CHALLENGES OF DESIGNING ACTIVITY BASED WORKING SPACES

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ABSTRACT

Activity Based Working (ABW) spaces, which provide different workstations to accommodate various activities that employees undertake rather than having a rigid allocation of spaces, is a common flexible office layout arrangement in modern office buildings. This paper examines the issues and challenges faced by office design firms and workplace strategists when designing ABW settings. Office space designers and workplace strategy specialists from eight large, internationally renowned design firms which involved in the design of ABW settings were interviewed. The findings identified that they faced several issues in the design process as there was no "one size fits all" workplace solution as individual organisation's business strategies, corporate cultures and work practices varied. The findings also identified several client-specific, business-specific, occupier-specific, process-specific, building-specific and building service-specific main challenges that are faced when determining the optimal ABW settings. The study revealed that the critical achievement of workspace design is to integrate organisations' different business strategies, work practices, organisational cultures, values and behaviours of occupiers and users to meet organisations' ultimate goals.

Keywords: Flexible office spaces, Office layouts, Activity Based Working, Office space design, Challenges in space designing

INTRODUCTION

The workplace had usually been viewed as a cost centre rather than a driver of performance, with an emphasis more often placed on factors such as increasing worker density and reducing total space requirements (van der Voordt, 2004; Bodin Danielsson et al., 2015; Kim and de Dear, 2013). However, traditional offices have been reviewed by many organisations and found to no longer serve modern organisations' requirements (Harris, 2021). Working in such compartmentalised environments may make it more difficult to connect with colleagues and the wider organisational culture – especially for those who started, or switched, jobs during COVID-19.

With the introduction of the internet and the rapid development in ICT technologies, the ability to work remotely has increased substantially in the last two decades. As a result, work practices such as agile working have become more common (Peters et al., 2014). The growth in flexible work practices and increasing corporate real estate costs mean that organisations are increasingly introducing flexible, non-territorial layouts. Activity Based Working (ABW) spaces, which provide spaces for various activities that employees perform, rather than rigidly allocating space according to hierarchy, have become one of the popular non-territorial office layouts. In ABW settings, different types of workstations, room and area are designed to support a specific kind of activity. For example, there are dedicated places for collaboration, concentration, communication, creativity, confidentiality, and contemplation.

Changing to a new physical office layout is a delicate process which involves different stakeholders (Tagliaro and Ciaramella, 2016). The aim of office designs and redesigns is to find the optimal correspondence between organisational goals and values, activities, management style and the layout of a building (Jensen et al., 2014; Appel-Meulenbroek et al., 2011). Therefore, firms specialising in office designs need to evaluate the goals, values, activities, and management styles of organisations before identifying the most appropriate office layouts.

This paper examines the issues and challenges faced by office design firms and workplace strategists when converting traditional spaces into ABW settings. The objectives of the paper are to:
  i.   to examine the factors considered when converting traditional offices into ABW settings.
  ii.   to discuss the possible issues faced in the design/redesign process.

As part of a wider project, the research was conducted in Melbourne and Sydney in late 2019, just before the COVID pandemic began to affect property markets.

LITERATURE REVIEW

Many organisations often redesign their workplaces with the intention of creating a dynamic alignment between organisational goals and the spatial environment (Harmon-Vaughan, 1995; Hassanain, 2006; Arge, 2005). However, such changes should be carefully planned to minimise any negative impacts of them on employees and the image of the organisation (Joroff et al., 2003). It is emphasised that flexible workplace practices may lead to success only when organisational members, through experimentation and continuous improvement activities, challenge existing assumptions (Erlich and Bichard , 2008; Joy and Haynes, 2011).

Transition to new office layouts would drastically change the 'socio-spatial contract' between employer and employee (Bell and Anderson, 1999). Many employees may not be willing to give up access to their own desks instantly and may not automatically perceive the benefits of such changes (Binyaseen, 2010; Brunia and Hartjes-Gosselink, 2009). Therefore, the literature highlights the importance of making a great effort into getting employees involved during the move to more flexible workplaces and not forcing too many changes at once. It was recommended to implement programmes with employees to help ease the transition. The idea of 'rehearsing change' through user participation, training and coaching during the implementation of layout changes has been recommended (Appel-Meulenbroek et al., 2011; Joroff et al., 2003).

Workplace strategists and design firms play a major role when an organisation decided to redesign their layouts. Integrated workplace strategy to understand exactly what client requirements are, the aim of the changes, and how the changes would contribute their aims are important for successful completion of projects (Barber et al., 2005; Bradley and Woodling, 2000; Duffy, 2000).

Before implementing such changes, conducting experimentation with pilot activities has been found to be extremely useful (Lizieri, 2003). Such pilot projects may provide valuable insights for implementation, thus limit risks and help in avoiding pitfalls associated with changes (Schriefer, 2005; Earle, 2003). Even though it is impossible to address everyone's requirements, well-thought-out layout changes could be appropriately aligned with individual and organisational aspects as much as possible (Oseland, 2009; Niemi and Lindholm, 2010).

However, it is posited that organisations often feel the need to control the spatial environment to standardise and increase their operational control (Joroff et al., 2003; Stocks, 1998; Szarejko and Trocka-Leszczynska, 2007). Managers of organisations that utilise flexible workplaces must relinquish control over employees with regards to time, and space, and further learn how to supervise them using new ways of management (Voordt, 2004; Markland, 1998; McGregor, 2000). The

changes in office layouts could have significant implications on existing cultures and habits, employee satisfaction, managerial relationships with employees, and the overall success of the organisation (Morgan and Anthony, 2008; Rothe et al., 2011). Therefore, to avoid unintended outcomes, Värlander (2012) emphasised the importance of being aware of the possible impacts the spatial changes could have on work practices, social relations and the organisational values.

RESEARCH DESIGN/METHODOLOGY

The qualitative research approach was selected due to the explorative nature of the research (Silverman, 2013). Qualitative data is contextual, as the analysis involves developing insights based on a deep understanding of a particular context (Creswell, 2009), which is the objective of this research. Semi-structured, in-depth interviews with eight internationally renowned, award-winning workplace strategists and design firms in Australia were undertaken. All interviewees held senior managerial level positions within their respective organisations and had extensive experience with the design of ABW layouts. Their details are shown in Table 1 below.

Table 1: Profiles of interviewees

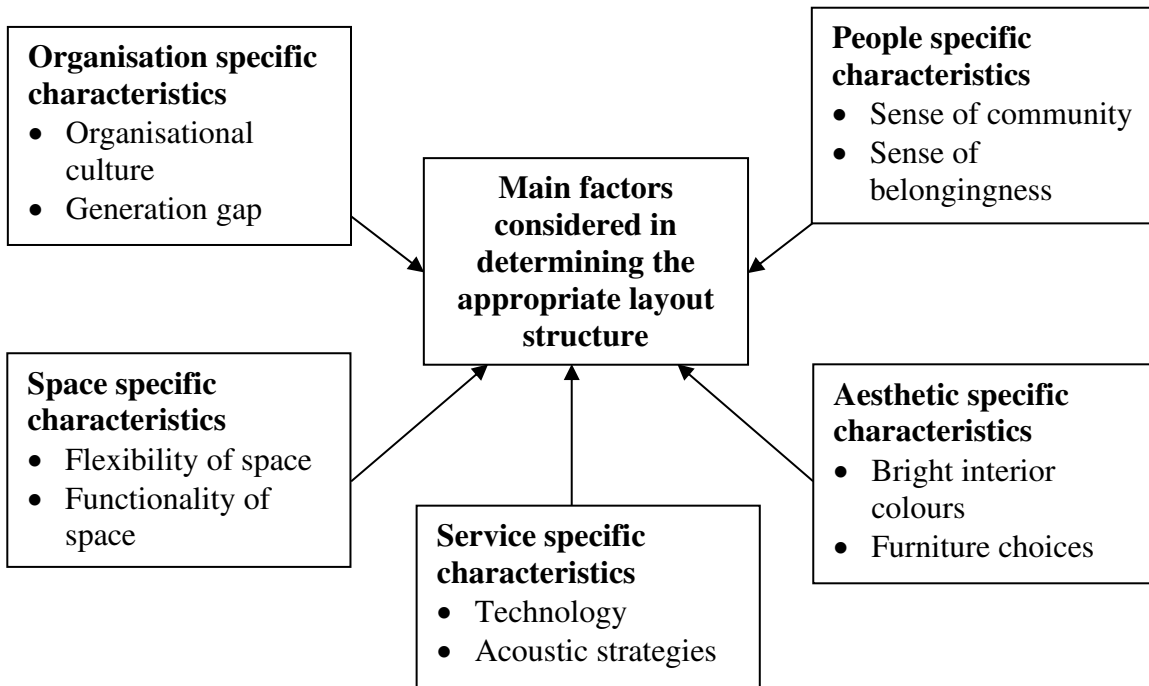| Interviewee	Scale		Position	Experience
Interviewee 1	International		National Director - Australia & New Zealand	15 years
Interviewee 2	International		Director- Workplace strategy & change	7 years
Interviewee 3	International		Senior Consultant - Workplace & change strategy	9 years
Interviewee 4	National		Workplace researcher, design consultant and strategist	16 years
Interviewee 5	National		Director – Projects (Interiors)	18 years
Interviewee 6	International		Head of Design – Interior design	21 years
Interviewee 7	International		Design consultant and strategist	18 years
Interviewee 8	National		Pioneer of business culture transformation & contemporary Australian workplace design	19 years

(Source: Authors)

Eight interviews were deemed to be sufficient when it became apparent that no further themes and concepts were evident (Birks and Mills, 2015). Topics covered in the interviews included: the basis of determining the most appropriate layouts for organisations, the process of office layout changes, and issues associated with converting spaces into ABW. The findings were analysed using thematic analysis, which aimed to identify patterns or themes within the qualitative data (Creswell, 2009).

RESULTS AND DISCUSSION

Main factors considered when determining appropriate ABW settings

All interviewees emphasised that they '*analyse every project case by case and identify unique ABW settings that cater individual company's needs*' (Interviewee 8). Findings identified five main factors considered when determining appropriate ABW settings for an organisation – organisation specific characteristics, people specific characteristics, space specific characteristics, service specific characteristics and aesthetic specific characteristics, as shown in Figure 1.

Figure 1: Main factors considered in determining the most appropriate ABW settings

Organisation specific characteristics
- Organisational culture
- Generation gap

Main factors considered in determining the appropriate layout structure

People specific characteristics
- Sense of community
- Sense of belongingness

Space specific characteristics
- Flexibility of space
- Functionality of space

Service specific characteristics
- Technology
- Acoustic strategies

Aesthetic specific characteristics
- Bright interior colours
- Furniture choices

(Source: Authors)

Organisation specific characteristics

Culture of the organisation

One of the main factors considered when identifying appropriate ABW settings is the organisation's current and preferred organisational culture since '*different layouts support different cultural dimensions*' (Interviewee 1). Therefore, '*office configurations are based upon the goals of the organisation and how much interaction they want among occupiers*' (Interviewee 3). The interviewees identified two dimensions of corporate culture that help them to understand the most appropriate ABW layout: interaction and autonomy. Interaction refers to the amount and intensity of face-to-face communication that is necessary to carry out work, while autonomy refers to the degree of individual choice regarding when, where, and how, work is undertaken. Therefore, design firms study cultural elements of the organisation, such as the nature of business, client's business strategy, how they have been working and how they want to work in future. As one interviewee explained:

> "*We talk to everyone; we talk to people from the CEO, all through different levels, different ages, and different sexes. It's pretty clear often from the business goals and vision what their culture is at the moment, and we talk to them to find out what they want it to be. Sometimes they're close, and sometimes they're far apart. We help them with change management to get their culture where they want it to be*" (Respondent 5).

All interviewees shared the view that layouts 'are *a silent communicator of the corporate culture*' (Interviewee 2) and by encouraging certain behaviours and discouraging others, management can ensure alignment between layouts and the goals of an organisation. For example, '*if an organisation has a non-hierarchical work, the office should have non-hierarchical allocation of spaces*' (Interviewee 7). However, it was emphasised that the organisational culture is not 'one size fits all' and the layouts should only be an extension of the culture, showcasing the values of the organisation.

Generation gap

Many organisations have employees from four generations and these groups '*have different technology skills, work practice preferences and psychological needs and these needs should be incorporated into layouts*' (Interviewee 2). Therefore, understanding this generation gap and addressing different requirements for each group are critical. All interviewees stated that they obtain relevant information on employee demographics before designing workplaces and that ABW layouts will have spaces suitable for employees from different generations. For example, they include '*retro-tech areas for traditional workers and high-tech areas to support young employees*' (Interviewee 2).

A number of strategies was employed to address the generational gap in workplaces, including:
1. Flexible work settings that employees can choose from based on their needs.
2. Spaces that provide good access to support staff and resources for employees who need support.
3. Spaces that provide access to mentoring and learning experiences for employees from different generations.

Space specific characteristics

Flexibility of space

Clients' requirements for flexibility in space is a main space specific characteristic considered in ABW designs. This is mostly based on the idea that organisations do not know where their business will be in the future due to changes in their business strategies, working strategies, technology and future growth. Therefore, layouts are designed to be sufficiently flexible to adjust for future circumstances. As one interviewee explained:

> "*You actually need to design it in many ways, with many settings, because how you might work now might be different to how you might work in five years' time, and that staff numbers might go up and down. So the space should be indicative for the shrinking and the grand growth of staffing numbers and how they work*" (Interviewee 6).

Flexibility is provided in many areas such as; '*partitions used, various types of workstations, flexible meeting rooms, adjustable table and chairs and adaptability of workstations*' (Interviewee 2).

Functionality of space

The interviewees confirmed that they incorporate several adaptive and flexible space designs and specifications in their ABW to enhance functional efficiency. These include '*the provision of a mixture of workstations for different tasks, the use of efficient floor plans and the provision of high-quality acoustics and lighting*' (Interviewee 5).

It was explained that different zones are allocated to different departments in their ABW designs to enhance functionality. Staff in the same department or team are available in that zone for easy and more meaningful collaboration. This arrangement also helped each department to maintain their sub-culture. One workplace strategist explained what they did with a client as follows:

> "*Parts of the business get assigned workstations, and they can sit in the same place every day, but this part of the business has to operate under a flexi-desk type arrangement, then you've got sort of dichotomy across the business. So, there's 20 desks allocated for the accounts department, and it might be because those staff never leave the office. But the design principles remain the same in that you need to pack up your stuff at the end of the day and put it in your locker*" (Interviewee 1).

Service specific characteristics

Technology

All interviewees shared the view that changes in building specifications and configurations '*occur at a much slower pace than changes in information and communication technology*' (Interviewee 1). Therefore, ABW layouts are always designed to ensure the building is capable of introducing enhanced technology as '*modern workplaces should be designed to support knowledge transfer and connectivity among new generation of employees in the future*' (Interviewee 7).

Well-distributed and upgradable cutting-edge ICT infrastructure, which allows technological access in all spaces to support each work setting, was considered as essential in ABW designs. For example, the ICT networks '*are divided into a number of zones, so each zone can perform independently*' (Interviewee 6). This increases the flexibility and functionality of each station. Moreover, '*the cabling for electrical and voice and data facilities are installed using low- profile raised floor systems*' (Interviewee 6); as a result, cables can be easily accessed to facilitate future reconfigurations.

Acoustic strategies

The noise levels in ABW spaces may be a factor negatively affecting employee concentration. Therefore, '*the acoustical layouts are carefully designed and integrated with the other architectural systems to facilitate ABW*' (Interviewee 1). However, interviewees suggested that the acoustic issues are often overlooked in the initial design phases, as some organisations '*focus more on the aesthetic aspects of the space rather than their productivity*' (Interviewee 2). For example, some organisations want to place sound-absorption technologies, such as acoustic screens, which may worsen acoustic issues in flexible layouts. This was explained by one interviewee as follows:

> '*If there are no partitions or no screens, staff are aware of it and they avoid making loud noises, but if there are partitions, they talk louder without realising that partitions do not reach the ceilings. This eventually creates more noise*' (Interviewee 5)

They take a range of acoustic goals into consideration in ABW designs, including controlling noise in common areas, establishing some privacy and sound absorption for employees at their desks, and providing private spaces for confidential discussions. Sound-proof walls, panel absorbers on the sidewalls and floor materials such as needle-punched carpet are used to decrease sound levels. Sound masking systems which consist of a series of speakers that generate electronically generated music to cover up noise are also used. In addition, office furniture and equipment are strategically placed to minimise the impact of sound on neighbouring workstations.

People specific characteristics

Sense of community

The importance of shared amenities in ABW offices in attracting and retaining high-quality employees, improving employee retention, and increasing overall value was highlighted in interviews. Social spaces for employees, including larger atria/lobbies and cafés where employees socialise, and work are identified as amenities that increase the sense of community. It was suggested that '*about a four-minute waiting time at the coffee machine is the ideal time for them to start conversation and get to know each other*' (Interviewee 1).

Buildings with ABW settings often have amenities such as gyms, childcare facilities, convenience stores, community gardens, game rooms, as well as break-away rooms for relaxation. These facilities

create more home environment for occupiers and enhance their physical and physiological connectivity with workplace while providing a competitive edge to the property.

Sense of belonging

The interviewees stated that they always focus on '*fostering a better sense of belonging*' (Interviewee 1) in ABW settings. They incorporated six specific elements to create an optimistic sense of belonging, including:
1. Welcoming entrances with visible hosting.
2. Informal areas for socialisation, both in person and virtually.
3. Workstations which provide occupiers choices to work alone or together.
4. Modern technology to help employees feel connected and informed.
5. Areas that allow workers to control their sensory stimulation.
6. Places where occupiers can relax and refresh.

Aesthetic specific characteristics

Bright interior colours

All interviewees stated that the selection of appropriate colours is an important decision in ABW interior designs. Colour choices are not only a personal preference, but they have the ability to influence occupiers' moods, emotions and perceptions. Different colours are used for areas allocated for different activities.
- Blue, which is associated with stability, is commonly used in collaborative areas.
- Red, which helps with concentration, is used for concentrated areas.
- Yellow, which is associated with creativity, is used for creative and innovative spaces.
- Green, which reflects a feeling of calmness, is used for relaxing areas.
- White is rarely used as it promotes feelings of discomfort.

Furniture choices

The appropriate selection of furniture is an important part of employees' health and wellbeing, as it has an impact on ergonomics. The material, colour, comfort, and adjustability were some of the main criteria used when selecting furniture for ABW spaces. As one interviewee explained:
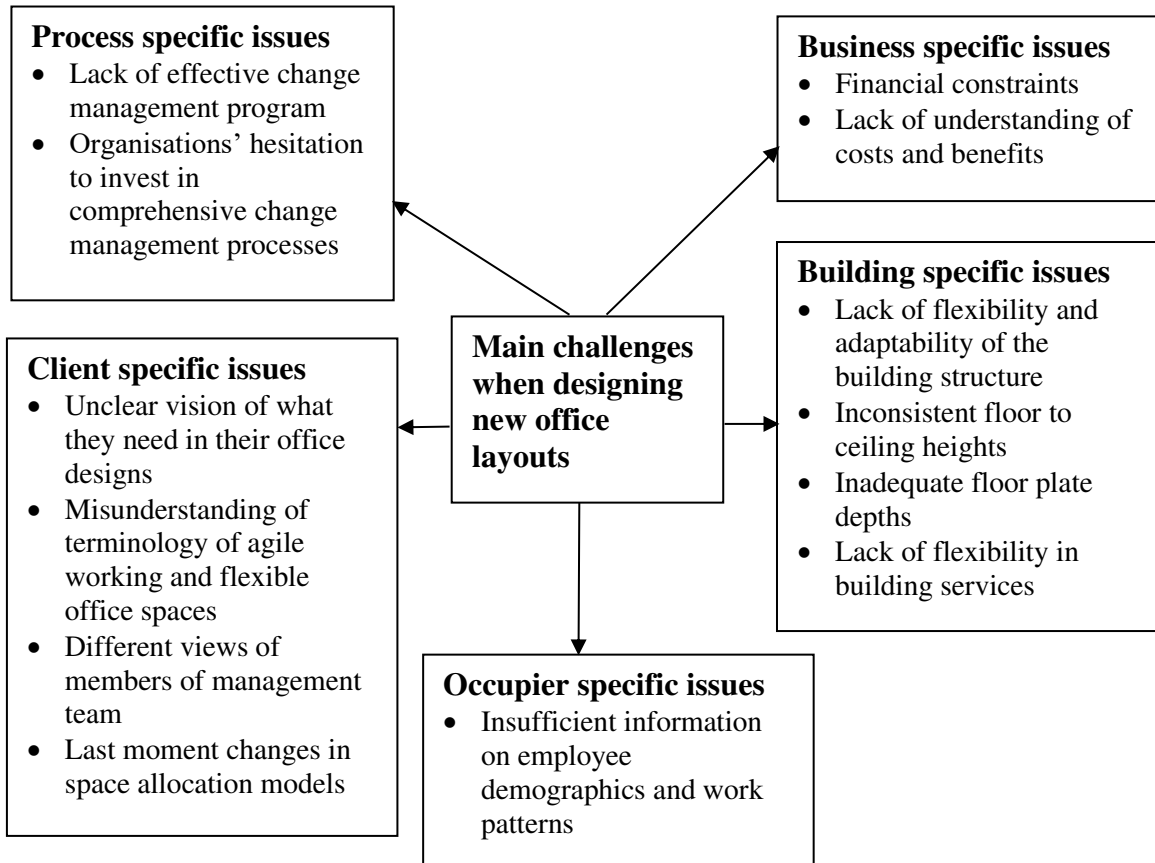> *"Furniture choice is very important. I had meetings around enormous boardroom tables that actually stopped conversations happening and stopped connection forming" (Interviewee 7).*

It was also suggested that the nature of furniture signifies the nature of an organisational culture. For organisations with collaborative cultures, seating on wheels, mobile tables and movable privacy screens are commonly used. Adaptable, convertible furniture such as movable desks and convertible standing desks are commonly used to allow occupiers to transform workstations into discussion groups. The shape of furniture also implies the existing corporate culture. For example, rectangular tables imply a feeling of hierarchy, whereas circular tables imply a collaborative perspective.

Mian issues faced in the ABW design process

Design and workplace strategy firms faced several issues when converting traditional offices into ABW as there was no 'one size fits all' model. The findings identified several client-specific, business-specific, occupier-specific, process-specific and building-specific challenges faced, as shown in Figure 2.

Figure 2: Main challenges faced when converting traditional spaces into ABW settings

Process specific issues
- Lack of effective change management program
- Organisations' hesitation to invest in comprehensive change management processes

Business specific issues
- Financial constraints
- Lack of understanding of costs and benefits

Main challenges when designing new office layouts

Building specific issues
- Lack of flexibility and adaptability of the building structure
- Inconsistent floor to ceiling heights
- Inadequate floor plate depths
- Lack of flexibility in building services

Client specific issues
- Unclear vision of what they need in their office designs
- Misunderstanding of terminology of agile working and flexible office spaces
- Different views of members of management team
- Last moment changes in space allocation models

Occupier specific issues
- Insufficient information on employee demographics and work patterns

(Source: Authors)

Client specific issues

Difficulty in understanding clients' drivers for changes

One of the main challenges faced was '*the unclear vision of organisations on what exactly they need within their office design*' (Interviewee 1) as some clients want to achieve the same design objectives as another aspirational building without realising the differences between the two organisations and building structures. *'We want to be like company X'* (Interviewee 1) is a common misconception many organisations try to convey to designers. Interviewees emphasised that spaces are specifically designed for individual client's needs as opposed to having an aesthetic agenda which overlays a project. While clients can use images to clarify an approach, their main consideration should be on how the design helps to achieve their own workplace objectives. As one interviewee explained:

> *"It starts with the aspiration for layout changes and understanding what are the core aspirations for the change, and what are you trying to get at for the business, and then how does that business aspiration relate to layout changes?" (Interviewee 6).*

Therefore, organisations need to have a clear rationale and bring everyone along for the journey and understand why they do it. One interviewee explained what they always tell clients:

> *"I always say to clients "don't follow a trend for trend's sake, find a business problem that trends can solve "" (Interviewee 2).*

Another workplace strategy consultant shared their experience as follows:

> *"When we do our upfront engagements and interviews with the exec teams, they want to jump to floor finishes, and we have to do an education piece to say "hey, we're talking about where you see the culture of this business going, and how your teams and the work they do is going to change over the next five to ten years" (Interviewee 3).*

Modern ways of working require a different style of leadership which is based on trust and primarily focused on delivery of outcomes. If management do not improve these skills, investments in new layouts will not achieve expected goals. Therefore '*organisations need to have clear views on their business strategy and objectives, the work practices and the culture they need to maintain*' (Interviewee 4). It was suggested that setting up a pilot space was an effective change tool as it '*enables organisations to trial the new space before committing to major changes*' (Interviewee 7).

Clients' misunderstanding of terminology

Client's misinterpretation of terminology is another issue as there are phrases used for similar ways of working, '*but when people use a phrase, they actually use it in the wrong way*' (Interviewee 3). For example, when trying to design a space for agile working, it is designed for people to move around, and this may not be appropriate for organisations where most people work individually. As an interviewee explained:

> *"Terms like agile, activity-based working, coworking, open-plan, they've all become a bit interchangeable, but they actually all mean completely different things, and I think that's part of the problem" (Interviewee 6).*

Over the years these terms have created their own phenomena and many organisations do not have a clear idea about the differences. However, interviewees highlighted that organisations should not be too concerned about the terms, as all they mean; is the setting of the workstations in accordance with how staff work?

Different views of members of management team

Sometimes members of the client's management team have different views about new layouts. For example, two managers may want their team zone in the same place. A workplace strategist shared their experience with one organisation which wanted their staff to work flexibly, however some managers wanted their team to be in the office every day.

> *"Those managers who have this philosophy that presentism is the key, and they need to sit there from 9 to 5, that's not productive. And that's not how ABW settings demand, they demand a difference in thinking, so leaders need to be more outcome focused rather than presence focused" (Interviewee 2).*

Conflicting requirements from the management team make design firms' work more difficult. Therefore, the importance of having clear and unified views on the requirements of layouts by key personnel in organisations was emphasised.

Last-minute changes by clients

Accommodating last-minute changes by clients is another challenge, as '*some changes might require significant time and effort to accommodate them into the designs*' (Interviewee 2). They stated that frequent changes are common with office design projects, but last-minute changes are challenging and make the job difficult.

Building specific issues

All interviewees stated that issues with building specifications is another challenge when introducing ABW designs. Lack of flexibility and adaptability of the main building structure, inconsistent floor-to-ceiling heights, inadequate floor plate depths and lack of flexibility in building services were identified as some of the main issues. Space intensification in office buildings places additional structural stress on building services if not designed for future demands. The interviewees mentioned that building services such as HVAC systems, electrical systems, lighting, lift services, and water supply systems in some buildings are not designed with an appropriate level of extendibility and adaptability to accommodate higher density levels.

> *"Our key analysis during due diligence will be looking at the mechanical services. So what is this building going to enable us to do? Because typically if we're commuting to a new development, it's not going to be built for another three years, so we've got plenty of time to work through the design. But there's only so much you can do depending on what the building provides to you" (Interviewee 1).*

Majority of interviewees indicated that some office buildings do not have adaptive and flexible building structures and building services which can be reconfigured to suit flexible spaces such as ABW settings. Therefore, many landlords are required to invest substantial capital on building upgrades and expansions before converting their spaces into ABW spaces to facilitate additional structural stress on building services.

Business specific issues

Clients typically have many requirements when implementing ABW; however, in relation to cost estimation, their allocated funds may not often be sufficient. As one interviewee explained:

> *"Everybody wants the space to be cutting edge, leading edge. You're constantly benchmarking against what other organisations are doing. But then there's a commercial reality of what you're willing to spend as well. Typically, at the due diligence phase, the design possibilities are endless, but it's what you can afford for at the end" (Interviewee 1).*

Many organisations tend to budget a reasonable amount of money for changes in the physical office layout and its aesthetic appearance, '*but not enough allocation for technology and the change management process*' (Interviewee 2). It is not easy for organisations to achieve desired outcomes without educating and training staff. Interviewees expressed their concerns that sufficient funds are often not allocated for education, communication and the change management process.

Occupier specific issues

Some clients do not have all relevant information about their employees to determine the nature of layouts required. For example, one interviewee explained that before deciding the desk ratio, it is essential to understand the demographics of the employees and their work patterns. However, many organisations do not have these statistics readily available and on such occasions design firms must do a detailed observational study of employees and their work patterns before starting the design:

> *"If the company doesn't know employees' work patterns, we have to do an observation study, you have people walking around, looking at 'is that desk occupied or is that desk empty'? And then you can get some analytic from that, which you can also compare with the data that the organisation is able to produce. But it takes time for us if they don't have that data readily available" (Interviewee 1).*

Process specific issues

All interviewees emphasised that '*it is crucial to have an effective change management program as part of the successful ABW design program*' (Interviewee 7). It is important to engage with occupiers through a variety of media and at every level of the organisation so that they know what is changing, what the future layout looks like, how the organisation is going to achieve the changes, and the opportunities for them to be involved.

Many clients commit significant capital expenditure on physical layouts expecting staff to be happy in modern layouts, however '*it is inevitable that some employees would not be happy with the change*' (Interviewee 2). Therefore, an effective change management program with careful communication and education is critical to bring all occupiers along on the journey by helping them to understand how they are expected to behave and work in the new layout.

Organisations which do not have effective change management programs may experience considerable issues with new layouts. As one interviewee explained:

> *The teams that didn't go through that behavioural journey had a really tough time, because they didn't have their desks, and they couldn't sit next to the same person that they wanted to, their locker was too small. So you move them into an amazing building like this, and then you have this negativity comes through because you haven't addressed behaviours upfront"* (Interviewee 2).

The challenges discussed above are those which the design and workplace strategy consultants stated they commonly face, although there may be many more project-specific challenges. One of the biggest challenges is that business strategies change much more quickly than changes in physical office layouts. In these circumstances, '*already finalised designs need to be changed to support new and predicted business requirements which could emerge at a later stage of the business*' (Interviewee 2). Therefore, the challenge for design and work strategy firms is how to create a future-proof physical office layouts that are sufficiently flexible and functional to respond to future changes in the organisation's business strategies.

CONCLUSIONS

This objective of this paper were to examine the main factors considered by design firms and workplace strategists when converting traditional office spaces into ABW settings, and secondly; to discuss the key issues and challenges faced by them in the design and implementation process. The results reveal that office space designers do not consider office spaces as just a means of keeping the employees dry and warm. Instead, they view the physical office space as a means of reinforcing the corporate culture, improving organisational performance and employee productivity and attracting new talent to the organisation. The findings identified main considerations in designing ABW spaces are, organisation specific, people specific, space specific, service specific and aesthetic specific characteristics. The findings identified that they faced several issues in the design process as there was no 'one size fits all' workplace solution as individual organisation's business strategies, corporate cultures and work practices varied. Several client-specific, business-specific, occupier-specific, process-specific, building-specific and building service-specific main challenges that are faced when converting traditional spaces into ABW settings are identified.

This research has implications for industry and academics, as it provides an in-depth understanding of workplace specialists' and design firms' perceptions of the requirements from ABW settings. It also illustrates what they look at when designing office spaces for large corporates. It demonstrates the need to consider how the office environment should align with the physical and psychological

needs of the organisation and its employees. There is limited published literature available addressing these issues from the design and workplace strategic specialists' perspectives; and, in the Australian context. Therefore, these findings have practical application to professionals involved in human resource management and the design, management, development and valuation of office buildings. As stated the data collected predates the COVID 19 lockdowns, however these findings could indicate some strategies and drivers for organisations to consider in ensuring the workplace, post COVID, optimises organisational and employee workplace want and needs.

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