non-territorial workspace designs for individual workers.

Conclusions

Clearly, from the preceding discussion it is evident that the face of commercial office property is changing to reflect the new requirements of organisations as they respond to the contemporary environment in which they operate. Office property does not exist in a vacuum. Changing patterns of business organisation and working practices must be reflected in parallel shifts in the nature of, and demand for, business space.

More specifically, these forces for change, and their potential implications for office property have been highlighted as including:

- The office property markets of the world may be exposed to less pronounced property cycles in the future. As such, increased stability, in terms of both demand and rental levels, should be achieved and the volatility introduced by cyclical over-development should abate. Further, the new economy may also enhance demand-side stability.
- The continued trend in service industry growth, and in parallel, white collar employment, looks set to underpin future office space demand into the short to medium term.
- The demographic transition ahead will place a number of new challenges before organisation, key amongst these being the need for organisations to become much more innovative and flexible in order attract and retain skilled workers within an increasingly tight labour market.
- In response to decelerating labour force growth, long-term employment growth moderation is inevitable. As a corollary, a similar pattern in long-term economic growth is likely to emerge over the coming decades. These two factors will serve to mitigate the level of growth seen in demand for office accommodation over the coming decades.
- In the context of modern business, office design will become increasingly strategic; in the future greater emphasis will be placed on integrating design with corporate strategy.
- The historical predominance of supply-side values in the office market will increasingly give way to demand-side values. Organisational matters will become much more relevant in design; office buildings will be increasingly expected to fulfil a value-adding role; property value will be determined more by function and less by form or location; the planning of property requirements will come to be viewed as more integral to the wider business planning process; users will demand ever higher levels of adaptability and flexibility from their office property resources; and greater emphasis will be placed on creating high quality physical work environments in order to attract and retain skilled staff.
- In the future, growing emphasis will be placed on the provision of office buildings that provide better environments for staff in response to a growing awareness of the relationship between the physical environment, employee well-being and organisational performance.

- Office space will be required to provide higher levels of flexibility and adaptability than has traditionally been seen, enabling existing ICT systems to be reconfigured with ease in response to changing organisational requirements and new ICT to be readily accommodated within existing space.
- Increasing locational flexibility will characterise the office property market of the future.
- Flexible work practices will be more frequently used by organisations in the future. These will have implications for the type, location, quantity, organisation and layout of office property users demand. In particular, they will require an improved focus by organisations on space planning to ensure that optimal space utilisation is achieved, and will underpin growth in the use of non-territorial workspace designs for individual workers.

Having identified these key drivers for change and discussed their potential to impact upon the familiar face of the office property resource, it is apparent that there exists an opportunity to focus more specifically on their incidence in particular office market sectors and locations. At the present time exploratory research in this field is being undertaken by the Cooperative Research Centre for Construction Innovation⁵ with particular attention being accorded the issue of functional performance in commercial office property. There exists the potential to extend this research, on a geographic basis, beyond its current focus on the South East Queensland market and the authors would welcome the opportunity to discuss this idea with interested parties.

⁵ Please visit <http://www.construction-innovation.info> for further information.

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