

Public #3

# Work Life

Edited by James Calder



**WOODS  
BAGOT™**

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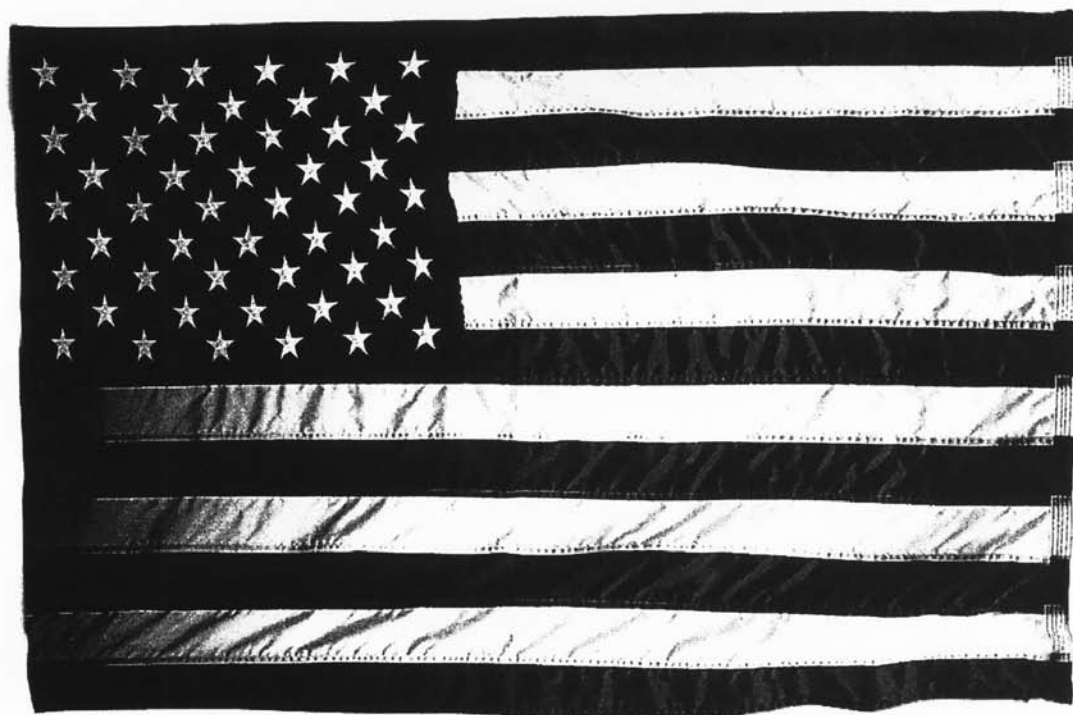
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# The high performance workplace

Earle Arney  
Colin McPherson

ASK NOT WHAT YOUR COUNTRY CAN DO FOR YOU,  
ASK WHAT YOU CAN DO FOR YOUR COUNTRY



**US**

CHANGE

AS THE PROPORTION OF GENERATION Y WORKERS INCREASES, SO DOES THEIR INFLUENCE AND THESE ARE PEOPLE WHO WILL NOT ACCEPT WHAT HAS GONE BEFORE. THEY ARE THE IMMEDIATE FUTURE OF OUR COMPANIES, BUT COME "FOREARMED" WITH KNOWLEDGE OF RECENT CHANGES AND GREATER EXPECTATIONS OF WHAT THE ORGANISATION MUST DO TO WIN THEIR EFFORTS ... IF NOT THEIR LOYALTY.



**ME**

## Change is good.

**The physical workplace must respond to the myriad forces of change – environmental, societal, commercial, technological, organisational and individual. Recognition of the environment as a finite resource, the impact of slowing birth rates in industrialised nations, constantly evolving business landscapes, the transcendence of digital technologies over the ‘tyranny of distance’ and evolving organisational structures and practices, make a high performance workplace a necessity.**

**It is paradoxical, in a world where individuals and organisations are increasingly availing themselves of technologies which enable work ‘anywhere, anytime’, that the physical workplace’s ability to affect productivity is being enhanced rather than diminished. The high performance workplace is a tangible, omnipresent representation of the values, purpose and culture of an organisation, and as such, cannot be created in just any space or location – it needs high performance architecture.**

**Enlightened organisations around the globe appreciate the value and importance of the physical work environment and the effect it has on their financial performance and culture. Moreover, sustainable companies are ones who explicitly recognise and invest in the value of human capital and that their people’s expectations of work and careers have changed.**

Much has been written recently about the shifting influences of the Builder, Boomer, Gen X, Y and Z generations. As the proportion of Generation Y workers in the overall workforce increases, so does their influence. Gen Y currently make up over 20% of workers in Australia – and similar proportions in other industrialised countries – and by the year 2016 will represent a third of its workforce (Figure 1).

These are people who will not accept what has gone before. They are the immediate future of our companies, but come ‘forearmed’ with knowledge of recent changes and greater expectations of what the organisation must do to win their efforts and loyalty.

It is also predicted that by the year 2016, there will be a 20% increase in the numbers of older workers – those aged 55 and over. This is just as important a shift to organisations as the characteristics of each new generation of worker (Figure 2).

Figure 1: Projected changes by age group between 2006 and 2016 (ABS Labour Force Projections, Australia 1990 – 2016 (6260.0)).

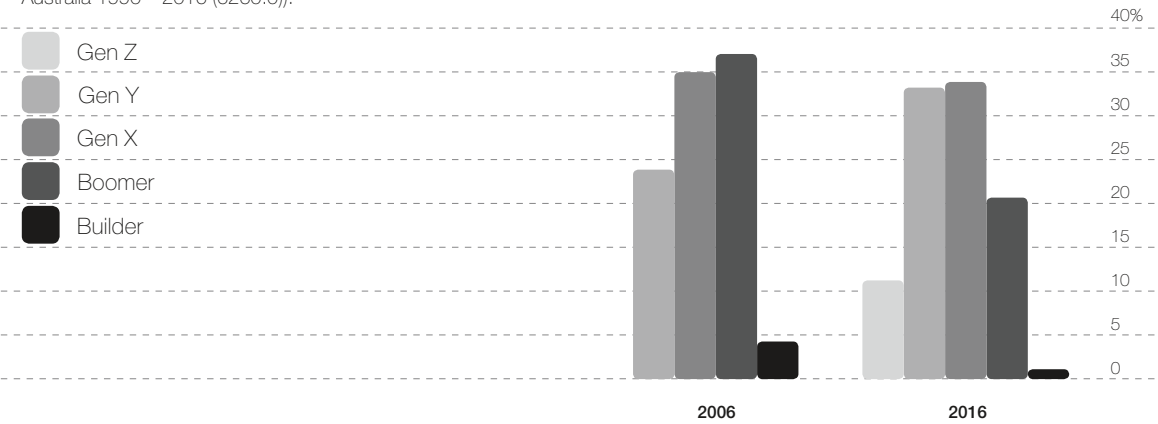
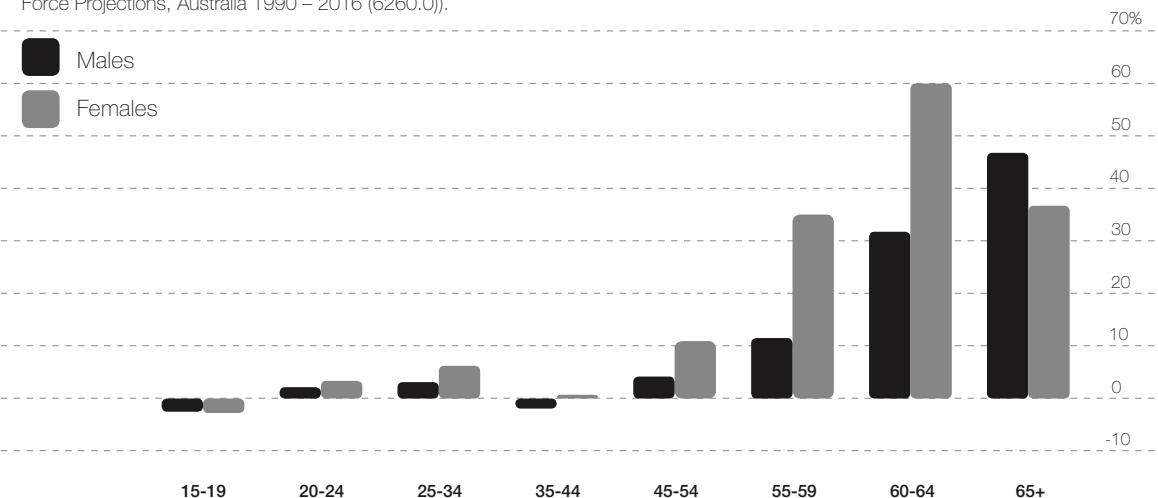


Figure 2: Proportions of generations and predicted change 2006–2016 typical for industrialised nations (ABS Labour Force Projections, Australia 1990 – 2016 (6260.0)).



The shifts in the demographics of the workforce bring with them a change in values and focus. A major zone of influence for the new workforce is the environment. Corporations are increasingly aware of the impact their environmental practices have on image and brand. Indeed, it is understood that environmental practices can have dramatic implications for all corporate stakeholders; from shareholders and customers to business partners and employees. These effects are increasingly reflected in financial performance and shareholder value.

For example, companies that have a carbon neutral footprint are increasingly becoming the employer of choice for the new workforce and financial markets will soon discriminate in a similar manner. The design of the workplace is a major contributor to environmental performance of industry and will become an increasingly important instrument for government and private business.

This paper argues the need for a high performance workplace and suggests a new method of measurement of buildings and their space provision to replace the industry standards currently employed by property professionals. These measurement tools will aid corporations and their designers to more accurately assess potential office environments and to craft new spaces that are aligned to contemporary business.

### Do we need a high performance workplace?

From any perspective, the need for a high performance workplace is compelling – creativity, innovation and productivity are supplanting efficiency as primary drivers of change as organisations seek a sustainable competitive advantage.

One of the key elements identified by management guru, the late Peter Drucker, in considering the future of the corporation, was the implication of the rise of knowledge work as a key means of production – “which is owned by knowledge workers and is highly portable.” Drucker stated that “management of knowledge workers [should] be based on the assumption that the corporation needs them more than they need the corporation. They know they can leave. They have mobility and self-confidence.”

This shift in the traditional relationship between employees and employers is compounded by a range of societal changes across industrialised nations. The rapid rise in workforce participation by women has resulted in an increase in households where both (or all) adults undertake paid work, which in turn has brought another new term into existence – ‘work/life balance’. Time-poor knowledge workers, faced with explicit and implicit corporate messages to ‘do more with less’, are at least in a position to demand better workplace environments.

Other societal changes influencing the workplace include declining birth rates and associated aging populations; greater workforce diversity in terms of age, sex, race and life circumstance and higher levels of education for the general populace. All these rapidly changing characteristics have a significant impact on organisations and the factors that create an effective workplace.

In addition to societal adjustments, the rapid organisational changes over recent decades, which made words like ‘downsizing’ and ‘redundancy’ a part of everyday language, has effectively brought the concept of a ‘job for life’ to an end. This is reflected in an attitudinal shift by workers to now assume responsibility for managing their careers.

The cost to business of voluntary employee turnover is a significant factor and is estimated by various sources to equate to anywhere from 50% to 150% of annual salary for knowledge workers. When assessing these costs, direct costs for recruitment need to be added to indirect costs (e.g. lost productivity associated with the period a role is vacant) and beyond (loss of corporate knowledge), delays to business activities, induction, training and development requirements, as well as uncosted staff contributions to recruitment processes.

One way to reduce the cost of voluntary employee turnover and to make an organisation more attractive to time-poor knowledge workers is to ‘walk the talk’. This typically means translating corporate values and cultures such as agility, diversity, transparency, customer focus, empowerment or trust, into action. The workplace provides a powerful visual and physical medium to convey these messages not only to all employees but also to visitors and the public. Indeed, a high performance workplace can be described as a building or space that is designed to facilitate the diverse and dynamic range of contemporary work practices and motivate individual productivity through its representation of values, purpose and culture. Such places are an important component of any sustainable business model.

The simple economics are that people are around ten times as expensive as space is for most organisations. It makes business sense to provide high performance space.

### So, what is a high performance workplace?

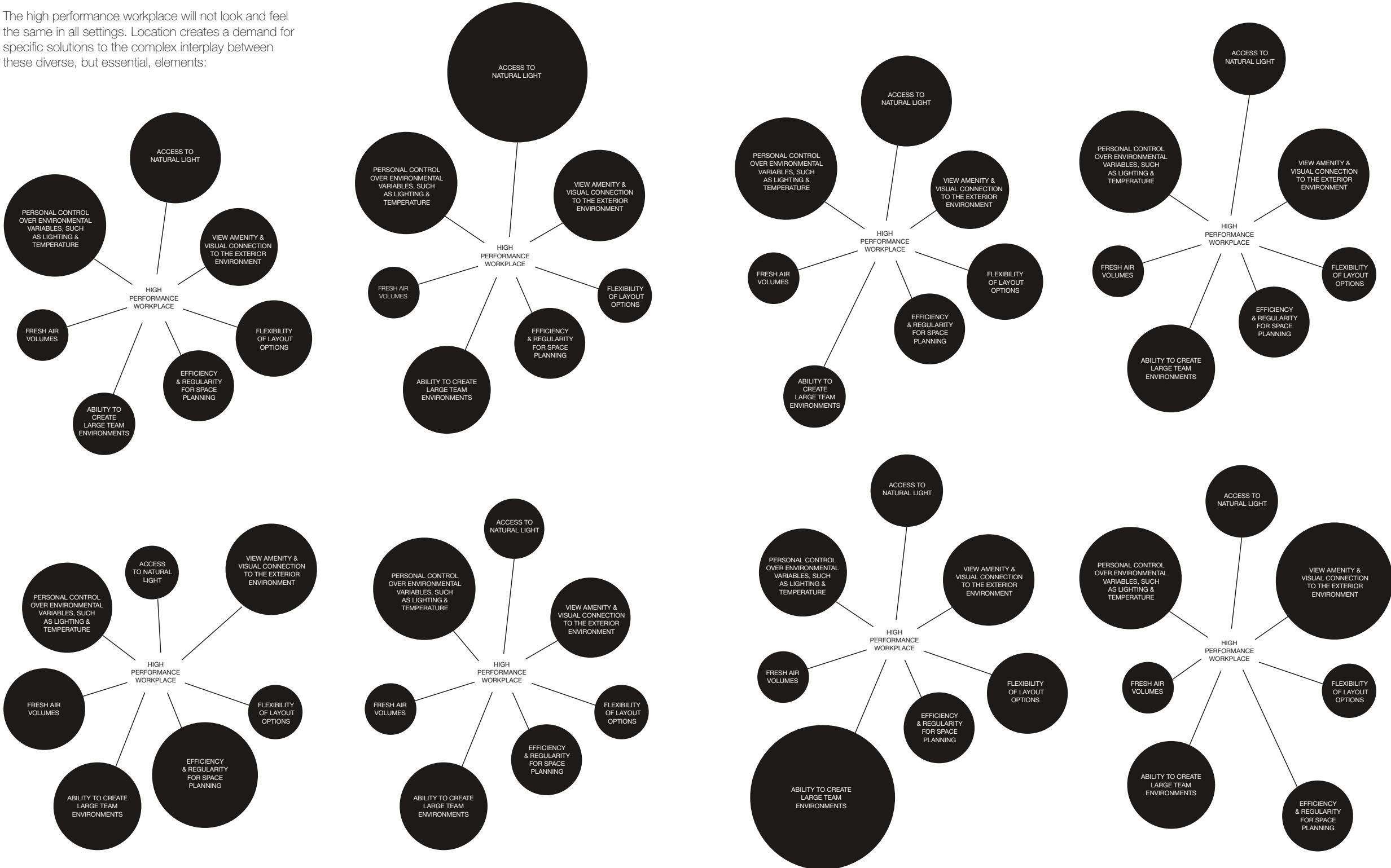
The workplace has long been recognised as creating a physical representation of the organisation. This is most obvious through the development of hierarchical space and furniture as well as fittings and equipment entitlements corresponding to the hierarchical structure and management practices of the business. In the not-too-distant past, the qualities and structure of an organisation where also physically demonstrated by the rigour with which desks were positioned to enable a manager to easily watch over ‘his’ employees. Indeed, in 1905, the much-referenced work environment in Frank Lloyd Wright’s Larkin Administration Building is organised with machine-like efficiency.

Fast forward a century and organisations have supplanted the analogy of the machine with flexible work practices which employ machines, such as the laptop, PDA and, most recently, the iPod, as tools. However, what is often overlooked in contemporary assessments of the physical workplace is just what makes an efficient environment for the collaborative, demographically diverse, technology-mediated information and knowledge-based business.

The high performance workplace is not generic to multiple organisations or uniform within individual workplaces. Furthermore, high performance workplaces are not based simply on efficiency of space utilisation and occupancy costs. To be truly high performance, the workplace must optimise the efficiency of human, organisational and environmental outcomes. If we accept that individual and collective productivity dictates organisational performance, we need to consider performance of individuals in the context of the health and wellbeing, comfort, motivation, satisfaction and engagement of the workplace.

It is important to note that the high performance workplace need not be more expensive – just more thoughtful and creatively designed.

The high performance workplace will not look and feel the same in all settings. Location creates a demand for specific solutions to the complex interplay between these diverse, but essential, elements:



**hierarchy  
structure  
command  
control  
=  
real estate**

**human  
sustainable  
health  
wellbeing  
comfort  
motivation  
freedom  
organisation  
=  
high performance  
workplace**

## How do we currently measure buildings and space?

The way we currently measure the workplace is misguided.

The property industry's current measures of what characterises a good workplace do not account for the complex interrelationships associated with variances in building design characteristics required by differing locations and occupant needs and expectations. Most often a simple set of criteria, based on results for a specific region and building typology, is applied uniformly regardless of variances in location, climate, orientation, siting, facade design, ceiling height or internal layout.

When assessing a workplace without regard to broader influencing factors, the following criteria have tended to dominate despite being increasingly unreliable in assessing the quality of the space:

- efficiency – typically a measure of the efficiency of a building expressed in terms of the ratio of gross to net lettable area of occupiable to net lettable area.
- effectiveness – typically a measure focused on the proportion of floor space located within established distances from perimeter windows, often applied globally without variance.
- density – typically a measure of the efficiency of the office and desk layouts, expressed in terms of the average area occupied per work position.
- cost per sqm – both in terms of rent and fit out.

While these metrics allow easy comparison of results within the property industry and building marketing material, they offer no insight into any workplace's real credentials to deliver a high performance environment.

## A new method of measurement

One size does not fit all.

Organisations come in all shapes and sizes and operate in diverse geographies but share a common objective of seeking to optimise the benefits available from the individual and collective abilities of their human resources. Accordingly, new measurements for workplace performance must be developed which enable evaluation of the potential of individual designs to create a high performance workplace.



## Depth of space

One of the most complex components in floorplate design is the depth of space, where the designer must balance site constraints, environmental conditions and daylight to create regular space with commercial utility. The variables to be considered include the:

- region or city that the building is located in, which dictates its daylight conditions.
- skin of the building, which filters light into the space and creates view characteristics.
- height of the space, which dictates depth of daylight penetration.
- depth of the space, which dictates the proportion of day lit space.
- view expectations of those occupying the workplace.

The objective of this depth of space measure is, first, to identify floorplate dimensions based on daylight and climate for a given locality. This is necessary to design spaces which deliver the optimum internal daylight characteristics for human physiological and psychological needs as these affect task performance and productivity.

Second, but equally important, is the integration of the internal daylight into structural, facade and floorplate designs to improve environmental performance through reduced reliance on artificial lighting.

Both these factors have been shown by research to have implications for human behaviour and performance and are also directly related to the same design elements as those affecting internal daylight characteristics.

Any measure focused on depth of space must also give consideration to the impact of aspect, or the view characteristics of the floorplate. However, further research is required to develop definitive 'depth of space' measures for view expectation, which may then be employed in parallel with daylight measures.

The key difference between this measure for depth of space and previous measures is how it links the performance evaluation to the location and accommodates key building design variables.

## Effectiveness

The second measure required to assess high performance workplaces is the 'effectiveness' of the floorplate, that is, its ability to accommodate large individual or co-located teams. This reflects the importance of team-based work practices to the achievement of organisational imperatives. The dramatic rate of increase in stored information, which has occurred in parallel with the rise of knowledge work over the past 30 years, is a key driver affecting the effectiveness of the workplace. It is no longer expected that any one person can have the knowledge required to develop or deliver all new processes, products or services an organisation may need, so team work is becoming increasingly important as is the ability to readily access soft information.

Similarly, changing business cycles have resulted in an increased use of project teams, rather than 'business as usual' processes. Collaboration and interaction, within and between individual teams of all types, are now key requirements for knowledge sharing and enabling creativity and innovation.

To support organisational effectiveness, the spatial design of buildings must be inherently flexible. This objective is achieved by spaces that minimise or eliminate design elements that limit its potential to accommodate differing or changing business needs. Optimum floorplate flexibility is provided by a single, continuous space, without any inherent limitation on visual or physical connection. A notable feature of this measure is the ability to undertake critical comparison of the implications of the position of the 'core' within the floorplate.

## Efficiency

No methodology for the measurement of workplace performance can omit a specific focus on 'efficiency'. Spaces for high performance workplace environments must be designed to enable efficient circulation within the space and the efficient planning of the space. The efficiency of circulation is often reflected in the regularity of the space, as irregular space typically results in inefficient circulation routes. Planning efficiency assesses the alignment of structural and planning grids to floorplate regularity to evaluate the overall impact on the efficiency and utilisation of the space.

## Subdivisibility

The final measure, 'subdivisibility', is important for landlords and tenants alike as it indicates the potential for a floorplate to suitably accommodate a range of separate occupants and the options in terms of size, position and access. 'Subdivisibility' is, therefore, another distinct measure of the spatial flexibility of a floorplate.

**Bank of New Zealand Headquarters:  
A case study**

Architects: Woods Bagot, Developer: Multiplex

This new method of measurement was adopted to inform the design process for a new office tower in the central business district of Auckland. This project provides differing floorplate and core configurations in a podium and tower development — the large podium floors have a central core and the smaller tower floors have a side core.

The podium floors of this development are to be the national headquarters of the Bank of New Zealand. The bank is currently located in a tower of much smaller floors and their relocation to this building is integral to ensuring that their workplace is an enabler of business and cultural change.

This building provides an ideal case study as it enables the new method of measurement to be tested against a building with large podium floor plates suitable for a single key tenant and smaller tower floors, more appropriate to the Auckland speculative commercial office market, which is characterised by tenants typically between 300–500sqm NLA.

Given the different spatial requirements of podium and tower, it was not appropriate to design a floorplate that was the same for each type of user. However, to ensure constructional efficiencies, all structural elements of the tower side core needed to 'go to ground' without the use of transfer structures. This was achieved by coordinating the structural and workplace design so that the discontinuous elements of the core between podium and tower were of light weight construction. By utilising the new methods of measurement, we were able to integrate the base building design with the design of the workplace to create a high performance work environment.

Key results from the use of the new measures were:

- assessment of various high rise core configurations of 1000sqm NLA, including central, offset and side core options for the high rise tower, resulted in the adoption of a side core option which provided a notably higher effectiveness rating.
- daylight characteristics of tower floors optimised through adoption of 2900mm ceiling heights in combination with lower visible light transmission glazing and adjustable internal blinds and louvres to address potential for glare and over-lighting issues.
- depth of space of final tower floorplate design all within 15m maximum, with a high proportion within 8m of external windows.

- final tower floorplate design rated highly efficient and with good flexibility for subdivision.
- assessment of various podium core configurations of 2000sqm NLA resulted in a central core configuration to provide an optimum effectiveness and depth of space rating for the Bank of New Zealand.
- constraints on floor to floor height of podium levels, associated with adjoining heritage building resulted in the use of chamfered edge beams around perimeter and higher visible light transmission glazing to enhance daylight characteristics of 2000sqm NLA floorplates.

**Summary**

The game has changed. A high performance work environment is imperative to not only attract and retain the best and brightest, to deliver targeted cultural values but also to ensure financial and environmental sustainability. Those companies not providing such environments will be seriously challenged in the near future and it will be expensive to react. Similarly, developers and owners of office buildings will need to respond to these changing tenant demands.



BNZ diagrams illustrate each of the assessment measures for the tower and podium levels. Percentages are of total NLA.

**EFFICIENCY**

Primary Circulation  
Podium = 14%  
Tower = 10%

**EFFECTIVENESS**

Largest Continuous Zone  
Podium = 42%  
Tower = 57%

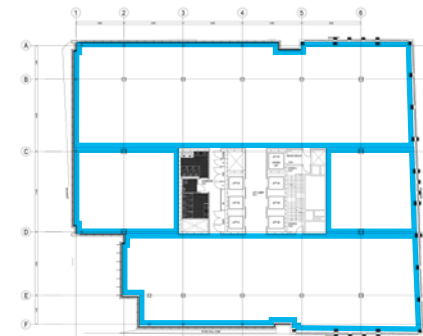
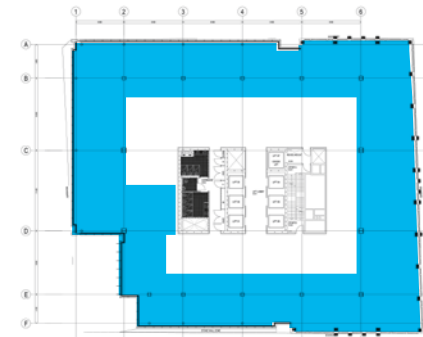
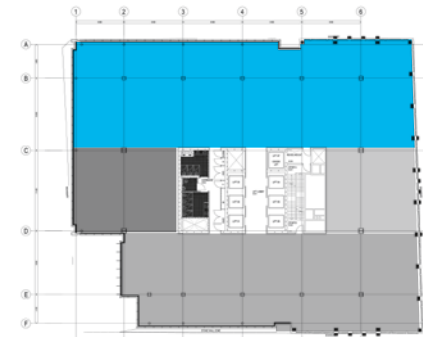
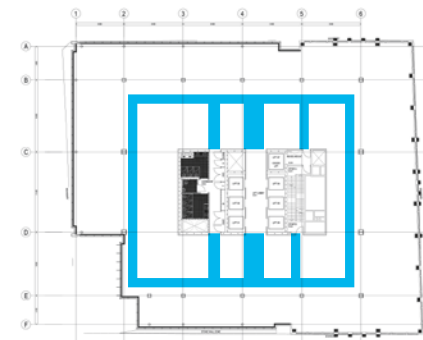
**DEPTH OF SPACE**

8m from the façade  
Podium = 72%  
Tower = 73%

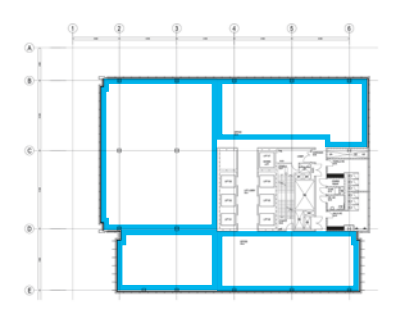
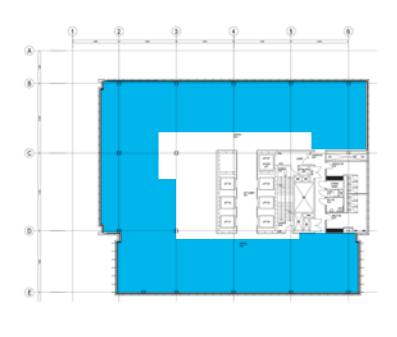
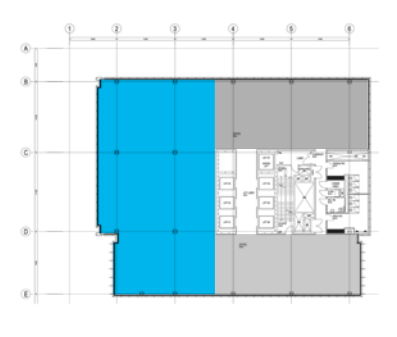
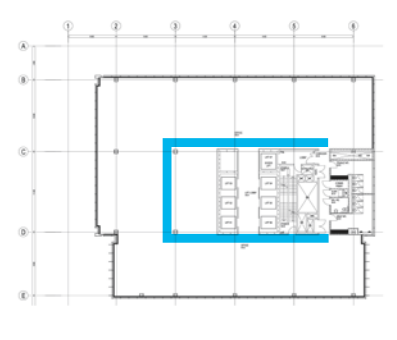
**SUBDIVISABILITY**

Indicative tenancies

**PODIUM LEVELS**



**TOWER LEVELS**



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