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Activity-based working and their impact on organisational culture – employees' perspectives

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Abstract

Purpose – This paper aims to examine how the existing organisational culture of organisations changed with the introduction of activity-based working (ABW) office layouts from the employees' perspectives.

Design/methodology/approach – A questionnaire was used to measure the influence of introducing ABW. The study focused on three different industry sectors in Australia – financial, IT and government – and one organisation from each sector who had introduced ABW during the period of 2012–2019 was selected. The Competing Value Framework was used to measure the dimensions of organisational culture. A paired sample test was used to measure the changes in employees' perceptions after the layout changes.

Findings – Findings identify that the nature of workplace designs has a considerable impact on an organisation's corporate culture which can be used to leverage and change its culture. However, some noticeable discrepancy between the perceptions of public and private sector employees was identified, where public sector employees felt that standardised procedures still governed their actions even in ABW layouts.

Originality/value – This research highlights that workplace designs directly influence culture by supporting the engagement, motivation and behaviours of the employees. It emphasises the importance of in-depth examination of the behavioural and attitudinal characteristics of employees to obtain a better understanding of how they interact in ABW layouts. Such an analysis provides the context for a more inclusive understanding of the operation of modern office layouts.

Keywords Organisational culture, Dimensions of organisational culture, Activity-based working, Employee perceptions

Paper type Research paper

Introduction

The COVID pandemic has disrupted the labour markets globally, causing sudden and severe impacts on the use of office spaces. These unexpected business disruptions have prompted many corporates to rethink the design and configuration requirements of their workplaces. Even though the global pandemic raised the need for rapid changes in workplaces, previously changes in office layout designs had been a more gradual process (Appel-Meulenbroek *et al.*, 2018). The nature of office layouts has been identified as a main factor influencing employee satisfaction and work performance (van Meel *et al.*, 2010). As



employees are an organisation's most important and valuable asset, designing and managing the physical layouts for their productivity and satisfaction is imperative to achieve a competitive advantage (Anderson and Kelliher, 2009; Clarke and Holdsworth, 2017). Large open-plan offices have been found to no longer serve modern organisations' needs (Harris, 2021). With the rapid development in IT, the ability to work remotely has increased substantially. As a result, work practices such as agile working have become more common (Peters *et al.*, 2014) and the demand for non-territorial offices have become more prominent. While on the surface organisations stand to benefit from flexible layouts, their full effects on other aspects such as human reactions to such workspaces are not well understood (van der Voordt, 2004; Miller, 2014).

The physical real estate of an organisation is a silent communicator of its existing culture (Knight Frank, 2017). The culture of the organisation can be determined by viewing its physical layouts and configurations (Hamilton *et al.*, 2008). Due to the changing perceptions of the office, the modern workplace is an instrument that drives the preferred culture of organisations, affecting their financial and non-financial ethos (Knight Frank, 2017). Changes in office layouts may lead to changes in work practices, leadership style and the organisation's main orientation. In whatever way the changes occur, impact on the corporate culture is inevitable (Hofstede *et al.*, 2010).

It is believed that non-territorial workplaces such as activity-based working (ABW) could change employees' perceptions of the culture and belongingness. Although flexible layouts are relatively well-researched, there is limited research on their implications on the corporate culture of organisations. As part of a wider research project, this paper examines how employees perceived the impact of introducing ABW on the organisations' existing corporate culture. The research was conducted in Melbourne, Australia in early 2020, just before the COVID-19 pandemic began to affect property markets. ABW and desk sharing models have been in use in Australia for the past 15 years, and it is the default approach to the workplace with two thirds of Australian organisations predicting to have adopted ABW by 2020 (Luff, 2018). The objectives of this paper are to examine:

- Employees' perceptions and experience of the impact of introducing ABW settings on the existing culture of their organisations.
- Their satisfaction with new ABW offices.
- Further improvements they would like to see in their ABW settings.

Literature review

Flexible office layouts

The increasing popularity of knowledge-intensive work and continuously improving Information and Communication Technologies have increased the demand for flexible work practices (Bal and De Lange, 2015). Therefore, organisations are increasingly re-evaluating their space needs and appropriate office layouts to accommodate their rapid expansions or contractions. As a result, a wide range of flexible office layouts has been introduced since the early 2000s (Appel-Meulenbroek *et al.*, 2015; De Paoli *et al.*, 2013; Harris, 2021; Gorgievski *et al.*, 2010). The design of workplaces is now much less about the physical buildings and more about how they support work enablement and organisational cohesion. Many of the modern office layouts no longer look like offices but are transparent and open spaces with their own identity (Harris, 2021).

Modern knowledge-based work practices require workers to switch more frequently between different activities, co-workers, tools and locations (Van Yperen *et al.*, 2014). It

was the main motive for the introduction of ABW, which was introduced in the early 2000s (Cushman and Wakefield, 2013). ABW offices involve designing spaces to accommodate various activities that employees undertake rather than having a rigid allocation of space based on their status in the organisation (Brunia *et al.*, 2016). Employees in ABW can move from place to place during the day, choosing the most appropriate space for their current activity (Schriefer, 2005). For example, during a day's work, an employee may require the use of an open space for interactive activities, move to a study booth when intense concentration is required and meet with team members to collaborate in a breakout area.

To date, empirical research regarding ABW layouts has produced a mixed picture of their effectiveness in improving employee productivity and satisfaction. As employees in flexible offices are not all be present at the same time, space-sharing systems may significantly contribute to cost reductions (Ruostela *et al.*, 2015). This may result in increased operational flexibility in buildings (De Paoli *et al.*, 2013). Flexible layouts may increase employee productivity, flexibility, creativity and interaction (van Meel *et al.*, 2010). Increased productivity may be due to improved collaboration and the psychological needs of modern knowledge workers, including autonomy and freedom of when, where and how to work (van der Voordt *et al.*, 2012a, 2012b). Such layouts may also enhance employees' ability to develop a better culture by enhancing a sense of community and help to enhance the brand or image of the business (Pitt and Bennett, 2008). They can be an effective tool for the attraction and retention of high calibre employees, particularly young talent (Earle, 2003). Therefore, ABW can have positive impacts both from a business point of view – efficiency and productivity – and from the employee perspective – support of work processes and freedom of where to work.

Although many employees can cope well with shared workplaces, there are some perceived negatives, for example about lack of privacy, poor support of work requiring concentration and insufficient storage have been reported (Maarleveld *et al.*, 2009; Gorgievski *et al.*, 2010; Riratanaphong and van der Voordt, 2011; De Been and Beijer, 2014; van der Voordt *et al.*, 2016). Lack of personalisation in non-territorial workplaces could negatively affect workers' emotional well-being and certainty of their work (Brunia and Hartjes-Gosselink, 2009). Change to less-hierarchical structures and an increase in locational mobility may result in feelings of loss of identity amongst employees (Grenness, 2015). Interestingly, Qu *et al.* (2010) found that 90% of employees in shared workspaces situated themselves in the same group area, creating a territorial map of the office (Hirst, 2011). Therefore the distinction between different types of activity settings should be meaningful, and that switching between them should be supported, by providing the necessary facilities for ABW layouts to be successful.

Organisational culture

Changes in office layouts may also lead to the changes of leadership, organisation's orientation and its corporate culture (Rodriguez and Gomez, 2009; Hofstede *et al.*, 2010). One of the most accepted frameworks to distinguish the dimensions of organisational culture is known as the Competing Value Framework (Fairs, 2016). This framework was initially introduced to understand the values underlying organisational effectiveness and it was further developed to understand organisational forms and leadership roles (Quinn and Rohrbaugh, 1981). It is a widely accepted theory of dimensions of organisational culture in management and behavioural studies. Cameron and Quinn (2006) identified four cultural dimensions in this framework:

- (1) hierarchy culture;
- (2) market culture;

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- (3) clan culture; and
 - (4) adhocracy culture.

- Hierarchy culture – This culture type emphasises uniformity and strong control of the organisation with empowering coordination, evaluation and internal efficiency (Cameron and Quinn, 2006). The main characteristics are hierarchy, rules, accountability, specialisation, separate ownership and impersonality (Übuis and Alas, 2009).
- Market culture – This culture emerged in the late 1960s, since the hierarchy culture could not provide flexibility for organisations when meeting strong market competition (Cameron and Quinn, 2006). It focuses on competing and reaching set goals with unsupportive external factors such as government regulations (Übuis and Alas, 2009).
- Clan culture – The focus of this culture is maintaining better relationships and providing greater flexibility to employees to perform their job. Trust, involvement, teamwork and corporate commitment to staff are the key characteristics (Übuis and Alas, 2009).
- Adhocracy culture – This culture emerged when the developed world moved to the information age from the industrial age (Cameron and Quinn, 2006). The focus of this dimension is on creativity, innovation and resource acquisition (Fairs, 2016).

There is limited theoretical explanation of, and little empirical research on, how the corporate culture of an organisation changes with the changes in physical workplaces (Igo and Skitmore, 2006). The aim of the research is therefore to examine how employees perceived the impact of introducing ABW on their existing organisational culture.

Research methodology

The research adopted quantitative research and a survey was employed to measure the influence of changes in office layouts on the organisational culture. Surveys were employed since they enabled large amounts of data to be collected in a short period (Kumar, 2014). The study focused on three different industry sectors with different governance structures: the financial sector, the IT sector and the government sector. One organisation from each sector who had introduced ABW during 2012 – 2019 was selected by using the cluster sampling method which involves the researcher dividing the population into separate clusters and then randomly selecting samples from each cluster (Kumar, 2005). These sectors were selected as they were the sectors that had most commonly used ABW in their portfolios (Luff, 2018). It was believed that they would provide some generalisability, especially since they cover different industry sectors.

Case study 1 was one of the leading banks in Australia. It has a large head office and branch portfolio throughout Australia with approximately 330,000m² of office premises. The office building considered was a prime-grade office building located in the Melbourne CBD. Case study 2 was a leading multinational high-tech company. Its Australian head office located in Melbourne was chosen as the case study. The property consisted of approximately 5,000m² of space and was one of the largest offices occupied by the high-tech industry in Australia. Case study 3 was a large government organisation which provided a utility service to the public. Public sector organisations are affected by prevailing political ideologies and therefore may not perform in an equivalent manner to the production and delivery of goods and services in the private sector (Acar and Acar, 2014). Therefore, it was

worthwhile examining how the culture of government organisations changed with the introduction of ABW. In all three case studies, before moving to ABW, managers had private offices and the general staff worked in open-plan offices with dedicated desks.

The link for online survey using Survey Monkey was sent to senior managers who were directly responsible for workplaces to distribute among their employees who work in ABW. This provided wider accessibility to participants and greater cooperation in engaging participants for the survey. The limitation was the possible influence the management may have had with the voluntary participation of employees. [Table 1](#) details the responses by case study.

Table 1.
Employee survey
response rates

Sector	Case study 1 Finance	Case study 2 Tech industry	Case study 3 Government
Sampling frame	300	200	300
Sample size	88	59	76
Response rate	29.33%	29.5%	25.33%
Source: Authors' own creation			

The survey was developed to measure the presence of four dimensions of organisational culture before and after implementing layout changes. Questions were grouped into four main sections to measure these four dimensions in the Competing Value Framework. Each of these sections had questions to represent the four culture types ([Table 2](#)).

Table 2.
Summary of survey
questions

Organisation culture measurement criterion	Culture dimension
<i>Cultural orientation</i>	
Level of collaboration	Clan
Level of creativity	Adhocracy
Level of organisation's regulations and procedures	Hierarchy
Level of competitiveness	Market
<i>Leadership style</i>	
Encourage more teamwork and collaboration	Clan
Encourage more innovative/creative employee outputs	Adhocracy
Focus on monitoring staff and their work	Hierarchy
Push employees to work hard to complete their assigned task	Market
<i>Organisation value drivers</i>	
Ongoing employee skill development	Clan
Employee innovation	Adhocracy
Consistency and uniformity in day-to-day tasks	Hierarchy
Employee goal achievement	Market
<i>Efficiency measures of the organisation</i>	
Participation of employees produces effectiveness	Clan
New or latest resources produce effectiveness	Adhocracy
Control, uniformity and efficiency produce effectiveness	Hierarchy
Customer focus produces effectiveness	Market
Source: Table courtesy of Cameron and Quinn (2006)	

The validity of the survey was achieved by pre-testing it with the senior managers of the three organisations who helped with the survey distribution. The validity was further established by the justification of each question in relation to the research objectives. Steps suggested by [Cavana et al. \(2001\)](#) were used to increase its reliability. These include: using multiple indicators to measure each dimension, using appropriate scale of measurements and ensuring that questions are clear, well written and appropriate for the respondents.

Respondents were asked to provide their perceptions on the presence of each culture dimension before and after introducing ABW settings. Their responses were measured using a nine-point scale where 1 represents “no presence at all”, and 9 represents “extremely high presence”. To examine if there was any statistical difference in employees’ perceptions of the prevailing culture types before and after, paired sample *t*-tests were performed on the scores given to the questions. Paired sample *t*-tests are used when there is one group of respondents and the same person is measured in terms of their response to two different scenarios ([Pallant, 2004](#)).

Results and discussion

The first questions in the survey asked respondents to identify their gender, age and job position ([Table 3](#)).

Demographic factor	Case study 1 Financial sector	Case study 2 Tech industry sector	Case study 3 Government sector	Total
<i>Gender</i>				
Male	36	41	33	110
Female	52	18	43	113
<i>Age</i>				
Below 30 years	14	24	13	51
31–40 years	37	27	36	100
41–50 years	21	8	17	46
Over 50 years	16	0	10	26
<i>Job position</i>				
Managerial	7	4	5	16
Executive	23	18	14	55
Administration	58	37	57	152

Source: Authors’ own creation

Table 3.
Characteristics of the
survey respondents

Of total participants, 49% were males and 51% were females. A total of 23% were less than 30 years old, 45% were between 31 and 40 years, 20% were between 41 and 50 years and 12% were over 50 years. A total of 7% of participants held managerial positions, whereas 25% held executive positions and 68% held administrative positions. Overall, the sample represented participants from diverse backgrounds in terms of gender, age and job position.

Influence of introducing activity-based working on existing organisational culture

Using the Competing Value Framework, the main section of the survey measured employees’ perceptions on the changes in the cultural orientation after moving into ABW settings.

Case study 1 – financial sector. Paired sample *t*-test results for Case study 1 are shown in [Table 4](#).

Table 4.
Changes in
organisational
culture in the finance
sector

Organisation culture measurement criterion	Culture measured	Mean score		<i>t</i> statistic	Significance (two-tailed)	Significant?
		Before	After			
<i>Cultural orientation</i>						
Level of collaboration	Clan	6.68	7.41	-5.992	0.000	Yes
Level of creativity	Adhocracy	7.00	7.07	-0.973	0.333	No
Level of organisation's regulations and procedures	Hierarchy	7.38	7.40	-0.352	0.726	No
Level of competitiveness	Market	7.65	7.65	0.000	1.000	No
<i>Leadership style</i>						
Encourage more teamwork and collaboration	Clan	6.20	7.48	-8.267	0.000	Yes
Encourage more innovative/creative employee outputs	Adhocracy	5.93	6.05	-1.452	0.150	No
Focus on monitoring staff and their work	Hierarchy	6.88	7.50	-1.469	0.145	No
Push employees to work hard to complete their assigned task	Market	7.10	7.20	-1.632	0.106	No
<i>Organisation value drivers</i>						
Ongoing employee skill development	Clan	4.75	4.98	-2.649	0.031	Yes
Employee innovation	Adhocracy	4.48	4.51	-0.831	0.408	No
Consistency and uniformity in day-to-day tasks	Hierarchy	8.11	8.09	0.705	0.483	No
Employee goal achievement	Market	6.65	6.67	-1.422	0.158	No
<i>Efficiency measures of the organisation</i>						
Participation of employees produces effectiveness	Clan	7.00	7.59	-5.666	0.000	Yes
New or latest resources produce effectiveness	Adhocracy	6.61	6.66	0.893	0.374	No
Control, uniformity and efficiency produce effectiveness	Hierarchy	2.61	2.59	0.815	0.417	No
Customer focus produces effectiveness	Market	5.68	5.74	1.296	0.198	No

Source: Authors' own creation

The results indicate that there are significant statistical differences between the mean scores given for clan culture for all four measures used to measure organisational culture. Employees perceived that the clan culture of their organisation increased significantly after moving into ABW. However, the results find no significant changes in the presence of other culture types in their new ABW layouts.

The mean scores given to the questions in the survey to measure the presence of four culture types before and after the implementation of layout changes were then analysed (Table 5).

Culture type	Before changes		After changes	
	Mean score	Rank	Mean score	Rank
Adhocracy	6.0	4	6.1	4
Clan	6.5	3	7.1	3
Hierarchy	6.7	2	6.8	1
Market	6.8	1	6.8	1

Source: Authors' own creation

Table 5.
Dimensions of
organisational
culture before and
after layout changes

The most dominant culture presented before workplace changes was the market culture. At the operational level in the banking sector, employees are encouraged to focus on customer service, achieving targets and increasing market segment and profitability (San Park and Kim, 2009), which are the key elements of market culture. Hierarchy culture was the secondary culture, which suggested that they still had to focus on confidentiality, security and controls in their work. Adhocracy culture was the least dominant culture due to the minimum requirement for creativity. Clan culture was ranked third due to limited collaboration and teamwork required in more structured, process-driven activities in the sector.

With the introduction of ABW, employees believed that the clan culture, which emphasises teamwork, collaboration and engagement (Suppiah and Sandhu, 2011), became the dominant culture. It was followed by the market culture, which illustrates banking sector organisations' preference to be competitive and achieve goals (Bellou and Andronikidis, 2008). Hierarchy, which was highly ranked before the changes, was ranked as the third culture type. However, the scores given for the existence of hierarchy increased in new ABW settings. This suggests that the system controls and procedures are now stronger in non-territorial workplaces.

Case study 2 – tech industry sector. Paired sample *t*-test results for the leading high-tech company are shown in Table 6.

The results indicate statistically significant differences between all culture types existed before and after layout changes. The presence of culture types, clan, adhocracy and market, increased significantly with the introduction of flexible layouts, with the clan culture showing the highest increase. On the contrary, the presence of hierarchy culture decreased significantly with such changes.

The mean scores given to the questions to measure the presence of four culture types before and after layout changes were then calculated (Table 7).

As shown in Table 7, market culture was the dominant culture before layout changes. The reasons may be that employees in hi-tech, result-oriented businesses are required to

Table 6.
Changes in
organisational
culture in the
high-tech sector

Organisation culture measurement criterion	Culture measured	Mean score		<i>t</i> statistic	Significance (Two-tailed)	Significant?
		Before	After			
<i>Cultural orientation</i>						
Level of collaboration	Clan	3.22	8.02	-29.986	0.000	Yes
Level of creativity	Adhocracy	5.97	8.15	-14.216	0.000	Yes
Level of organisation's regulations and procedures	Hierarchy	5.34	2.80	17.695	0.000	Yes
Level of competitiveness	Market	6.90	7.68	-3.968	0.000	Yes
<i>Leadership style</i>						
Encourage more teamwork and collaboration	Clan	6.42	8.10	-9.972	0.000	Yes
Encourage more innovative/creative employee outputs	Adhocracy	7.22	8.27	-7.634	0.000	Yes
Focus on monitoring staff and their work	Hierarchy	5.08	2.22	21.377	0.000	Yes
Push employees to work hard to complete their assigned task	Market	7.44	6.34	6.162	0.000	Yes
<i>Organisation value drivers</i>						
Ongoing employee skill development	Clan	6.17	7.97	-13.183	0.000	Yes
Employee innovation	Adhocracy	8.10	8.41	-2.333	0.023	Yes
Consistency and uniformity in day-to-day tasks	Hierarchy	2.85	1.49	7.649	0.000	Yes
Employee goal achievement	Market	7.46	8.15	-4.422	0.000	Yes
<i>Efficiency measures of the organisation</i>						
Participation of employees produces effectiveness	Clan	5.69	8.20	-15.075	0.000	Yes
New or latest resources produce effectiveness	Adhocracy	7.46	8.02	-3.601	0.001	Yes
Control, uniformity and efficiency produce effectiveness	Hierarchy	3.14	1.64	7.014	0.000	Yes
Customer focus produces effectiveness	Market	6.34	8.19	-12.111	0.000	Yes

work efficiently and complete well-defined tasks, which are the main characteristics of the market culture (Übuis and Alas, 2009). With layout changes, employees perceived that the dominant culture changed to adhocracy culture. The reasons for this may be the flexibility and adaptability offered by their new layouts. The hi-tech industry's ability to develop new services quickly and capture market share by employing cutting-edge processes and technologies (Übuis and Alas, 2009) may have caused employees to believe that adhocracy was the dominant culture type. Due to the increasing facilities for collaboration and teamwork, the clan culture became the second dominant culture type. Hierarchy culture which emphasises strict rules and procedures was the least existed culture before and after layout changes.

Case study 3 – government sector. To examine if there was a significant difference in government sector employees' perceptions on the culture types before and after layout changes, paired sample t-tests were performed (Table 8).

The results indicate that there are significant statistical differences between the mean scores given for most of the measurements of organisational culture. The most significant increase was observed in the measurements of clan culture with the introduction of ABW. The findings provide a mixed picture of the changes in hierarchy culture with some measures such as the organisation's value drivers showing a significant increase while other measures such cultural orientation show a significant decrease.

Mean scores given to the questions related to four culture types before and after layout changes were then calculated (Table 9).

Hierarchy culture was believed to be the dominant culture type before the layout changes. The existence of a strong hierarchical structure, strict rules, regulations and procedures and traditional work patterns (Cameron and Quinn, 2006) may have been the reasons for this perception. Adhocracy culture, which is based on risk-taking, innovation and change (Suppiah and Sandhu, 2011), was ranked as the least culture type. Least requirement for creative and innovative work and lack of freedom and independence in work (Cameron and Quinn, 2006) may have caused this result.

Even though the presence of clan culture improved in new ABW, employees believed that the cultural orientation of the organisation did not change much and that the hierarchy culture was still the dominant culture. This suggests that employees still viewed their organisation as a public sector organisation which reflects the values and norms associated with bureaucracy and high commitment to rules and attention to technical details (Chandler *et al.*, 2017). Adhocracy culture remained the least dominant culture even after the introduction of ABW layouts. It is possible that public sector organisations have not yet transformed into a competitive and innovative structure despite the introduction of ABW and still show a controlled, organisation-focused approach.

Culture type	Before changes		After changes	
	Mean score	Rank	Mean score	Rank
Adhocracy	6.8	2	8.2	1
Clan	6.1	3	8.0	2
Hierarchy	5.1	4	3.6	4
Market	7.0	1	7.6	3

Source: Authors' own creation

Table 7.
Dimensions of
organisational
culture before and
after layout changes

Table 8.
Changes in
organisational
culture in the
government sector

Organisation culture measurement criterion	Culture measured	Mean score		<i>t</i> statistic	Significance (Two-tailed)	Significant?
		Before	After			
<i>Cultural orientation</i>						
Level of collaboration	Clan	5.30	7.43	-21.008	0.000	Yes
Level of creativity	Adhocracy	2.80	2.62	2.273	0.026	Yes
Level of organisation's regulations and procedures	Hierarchy	7.97	6.79	12.983	0.000	Yes
Level of competitiveness	Market	5.97	6.18	-2.328	0.023	Yes
<i>Leadership style</i>						
Encourage more teamwork and collaboration	Clan	4.74	7.01	-22.724	0.000	Yes
Encourage more innovative/creative employee outputs	Adhocracy	2.01	2.21	-3.721	0.000	Yes
Focus on monitoring staff and their work	Hierarchy	7.49	7.59	-1.472	0.145	No
Push employees to work hard to complete their assigned task	Market	7.11	6.92	1.646	0.104	No
<i>Organisation value drivers</i>						
Ongoing employee skill development	Clan	4.33	4.83	-8.666	0.000	Yes
Employee innovation	Adhocracy	4.32	4.46	-2.087	0.040	Yes
Consistency and uniformity in day-to-day tasks	Hierarchy	7.64	8.07	-7.016	0.000	Yes
Employee goal achievement	Market	5.30	5.78	-5.589	0.000	Yes
<i>Efficiency measures of the organisation</i>						
Participation of employees produces effectiveness	Clan	4.54	5.25	-9.855	0.000	Yes
New or latest resources produce effectiveness	Adhocracy	1.96	2.42	-6.470	0.000	Yes
Control, uniformity and efficiency produce effectiveness	Hierarchy	7.61	7.49	1.195	0.236	No
Customer focus produces effectiveness	Market	6.16	6.53	-6.614	0.000	Yes

Overall, all three organisations demonstrate that changes in physical layouts can have an influence on the corporate culture even though the dominant culture type could vary with the nature of the business sector. Findings highlight the importance of meeting employees' preferences for workspaces and working with them closely to understand how they feel in new workspaces, which in turn has the potential to deliver increased profitability to organisations.

Employees' perspectives

Culture type	Before changes		After changes	
	Mean score	Rank	Mean score	Rank
Adhocracy	2.7	4	2.8	4
Clan	5.1	3	6.5	2
Hierarchy	7.6	1	7.4	1
Market	6.1	2	6.4	3

Source: Authors' own creation

Table 9.
Dimensions of organisational culture before and after layout changes

Main issues faced by employees in new workplace arrangements

The survey then asked respondents to indicate their assessment of the main issues associated with new ABW settings. They were provided with a list of such issues and asked to identify their significance. The responses were measured with a nine-point scale, where 1 equals "no issues at all" and 9 equals "significant issues". Table 10 depicts the mean scores given by employees of the three case studies.

Issue	Financial sector		Tech industry sector		Government sector	
	Mean score	Rank	Mean score	Rank	Mean score	Rank
Lack of expression of status	1.56	7	2.54	7	1.72	7
Congested office layout	3.76	4	3.29	5	3.96	5
High noise level	4.06	3	3.41	4	5.50	3
Frequent disturbances from fellow workers	5.59	2	6.71	1	6.38	1
Lack of privacy and personalisation	6.59	1	4.78	2	5.86	2
Easy visibility to managers	3.06	6	2.68	6	2.37	6
Lack of accessibility to colleagues	3.31	5	4.54	3	5.33	4

Source: Authors' own creation

Table 10.
Main issues in ABW settings

Employees from all three case study organisations shared similar views on the issues associated with their ABW layouts. They were mostly dissatisfied with the ability to concentrate due to lack of privacy and personalisation, frequent disturbances from fellow workers and high noise levels. These findings are consistent with previous research suggesting that such experiences can have negative implications for employee productivity (Haynes, 2008; De Paoli *et al.*, 2013). Although employees are satisfied with interactions in open-plan layouts, their overall workspace satisfaction could eventually decrease unless a certain level of privacy is provided in the long run.

Respondents were then asked to indicate their overall satisfaction with the degree to which ABW settings met their wishes and needs. Their overall satisfaction was measured

using a five-point scale, where 1 was “very dissatisfied” and 5 was “very satisfied”. The results indicate that 58% of employees were very satisfied or satisfied with their ABW settings, while 28% were either dissatisfied or very dissatisfied, and 14% were neither satisfied nor dissatisfied. The Mann–Whitney U test results showed a statistically significant difference between the overall satisfaction of male ($M = 56.30$) and female employees ($M = 45.52$), indicating that female employees were significantly more dissatisfied with working in ABW than male employees ($U = 1038.5, p = 0.027$). This suggests that females may feel much higher association with the personalisation of workspaces than their male counterparts. These findings support the existing literature that male and female occupants may experience office layouts differently (Kim and De Dear, 2013). The results also suggest that employee overall satisfaction is negatively correlated with the number of years they had been working in ABW workplaces ($r_s = -0.214, N = 223, p < 0.05$), suggesting that the more time they spent in flexible workplaces, the more dissatisfied they tend to be with such spaces. The results illustrate a statistically significant correlation between employees’ age and overall level of satisfaction ($r_s = -0.188, N = 223, p < 0.05$), suggesting that younger employees tend to be more satisfied in ABW than their older counterparts. This supports the finding that younger generation employees are more comfortable with working anywhere at any time (Joy and Haynes, 2011). These varying perceptions of employees with different backgrounds may create daily issues for many companies. Therefore, the challenge for organisations will be to learn how to incorporate new workplace strategies into practice and how to maximise their use by maximising the interest of employees from diverse backgrounds.

Further improvements required in activity-based working layouts

Finally, employees were asked to indicate what could be done to further improve the operation of their ABW settings. Table 11 depicts the mean scores given for such factors, rated on a five-point scale ranging from “not important at all” (1) to “very important” (5).

Table 11.
Measures to enhance
the operation of
flexible workplaces

Statement	Financial sector		Tech industry sector		Government sector	
	Mean score	Rank	Mean score	Rank	Mean score	Rank
Clearly spelled-out desk- sharing policy	4.89	1	4.71	1	4.75	1
Well planned acoustic designs	4.82	2	4.63	2	4.70	2
Personal control over AC, temperature, lighting and air quality	4.75	3	4.56	4	4.50	5
Access to nature, views and daylight	4.22	4	4.50	5	4.61	3
Minimise the feeling of crowding	4.15	5	4.60	3	4.58	4
Greater choice with different spaces	4.11	6	4.10	6	4.20	6
Sensory change and variability	3.87	7	3.77	8	3.72	8
High-quality building amenities	3.72	8	3.81	7	3.90	7
Unique characteristics of building design	3.61	9	3.50	9	3.45	9

Source: Authors’ own creation

The results show that the employees from all three case studies shared similar views on the areas that need further improvement. A clearly spelled-out desk-sharing policy registered the highest overall importance. This may suggest that ABW settings sometimes turn into permanent desking as some employees always sit at the same desk. This may be related to

peoples' desire to feel psychological ownership of their workplace by personalising it and creating a territory (Hoendervanger *et al.*, 2016). This was followed by well-planned acoustic designs to address noise level control as such offices require good speech clarity over short distances while preventing sound from spreading over longer distances. These findings are supported in the previous literature which identifies important design characteristics of flexible office layouts (Halvitigala and Reed, 2015).

Personal control over thermal comfort and lighting and access to nature, views and daylight were considered as the next important factors. Minimising the feeling of crowding and the availability of a variety of work settings to support a variety of functions were also reported as important. Although high-quality building amenities and unique characteristics of building designs were rated lower than the other factors, the mean scores were still above average on the level of importance scale. Overall, the findings emphasise the importance of meeting the physical and psychological needs of employees who work in these intensive work settings to enhance their work satisfaction and productivity.

Conclusions

The purpose of this paper was to examine employees' perceptions and experiences of the impact of changes in office layouts on the corporate cultures of their organisations. The study focused on large scale organisations in three main sectors – finance, hi-tech and government – who moved to ABW in Melbourne, Australia from 2012 to 2019.

The results identify differences in the perceptions of employees in private and public sector organisations. The public sector employees believed that the prevailing hierarchy culture was not changed noticeably in their ABW settings. This suggests that, despite the changes in their physical offices, public sector organisations continue to emphasise the values of a bureaucratic culture. On the other hand, private sector employees perceived that their corporate culture had transformed into more collaborative structure while keeping pace with dynamic market conditions. These differences between the public and private organisations may be due to differences in their main objectives, access to resources and the nature of organisational constraints. While private sector employees emphasise achieving their goals, public sector employees may still feel that they have a commitment to the public interest. However, the findings could vary with several other factors including the business sector, nature of organisation, employees' demographics and the geographical location. In conclusion, office layouts are artefacts that can either support, or change, the existing organisational culture. The research recommends that it is critical to integrate the cultures, values and behaviours of organisations and their employees when designing appropriate office layouts.

The findings identify the importance of having clearly spelled-out desk-sharing policies, well-planned acoustic designs, personal control over thermal comfort and temperature, access to nature, views and daylight, reduced feelings of crowding and greater choice of space to enhance employee satisfaction and productivity. It is identified that the nature of office layouts can affect the motivation of employees by providing conditions that promote their positive functioning and psychological needs.

The findings highlight the benefit to organisations of assessing how employees experience the impact of layout changes, both on the job and the organisation. This study recommends the necessity of engaging employees thoughtfully, to not only evaluate the success of new layouts but also identify the specific features that need to

be improved to enhance their satisfaction and productivity. It emphasises that ABW can lead to desired employee behaviour, but only when their suggestions and issues are incorporated into the design and redesign of spaces. Therefore, office designs should focus on meeting the requirements of the employees and the functional needs of the organisation, rather than on saving space or creating aesthetically pleasing, but dysfunctional buildings.

The limitations of the study present new opportunities for future research. In future studies, the authors will examine the changes in the culture of organisations since the COVID-19 pandemic, as many employees continue working remotely. It is expected to qualitatively examine their views by conducting interviews to obtain an in-depth understanding of their perceptions and experiences. Such a broader analysis will provide the context for a more inclusive understanding of the perceptions and behaviours of ABW occupiers in different market settings.

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