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Workplace Review

Global Workplace Insights 2018

Full Report

Rapal | Publication March 2018

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Introduction

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Background

Optimaze Workplace Review is a space utilization benchmark report that we have published since 2014. This is the 4th report in order, and it aims to provide comparative data to help organizations assess the efficiency of their own space use, discover cost savings potential and analyze their employees' needs and workplace satisfaction. The review keeps evolving every year.

The first space utilization benchmark was conducted in the Helsinki metropolitan area during 2014 and featured a smaller sample of private-sector companies.

The next year, in 2015, the review of space utilization measurement data was expanded to cover all of Finland and to include municipal and governmental offices. The 2015 study covered over 200,000 m^2 (2,152,782 ft^2) of office space in 48 buildings and spanned 177 floor levels. The utilization rate measurement data encompassed a total of 10,269 workstations, of which 59% were in public-sector offices and 41% in the private sector. 732 meeting rooms were also covered in the analysis. A total of 1,277 people responded to the work environment survey.

In the third review, the 2016 data analysis covered 330 observational studies in 111 buildings and 378,900 m^2 (4,078,445 ft^2) around the world collected from 15 countries in three major market regions. The space utilization studies explored the workplaces of more than 23,000 people.

The 2018 report

This 2018 report takes a look at the observational workplace study results from 2016 and 2017 gathered from 16 countries.

In it, we take a look at some 846 observational space utilization studies in some 229 buildings, spanning over more than 70,700 workstations and nearly 6,500 meeting spaces with about 42,700 meeting seats. In addition, nearly 25,400 other seat types were observed during a total of 26,000 walkthroughs conducted, with about 30,8 walkthrough rounds made per measurement on average. This makes for over 4.28 million observations of seat use in the past two years. The office floor area covered amount to nearly 860,000 m^2 (9,246,500 ft^2).

We also take a look at the activities at the offices, and at the views of a selected group of workplace survey respondents.

Using our Optimaze software and a standardized, systematic methodology for all data collection throughout the years and across all geographical locations, the Optimaze Workplace Review benchmark data now provides a unique glimpse of how office users allocate and use their space.

You, the reader, have surely not escaped the hype about how digitalization, robotics and artificial intelligence combined with the demands of the Y generation drives change at an unprecedented pace to business models, job markets, organizational models and structures, customer services, internal processes, smart buildings and transportation, ways of working - to name a few.

This report attempts to make use of the data collected from numerous customer projects, and is a preliminary attempt to investigate how technology enabled flex work is on the rise, and how this changes our patterns of work, our space needs, and the use of office space and other locations outside the main office.

The theory is, that the new found increased mobility is good for employees as well as cost savings in real estate. Is there then a connection between real estate metrics (such as office type, space density and utilization) and employee experience?

It also seeks to understand the perspective of the space users themselves, and find out if the hypothesis of the agile office with desk sharing really is the ticket to organizational bliss.

"If, hypothetically, increased collaboration is connected to higher productivity and innovation - what factors are most clearly linked to higher degree of collaboration at the office?" This is the type of questions we set out to look for answers to.

We hope you will find the results and conclusions within this report useful, whether it is to identify points of comparison or to make a case for conducting space utilization studies of your own.

Pontus Kihlman
Executive Consultant, Rapal Oy

Increased mobility is driving workplace change

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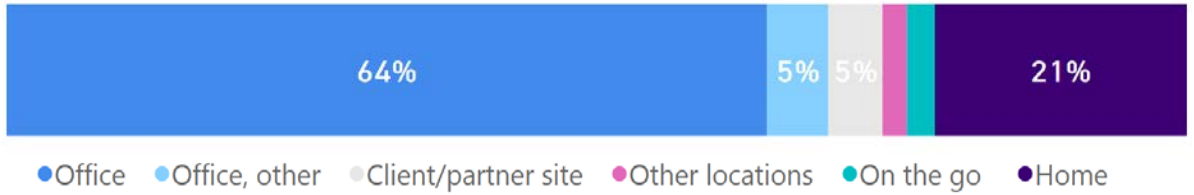
86% of work is on average done at the main office

64% is the desired time spent at the main office



31%

of those who are present at the office are **internally mobile**, i.e. have left their desk temporarily unoccupied

39%

of the workforce is **externally mobile** at any given time, based on workplace observations

Where people work (if they could)

We asked office users to estimate how much time they currently spend working at different locations on a typical work week. The first graph shows the distribution of answers at the time of responding to the question.

When asked about personal preferences of where work would be performed - assuming technology and company policies allowed for it – respondents gave answers that are shown in the lower graph.

People want to work from home about

21%

of a typical work week

What our surveys tell us

People working in open offices say they spend 88% of the time at the office, but would like to decrease it to 65%, whereas workers in Activity based offices spend 74% in the office with a wish to decrease this to 55%. The same figures for enclosed offices are 87% (78%) and combi offices 86% (64%).

No significant differences were found between the private and public sector, except for one clear difference. In the private sector, time spent outside the office is spread over more locations, including client and partner locations, on the go, cafés and other third places (about 7% at home, and 5% elsewhere), whereas the public sector spend most of the remote working time (14%) at home.

Time spent at the office would decrease by **-22** percentage points if people had a choice and the ability to do so

Remote working is on the rise. In 2016 people said they worked from home about 4% of the time, but wished it to be 18%. In 2017, working from home had increased to 11%, and the desired state to 29% of the total work time.

A day or two from home, if home at all

Amount of working from home, if at all

Based on our workplace surveys*, 63% of all respondents said they currently do not work from home at all.

85% of those who were able to work from home at least part of the time, spent on average up to one full workday (of five) doing so. Only 17% averaged more than one full day a week working from home.

If given the choice and ability to work more from home, 28% of workers would still prefer not to work from home at all. Of those wanting to work from home at least in part, 49% of respondents would spend more than one full day doing so.

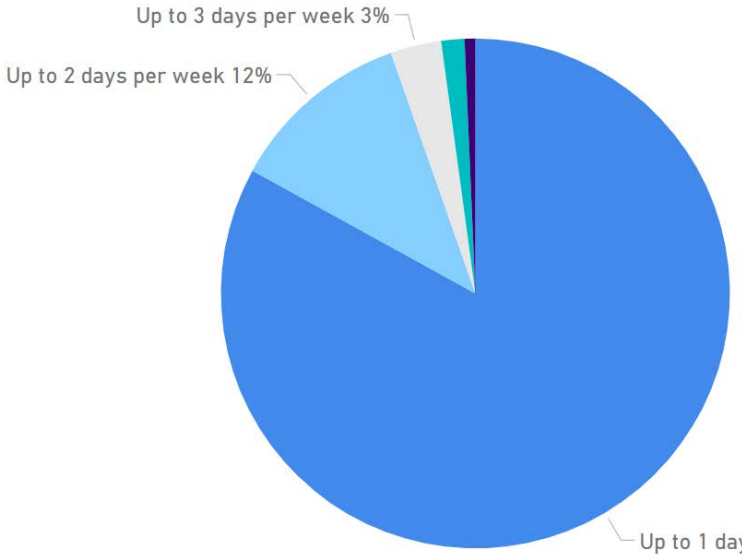
Of people who took part in the surveys, only 9% currently spent less than half of their work week at the office; whereas 74% of respondents spent more than 80% of their week inside the office.

** See more on the survey control group for this report in Employee Experience section, where more survey results are discussed.*

If given a choice, 24% of all respondents would prefer to be externally mobile, i.e. spend less than 50% of their time at the main office. The number of office residents (who spend more than 80% of their time at the office) would decrease to 40%.

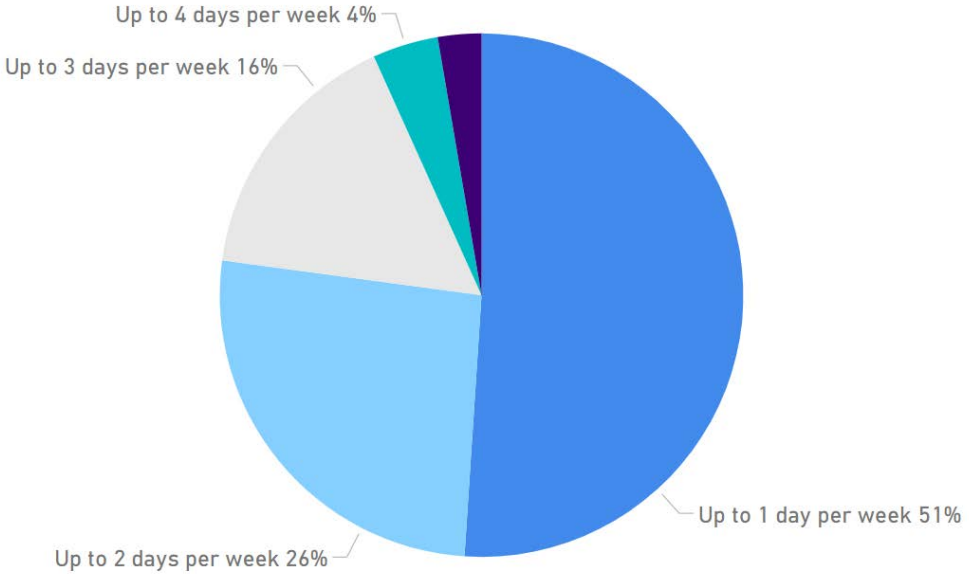
In sum: among the many drivers for change in the workplace, the new mobility enabled by technology is a real and common one.

Distribution of working from home, when able currently



In the following sections, we will look at what impacts mobility and other changes in modern work cultures have on office use.

Distribution of working from home, if given the ability and freedom



Using this review

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This review is intended to provide support and a point of reference and comparison for those who have conducted space utilization studies in their own office spaces. This vast collection of data may also provide a point of reference for various service providers to compare to. It is of course important to understand that while averages are great for comparisons, variations may be extremely large. And what works for some, does not often apply to others. In other words, we always encourage involvement of personnel to create the best user-based designs that work for your specific workplace and culture. That said, perhaps these statistics can provide some interesting reading and provoke some thoughts in the reader, whether you have already started to measure your office spaces or not.

There are many reasons for which organizations conduct space utilization studies. Managers, architects, designers, facilities and real estate professionals, and workplace consultants may encounter one or many of the following needs, while striving to optimize space use and allocation with limited resources:

- The need to create a business case or to bring facts to the table for strategic decision making
- Information for investment planning and CRE portfolio and campus optimization
- Fact-based mobilization and change communication for employees
- Situations when a company is planning a move or conducting a refurbishment of office space, in order to define, plan and allocate spaces through a design program and design brief
- Assessments of pilots of work environment trials before rolling out larger changes
- Continuous tracking and measuring as part of strategic workplace management and continuous improvement
- Evaluations of spaces and their fit for purpose
- Tracking changes over time
- Highlighting over- and under-use of specific spaces or locations, perhaps in connection with plans for growth, consolidation, acquisitions or mergers
- Investigating the working culture and habits of the organization

Readers are responsible for independently assessing the relevance, accuracy, completeness and best use of the information of this publication. Readers should be aware that minor variances in methodology, interpretations of definitions and observer errors may have presented some margin for error in the source data, and that averages do not represent the entire picture, as variances may be great. Readers are therefore encouraged to always conduct space utilization investigations of their own space use and space needs, to gather customer-specific data when encountering one or more of the above-mentioned situations.

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Workplace Activities

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Activities at the office overall

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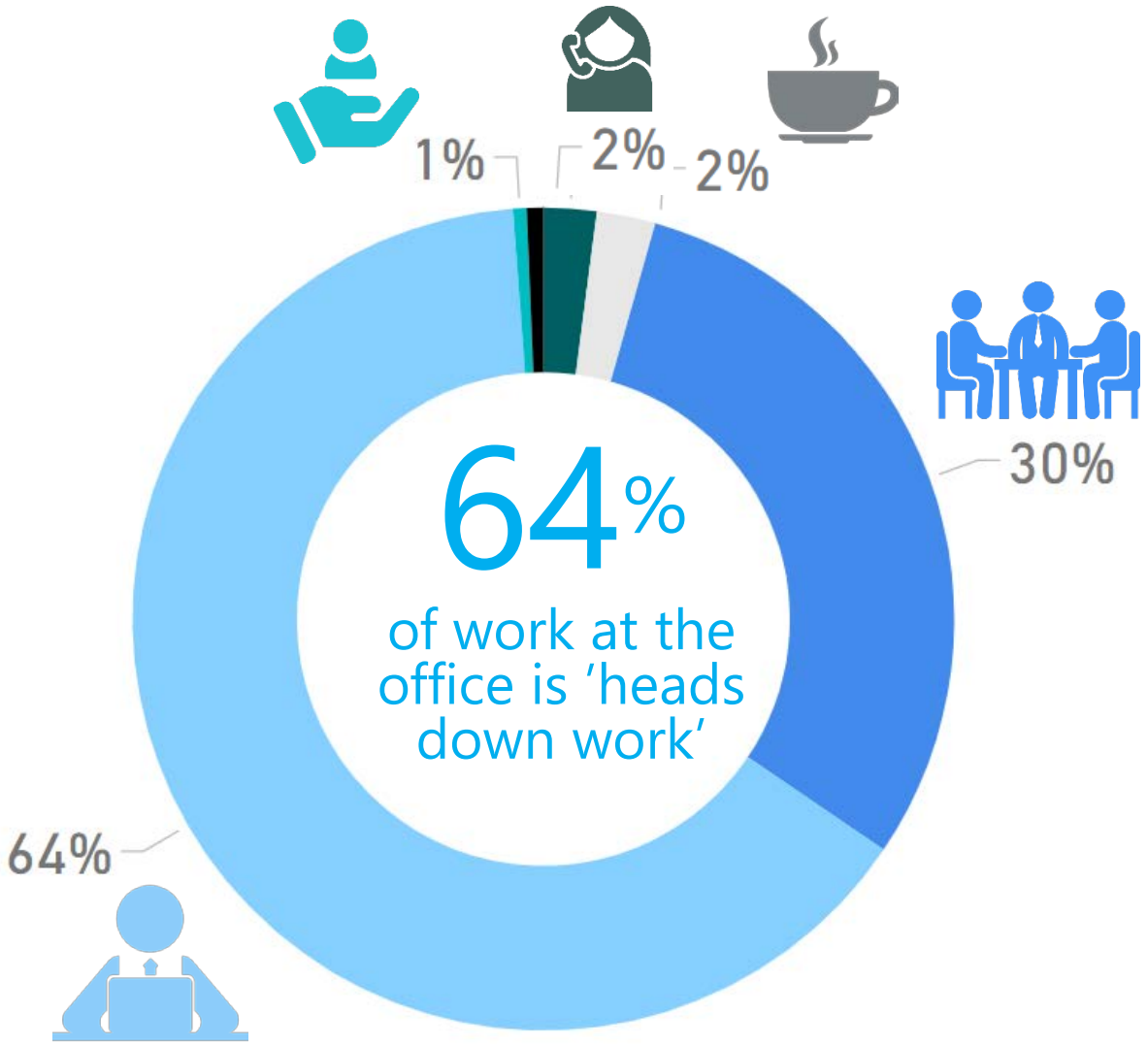

Key takeaways

Individual work is clearly the most common activity observed at the office. Focused work continues to be the main work mode for knowledge workers and should therefore be the foundation that workplace development builds on, even if encouraging more collaboration between employees is the current trend.

Although important for exchange of ideas and improved communication, these are more moments for connecting, between moments of intense doing.

- Calling
- Collaborating
- Concentrating
- Creating
- Customer service
- Other / Not observable
- reCharging

Grouping of activities

Concentrating (or Individual work). Focused, heads down work done alone that requires concentration such as reading, thinking, using a laptop, writing notes and reviewing documents. Can be done alone, or among others.

Collaborating. Two or more people working together sharing knowledge/resources, such as in a meeting, classroom training or when solving problems and negotiating.

reCharging. One or more people taking a break, socializing informally, chatting and recharging during the workday.

Calling (or Communicating). One or more people having a telephone conversation or video conference using fixed or mobile technology.

Creating. Manual work and tasks including manufacturing, repairing, cleaning, using machinery such as copy machines.

Customer service. Face-to-face interaction in a service situation taking care of the customer's needs by providing professional, helpful service and assistance.

Other / Not observable. The activity was not categorized or observed.

Activities in different office settings

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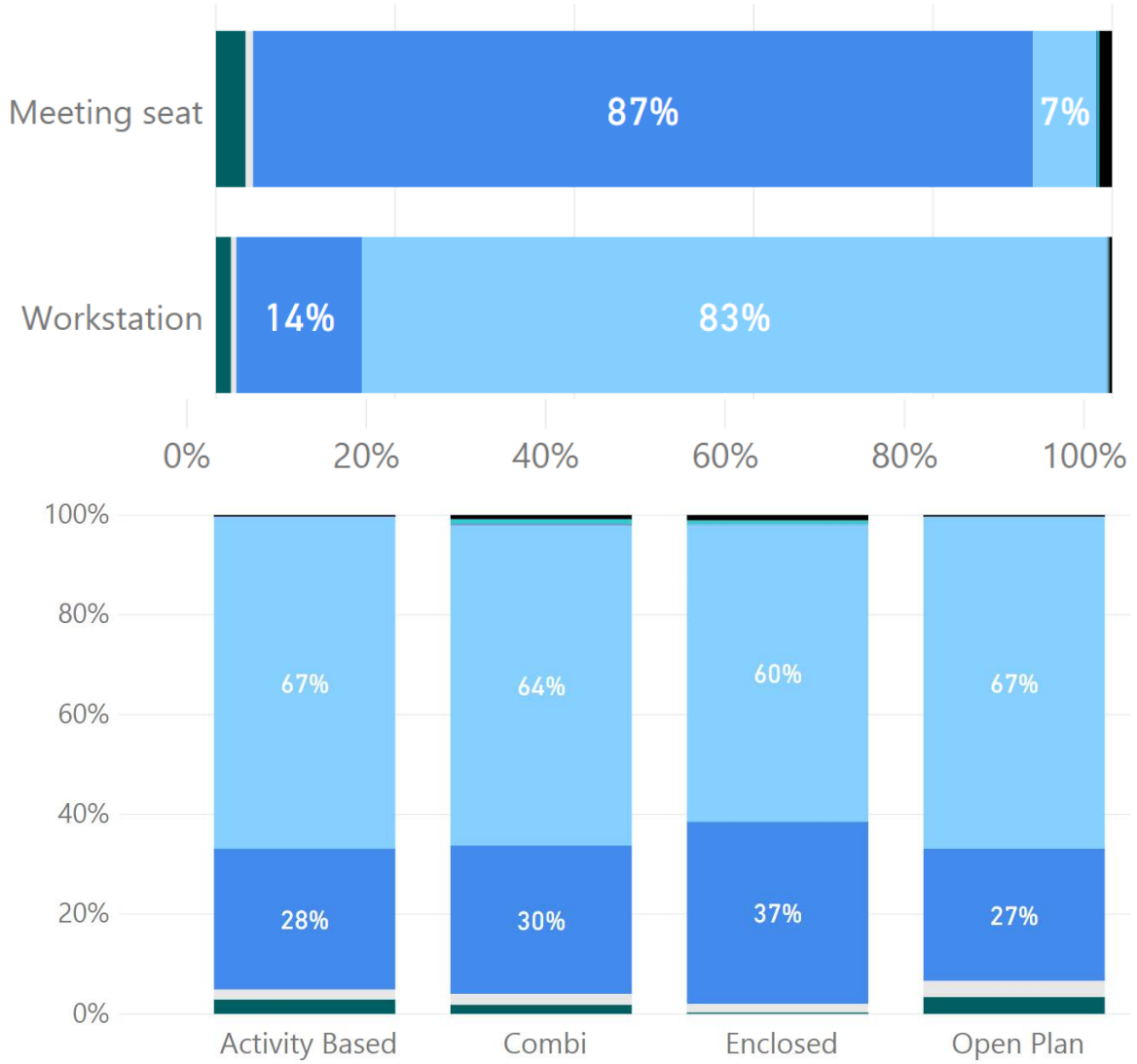
Key takeaways

Interestingly, observable collaboration was most commonly found in enclosed offices, at 37% of all activities, whereas activity-based offices that are supposed to be designed for more collaboration had much less of it at 28%. It is up to the reader to draw conclusions as to why this is, but there may lie something in that increased chance encounters at the office tend to reduce the need for formal (observable) meetings, in the same way as open desk environments encourage spontaneous discussions from one desk to another without having to walk over to the other person (as one has to do between rooms, and thus be observed as collaborating). See the section on the activities found in meeting spaces to dive deeper into this subject.

Note that collaboration by workstations was fairly common, at 14% of all activities performed at the desk. While meeting areas were predominantly used for collaboration (87%) they also served as places for solo working at 7% of the time.

- Calling
- Collaborating
- Concentrating
- Creating
- Customer service
- Other / Not observable
- reCharging

Observable collaboration *appears to be* most common in enclosed offices, at 37%.



Office cultures in different regions

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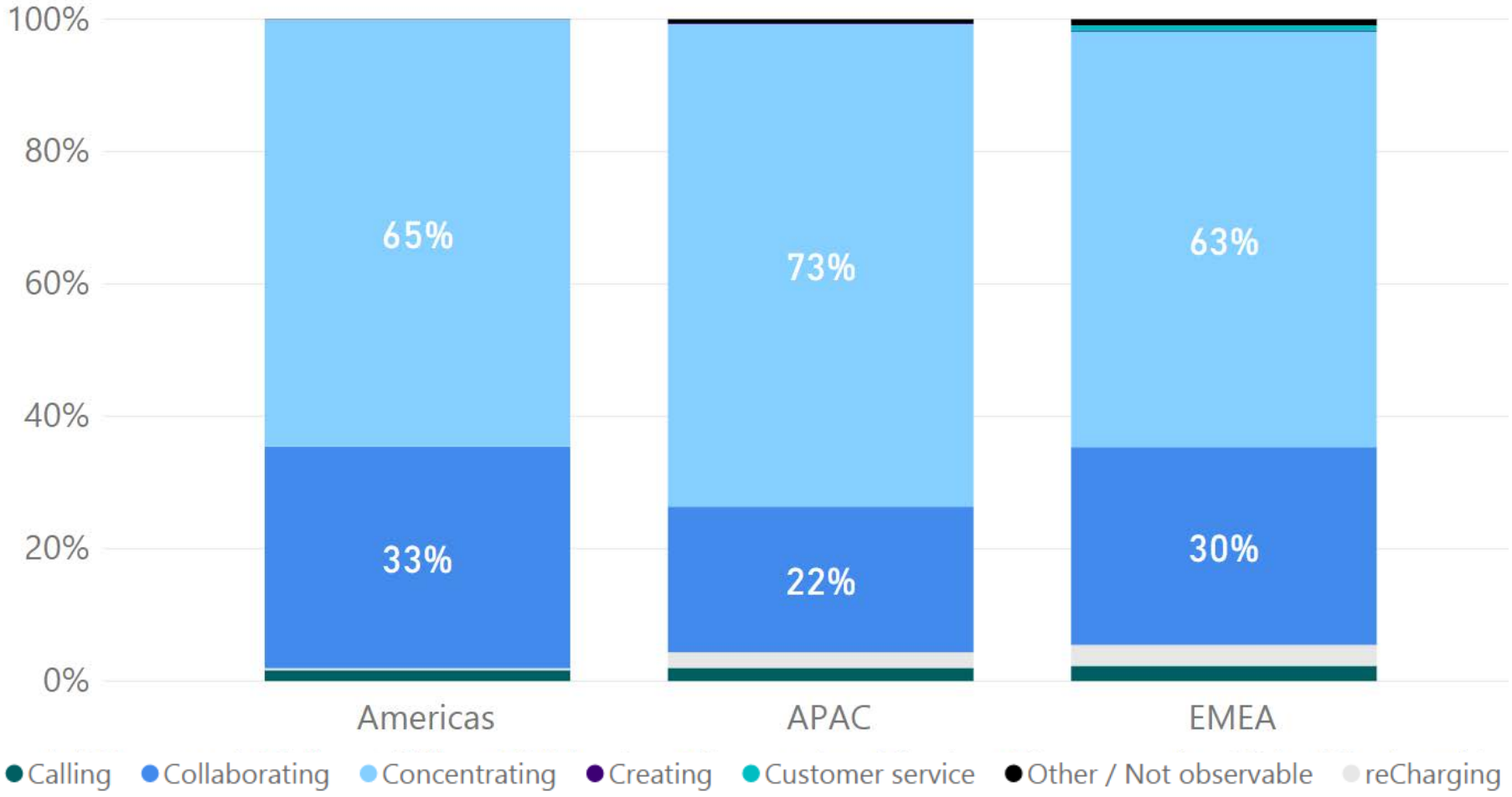
Key takeaways

The amount of collaboration varies between **the most meeting oriented Central Europe and the UK at 37%,** to only 11% in Africa and the Middle-East. Asia is also modest in the amount of collaboration (22%) in comparison to the Nordic countries (28%) and the Americas (33%).

When grouped into a larger region of EMEA, the stark differences between Europe and the more southern countries even each other out to an average of 30%. This makes the **Americas appear to be the most prone to hold meetings at 33%**.

Asia was observed to be the most individual work focused region in the dataset, with 73% of all activity being solo work. The least concentrative work was performed at the offices in the EMEA countries (63%), in particular in Central Europe and the UK (59%).

It is important to note, that these are observations made at the office – not at work overall. **Cultures that promote remote work, are more likely to have less observable individual work at the office, as it can be performed elsewhere.**



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Meeting Culture

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Physical attendance in meeting spaces

78%

of all meetings are between

4 people or less

85% Activity Based

76% Combi

65% Enclosed

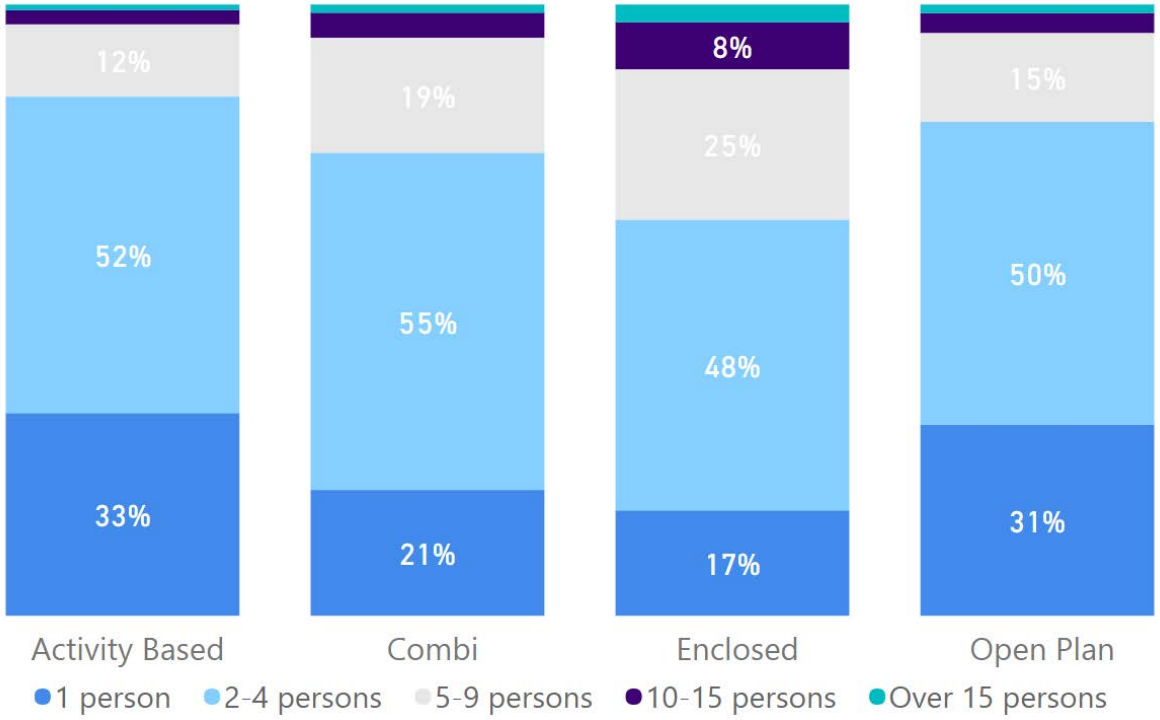
81% Open Plan

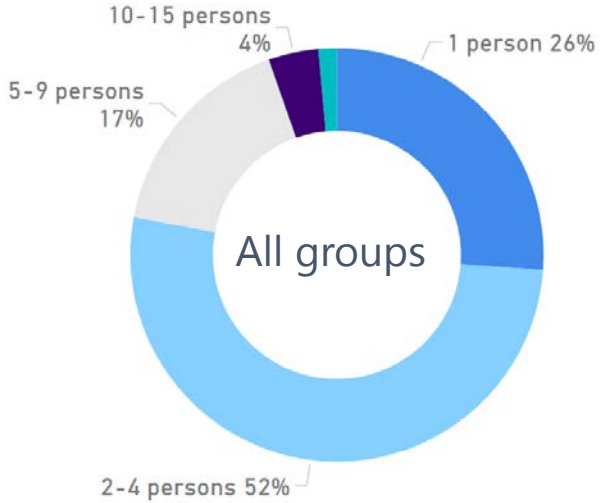
79% Private sector

74% Public sector

Meeting spaces are on average occupied by 4 people or less 78% of the time. Enclosed offices used meeting spaces more frequently for larger meetings, than users of other office types. In activity based offices 33% of the time only one person used the space, and in open offices 31% compared to 17% in enclosed offices.

No apparent differences could be found between the public and private sector regarding the ratios of group sizes using meeting spaces.





Optimizing space: Matching groups with meeting spaces

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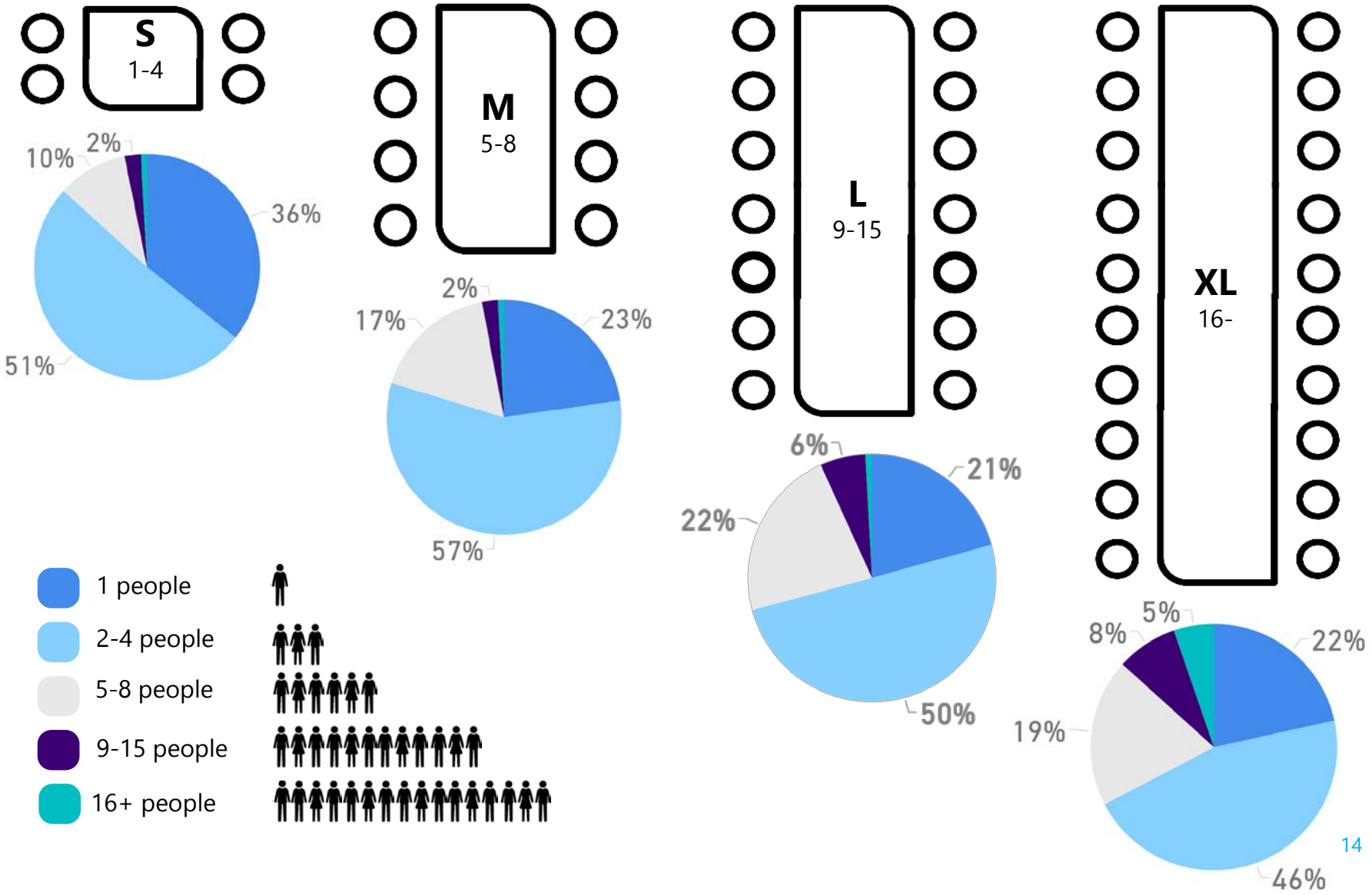
There is a mismatch between the sizes of meeting spaces, and the sizes of groups that use them. Video conferencing, online and phone meetings may be one explanation as to why there are so many "1 person meetings". It may also be hard to book rooms in advance that correctly predicts the right amount of attendees.

The lack of quiet spaces for individual focused work in an office with workstations in open areas may also contribute to the use of meeting spaces for individual work, as there are no other options for distraction free settings around.

Larger meeting spaces are rarely used to their full capacity

but serve a wider range of group sizes.



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Meeting Spaces

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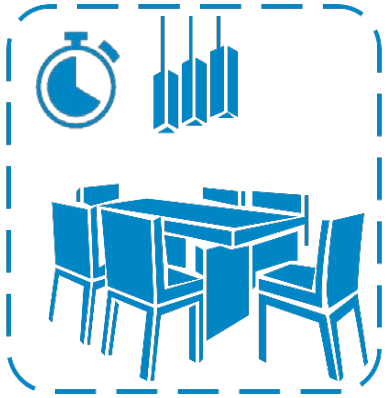
Meeting space utilization frequency

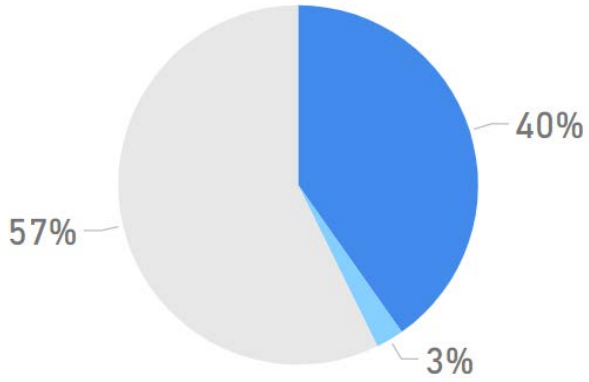


Key takeaways

Meeting spaces, including formal meeting rooms and more informal meeting points are on average in use 43% of the time. Across the week, the daily peak average reaches 57%. However, theoretically the average office would have about one meeting space in five out of use at all times. In other words, 19% of meeting spaces were standing empty at peak use when looking at all the data of this study.

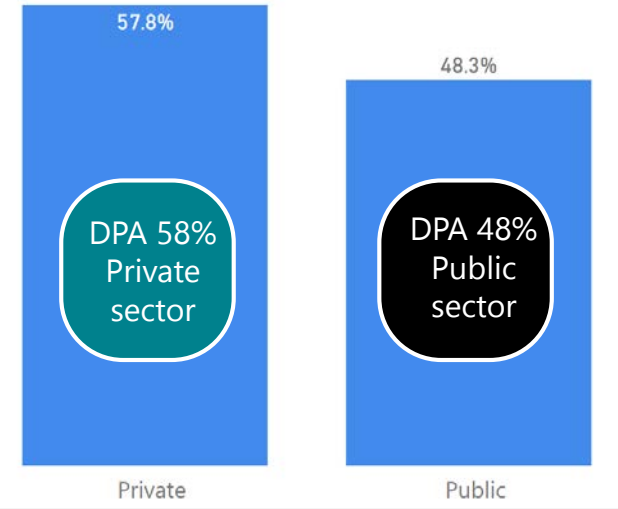
43%

Meeting space
Utilization Frequency Average



57%

Daily Peak Average
of meeting space utilization frequency



Meeting spaces' Avg. Frequency	Meeting spaces' DPA Frequency	Meeting spaces' Peak Frequency
43 %	57 %	81 %

19%

of meeting spaces are **empty at any given time** across the week

Meeting space utilization frequency by size

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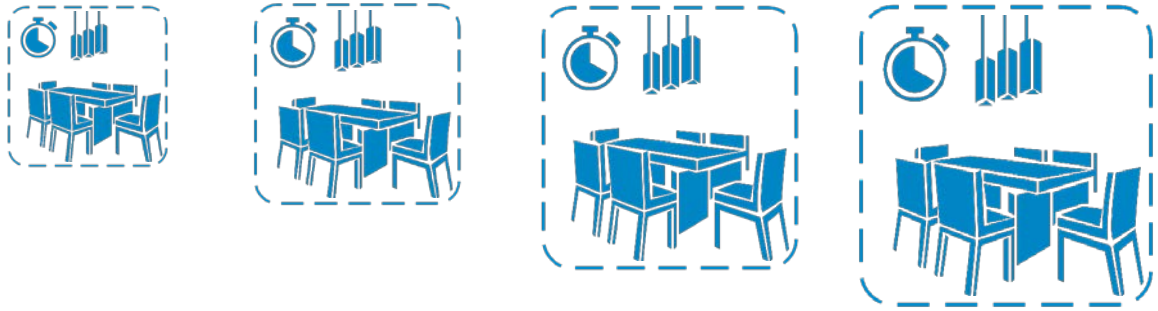
Key findings

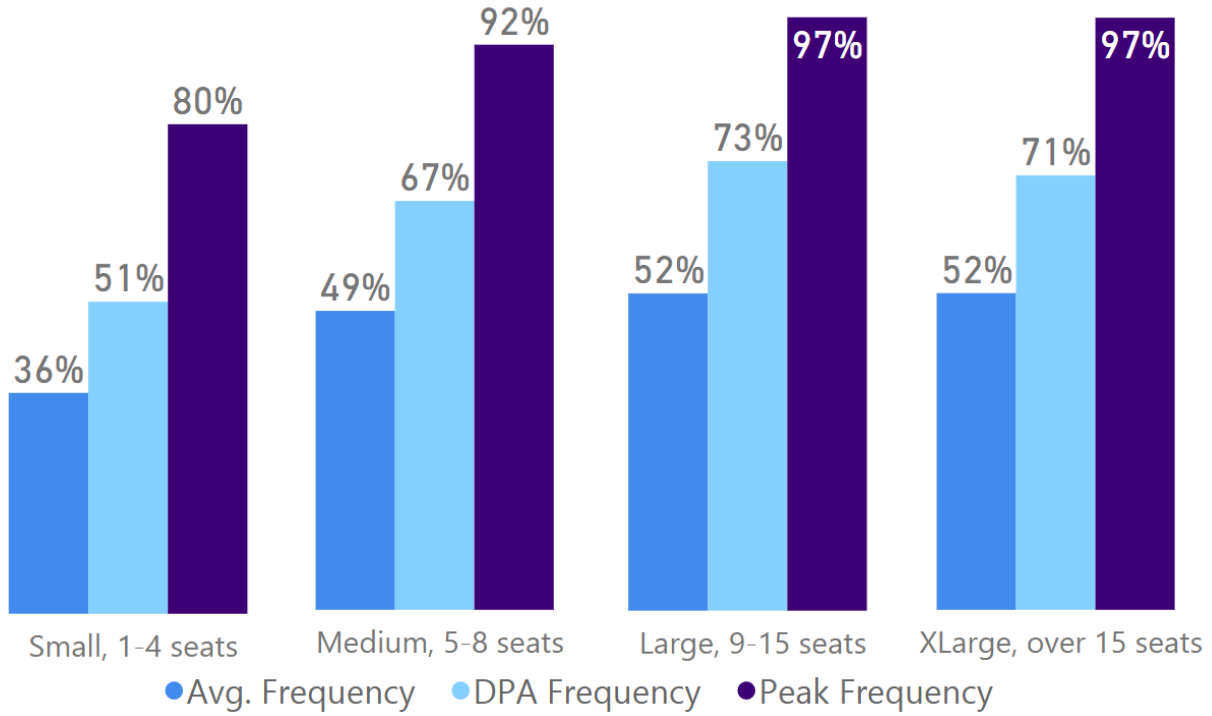
By segmenting meeting spaces into categories of size, we can analyze the utilization frequency of meeting spaces a bit deeper.

The statistics then tell us that larger meeting spaces are used to a much higher degree than smaller ones.

This can be the result of a few different factors:

- There are typically fewer large and extra large meeting spaces available than there are small ones, and are therefore shared more
- Larger meeting spaces are often more versatile, flexible and equipped for different uses than small ones, and thus attract more users
- Smaller meeting spaces are limited to hosting small groups, but large spaces are not limited to only large groups
- Meeting rooms are often booked based on the number of maximum people (potentially) attending, just in case.





Key

Average. Average value of use from all walkthrough observations throughout the measurement period. Most commonly used for benchmarking purposes and making business cases for change.

Daily peak average. Average of the peak value for each day. Design decisions that utilize data for calculating desk-sharing ratios should use average daily peaks to build in a buffer and to create a solution that has some overflow capacity.

Peak. The single highest observed utilization or frequency rate during the measurement period. Reversely used for estimating how many seats or spaces at least are free at any time.

Meeting space utilization DPA frequency by office type

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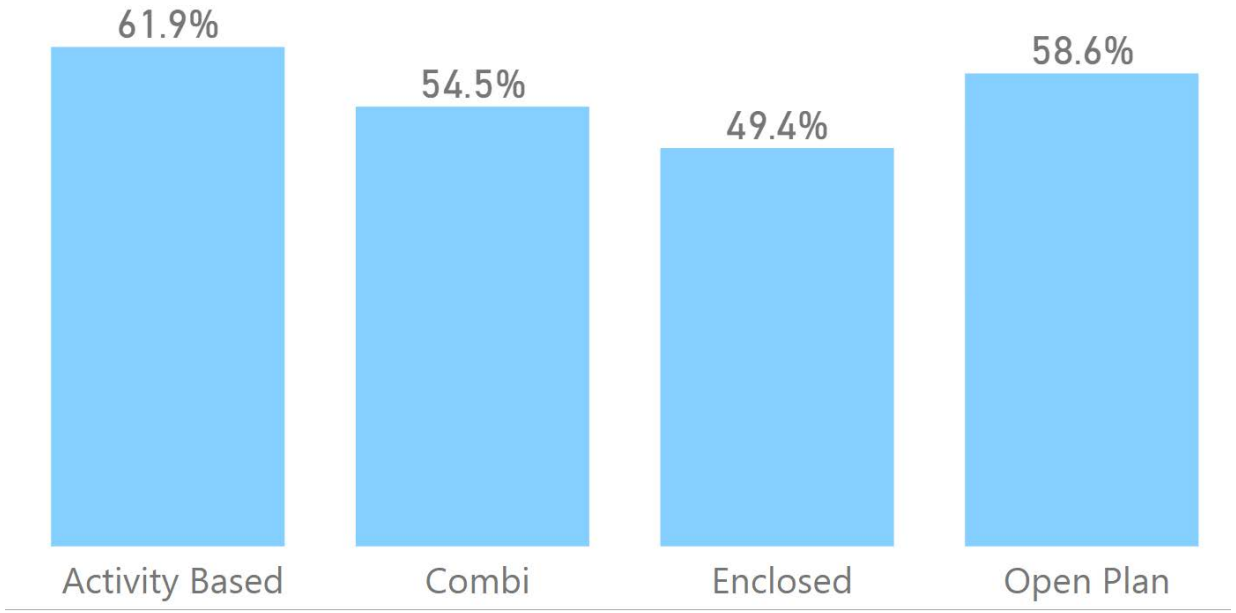
62% Activity Based

55% Combi

49% Enclosed

59% Open Plan



Daily peak average. Average of the peak value for each day. Design decisions that utilize data for calculating desk-sharing ratios should use average daily peaks to build in a buffer and to create a solution that has some overflow capacity.

Key findings

Meeting spaces in activity-based offices are occupied more often (62% of the time) than other office types, eg. enclosed offices (49%).

By comparing the frequency rate of meeting space usage between activity-based offices, and enclosed offices, as well as the ratio of collaboration as an activity at these meeting spaces (80% for activity-based, 96% for enclosed offices), we can see that in absolute numbers, there is more collaboration encounters taking place in ABW settings than in enclosed office settings.

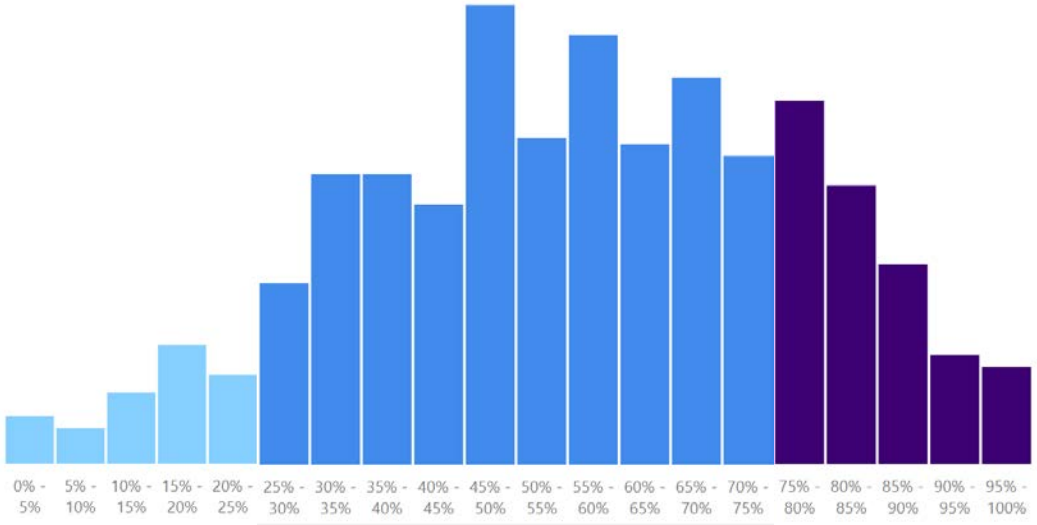
Conceptions of available meeting rooms

It can be hard to find a meeting place sometimes

Sometimes discussion can be heard in the workplace that there are not enough spaces available to hold meetings. We decided to take a look at how common this situation is, by looking at the distribution of observed utilization frequencies, and the utilization rates of their seats.

Are there any free meeting rooms?

The graph below shows how often meeting rooms are ”rarely in use” (light blue) or ”rarely free” (dark blue), based on the distribution of DPA values for each meeting space.

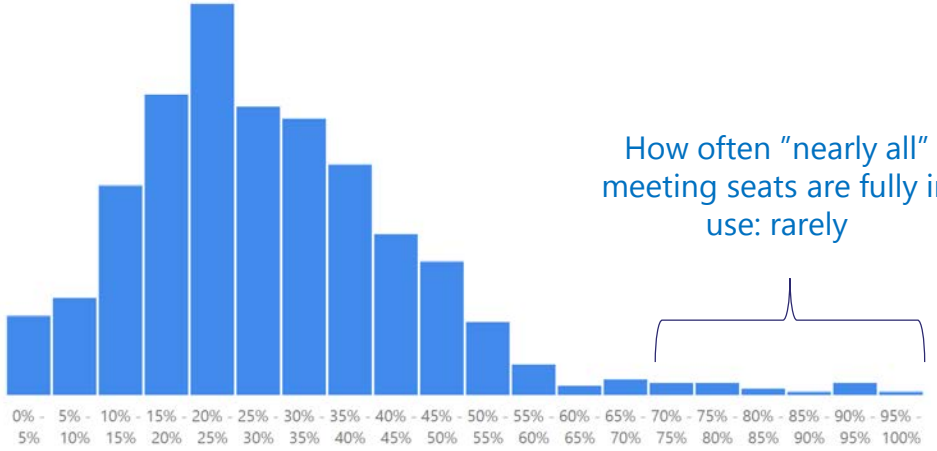


When it comes to the meeting spaces themselves, the utilization frequency is fairly evenly distributed, between 30% to 80%. Thus, in most cases, there are always meeting spaces available, but it is quite rare that meeting spaces were close to being unused. More likely, there were cases with a shortage of free meeting spaces.

How often are meeting rooms full?

The second graph below shows how often meeting seats in meeting spaces have a low or high utilization. In other words, the distribution of how often a certain utilization rate was observed. The further right you go on the X-axis, the higher the utilization rate, which indicates that the room is typically very full.

We can see from the data that this was not the case very frequently.



Meeting space utilization frequency and time

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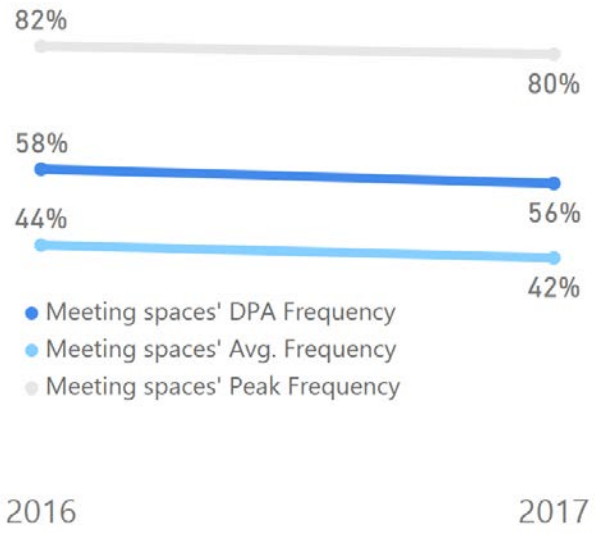
Yearly change

The yearly changes for utilization frequencies are barely noticeable when looking at averages. The graph below indicates the results of only 2016 and 2017, however they are in keeping with our earlier findings from 2014 and 2015.

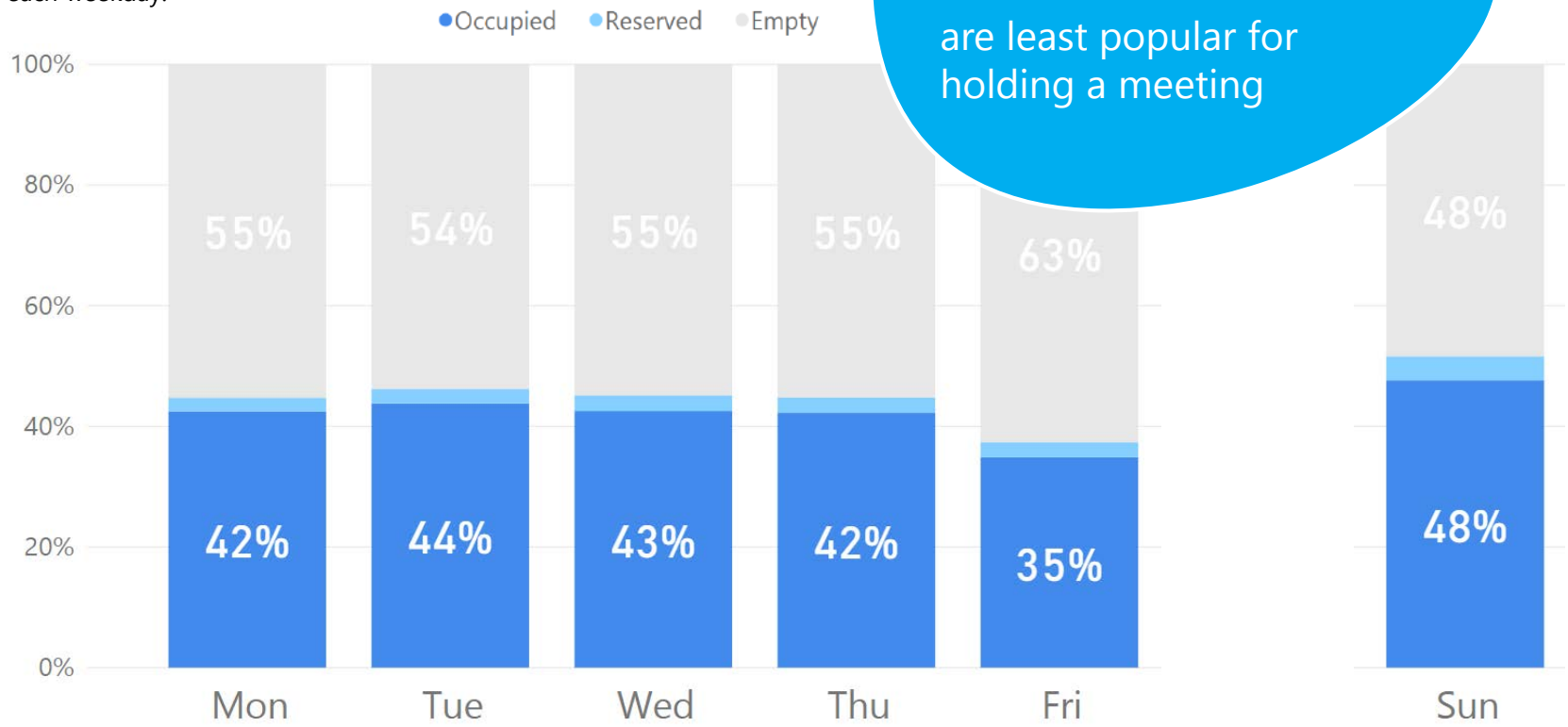


Daily change

The status of meeting seats is fairly stable across a typical work week, but has a clear drop on Fridays. The bar graph depicts meeting spaces in use (dark blue), temporarily unoccupied, i.e. reserved (light blue) and unoccupied (grey) on average each weekday.

FRIDAYS

are least popular for holding a meeting



Utilization of meeting seats

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Key takeaways

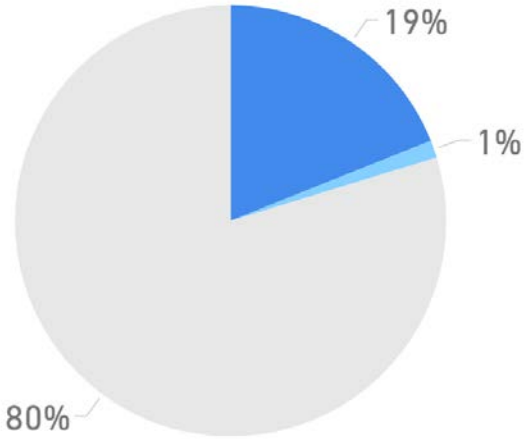
The average utilization of meeting seats is very low, as a direct consequence of increasingly smaller meetings. The usage of meeting seats sits squarely around 20%, and even at peak use, about half of all meeting seats are not being used. This is a huge potential waste.

It would therefore seem that offices in general should investigate more deeply, how large meeting spaces they really need, and how many. In other words, "rightsizing" meeting spaces could be one way to support current meeting cultures better.

You can always find at least

50%

of meeting seats empty



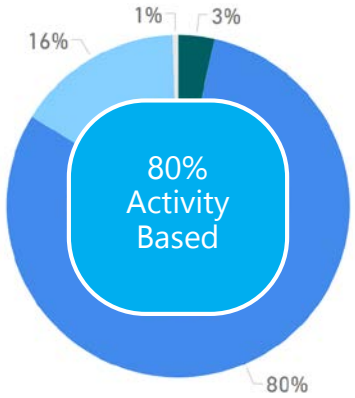
20%

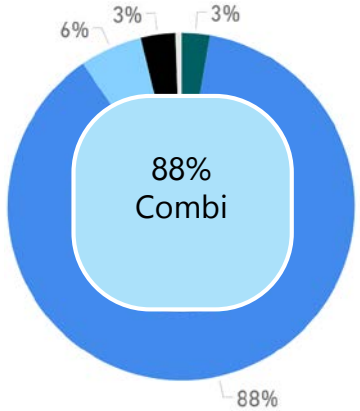
Average utilization

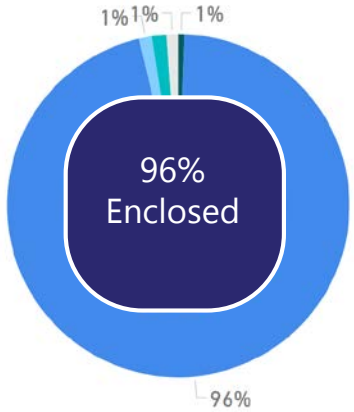
29%

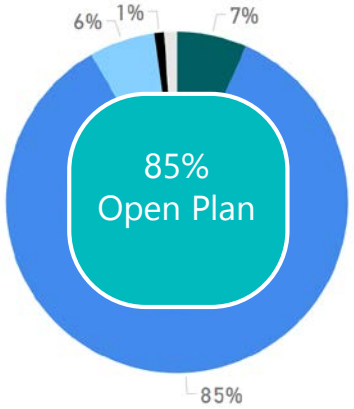
Daily Peak Average, All

Utilization of - and activity in - meeting seats









Daily peak average. Average of the peak value for each day.

Key Findings

In the chapter on activities, we concluded that it would appear that the proportion of collaboration at enclosed offices is higher than in other types of offices. In fact, this is clearly true when looking at specifically meeting spaces (see circle graphs). However, when combining this view to how frequently meeting spaces and their seats are in use (bar graph), we find that the absolute number of collaboration encounters seem to be higher in meeting spaces of activity based offices.

Also, by studying activities in meeting spaces per office type, we see that in open plan offices phone calls are significantly higher than for others, while activity-based offices host a lot of individual working as well.

- Calling
- Collaborating
- Concentrating
- Creating
- Customer service
- Other / Not observable
- reCharging

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Work Seats

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Utilization rate of work seats

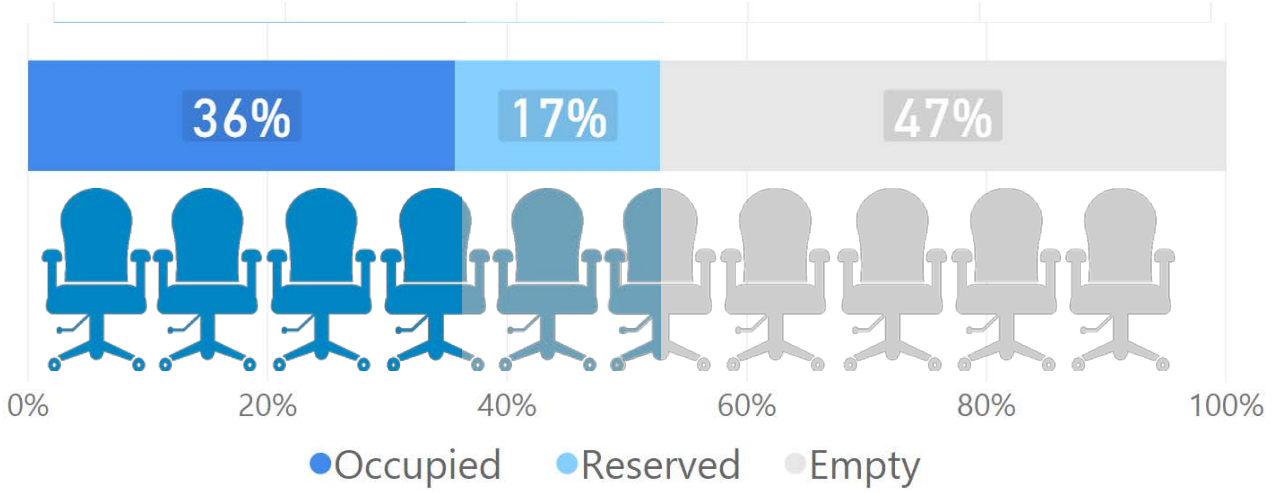
Key takeaways

The average rate work desks are either in use or temporarily unoccupied during peak times of each day is 53%.

Assigned vs. shared

Activity based offices were found to have the lowest desk utilization rates in this study. Companies seem often to be too cautious when planning a move into activity based offices, with too little desk sharing and a too low headcount per seat ratio. By designing activity based offices with nearly one desk per person, a great opportunity to create more buzz at the office is lost as more and more desks stand unused through an increase in remote working.

In our 2016 observational data, roughly 18.600 desks were considered assigned to a particular user, while about 10.300 were shared desks. Unsurprisingly, assigned seats had a higher daily peak utilization rate (62%) than shared seats (41%), as they are typically used in work cultures that have not implemented desk sharing and flex programs to a wider part of the organization.



53%

Daily Peak Average Utilization Rate of Desks

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29%

of all workstations were empty at any given time

Based on the peak utilization rate, **29% of all work seats were always empty.** This means in practice, that workplaces have a lot of desks that could either be shared and used by more employees, or be reduced.

While enclosed offices and combi offices were close to the average, open plan offices had the least constantly free seating at 26%, and activity based offices the most at 32%.

22,210 theoretically always empty work seats were found among those 70,759 studied

Work seat utilization: inactive vs. active lodgers

optimaze

Key takeaways

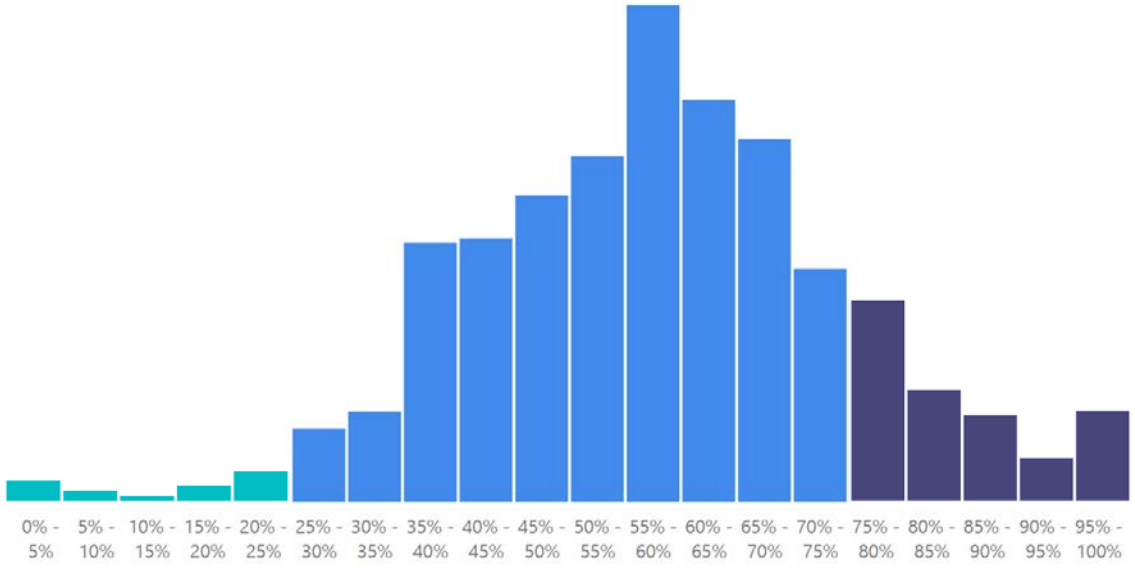
We did not find any noticeable differences in utilization rates between the private and public sector measurement data.

However, when we looked at how commonly different desk utilization rates were distributed among the different measurements (see bar graph below), we found that there are clear and distinct differences between high users, midranges and low users.

Daily Peak Average Utilization Rate

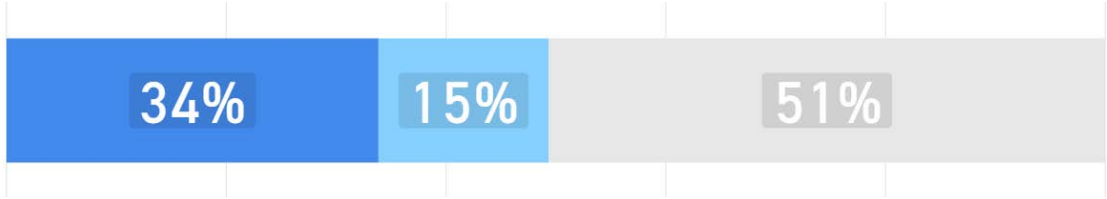
80%

among most active desk users

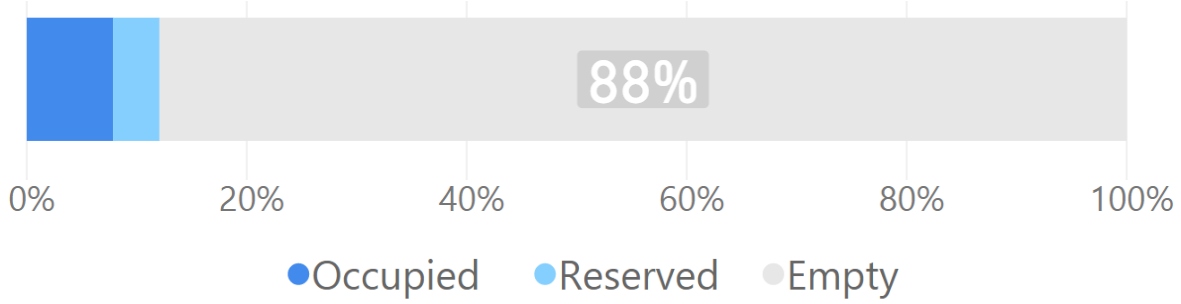


Utilization for those with DPA 75% or above

Utilization for those with DPA between 25% and 75%



Utilization for those with DPA 25% or below



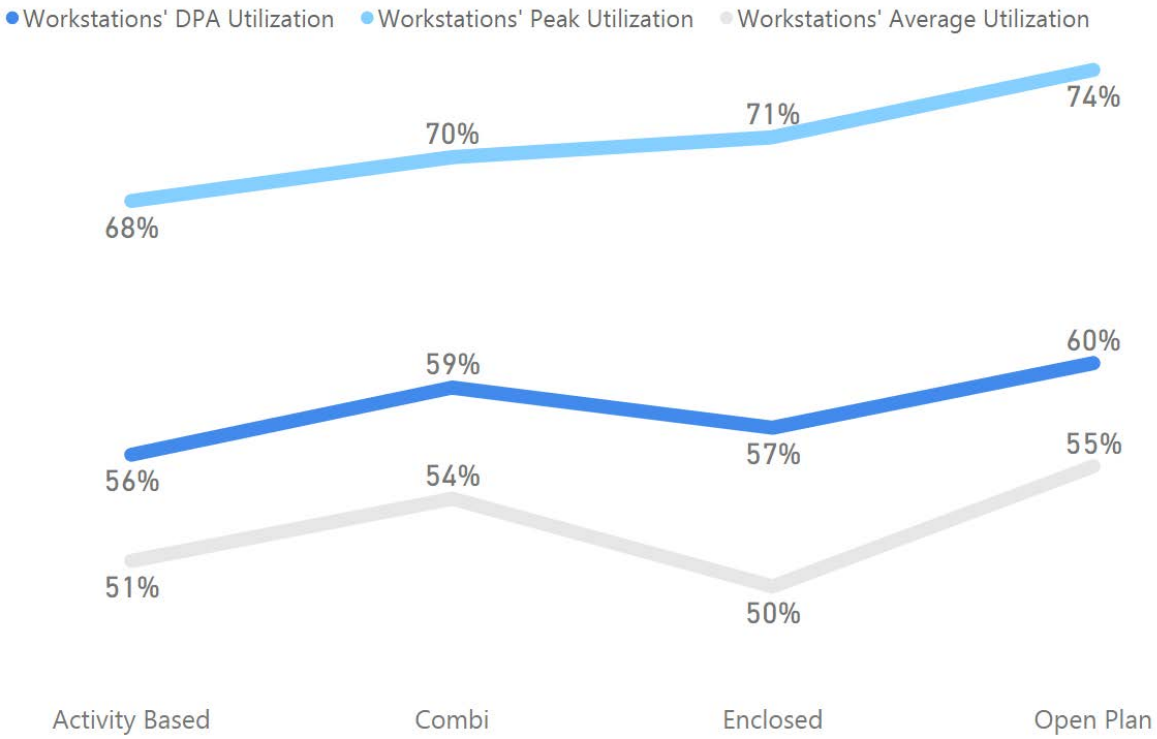
Work seat utilization rate by office type

Activity based offices have the lowest desk utilization rates. Open offices have the highest.

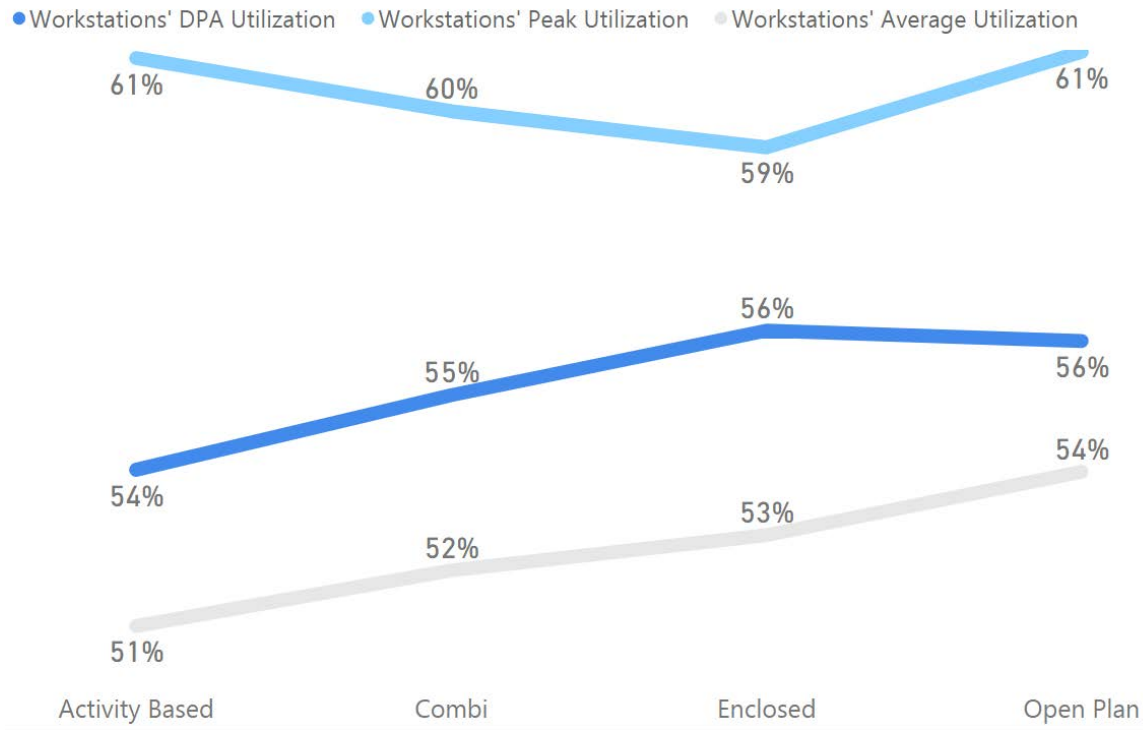
The differences between office types are negligible. The average utilization rate seems to fluctuate between 50% and 55%, and the daily peak average between 56% and 60%. However, the fluctuations can still be great. The ones with a work seat utilization DPA over 75%, have a DPA between 84-86%, while those with a work seat utilization DPA under 25% average between 12-21% (DPA).

Those offices with a daily peak average of desk utilization somewhere between 25% and 75% can perhaps represent a general midrange that excludes outliers at either extreme. When looking at the midrange performers, we can see that average desk utilization usually varies between 51%-54% for different office types. The differences are small also for daily peak use (54%-56%) and the highest peak utilization observed (59%-61%). Each office is different, which is why it is always a good idea to investigate a specific location for space optimization and planning, rather than looking at general statistics.

Work seat utilization by office type - all measurements



Work seat utilization by office type - those with midrange DPA



Work seat utilization rate over time

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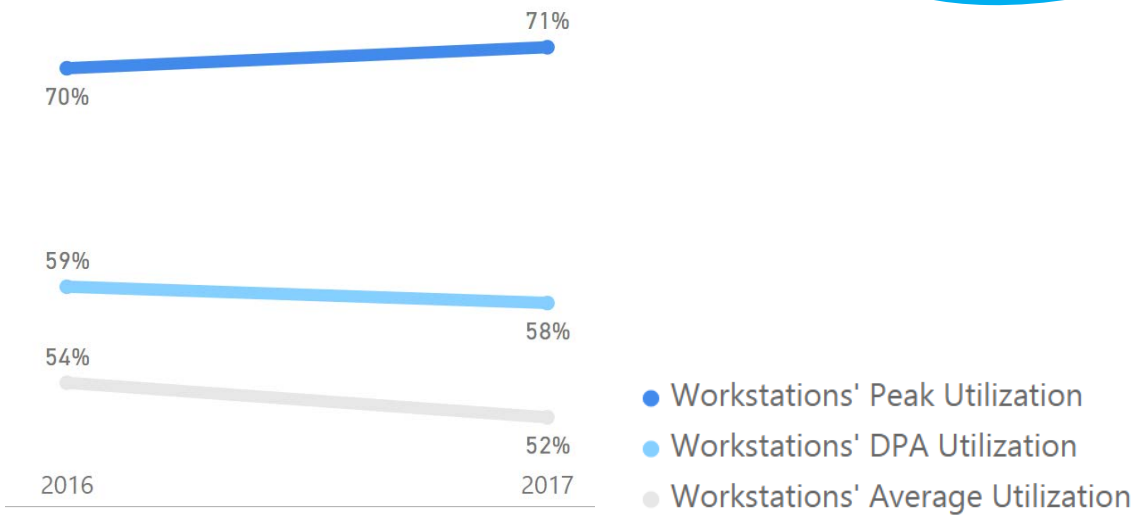
Yearly change

The yearly changes for utilization rates are barely noticeable when looking at averages, and indicates that change is slow overall. However, this does not hold true when comparing the same workplaces over a period of time where workplace development has taken place. Pre- and post occupancy studies as well as continuous monitoring and improvement can show great advances on an organizational level.

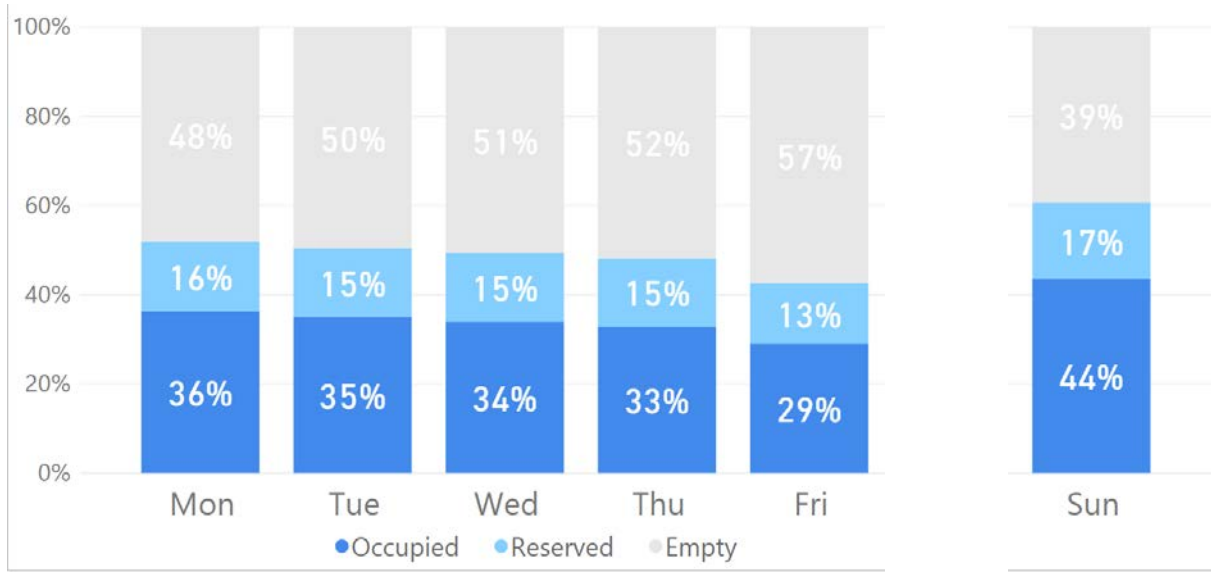
The utilization rate of work seats drops

-11 % -points

Monday to Friday



The bar graph depicts seats in use (dark blue), temporarily unoccupied, i.e. reserved (light blue) and unoccupied (grey) on average each weekday.



Daily change

The status of work seats varies across a typical work week, and has a slight downward trend from the first workday to the last, typically Monday to Friday. The same applies for those countries that observe a Friday-Saturday weekend.

The utilization rate of work seats drops by 11 percentage points form Monday to Friday.

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Density: Space Use

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People per work seat ratio

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Key takeaways

Based on observational data from our space utilization measurements, the average **headcount per work seat ratio** is 0.96 – which means that organizations have on average more work seats available than there are people.

There are no real differences between public or private sector office users.

Regionally the differences vary between 0,90 in the Americas and Central Europe to 0,97 in the Asia-Pacific region, Africa, Middle-East and the Nordic countries.

Region	People/Work seat
Americas	0.90
APAC	0.96
EMEA	0.97
Total	**0.96**

Office type	People / Work seat
Activity Based	1.09
Combi	0.91
Enclosed	0.88
Open Plan	0.91
Total	**0.96**

Full time employees per desk in different office types

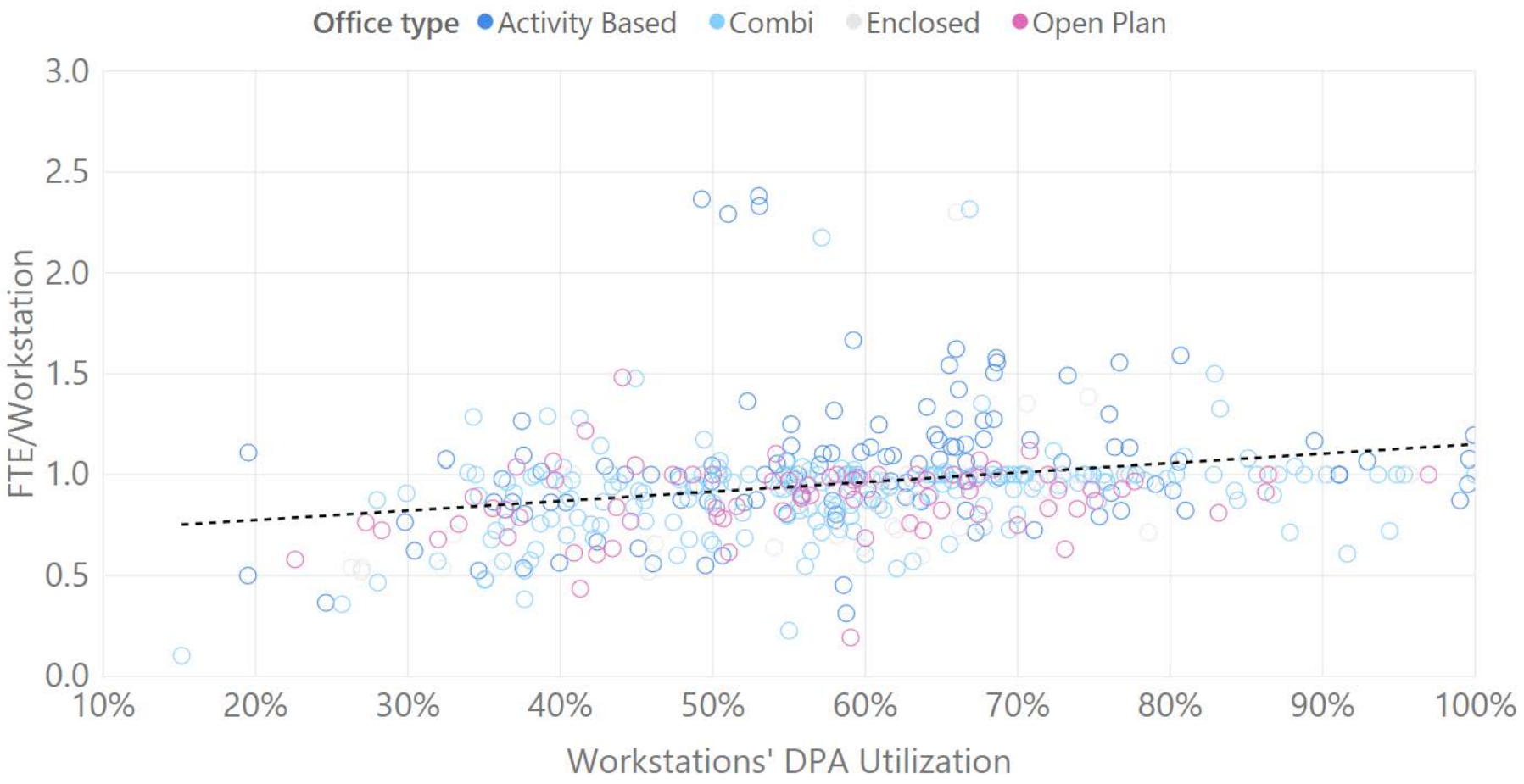
The differences between office types are more clear: traditional enclosed offices have a ratio of 0,88 people/seat, whereas the newer **Activity-Based offices that often promote desk sharing, have a ratio of 1,09 people/work seat**. However, when comparing the utilization rate of work seats, both office types are very close to one another, due to the flex work policies often applied at Activity-Based offices. Desk sharing policies in Activity-Based offices enable over booking of work seats, while flex work policies keep utilization rates in check.

0.96

people / work seat

In light of utilization rates, companies may often be too conservative in planning the number of desks needed. This holds true especially for ABW offices that implement flex work and desk sharing but still allocate one desk per person.

Utilization & the people per work seat ratio



Key takeaways

The following graph shows us how different offices are distributed between DPA utilization rates and people per work seat ratios. As we can see, there is a clear trend that offices currently allocate roughly one seat per person, regardless of office type and utilization rate. In fact, there are some clear outliers that deviate from the main group. Some activity-based and combi offices with about 2.4 people per seat are still at DPA utilization rates of about 50-60%. In terms of efficiency, they reach the same utilization as offices with as low ratios as 0.5 – 1.0.

We can see from this graph, that many offices that make the shift towards activity-based working are still very cautious about giving up assigned seating in way of more shared seating and fewer desks. This is understandable if the leap from the old workplace culture seems big from a change management point of view.

However, people adapt to new environments surprisingly fast. A conservative people-to-desk ratio that promotes some desk sharing and space efficiency can easily be 1.2 with no risk of running out of seating even at peak use.

Dynamic workplace density: space per person

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Key takeaways

Activity-Based offices are absolutely the most efficient in their space use, when looking at headcounts and space or desks available. Thanks to desk sharing policies in Activity-Based workplaces which enable "over booking" of work seats, and flex work policies that free people to work outside the office, utilization rates are kept in check while overall need for office space is significantly reduced. The same applies to what we can call 'dynamic workplace density', i.e. space allocated per office user.

Activity-Based offices provided only 14.9 m^2/person (160 square feet/person), while the enclosed offices allocated 43.4 m^2/person (467 sq.ft/person).

The key difference between these office environments has probably less to do with the layouts themselves, but rather with the differences in work culture: in particular flex work and mobility policies.

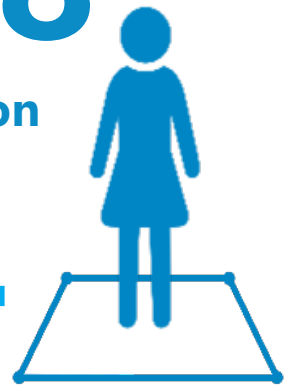
Office type	m^2/person	ft^2/person
Activity-Based	14.9	160.4
Combi	19.3	207.7
Enclosed	43.4	467.2
Open Plan	18.9	203.4
Average	**20.8**	**223.9**

20.8

m^2/person

224

ft^2/person



Public vs. Private

Looking at the public sector employers with an average of 36.2 m^2/person compared to 18.5 m^2/person in the private sector, it is clear that the public sector has a different approach when it comes to allocated vs. shared desks, preferred office types, implementation of flex work policies etc.

Space-per-person is not directly conneted to utilization

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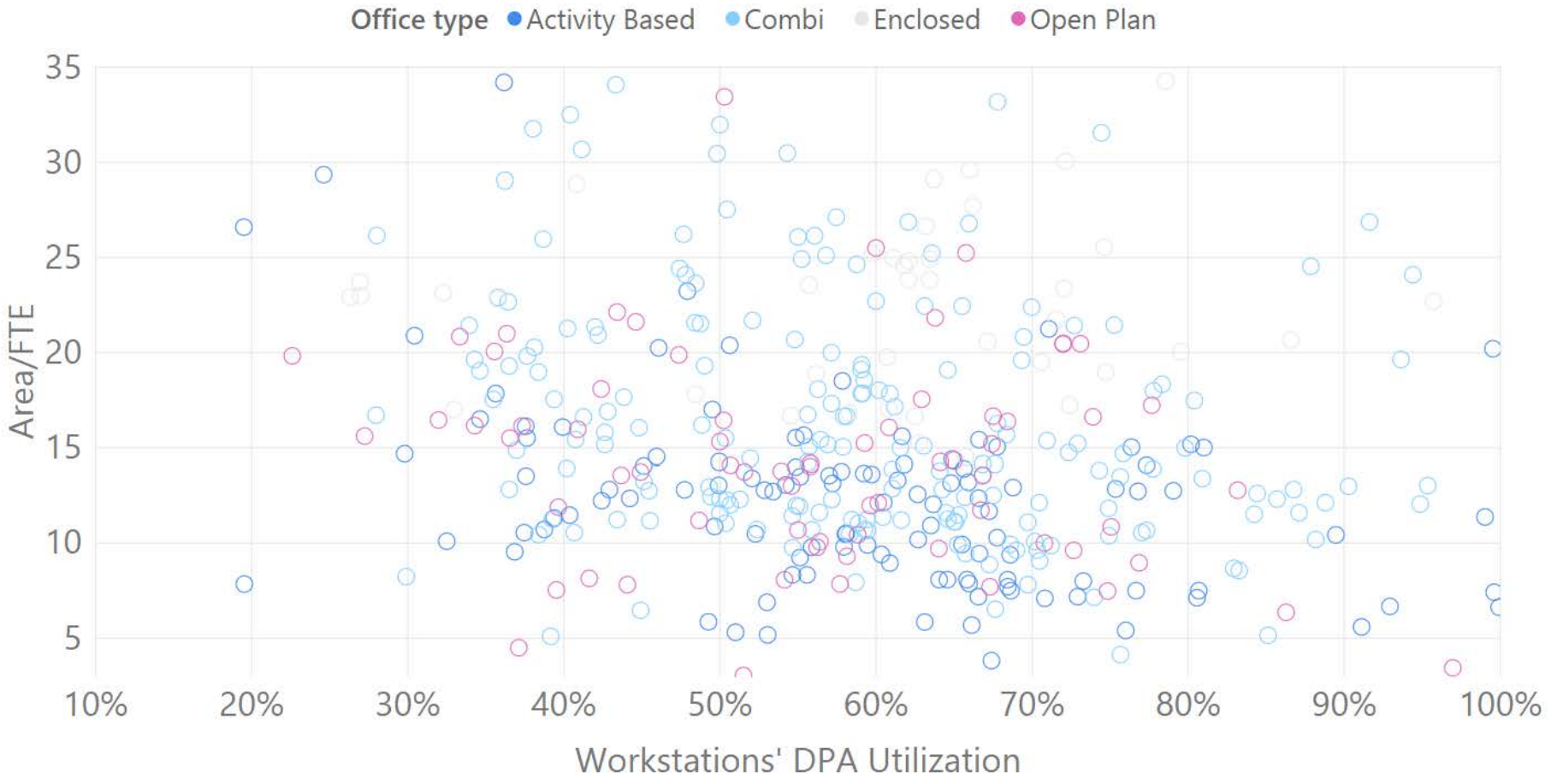

Key takeaways

We found no clear correlation between utilization rates and dynamic density, i.e. how much office space is allocated per full-time employee. The correlation was more clearly connected to the available work settings (people-per-work seat ratio) than to space.

Still, when looking at the extremes, those offices with very low utilization were predominantly found among those with ample space, whereas those with DPA utilization rates of more than 80% had much less space available per person – likely due to a higher overbooking ratio (headcount per seat ratio).

We find no support to a hypothesis that people would spend more time at the office if there only was more space available. Nor the opposite.

Static workplace density

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Key takeaways

Based on the data from the 2016 and 2017 space utilization measurements, the average office space area per work seat ratio is typically 19.3 m2 / seat (208 sq.ft /work seat). This metric remains fairly constant from one year to the next in our studies, depending more on what locations have been studied that year, than on a change in trends of space use.

Office net floor area per workstation varies strongly between office types.

In general terms, the most space-efficient office type is the activity-based office, with 15.4 m2 (166 sq.ft) of office space available for every work seat. This does not however mean that this automatically applies to all activity-based environments, as the variation is great. It also does not imply that this office type is optimized, if you take into account that the lowest utilization rate can also be found in this type. In other words, a large number of excess desks make this metric look good on paper, in terms of efficient space use.

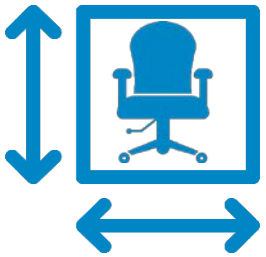
It is likewise important to note that better space efficiency does not imply improved productivity at work. See section on activities, and the amount of focus work.

The least efficient space use can be found in enclosed offices, where 31.0 m2 (334 sq.ft) of floor area is available per workstation.

By comparison, activity based offices provide less than 50% of floor area per workstation than enclosed offices.

The reasons behind these differences are likely to be fairly straight forward:

- Enclosed offices have a lot of walls that take up room and make floor area less flexible to furnish, thus creating a lot of wasted space
- Private office rooms are often made to fit small personal meeting areas and extra visitor seats in addition to workstations
- The paper use culture is more often found in enclosed offices, requiring extra space for cabinets for storage
- Activity based offices have typically adopted increased mobility, desk sharing and less paper, which in turn shows up as smaller desks and thus smaller space requirements.



19.3

m^2/work seat

208

ft^2/work seat

About the numbers

Note that this metric is not the area used by a single workstation. This metric includes all the usable area in the office, including corridors and supporting spaces.

Office type	m^2/work seat	ft^2/work seat
Activity-Based	15.4	165.6
Combi	16.9	181.8
Enclosed	31.0	333.9
Open Plan	18.1	194.3
Average	**19.3**	**207.6**

Spacious environments are not automatically used more

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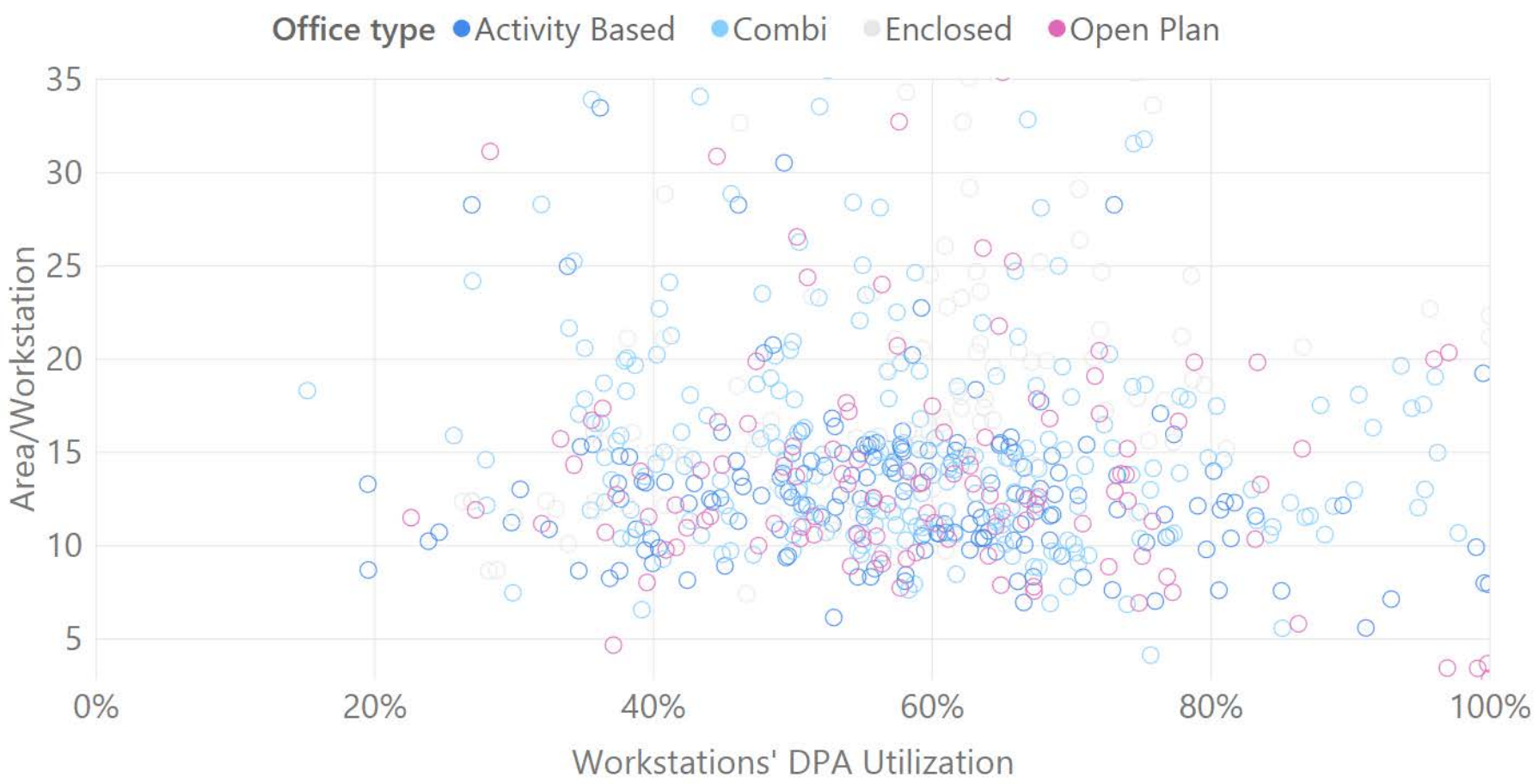

Key takeaways

We did not discover any link between available office space per work seat, and utilization of the desks in question. In other words, static space density does not directly affect how much time people spend at their desks. In fact, there are only a few offices in the dataset that provide more than 20 m2 per work seat, that have a very high daily peak average; the exception being namely enclosed offices without possibility to work remotely or in alternate work settings.

This topic often comes up in office change projects among personnel. It is therefore important to understand the dynamics of various factors. Typically, a holistic change approach is involved, where a decrease in the number of desks and available space per desk is connected to desk sharing policies and a new approach to flexible working arrangements that frees up the workforce to work from many other locations than the assigned desk.

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Examples of Employee Experiences

Optimaze Workplace Review 2018

Rapal | Publication March 2018

Views on workplaces from the happiest country in the world

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Asking for Agreement

Workplace Satisfaction - Overall, I am satisfied with my work environment.

Wellbeing- My wellbeing is good in my current work environment.

Effectiveness - The current work environment supports and facilitates my work.

Identity - The current work environment supports a sense of belonging, community and professional pride.

Inspiration - I can be creative and innovative in the current work environment.

Security - Information security and issues of restricted access are in order.

Health and safety - How well respondents feel health and safety issues have been addressed.

Autonomy - Our workplace policies support working flexibly within and outside the office.

Ergonomics - Ergonomics at my workstation support my work and wellbeing (furniture, tools, lighting, field of vision, acoustics).

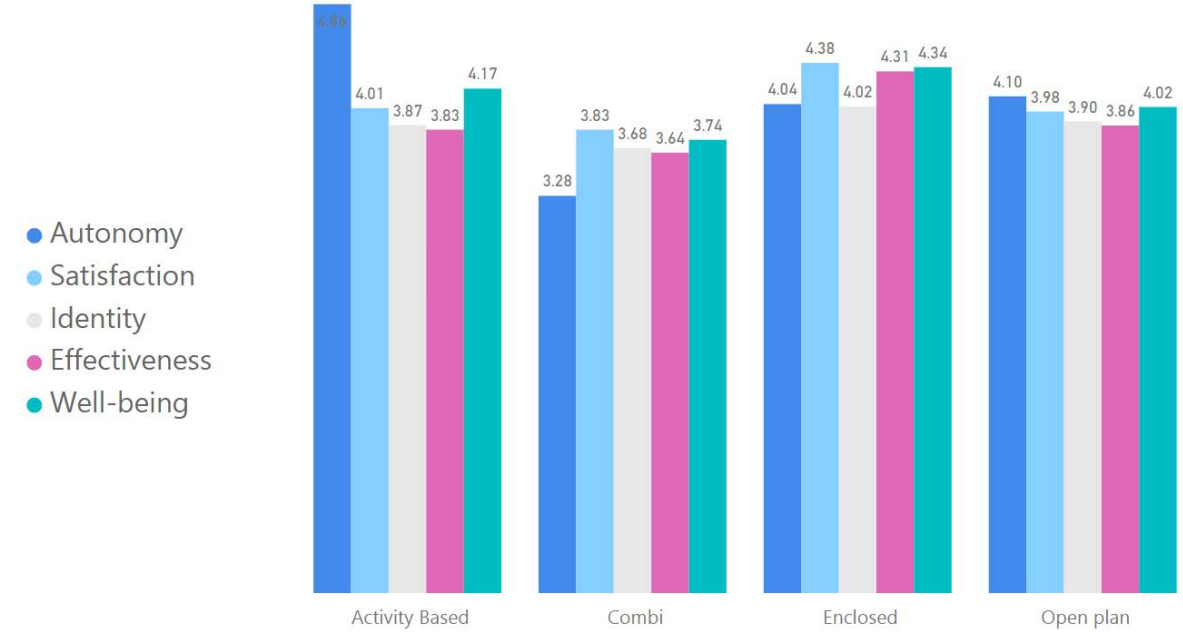
Office Etiquette - We have functioning guidelines for the use of our work environment.

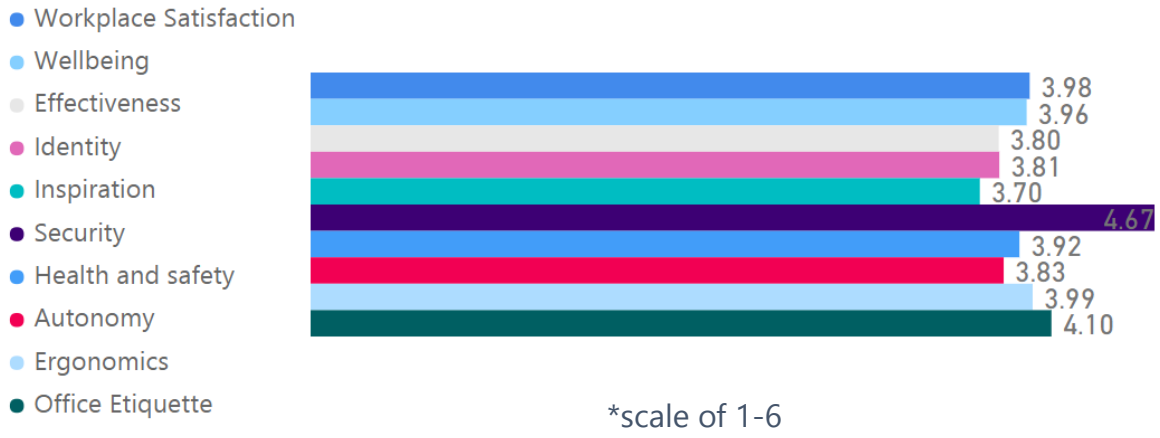
3.98

Average Workplace Satisfaction Overall*

In connection to some of our space utilization studies, we also conducted personnel surveys to find out how personnel work, and how they experience their current environment. Here, *to illustrate* how we also need to investigate the subjective experiences of the space users in order to understand workplaces as a whole, we take a look at the more standard questions that were commonly asked. According to the UN 2018 World Happiness Report, Finland is the happiest country in the world, which is why we think this country can provide an interesting benchmark. It is a stable, safe and culturally rather homogenous country, which can lessen some variables. **This chapter's dataset is thus limited to 6,479 workplace survey respondents.**

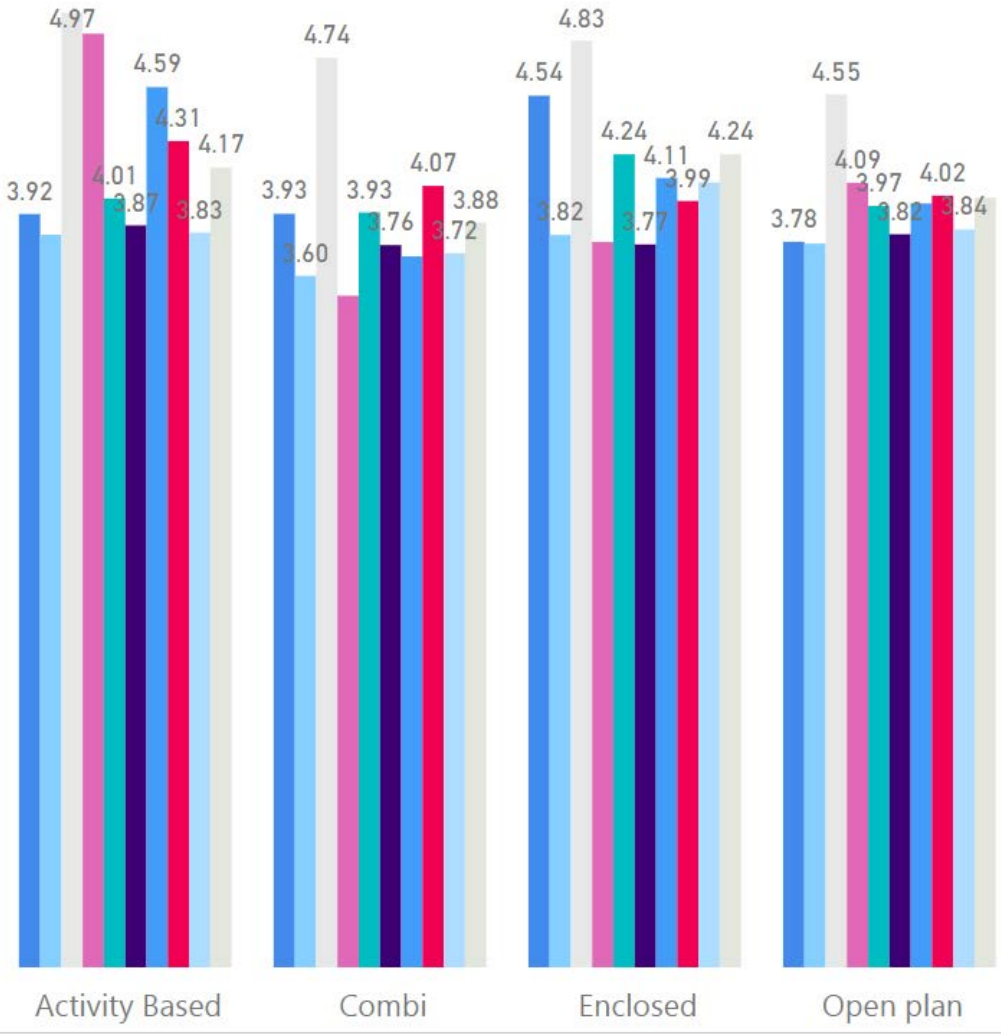
Overall, the experience scores within the dataset were on average all the more positive than negative when compared to expectations. Office types proved not to be the main deciding factor, when we analyzed the responses against each other and against traditional real estate metrics.





*scale of 1-6

Employee experience vs. office type



No one office type is clearly better than another

Key takeaways

On a survey scale from 1 to 6, most workplaces were found to be at a better than average level on all metrics when compared to people's own expectations. No clear differences could directly be found between office types, as the way an office often is planned is based on the needs of the office users and their particular culture.

However, it is interesting to note that in the midst of a decade of hype around agile working and activity based offices, we can see that enclosed offices still serve their purpose more than well for those people that use them – in fact, higher than the average.

It might be easy to become cynical or at least critical about these results, particularly if you are yourself an extroverted mobile worker who has adopted the ABW office as the best solution. But what suits one collaboration focused talker, may not suit as well for a task oriented lone worker [See section on the amount of solo work vs. together].

Therefore it is important not to pre-determine your next office type, but to design it user-centric for different teams and profiles.

Work desk density matters for employee experience

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Key takeaways

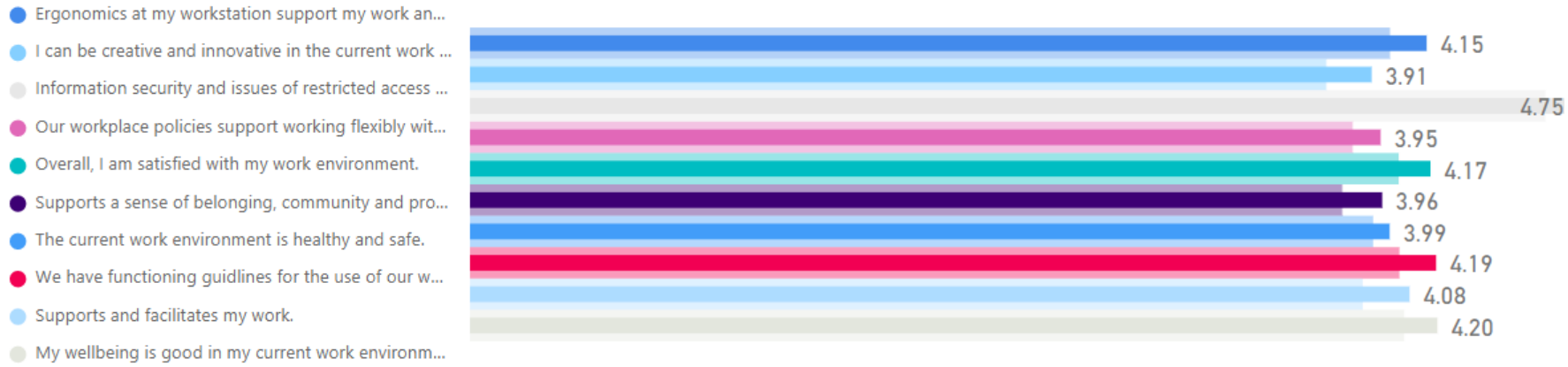
Based on the measurement and survey data, it appears that densely furnished offices with a lot of formal work desks in relation to the floor area, are more likely to correlate with a less than optimal working environment. [See graph of survey results from offices with 10m2 (107.6ft^2) or less per work desk, compared to the average].

The same is true of the opposite – having ample space around (including informal meeting areas and hubs and other work settings that aren't desks) increases overall satisfaction with the work environment. [See graph of survey results from offices with 30m2 (322.9ft^2) or more per work desk, compared to the average].

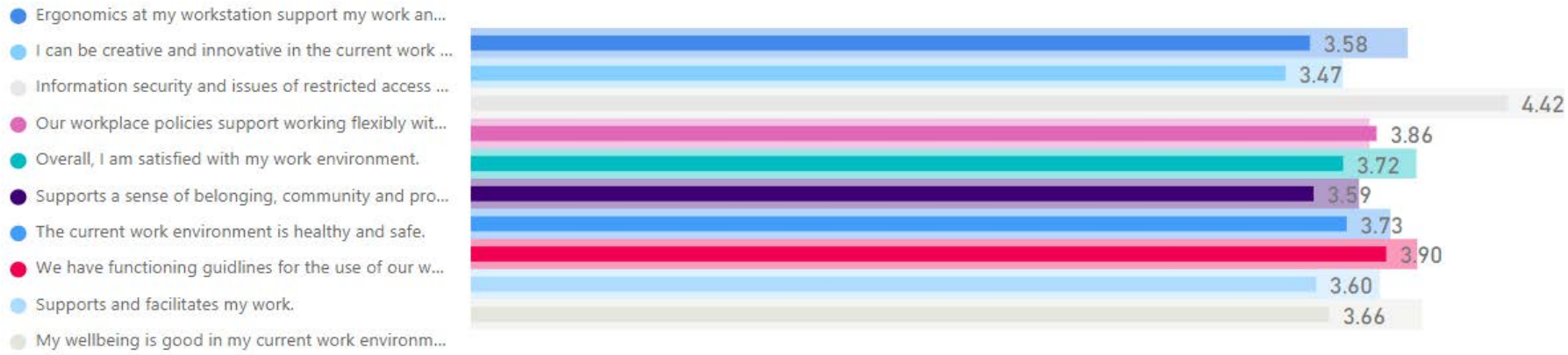
Ergonomics (which in broader terms can be understood as both physical and cognitive ergonomics) is clearly better when work desks can be well planned, and distributed far enough apart to reduce distractions from distinguishable conversations and visual noise.

With desk sharing and a higher person per work desk ratio, a lower density of desks can be achieved by utilizing the potential from low desk utilization (up to a point).

Employee Experience when static density is 30m^2 (323ft^2) or more per workseat



Employee Experience when static density is 10m^2 (108ft^2) or less per workseat



Employee experience vs. high/low desk utilization

Key takeaways

As discussed in the section about how work desk density matters for employee experience, the same holds true for utilization.

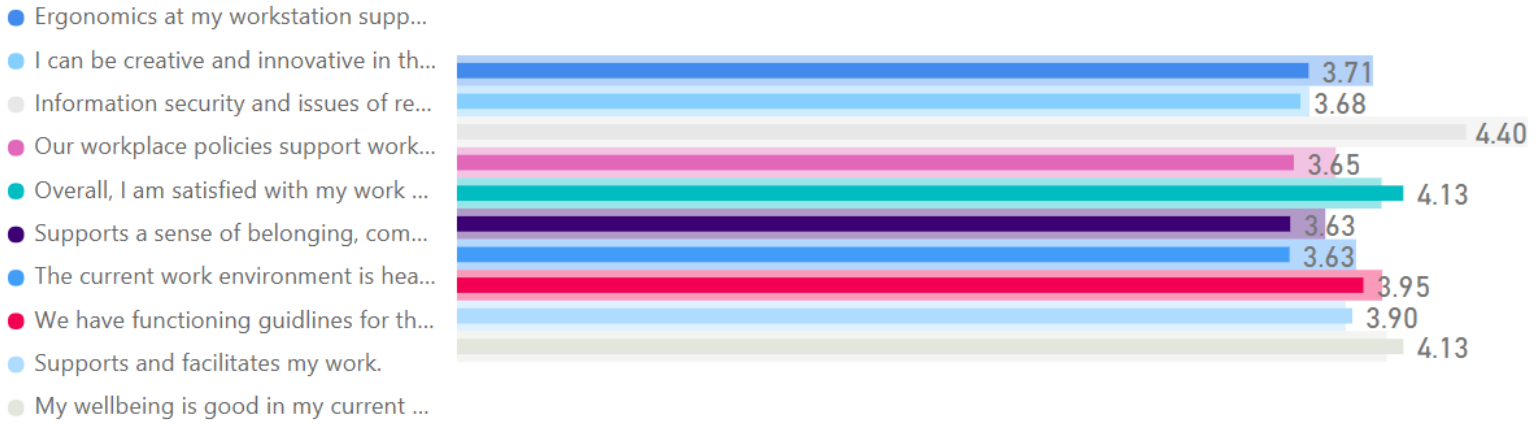
While it may be good to reduce the density of work desks to allow more space for heads down work, and at the same time introduce desk sharing policies and higher headcounts per work seat – this is true only up to a point.

What we found is that when desk utilization reaches 75% or more, employee experience metrics seem to start dropping faster, the clearest difference being in how healthy and safe the workplace is experienced (such as indoor air quality). The same applies to a drop in (cognitive) ergonomics, as more people tend to sit around you at peak times.

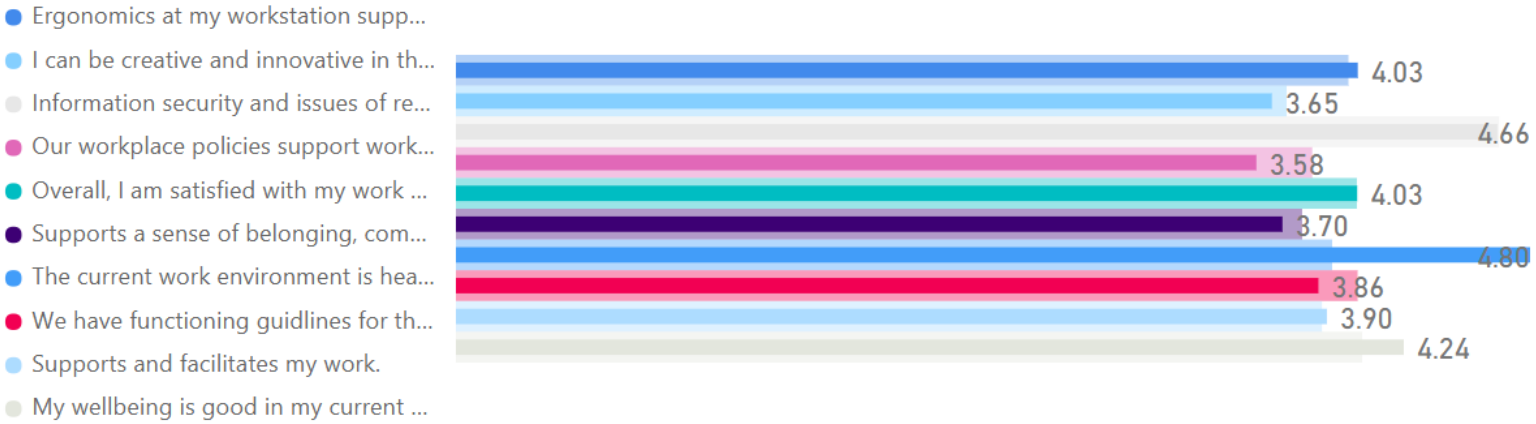
In shared working environments, the experience is also a practical one: if it becomes too hard on a daily basis to find a suitable seat for a particular work mode when you need it, wellbeing drops too.

A sea of empty desks can, on the other hand, be negative for the sense of belonging when looking for colleagues, rather than free desks, becomes an issue.

Survey responses of those with Daily Peak Average work desk utilization above 75%



Survey responses of those with Daily Peak Average work desk utilization below 25%



Workplace satisfaction drops when utilization is over 75%

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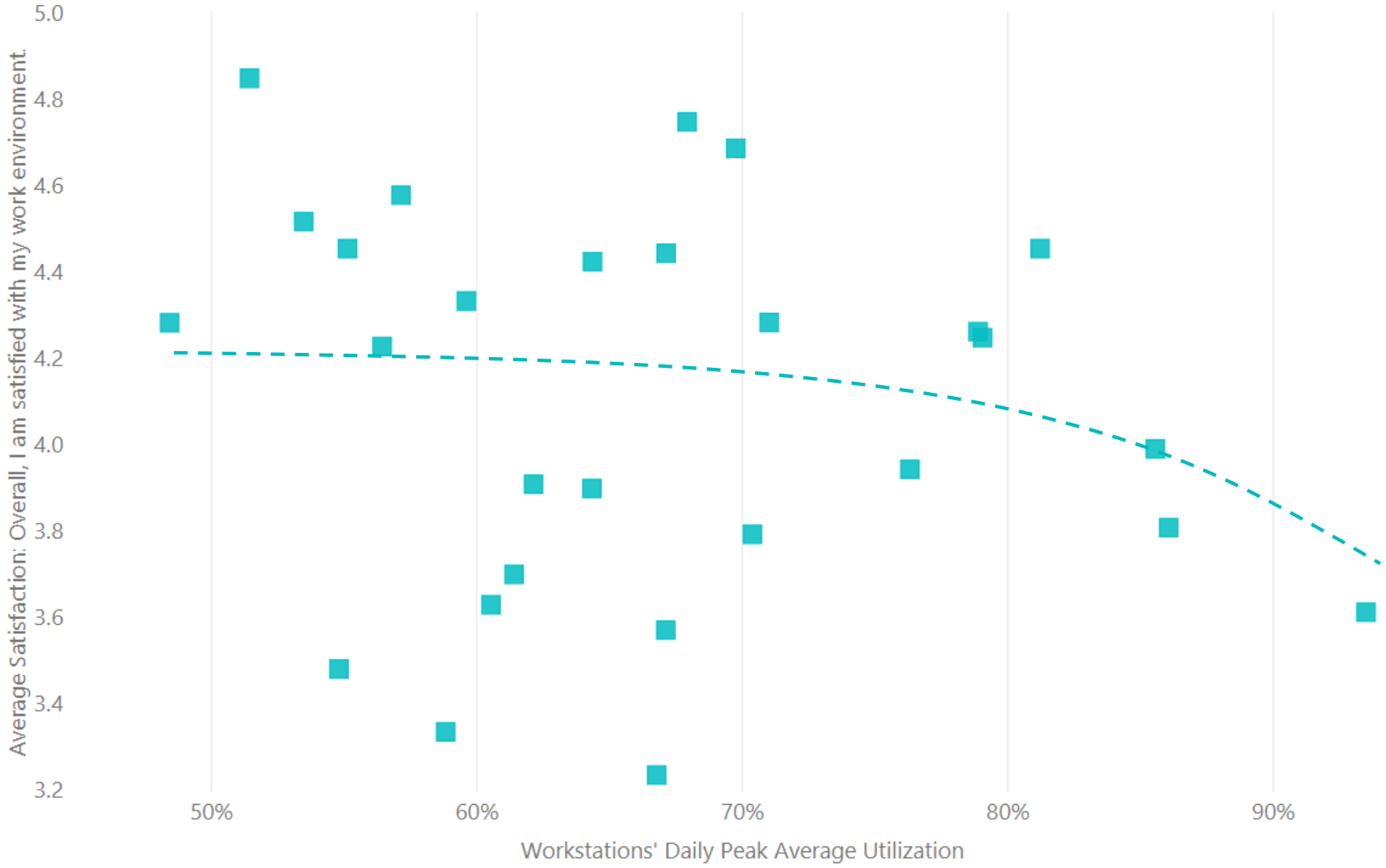
Key takeaways

When we have a look at the overall satisfaction of the working environment against desk utilization during daily peak hours, we can see that the results and distribution between different locations varies quite a lot.

However, we found indication that when desk utilization reaches 75% or more, satisfaction seems to start dropping more clearly from the average.

70%

daily peak average utilization for work desks could be a general target



Satisfaction versus flex work needs

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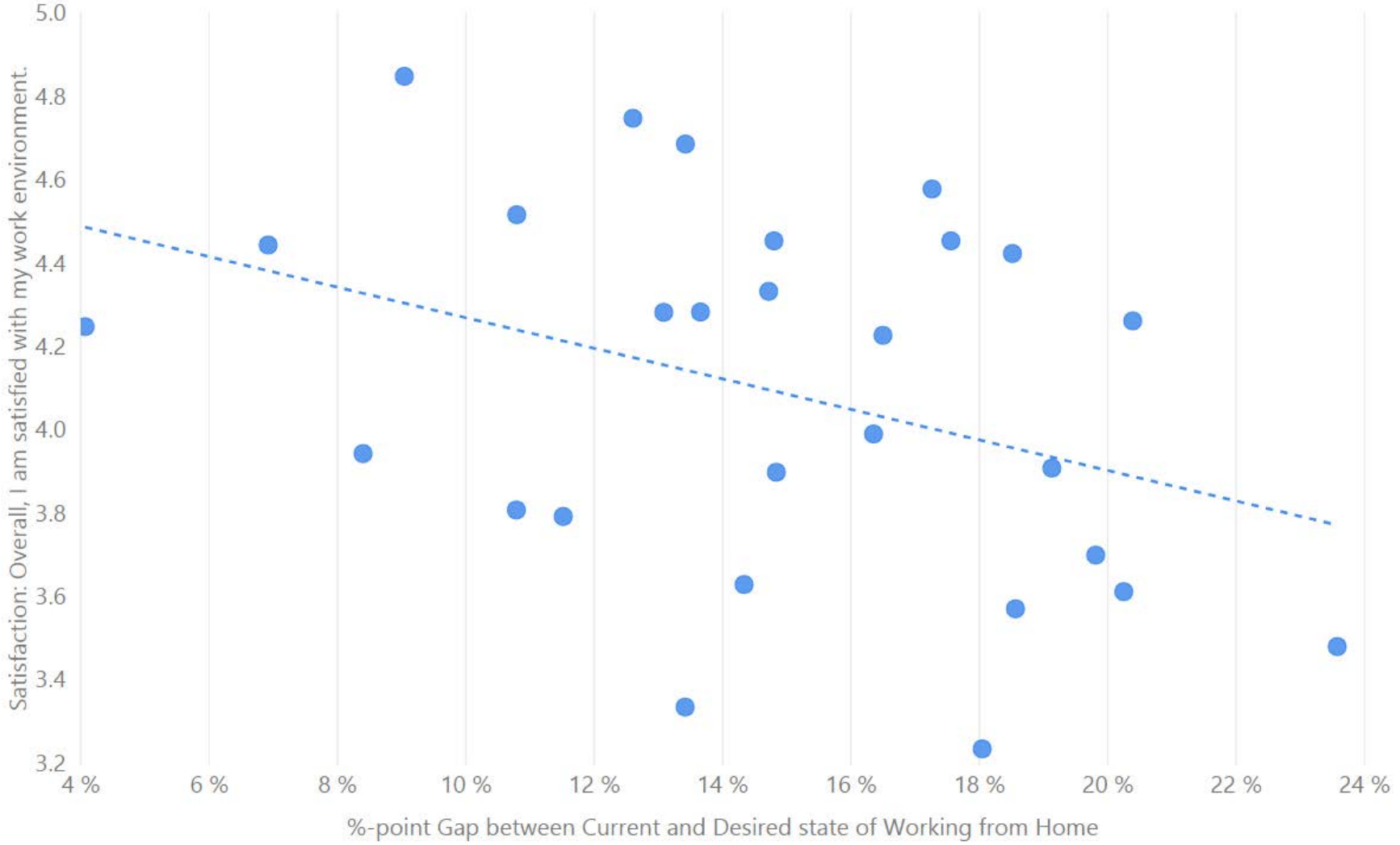
Key takeaways

In the Introduction section, we showed results from questions where we asked office users to estimate *how much time they currently spend working at different locations* on a typical work week. We also asked about *personal preferences of where work would be performed - assuming technology and company policies allowed it.*

The gap between the current state and the desired state answers have been plotted on the x-axis in the following graph.

The larger the gap between the desired amount of working from home and the current amount was, the less satisfied people were with their work environment overall.

The gap between how much one can and how much one would want to work from home can be seen as an indicator of work-life balance: However, there are many other things such as workload, multitasking and the balancing of private matters that also make a big difference. In fact, the ability to go into work and be able to focus on work at the workplace may just be what some of us appreciate in order to get just that: work-life balance.



Enabling autonomy equals better well-being and satisfaction

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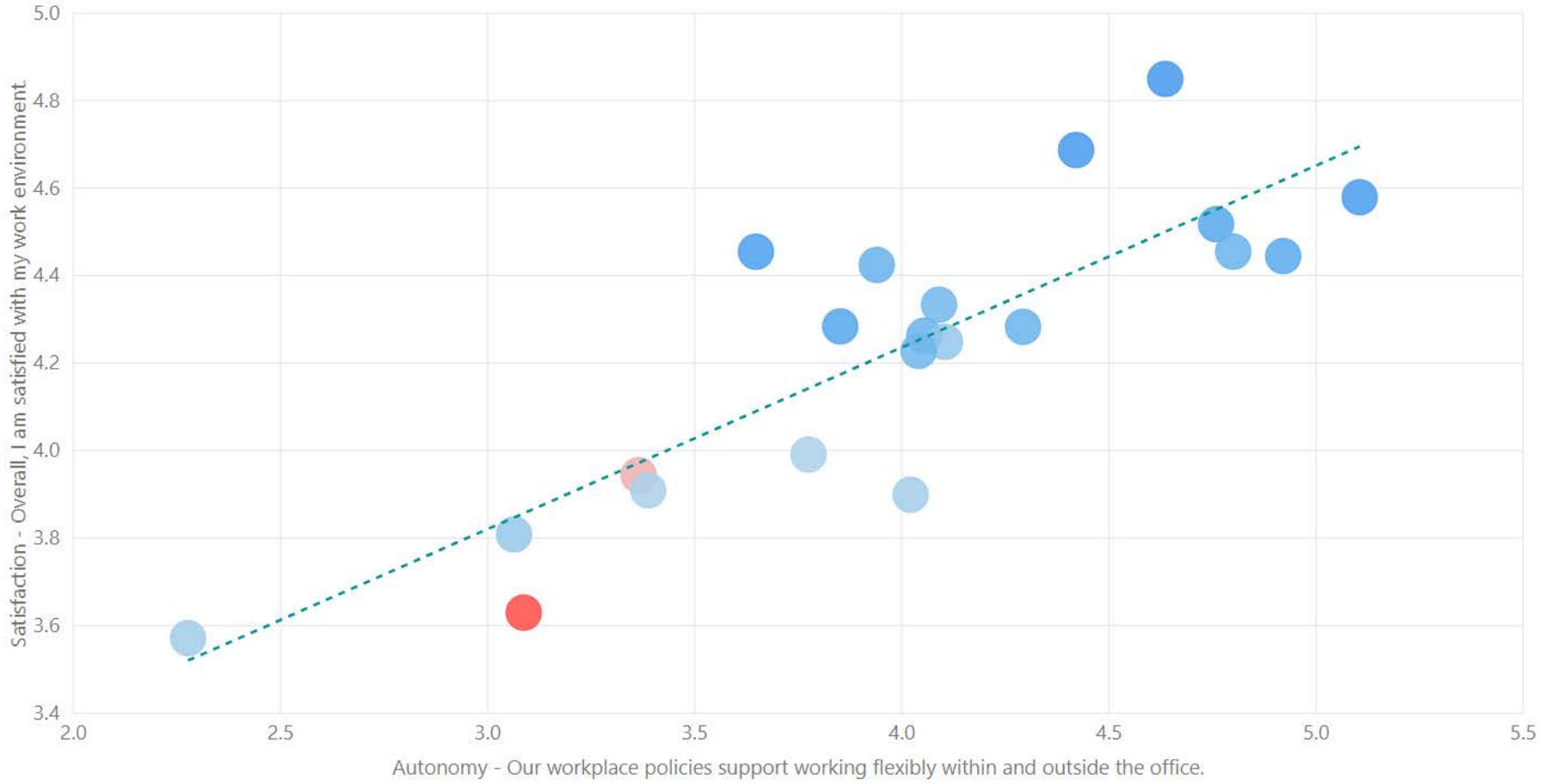
Key takeaways

Based on the responses in the workplace surveys between 2014 and 2017, those workplaces that said their workplace policies greatly supported working flexibly inside and outside the office, also claimed to be more satisfied with their work environment overall. They also reported to feel better in their workplace than others.

How to read the graph

The graph shows how respondents in different workplace surveys between 2014 to 2017 have answered to survey statements on a scale from 1-6 (totally disagree – totally agree), where ability to work flexibly (X-axis), is plotted against overall satisfaction with the work environment (Y-axis). Well-being at work is indicated with a color scale (from lower scores in red to higher scores in blue). The dotted line shows the trend.



Flexible cultures build trust, communities and professional pride

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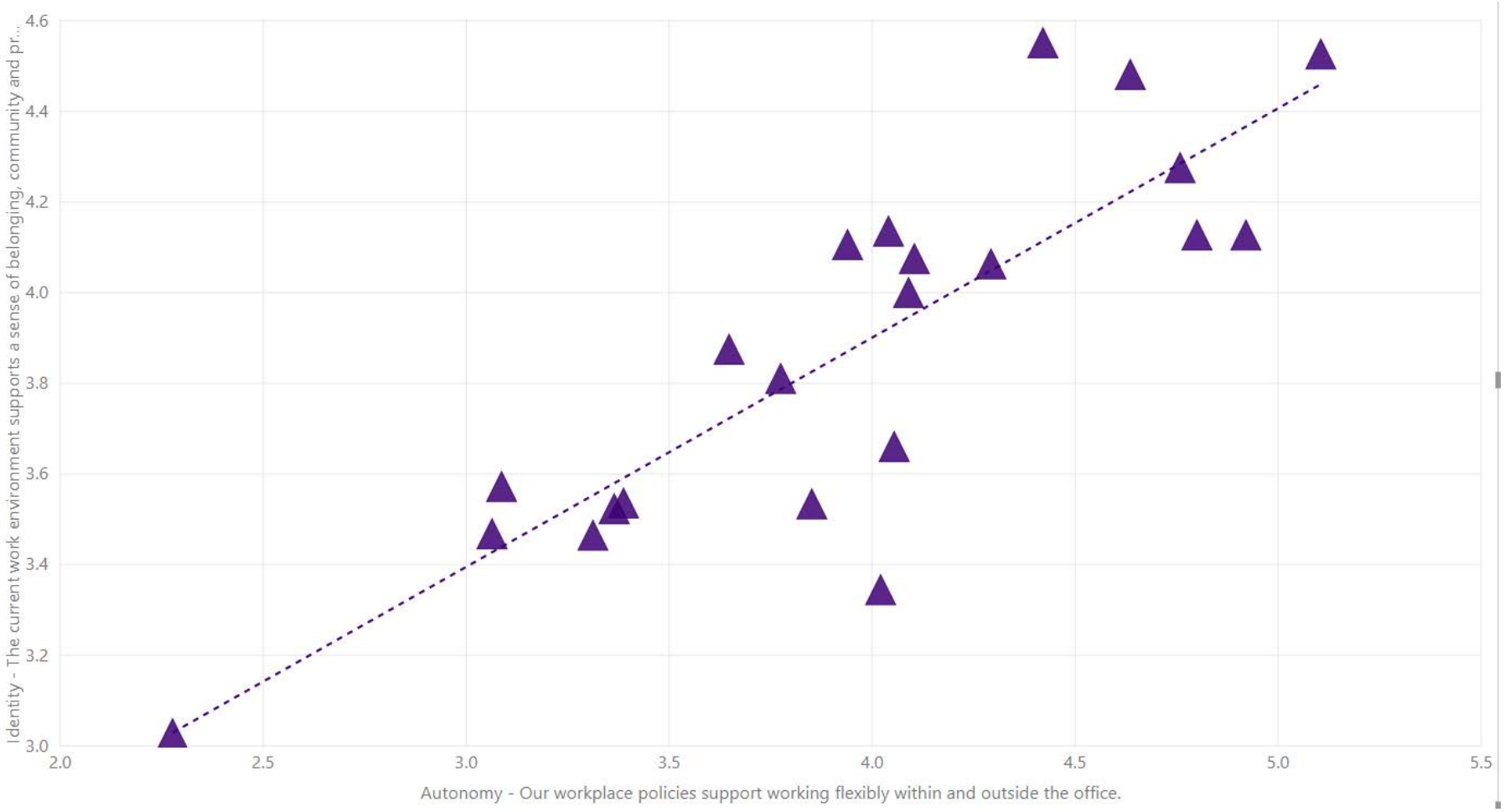

Key takeaways

Those workplaces that reported their policies greatly supported working flexibly inside and outside the office, were more likely to also feel a sense of professional pride and belonging than those who scored lower.

While it may feel counter intuitive that people who have the freedom to work more away from the office would feel a stronger sense of belonging, it could be argued that this has less to do with being present at the office at all times, and has more to do with being a trusted and respected member of a work community, who is trusted to do their work without constant supervision. Note also, that most respondents only use this flexibility to work from home about 9% of a work week.

How to see the graph

The graph shows how respondents in different workplace surveys between 2014 to 2017 have answered to survey statements on a scale from 1-6 (totally disagree – totally agree), where ability to work flexibly (X-axis), is plotted against a sense of professional identity (Y-axis).

Flex work policies bring attention to workplace effectiveness

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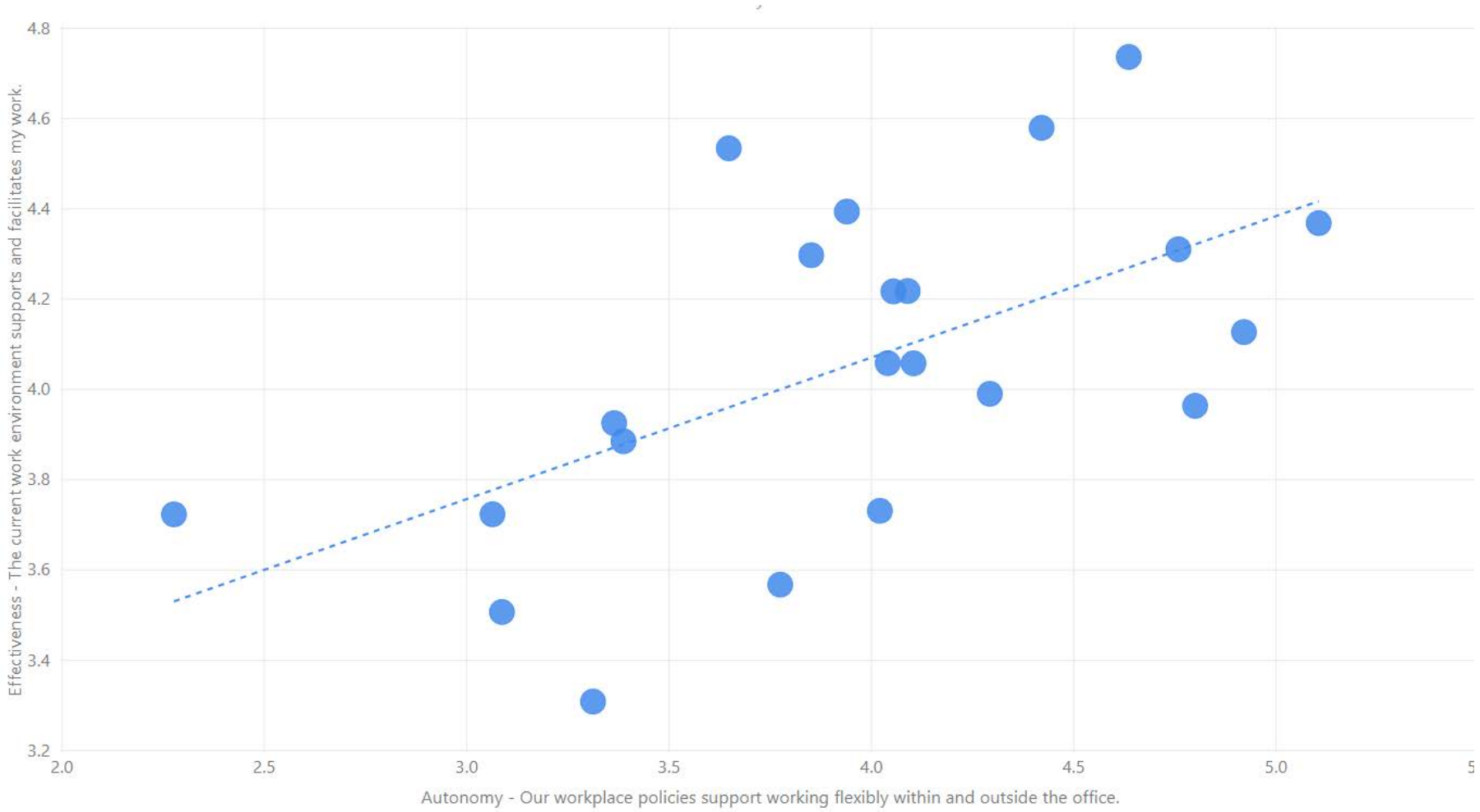
Key takeaways

The Effectiveness of a Workplace was measured by asking people how well their current work environment supports and facilitates work. Note, that this does not imply efficiency (getting stuff done with minimum effort) nor productivity (getting stuff done that matters, effectively) at work – only that they are enabled.

When comparing workplace flex policies and workplace effectiveness, it would seem that those workplaces that have given more attention to the former, have also given more attention to the latter.



Creative environments foster well-being in the workplace

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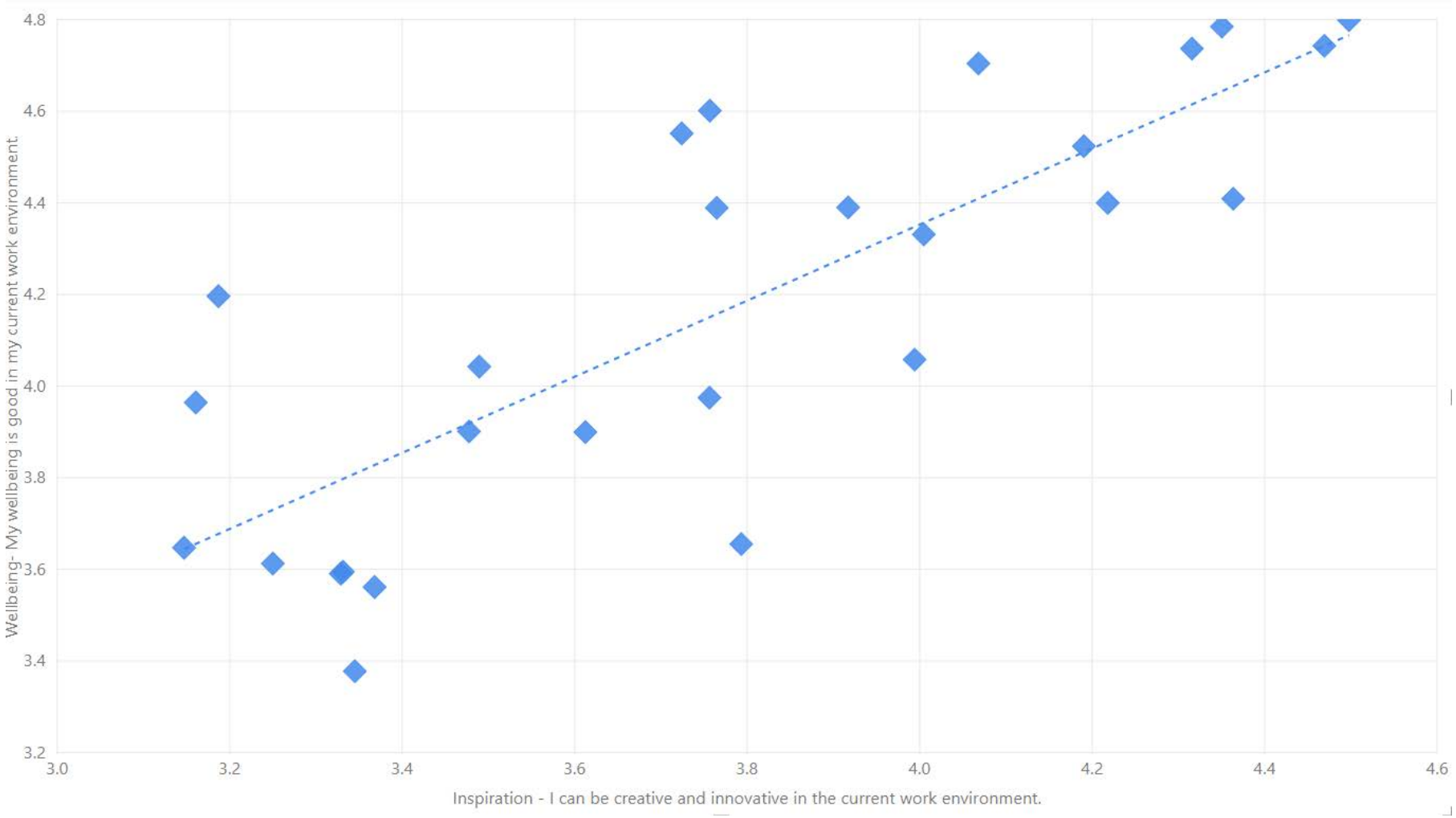

Key takeaways

One of the biggest boosters for well-being in the workplace, is the ability for people to be creative and innovative – in other words inspirational environments are motivating for workers, which contributes to a sense of feeling well.

Workplace effectiveness and well-being go hand-in-hand

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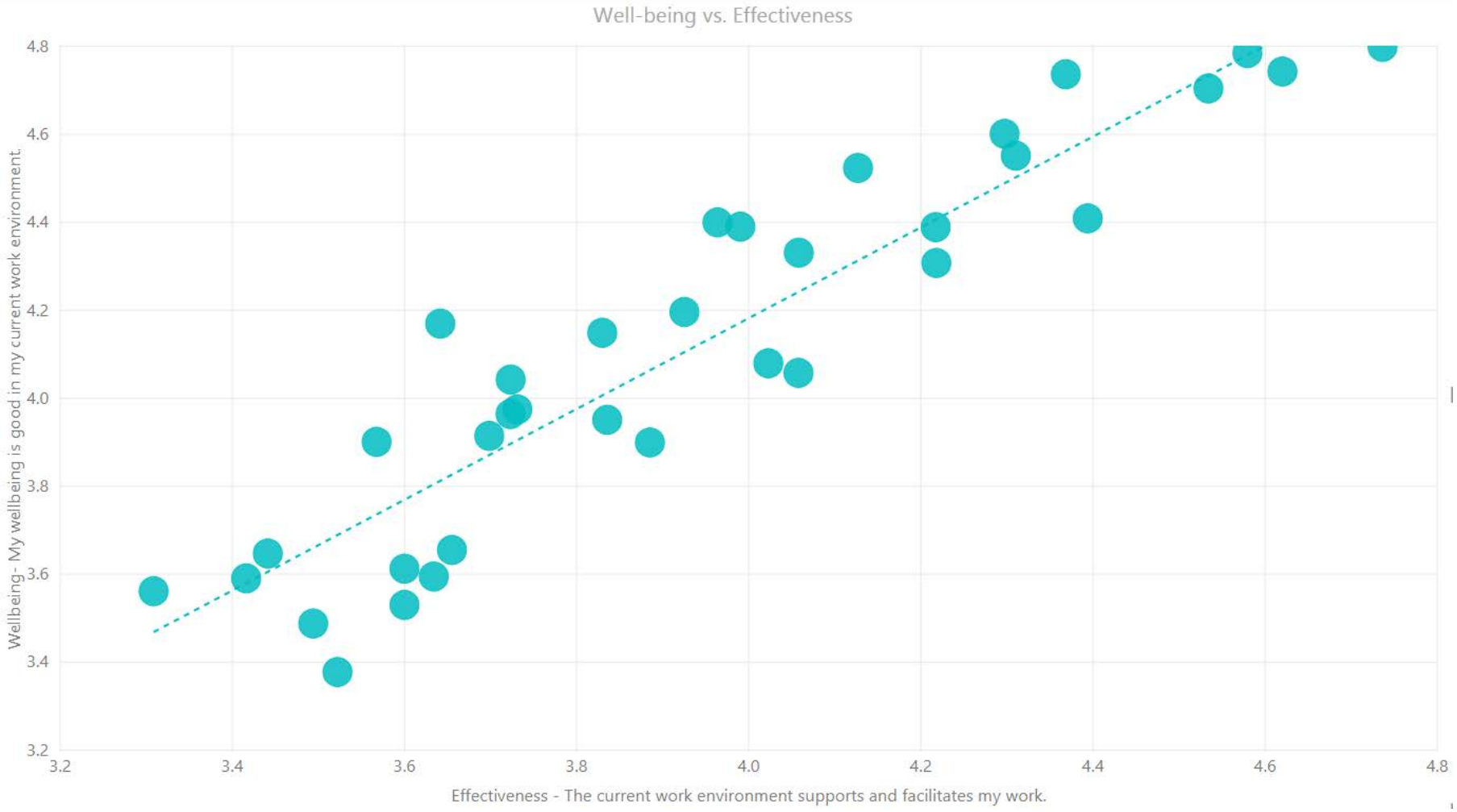

Key takeaways

Based on survey responses, it is not only inspiring working environments that clearly boost well-being. We found an equally direct correlation between offices that reported to perform well in facilitating people's work and their productivity, and how well people felt in those workplaces.

In other words: a workplace that is both inspiring yet functional, and offers functioning flex work policies and office guidelines, will also motivate personnel and boost their well-being.

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About the Review Data

Optimaze Workplace Review 2018

Rapal | Publication March 2018

A look at the data

The data gathered for this 2018 report takes a look at the observational workplace study results from 2016 and 2017 gathered from **16 countries**.

In it, we take a look at some 846 observational space utilization studies in some **229 buildings**, spanning over more than **70,700 workstations** and nearly **6,400 meeting spaces** with about **42,700 meeting seat**s. In addition, nearly **25,400 other seat types** were observed during a total of **26,000 walkthroughs** conducted, with about 30,8 walkthrough rounds made per measurement on average. This makes for over **4.28 million observations** of seat use in the past two years.

89% of the measurements in this report represent private sector office users. The **office floor area covered amount to nearly 860,000 m²** (9,246,500 ft²).

We also take a look at the activities at the offices by some **42,200 office users**, and at views of some **6,479 workplace survey respondents** (control group; Finland).

Year	# Workstations	# Meeting spaces	# Meeting seats
2016	28,896	2,107	15,101
2017	41,863	4,346	27,640
Total	**70,759**	**6,453**	**42,741**

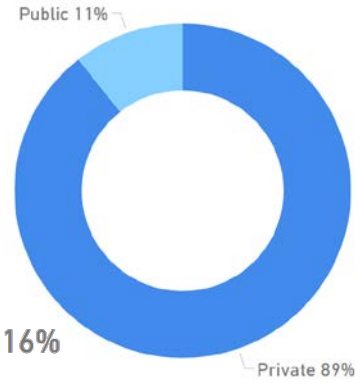
Total number of measurements in benchmark

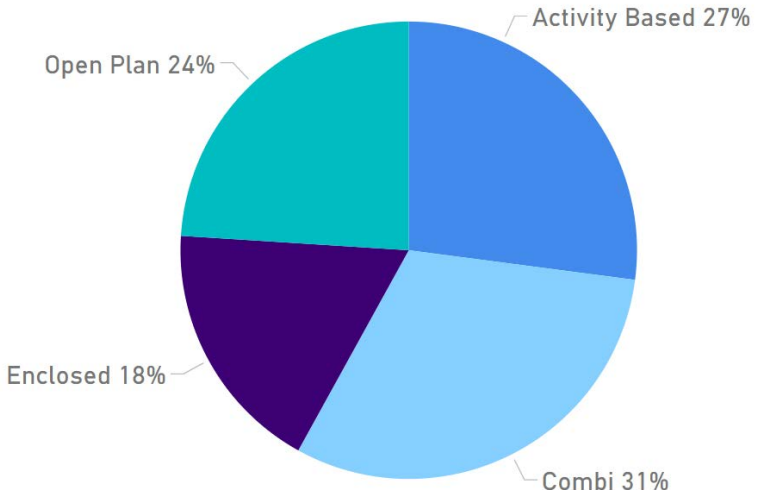
846

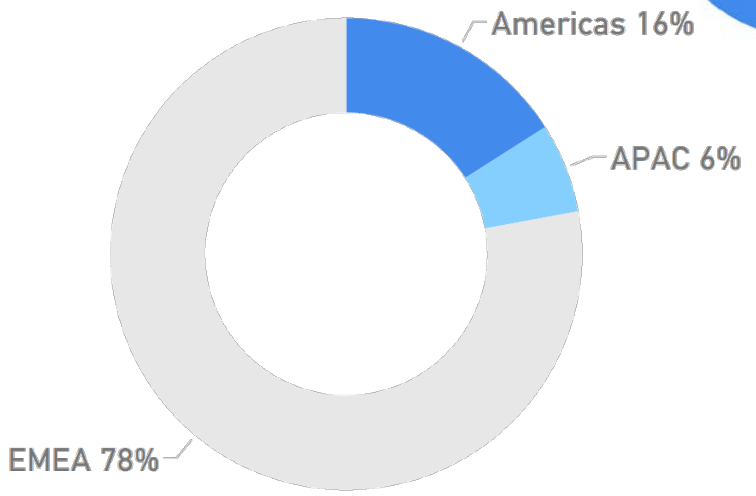
Measurements

4,281,909

Observations made







Office type	# Measurements	# Workstations	# Meeting spaces	# Meeting seats	Measured area	# Other capacity types	# Observations made	# Walkthrough rounds	# Buildings
Activity Based	229	27,389	2,695	15,981	304,180	11,878.00	1,962,177	8,117	52
Combi	262	20,958	1,583	11,926	320,155	5,505.00	1,041,654	7,368	93
Enclosed	152	7,266	630	4,906	109,420	1,913.00	411,530	5,153	59
Open Plan	203	15,146	1,545	9,928	125,274	6,078.00	866,548	5,404	64
Total	**846**	**70,759**	**6,453**	**42,741**	**859,029**	**25,374.00**	**4,281,909**	**26,042**	**229**

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Methodology & Terminology

Optimaze Workplace Review 2018

Rapal | Publication March 2018

Optimaze walkthrough methodology

The process

Space utilization measurement using Optimaze software is a method for observing actual work environment utilization rates. During a 2-week measurement period, measurers perform walkthrough observations at least twice a day, noting how many people are using the work seats and meeting rooms at the time.

During a measurement, one can also **observe activities**. This allows learning about what kind of work people do in different types of work settings, meeting rooms and other spaces.

There are three stages of a measurement: preparation, performing walkthroughs, and viewing results. Training is given to all people conducting observational studies in order to ensure that interpretation and gathering of the data is systematic and coherent.

Walkthroughs are done at a pre-scheduled time during estimated peaks. Walkthroughs should be performed at the same time every day: at least one in the morning and one in the afternoon. During a walkthrough, the observer marks the status of each seat or location as either occupied, reserved or empty.

Automatically reported results are used to provide detailed, up-to-date information on seat utilization and space needs.

Interpretation of seat use

Occupied: There is someone at the seat or desk. If activities are observed and someone is at the seat, the activity that best describes what a person is doing is also recorded.

Reserved: No one is at the seat, but there is clear evidence that someone has been using the seat recently. For example, a jacket, coat, or briefcase has been left at the seat, the computer monitor is on and the screen saver hasn't come on yet, or a fresh food or beverage item is on the desk.

Empty: No one is at the seat, and there is no clear evidence that someone has been using the seat.

Overuse. If there are more people at the seat than the capacity, the observer can enter overuse. E.g. if the capacity of a meeting room is six and there are eight people in the room, the observer should log an overuse of 2.

Advantage of observing

There are many methods for measuring utilization. The electronic observation method using Optimaze has the following benefits:

Great scalability and flexibility: the method quickly scales to as many observational points as you wish on a floor plan, and can be used in any kinds of spaces (offices, education, laboratories, parking buildings etc.) This brings agility and ease-of-use: all you need is connectivity, a tablet and the software with a graphical interphase

High granularity: the level of detail in terms of specific spaces, work activities, seat types, space types and occupying organizations can be achieved at moderate costs, as no installations are needed to set up the study, no investment in hardware

Acceptability vs. invasiveness: the acceptance of an observational study with a human interface can be much higher by clients, when compared to any type of electronic surveillance that may be perceived as 'big brother watching'.

Intangible insights: by observing, you have the ability to collect information regarding work activities and the cultural 'dna', the use of technology and much more.

Terminology & Definitions

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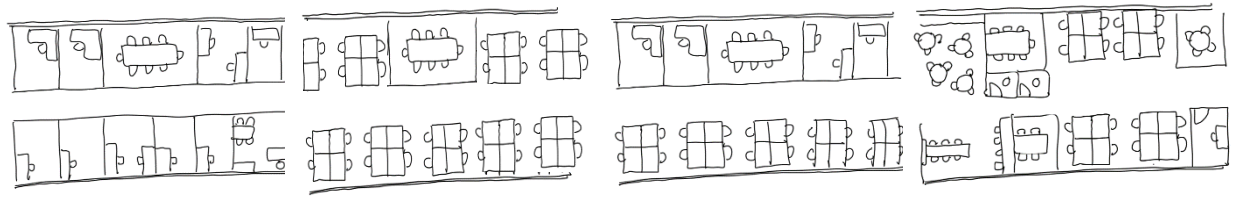
Office types

Enclosed Office: An office type that predominantly houses workstations enclosed by four walls. The space can be assigned to individual workers and can accommodate from one to more than five visitors. Also called cell-office. There are some meeting rooms, but some may have meeting space also in their own rooms.

Open Plan Office: The open plan office is mainly defined by employees sharing a common workspace where many workstations are situated within the same open area, sometimes separated from each other by dividers and file storage cabinets. No or few enclosed rooms exist apart from meeting rooms.

Combi-Office: An office type that is a combination of open plan offices and enclosed offices. Some workers have rooms, others sit together with others in an open plan layout. Traditionally, rooms are assigned based on rank, rather than need, worker profile or work task.

Activity-Based Office: An office type that takes the combi-office one step further, by introducing a diversity of spaces, places and furniture that are available to anyone based on the task at hand. Spaces are used and reserved (sometimes assigned) based on each employees own role, preference and current work task. The idea is to create a flexible platform that enables all workers to succeed in their jobs. No universal blueprint exists for Activity-Based offices – each one should be tailored to the needs of its users.



Enclosed **Open plan** **Combi** **Activity-Based**

Work settings

Work seats function as a person's primary work seat. Work can be categorized as assigned or shared work seats. Assigned work seats are assigned to be used by a specific person; shared seats are those which a group of people have the right to use. Work seats are typically found in connection to a desk, forming a workstation with or without separations from others in the form of walls, dividers and file storage space.

Temporary seats, such as drop-in seats or laptop bar seats, are chosen as the location for a particular task or period of time. These would not be assigned to a person as his or her primary work seat.

Meeting seats, primarily located at meeting spaces, are those seats that are used by groups of people temporarily working together.

Meeting space: Collaborative area, often a space enclosed by four walls and typically able to accommodate from two to more than 16 people. A meeting space can also be placed in an open space. This report groups meeting spaces into small, medium, large and extra large spaces.

General

Workplace or Work environment : a platform that comprises of the physical office workspace and other locations including furniture, amendments and services; technologies and resources used for work; as well as the social environment that include colleagues, teams, bosses, agreements, rules and policies that enable a person to perform their work.

Flex space (or drop-in location): an offsite location between home and the office, eg. a shared office hub, coworking space or hot-desking space, often available by the day, hour or month through memberships or short-term leasing of a chair, desk or room.

Net floor area: Used in this review as the area on a floor that has been assigned to occupant groups or functions. It is calculated by subtracting secondary circulation, restricted areas, interior encroachments and occupant void areas from plannable area (the portion of the floor enclosed within the face of interior encroachments). Bearing structures and shafts are excluded. This area is used to measure space assigned to tenant personnel, furniture, equipment support areas and common support areas.

Terminology & Definitions

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Employee experience

Satisfaction. A survey metric of how satisfied respondents are with their work environment overall (in relation to their expectations).

Effectiveness. A survey metric of how well respondents feel their work environment supports and facilitates their work.

Autonomy. A survey metric of how well respondents feel their workplace policies support working flexibly within and outside the office.

Wellbeing. A survey metric of how good respondents feel in their work environment overall.

Identity. A survey metric of how well respondents feel their work environment supports a sense of belonging, community and professional pride.

Inspiration. A survey metric of how well respondents feel their work environment supports being creative and innovative in their work.

Security. A survey metric of how well respondents feel information security and issues of restricted access have been taken care of.

Utilization metrics

Capacity. The maximum number of places there are for people to perform activities such as working and learning, usually defined by the number of seats provided or space available per person. Used as 'the mirror' that utilization is compared to.

Utilization rate. Share of seat capacity that has been occupied or reserved (multiplied by the reserved multiplier).
E.g. if during two walkthroughs a meeting room is utilized 5/10 and 0/10, the utilization rate is 25 % (5/20).

Frequency rate. Share of work setting (eg. room) count that has been occupied or reserved (multiplied by the reserved multiplier) by at least one person.
E.g. if during two walkthroughs a meeting room is utilized 5/10 and 0/10, the utilization rate is 50 % (1/2).

[Note that terms used for these metrics vary between different sources. The terms used here are defined for the purposes of interpretation of the results presented within this review report.]

Calculation method

Average. Average value of use from all walkthrough observations throughout the measurement period. Most commonly used for benchmarking purposes and making business cases for change.

Peak. The single highest observed utilization or frequency rate during the measurement period. Reversely used for estimating how many seats or spaces at least are free at any time.

Daily peak average. Average of the peak value for each day. design decisions that utilize data for calculating desk-sharing ratios should use average daily peaks to build in a buffer and to create a solution that has some overflow capacity.

Reserved multiplier. The weight given to reserved capacity or count when calculating the utilization rate or frequency rate. If the multiplier is 1, reserved capacity or count is fully included in the rate. If 0, only occupied capacity or count is included in the rate. *In this review, the multiplier 1 has been used.*

Examples of Activities

Concentrating (or Individual work). Focused, heads down work done alone that requires concentration such as reading, thinking, using a laptop, writing notes and reviewing documents. Can be done alone, or among others.

Collaborating. Two or more people working together sharing knowledge/resources, such as in a meeting, classroom training or when solving problems and negotiating.

Calling (or Communicating). One or more people having a telephone conversation or video conference using fixed or mobile technology.

Creating. Manual work and tasks including manufacturing, repairing, cleaning, using machinery such as copy machines.

reCharging. One or more people taking a break, socializing informally, chatting and recharging during the workday

Customer service. Face-to-face interaction in a service situation taking care of the customer's needs by providing professional, helpful service and assistance

Commuting. People moving from one place or space to another.

A note of caution

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When interpreting the collected data, it is important to understand the risks involved when drawing conclusions. Correct interpretations are crucial when using the data going forward. Every utilization study has certain risks that may affect the quality of the data as a whole. The same applies to comparative studies such as this report. Here are a few:

Data collection

Errors made by the observer: One of the largest risks with utilization studies involves interpretation of how and when seats are being used, and the proper training of observers to ensure that they understand the difference between empty seats and temporarily unoccupied seats (the desk is taken by someone, but the user is temporarily away from the seat). The same risk for error comes up when observing activities of the occupants of seats and spaces. This is why a comprehensive and consistent training in measurement and observation is always provided as part of our measurement projects.

Calculation methods

Peaks, averages and daily peak averages: It is crucial to understand the different uses for different calculation methods. Averages can be treacherous if used for dimensioning in a refurbishment project. They should mainly be used for comparison purposes, such as establishing a baseline to compare to, like in this benchmark.

Averages are good for making an argument or case for change, whereas design decisions that utilize data for calculating desk-sharing ratios should use average daily peaks to build in a buffer and to create a solution that has some overflow capacity.

At the same time, peak utilization (the single highest observed use during the measurement period) can act as a way to recognize how much unused capacity there is available at any given time – which can either be seen as a waste of space, or a potential for further growth of users.

Reporting differences

Reporting differences: Some utilization studies only include the time people are physically at their desk and report this as the utilization rate. This is often the case, especially when using automated systems and sensors to make observations. In truth, a lot of the time seats are not free but only temporarily unoccupied, as employees move around inside the office building and between spaces. Making calculations based on only head counting would be a crude mistake. This is why the Optimaze Active tool with its standardized methodology for observing and recording reserved seats allows for marking and calculating utilization rates that include situations where seats are unoccupied but taken.

Utilization or frequency rate: keeping up with the use of seats versus the use of work settings that provide many seats (such as a meeting space) can be tricky. Careful attention to terminology and definitions should be given!

Logical fallacies

Correlation isn't causation, and correlation isn't always meaningful

Before reading too much into the findings in this report, understanding that *correlation does not imply causation* and knowing the difference is vitally important. The findings in this report are NOT the result of causational studies, that gather data under controlled circumstances and variables to prove that one thing causes another. Saying that one office type leads to higher productivity categorically, would thus be a wrong conclusion to make based on this data, as it could be and probably is dependent on many other things as well.

In this report, we try to discover indications of relationships between different factors by attempts to find correlation between them. Even these potential findings should be read with a healthy dose of criticism; just because two trends seem to fluctuate in tandem, doesn't necessarily prove that they are meaningfully related to one another.

In other words, *this report does not answer questions of "why?". It is a comparative study*, that compares data over time, place, office types and other variables. Correlations between different factors may or may not be meaningful.

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Insights & Reflections

Optimaze Workplace Review 2018

Editorial section

Rapal | Publication March 2018

Flexible work – what it is (not)

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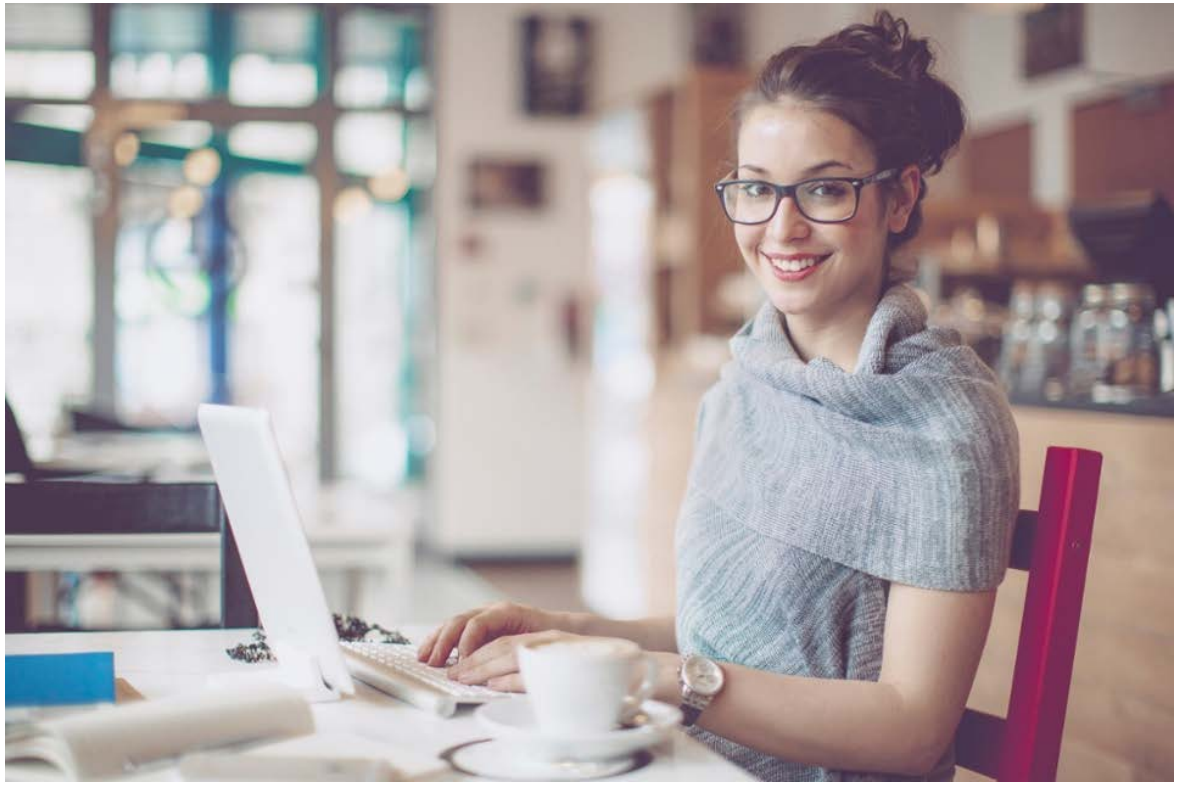
What is “flex work” - and why is there so much talk about it?

Flex work is any kind of work arrangement that differs from the traditional workweek model of five consecutive eight-hour workdays performed at the organization’s facilities with fixed start and end times each workday.

But flex work can be a lot more than just flexible working hours at the office. It also includes flexibility in the choice of location: combining the possibility to work both from the office and at satellite offices and coworking spaces more conveniently located, made possible thanks to modern technologies. The benefits of this include reduced travel time and commuting costs; decreased energy consumption, pollution and traffic jams; and, finally, lowered stress levels from being able to balance work and personal life.



However, let’s agree right off the bat: working permanently 9 to 5 alone from home, is not flex work – is it? There should ideally be a balance between freedom to work anytime-anywhere, and the so-called “water cooler effect” - the opportunity to casually connect and collaborate with your colleagues around the office. Being stationary at home is not flexibility, but just another version of fixed working arrangements.

Mobile technology enables anytime-anywhere working

Another aspect of flex work and a prerequisite for enabling work at a distance (telecommuting) is the availability of functioning mobile technologies. This key enabler is one of the main drivers for mobile and remote work, also known as anytime-anywhere working.

Lastly, flex work can include a variety of flexible work arrangements agreed upon between the employer and employee, such as flex time, compressed work weeks, reduced work schedules, job sharing, and flexibility during one’s career path that allows for sabbaticals or leave for e.g. part-time studies or parental leave. These arrangements typically help bring both work-life balance and well-being to the workforce.

Boost morale, agility and productivity

At best, flex work is a workplace strategy that can boost morale, agility and productivity. Many studies show that there is correlation between flexible work arrangements, happiness and productivity. For example, a study by the University of Warwick reports that happiness led to a 12 percent increase in productivity, while dissatisfied workers were 10 percent less productive. Likewise, a study conducted by Rapal Oy found a clear connection between the ability to work flexibly and workplace satisfaction and well-being.

Whatever the variations in arrangements may be, one thing should remain clear: the employer's objective is to focus on overall business goals rather than on micro-managing how people do their work, supervising headcounts or creating tailored work accommodations for individuals. In a work culture based on targets and trust, the aim is to enable better work-life balance, productivity and well-being.

A word of caution

While flex work sounds like the ticket to organizational bliss, it is important to understand and communicate that flexibility is not

- A universal worker's right, entitlement or award
- A secret perk or deal for the selected few
- Something that suits all job profiles or competencies
- A matter of HR-policy, disconnected from daily management or company culture
- A space reduction program aiming to save real estate costs by having people work from home.

Making a case for flexible work

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The happiness and well-being of the workforce

There are several cases to be made for flexible work, the most persuading perhaps the happiness and well-being of the workforce, and its implications on productivity. As mentioned in the previous section, many studies show that there is a connection between flexible work arrangements, happiness and productivity. The explanation lies in the trust-based, fair and open cultures and a sense of personal autonomy that these workplaces foster.

Key aspects that grow workplace happiness also include the variety and flexibility that is desired by employees. However, in the global workplace utilization studies conducted by Rapal, we found that according to the respondents the optimal time spent working remotely was on average only 20% – thus exhibiting moderation and balance between a sense of belonging and the need for face-to-face collaboration with colleagues and personal independence.

What, besides happiness, does flex work bring?

Other benefits of flexible work arrangements include:

Economic benefits: in addition to cost savings from decreased commuting and the increases in employee productivity, the need for office space will decline as desk sharing policies, activity-based office types, workplace-as-a-service deals with coworking spaces and other sharing economy concepts (e.g. shared cars and city bicycles) are introduced.

Competitive benefits: a humane workplace that provides flexibility to balance work and private life can naturally better attract and retain the best talents to your company. And with better possibilities for remote working, you will also expand your pool for potential talent that lives further away from your main location.

Environmental benefits: as with costs, the reductions in both travel and office space have a direct impact on the carbon footprint and pollution.

Further benefits of flexible work arrangements are **Socio-cultural:**

in addition to the increase in trust-based cultures, enabling people to be self-managing and autonomous spurs the internal entrepreneurship of employees.

Many will find an actual increase in the sense of belonging, as improved management styles and new team agreements transition towards better routines for touching base more regularly.

Get your staff on their feet

By enabling a choice between a variety of places to work in, individuals are also able to be more present for other roles they have as partners, children, parents and citizens. The new mobility can also have positive impacts both on **mental and physical health**, even within the workplace.

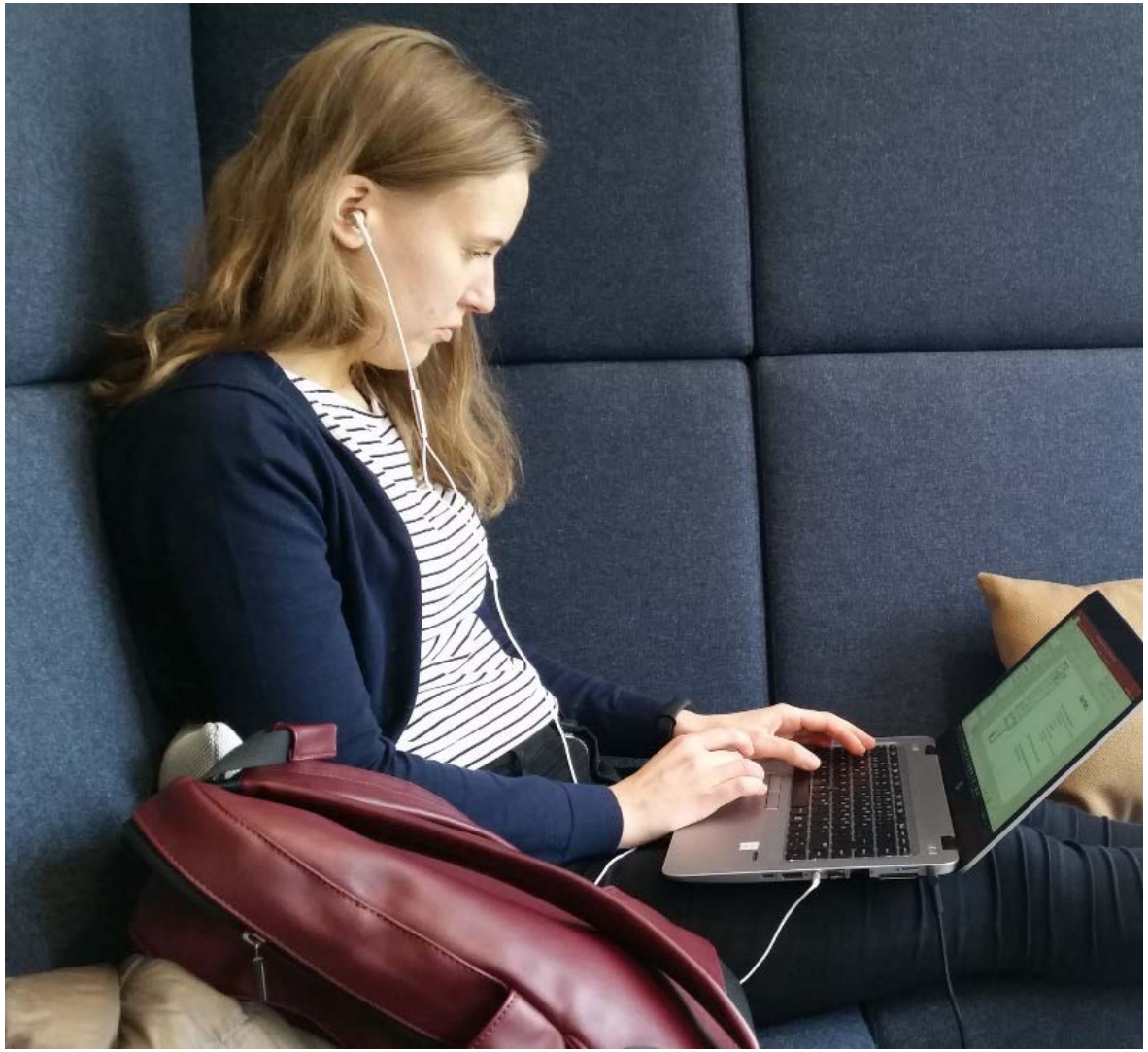
Just by promoting internal mobility and place changing within the office itself by introducing activity based work environments, employers can help reduce the harmful side effects of prolonged sitting – high blood pressure and cholesterol, excess body fat, increased risk of heart disease and cancer. A small price to pay when compared to the long term costs of inactivity.

So is there a downside?

The case against flex work, as proposed recently by some tech companies, has more to do with distributed work and teams and full-time telework (remote work), rather than with flexibility. These concerns can become a reality in poorly managed, large and disconnected teams that allow geographically dispersed team members to become secluded, disconnected, unmotivated and distracted – ending up with less collaboration, innovation and productivity than the policy tries to achieve.

This has recently led many tech companies with full-blown working-from-home strategies to pull their workforce back to the office. However, this move may prove to be risky when attempting to retain your best employees, who may value their work-life balance above financial compensation or the mission of the company. Instead of a full backlash and reversal of flex work strategies, a company would do well in looking to flexibility in moderation, rather than at either extreme.

One simple, direct, and effective approach to finding the right balance for your company's flex work policy is to collect input from your employees and information on their ways of working.



10 tips to get started with flex work

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Mobilize! Set up your own flex work program!

Are you considering flexible work arrangements for your company, or perhaps re-evaluating your flex work policy? Read on!

Workers and supervisors usually agree upon flexible work arrangements in advance, often based on guidelines and policies provided by Human Resources. Before you start sending people to work from home and outside the office, here are some steps and tips to consider when designing your work policies:

1. Devise a flex work strategy and policy. Define what flex work is and what it is not. The case and aim for the strategy should be clear to everyone, as well as the rules by which to play. Define who flex work is for and why, what type of flex arrangements can be offered, and what the process and structures are for implementing them.

2. Ensure the technological enablers and take care of security issues. A pre-requisite for flexible working is that tools and connections work seamlessly, and that working conditions are at an acceptable level, promoting both cyber security and productivity.

3. Determine employee and team readiness for flex work. Not everyone can be a flexible worker. There are many reasons why flexible arrangements are not for everyone. Processing sensitive information, job induction periods or challenges with self-management can be reasons to require some staff to come to the office. Consider how well individual employees have demonstrated the skills and work habits that lead to a successful flex work, but also assess how well the rest of the team will function when an employee begins to work flexibly. Flex work arrangements should not become perks and blanket solutions for all your people "in the name of equality".

4. Do a trial run. Before carving anything in stone, make clear that your new program works and indicates to do what it is intended to do. You may proceed in small steps, trying one new arrangement at a time, restricting the trial to a month or two, or just one team or department. Start with jobs that are a good fit for remote work.

5. Make team agreements and raise communication to a new level. Make sure everyone within the team and organization understands the new rules of work. We need to know how and when to connect with colleagues, and what channels to use. Make it a priority for managers and all self-managing team members to stay connected to their colleagues on a daily basis.

6. Train managers to coach and lead flex workers. Middle managers often fear they will lose control if they cannot observe people working at their desks. Help them change their management style towards coaching and asking questions, being available through a variety of communication methods — phone, email, instant messaging, and so on. Make sure they schedule regular team meetings, phone meetings, or face-to-face meetings so that no team member feels left out.

7. Define your "anywhere" and "anytime". Be specific on what degree of remote work you're offering, i.e. where workers need to be based when they come into the office, and what other locations other than home is suitable for remote working. Define how often they'll be able to work remotely, and how often to show up at the office. Establish 'normal working hours' too.

8. Provide memberships in flex spaces. Shared office space concepts, business hubs, satellite offices, workspace-as-a-service and coworking spaces can offer alternative, professional working environments closer to where people live. These are on offer at reasonable rates, and often include services, amenities and shared resources with little commitments. Exposing your staff to networks outside your own office from time to time may bring in new ideas, connections and business.

9. Set and track performance KPI's. As you transition from managing presence to leading by targets and results, it is advisable to formulate some metrics for tracking productivity for each individual as well as the whole team. Make sure the new targets, expectations, job descriptions and responsibilities are clear to everyone.

10. Measure space utilization and work activities. Keep your office functional, relevant and attractive for your people so they keep coming back for those all-important encounters. Ensure your office space can support essential work activities such as collaboration in a cost efficient way. Use measurement data for fact-based design and decision-making.

Measure the impacts of flex work

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Setting up KPI's and measuring impact

When you are starting a flex work program, you are likely to have a set of end goals in mind. It's good to establish many of these are goals from the start, so you can follow how they develop over time. For instance, as mobility of the workforce grows at a workplace, it can be tricky for property managers (and HR professionals) to get a full picture of just how much time people spend outside the office during work hours and how much potential waste lies in under-utilized desks and spaces. It can also be challenging to understand how spaces could better support flexible working inside and outside the office.

One way to find out is to conduct an observational space utilization study over a period of time, which also enables you to log the typical activities and modes of work in various work settings around the office.

Objective and subjective metrics

Another supplementary method is to conduct yearly workplace performance surveys, which can provide valuable information and feedback on ways of working, workplace satisfaction, office usability, impacts on desired outcomes and suggestions on how to improve the working environment. Of course, you should naturally also follow up if the desired benefits of reduced travel time and commuting costs, lowered energy consumption, and decreased CO2 emissions and pollution are being realized.

Analyzing mobility and the waste of space

Flexibility of time and place essentially translates into mobility. By definition, external mobility is the average share of all employees who are outside the office during typical workhours. You can calculate this by measuring the occupied and reserved seats at the office and weighing the utilization rate against the number of staff who potentially could use them.

Internal mobility

Another interesting metric for management is the amount of internal mobility within the building itself, as this can be an indicator of the "water cooler effect" and how much collaboration is taking place inside the office. According to HOK, internal mobility is a metric calculated by dividing the number of temporarily unoccupied seats by the sum of occupied and temporarily unoccupied seats [HOK benchmarking report, Vol. 1, Financial services, 2014].

With an online tool such as Optimaze, that allows you to observe, log and report reserved (temporarily unoccupied) seating in addition to occupied seating and empty seating, it is easy to produce metrics like these. For example, Rapal's international study of offices around the world in 2016 found that on average 46 percent of workstations are empty, and that there are typically 30 percent free seats even at peak use. Internal mobility was on average 31.5 percent for all office types; however, the use of meeting spaces and consequently the number of temporarily unoccupied work seats was highest in activity-based offices.

Employee experience matters

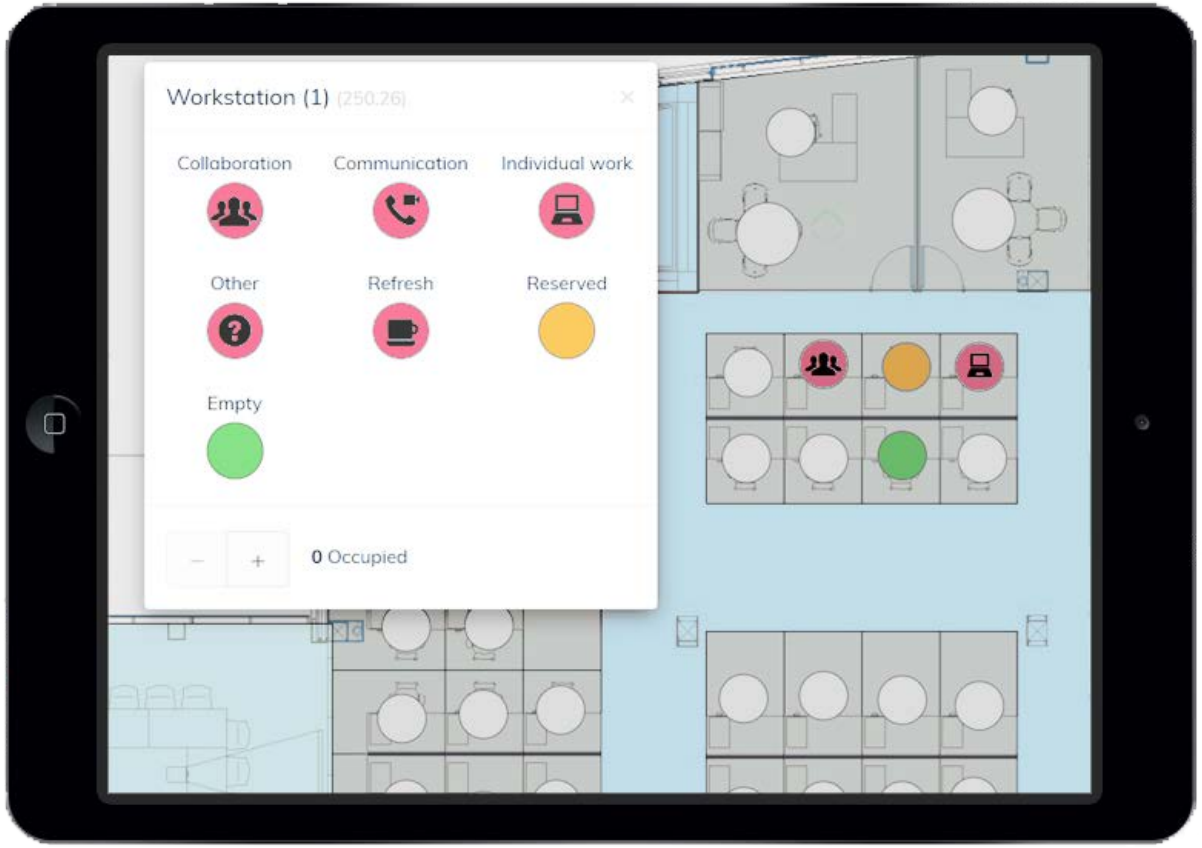
With this in mind, leading real estate professionals have begun to do regular checks on how much money is being wasted on empty spaces, and how a company's smaller carbon foot print could be achieved by having less spaces to heat, cool and light up. Both the environmental and financial impact can be huge as a consequence from increased flexibility.

Top managers also collect user feedback with yearly surveys on workplace satisfaction, office usability, and the impacts on desired outcomes such as productivity, well-being, morale and a sense of belonging. Surveys can even help Human Resources determine how well your office environment contributes to attracting and retaining talent, so that the workplace can be improved to match and even supersede your competitor's.

To make a long story short: make sure you set up some key metrics for leading the workplace, and lead with real data to make your long term business case materialize.

8 reasons to measure office space utilization

optimaze



For almost every organization working in an office environment, premises are the second largest cost after personnel. Office space utilization measurements help you confirm whether you have the right kind of premises and whether you really need all the square meters you are currently using.

1. Cost savings

Research shows that work is becoming more mobile and people are spending less time at their workstation. When upgrading your work environment, it's often possible to make more efficient use of space as well.

Measurements can help you achieve tens of percent more savings than a personnel survey alone. In personnel surveys, workers typically estimate spending 70-80 percent of their time at their workstation when the real figure is often closer to 50 percent. Measurements give you precise data on space utilization and help you scale your premises correctly.

2. Change management and communications

Studies show that personnel's commitment and involvement are the most important factors in successfully changing working environments. When measuring space utilization, you can also gather data on working habits: individual work, cooperation, and meeting practices. This information will help you justify the changes, and also promote discussion between management and personnel.

3. Creating work profiles

Work profiles will concretize the need for making changes to your premises. Work profiles are typically divided according to personnel mobility: fixed, campus mobile, and mobile. The terms themselves vary, but they indicate how much time a person spends in the office and how much of that time they spent at their own workstation. The profiles will make it easy to see what kinds of workstations are required. Often the profiles are also used to support space dimensioning plans, and when considering IT requirements and remote working practices. The best way to create work profiles is to analyze your units' space utilization and conduct a personnel survey.

4. Determining space requirements

When a company first begins to consider future space solutions or is looking for new premises, space utilization measurement is the fastest and most cost-effective way of evaluating space requirements.

5. Assessing the success of work environment changes

Measurements enable you to analyze whether you achieved the targets of your working environment change. Two examples of such targets could be cost savings or premises that better suit your personnel's working habits. The results will show how efficiently you are using your space and whether you have the right number of appropriate workstations.

Space utilization measurements can also be used to further develop premises. For example, software development involves many iterations before a product is launched and further developments will then be made based on customer feedback. It would also be worthwhile adopting this approach to workplace development.

6. Assessing ABW (activity based working) office functionality

The majority of modern offices are ABW offices, and they are continually growing in number. ABW offices are divided into different types of areas, such as quiet spaces, shared workstations, break rooms and conference rooms. Workers can choose a suitable space for themselves as required, maybe using a number of different spaces during the day. When workspaces are properly designed, they will support different tasks and ways of working.

It's a good idea to measure space utilization in ABW offices at least once a year. Particularly in organizations that are introducing ABW and/or shared workstations for the first time, more changes will occur as personnel adopt new practices. Measurements will help you to identify areas for development (such as incorrectly sized conference rooms) and enable you to make corrections, so there will be no fall in productivity due to, for example, a lack of quiet spaces. Continual measurements can be used to identify any miscalculations in your space set up, enabling you to correct the situation before productivity or personnel satisfaction suffers.

7. Energy savings

Continual space utilization measurements will provide you with information on trends that can help you save energy. For example, during the holiday season, workers can be directed to work on only four floors rather than five floors. As remote working becomes increasingly popular, it's common for only about half of personnel to be present on Fridays. They could then use only part of the available space. Modern building automation enables you to, for example, turn out the lights and turn down the air conditioning in unused spaces. This will save energy.

8. Service optimization

Utilization rate trends will enable you to correctly scale your services as well. For example, you can forecast how much food to reserve for your canteen on different days, or order a more intensive level of cleaning on days when a lot of workers are present. This will also generate savings by reducing food wastage, and a higher standard of cleaning will increase comfort levels in the workplace.

These are the most important reasons for measuring space utilization. The next time you're considering altering your premises or hiring a working environment consultant to make changes for you, remember to insist on space utilization measurement. It will pay for itself many times over.

And remember: you can measure the biggest benefits of flex work in the happiness and well-being of the workforce and its implications on productivity. Workplace strategies are important for retention, employee satisfaction and even success! If one of your goals is to have a happier, more productive, and healthier workforce, creating a flex work program that suits your company's needs maybe just the ticket. And it might just save you on real estate costs too!

Improve employee experience and space use in real-time

optimaze

IoT, sensors and Employee Experience

With increasing office densification rates combined with evidence of poor space utilization and the expectations of occupants for more human and productive environments, the need for workspace management platforms to provide better insight into the repurposing of current work environments has never been so urgent. Other identified key drivers for market adoption include the overall growth of IoT solutions in commercial real estate, developments in advanced sensors, energy efficiency deliverables, flexible working trends and the development of workspace-as-a-service. Many organizations are investing in flexible, smart workspaces, as well as adopting more flexible working policies and practices to satisfy and retain their best employees. These trends align with the uptake of platforms and apps to support occupants and facility managers in smart offices*.

*[*Occupancy Analytics and In-Building Location Based Services 2017 to 2022, Commercial Office Space, Published: Q1 2018].*

As the price of sensor technology is decreasing and the reliability of e.g. PIR sensors is much better than some years ago, we see rapid growth in real time data use, especially in Activity Based Offices. Solutions that combine real time data from sensors and present the information in a format relevant to the employee are becoming a must for creating a successful employee experience.

By providing tools to office users that help them use the different work settings more effectively on a daily basis, you can improve both utilization as well as workplace satisfaction.

How to get started

You will need devices (such as PIR sensors) and software/app to visualize the sensor data to employees. There are multiple companies (e.g. Rapal) offering such services.

As technology in this field develops very fast, you might want to consider a software that is technology independent and can visualize data regardless of the manufacturer of the sensor.

This way you can minimize your technology risks in a fast developing market.

The workflow itself is very easy. Define the spaces and workstations that you want to monitor electronically. If you feel that there are plenty of workstations, it may not be critical to use sensors at all, in order to provide information on availability of free seating. Typically, it is most important to show users the available support spaces (quiet rooms, phone booths, quiet areas, meeting pods, ad-hoc meeting rooms etc).

Sensors can be mounted to desks, seats and ceilings of rooms.

Typically sensors send data to a cloud or other backend. To be useful, your software should have in-built logic that combines location and data to then visualize the information to users e.g. through lobby screens or smart phones.

Benefits of real-time information

The benefits can be divided into two categories. "What's in it for Me?" (the Employees), and for the Organization.

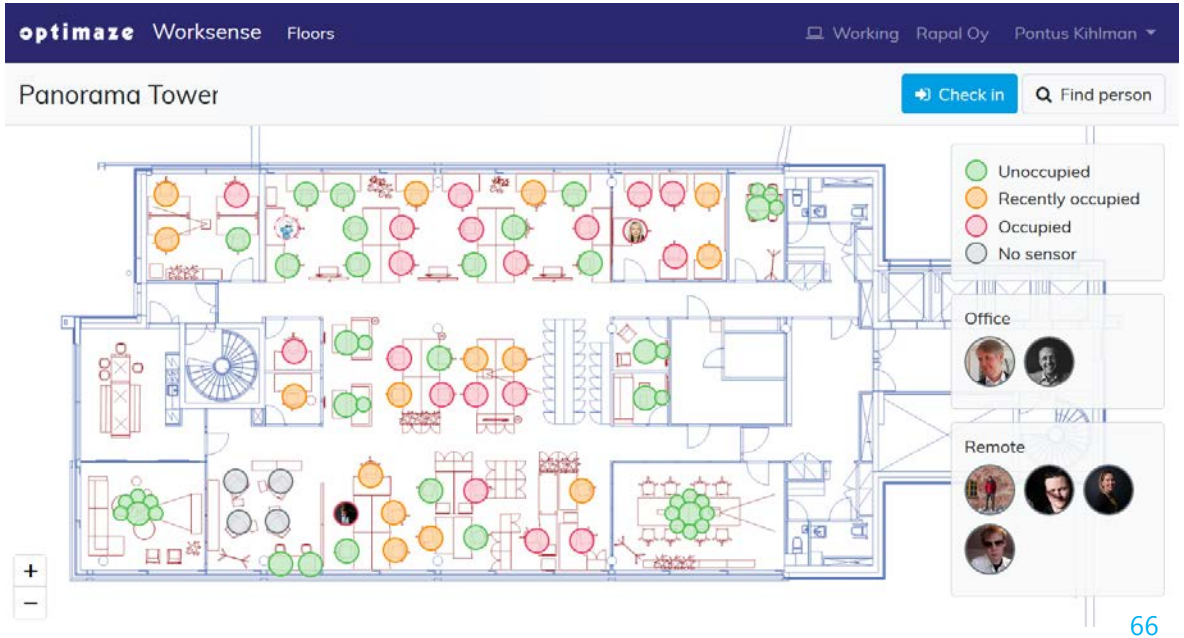
Benefits include: Time savings, increased satisfaction, increased productivity and cost savings (optimized space amount, optimized services).

For me	For my organization
✓ As the day at the office can be quite hectic and crammed with information, the goal is to make the work day for each individual easier. ✓ Especially when transforming from traditional to ABW, people may worry about finding colleagues easily at the office. There are many ways to share a person's location, and thus enable employees to connect easily with whomever they wish to work with. ✓ Providing real-time information on space availability empowers people to quickly choose a space were they'd like to work. It saves employees' time and provides information on the work environment to make their office day a better experience	✓ Best solutions provide the tools and the platform to turn collected data into insights. This gives your workplace managers the possibility to use crunched data on the work environment and to modify the workplace accordingly. ✓ Insights help you optimize space related costs, environmental impact and employee productivity ✓ In practice, this means that you make sure that the flexible work environment responds to employee needs and the required changes are done proactively, based on factual data. This will improve employee experience and increase satisfaction – leading to better productivity and organizational success.

What kind of features are available on the market?

The features in software tools dealing with sensor data are becoming more vast. At its simplest, only information on real time space availability is visualized. Other features can include

- booking and reserving work settings
- Searching colleague's location and status (e.g. break, remote, meeting)
- indoor air parameters such as temperature, CO2, humidity
- service request
- feedback on spaces
- information on space equipment/technology
- way finding



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If you are interested in doing your own workplace studies, please follow the links for further information.

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Rapal's tools and services are aimed at supporting clients and its partners in analyzing and optimizing better working environments that can boost wellbeing, productivity and cost efficiency. This review of observational data was prepared by Rapal Oy's Workplace team based on 2016-2017 data collected through the use of its space utilization measurement tool Optimaze, by permission of its end clients.

We hope you the reader will find the results and findings within this report useful, whether it is to find points of comparison or to make a case for conducting space utilization studies of your own.

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