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Comment

According to Oxford Dictionaries the word of the year for 2016 is post-truth. This is a slippery little adjective because while some things are pretty much objectively true, the use of post-truth in many contexts is merely a way of shutting down opinion.

It's especially pernicious when it comes to ideas and philosophy because it assumes that the person using it knows what the truth is, yet the world's sharpest minds can't always agree on that As the great Ambrose Bierce defined truth in his caustic Devil's Dictionary: 'Discovery of truth is the sole purpose of philosophy, which is the most ancient occupation of the human mind and has a fair prospect of existing with increasing activity to the end of time'. And there's a good reason why in the Bible Pilate's question 'What is truth?' is met with silence.

What is ironic about this now is that the world is awash with data. We could easily assume that this would make the truth, or at least facts, less disputable. But the converse appears to be true. The more information we have, the more we fall back on narratives.

This is often the case in the field of workplace design and management. We've never had more data about what makes people productive, happy, well, engaged and motivated. We've never known more about what makes buildings function and how to optimise their systems and performance. And yet narratives persist that do not match the data, or at least oversimplify them.

This is where we believe a journal like **Work&Place** is so important. It works on the premise that the challenges faced by building occupiers, designers and owners are complicated, messy and often unpredictable. The opportunities they would like to seize are game changing. So solutions need to be sophisticated, adaptable and informed. They should not rely on narratives that oversimplify and misdirect..

This is an ongoing and evolving debate which is why it's so important that we all contribute. We hope that you will take up the opportunity, to ask questions, challenge the writers, or to make a related point at our LinkedIn Group, via Twitter, email or even a chat on the phone.

We look forward to hearing from you.

Mark Eltringham Managing Editor @InsightOnWork



Book review

Mark Eltringham reviews HQ: Nerve Centres of the World's Leading Brands

Some people would have you believe that the office is dying out. But the absolute dead giveaway that it is not is the creation of tech enclaves and palaces around the world that exists solely to bring lots of people to work together in real space and real time. Some of these buildings are presented in a new book called HQ: Nerve Centres of the World's Leading Brands from Irish publishers Roads. The high tech homes of the likes of Google, Facebook, Microsoft and Vodafone are presented alongside similar examples from eight other business sectors: Finance, Retail, Motoring, Media, Drinks, Fashion, Sport and Design & Innovation.

Because of the book's format and focus on corporate branding, it invites the reader to muse on the way that firms and whole sectors see themselves. This is an intriguing conceit but the book lacks a focus on the actual work that gets done in these places. There are very few people pictured and of those that are, the vast majority are moving through the public spaces of the buildings. These are people



HQ: Nerve Centres of the World's Leading Brands Hardback: 212 pages Publisher: Roads Available at Amazon and all good booksllers

between work, and the camera's gaze is not drawn to the mundanity of meetings and workstations. Even though the foreword talks of a 'wow moment', it goes on to consider the role of the workplace in motivating and inspiring staff, even though nobody seems to be doing anything in these palatial surroundings. We are regularly told these days that there is now a diverse ecosystem of office forms that mirror the identity and structure of their occupiers. It is in this regard that the book comes alive.

The finance sector seems to like its towers and corporate monoliths as evidenced by the likes of J P Morgan, HSBC and Lloyds.These are primarily anti-human buildings.The most humane office in this section is that of the Cooperative Group in Manchester and that is not primarily a financial services firm.The rest seem designed to cow the people within and around them.

Perhaps more surprisingly the same is also largely true of the case studies presented for the media sector. For the most part these are buildings that are designed to impress rather than embrace people, although the offices of United Talent Agency in Beverly Hills reflect the welcoming human-scaled design we might more commonly associate with a firm working in the sector.

Firms working in the fashion industry most evidently see their offices as an extension of their retail outlets. However, fans of the movie Zoolander will be delighted to note that the headquarters of Fendi are described as 'an iconic example of fascist architecture '.Giorgio Armani has used its famously muted grey colour palette in its monolithic



interior and the result is something that evokes the Holocaust Tower at the Jewish Museum in Berlin. Not good.

Unsurprisingly, firms in the retail sector tend to derive inspiration from their shops. One notable exception is Net a Porter in London whose offices are (pleasantly) redolent of a hotel lobby or airport lounge. Similarly, Primark's offices are bright and attractive

Those firms active in the drinks sector want to make sure that people know it. Guinness's Dublin home is an attractive red brick building with an unmistakeable North American feel derived from its use of Chicago style architecture. The Spanish wine make Ysios has a lovely home that reflects the rolling hills of its landscape and also the barrels that it uses. Whisky maker Lagavulin has no truck with any corporate nonsense and its distillery is perfectly at home on the seafront of Islay. Moët et Chandon is similarly at home in an Epernay château.

Both the sport and motor sectors take a fairly literal approach to the use of identity in their headquarters. The good people at Puma and converse work in an extension of a store. The new HQ of BMW is inspired by engine cylinders. Exceptions are Aston Martin and Bugatti whose emphasis is on heritage. Meanwhile Ferrari have opted knowingly for a theme park dominated by what looks like a vast red squid from the air.

The technology businesses presented in the book do not want to be perceived as corporate beasts (even though they are), instead choosing to work on campuses that reflect both an ostensibly more relaxed attitude to work and a focus on research and ideas. One exception is NetDragon who have gone full nerd with a life size simulacrum of the Starship Enterprise.

The most humane interiors are associated with the Design and innovation sectors. Although there is the obligatory foosball table at Mattel, at least these interiors seem to be focussed on human beings. At Fujitsu we even get to see some people talking to each other, the real reason these offices exist in the first place W&P

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Above: Primark. Opposite page: the inevitable foosball table at Mattel

Sky's new London headquarters challenges the idea that, when it comes to workplace design and management, you really can't have it all

Neil Usher

OFFICE DESIGN • FACILITIES MANAGEMENT • HUMAN RESOURCES

Sky Central: A Unity of Opposites

It's drummed into us from an early age that we can't have it all, as a result we consider choices as being a binary either/ or situation. The workplace design brief (where it's actually undertaken, an entirely separate discussion) positions choices similarly – open or closed, focussed or collaborative, modern or traditional – the decision point existing along a sliding scale from one natural extreme to the other. Yet there is a way to consider workplace design as an attempt to achieve the "unity of opposites", an idea proposed by the pre-Socratic aphoristic philosopher, Heraclitus, the original thinker on change.

This holds that the existence of an idea is entirely dependent on the existence of its opposite, that one cannot exist without the other. The framework is considered here in its application

to the recently completed Sky Central in Osterley (West London), a newly constructed 38,000m2 NIA activity-based workplace over three floors that is home to 3,500 of the total 7,500 people on the Sky campus. It may be considered as tool for aiding workplace

workplace design as an attempt to achieve the unity of opposites, an idea proposed by the philosopher, Heraclitus, the original thinker on change...

brief development, or for understanding how a workplace has been conceived and functions.

The campus has undergone considerable change since the completion of the new Sky Studios building in 2011. This has been underpinned by a move in Osterley - and a number of other locations throughout the UK and Europe - to an activitybased workplace for its corporate employees together with a recognition of the need to provide suitable space for its Agile (in the established sense, relating to software engineering and not to be confused with "agile" when applied to a flexible workspace) teams within striking architectural creations, knitted together by an extensive landscaping programme. Sky Central is the latest building to be completed on the campus, fully occupied during July and August of this year. Over 3,000 of the new occupants had previously been assigned their own desk or private office in ageing, mainly leased stock and so the move represented a significant change of environment. Sky consider the workplace, designed by HASSELL and Arup as an

investment in its people, a key enabler to them undertaking the best work of their careers.

This is how Sky Central unifies a host of opposites. The labels may not immediately appear to be antonyms, yet the premise in each instance will reveal itself.

BEAUTIFUL - and WORKS

The form versus function debate is rarely far from the lips of an excluded FM disgruntled at the management burden imposed by architectural choices. However a building can be both beautiful and functionally efficient. Sky Central's vast voids are criss-crossed by multiple staircases and ramps that offer countless vistas, journeys and moments in which to pause

> and absorb its scale. Yet from its systems to technological infrastructure, its eighteen neighbourhoods supporting around two hundred people each in keeping with "Dunbar's number" of ideal community size, the "20m rule" akin to the ideal of Bürolandschaft

whereby a break in sight lines, some solid, some permeable, is set up to twenty metres from wherever you stand that brings intimacy and a human dimension, it works beautifully. This is best illustrated by the presence of the huge glass box cantilevered over the main street that is the new Sky News studio, bringing content into the heart of the building.

CREATED - and GROWN

There is no question that a structure measuring 163 metres long, 100 metres wide and 25 metres tall – that rolled into a typical CBD towerblock would reach thirty one stories in height – hasbeen constructed, as over three million labour hours across two years will testify. Yet the rich external landscaping populated with mature planted treesand the extensive and varied internal planting scheme, along with over 8km of glulam beams in the roof structure allude to an intrinsic connection between the inside and the outside, a space that exists in Gilles Deleuze's "fold". In this complex idea, in a

finite many respects the brand that is the "workplace" has taken a battering in recent years, able to satisfy no-one in its lurching from panacea to panacea...

All images © Mark Cocksedge

universe that exists through the infinite folding to complexity, growth itself is a process of unfolding, of revealing. If we think of our buildings as needing to appear in as many instances as possible as grown, rooted, nurtured, we may at last overcome such commercially manipulated ideas as biophilia and start to genuinely embrace connectedness.

WORKPLACE - and CATEGORY

In many respects the brand that is the "workplace" has taken a battering in recent years, able to satisfy no-one in its lurching from panacea to panacea. In response it has tried to position itself as anything but - it's a club, a hive, a home from home, a hotel, a retail outlet, a café - anything other than owning up the reason it's here, anything that adds a dab of credibility. It's yet another in a sea of identity crises. Yet when a workplace starts from the premise that a workplace is exactly what it is, it sheds a huge burden of expectation. From this point it can mash-up the contribution of those purposes as needed or appropriate, in creating a category of its own. If the blend is unique, it can be both workplace and [category]. The category here is the thing itself, not yet named. Sky Central draws on multiple influences, blending and blurring them, but still manages to look and feel like a workplace and support work in all of the expected ways, yet also those less expected.

PEOPLE - and DNA

It is an oft-heard refrain that space is "all about people". It begs the question as to why it wouldn't be, or hasn't been. More than occasionally, the desire to stamp a branded identity on a space to an inhuman degree takes control of the design outcome. Occupants know who they work for, visitors know where they've landed. While occupants generally like to feel that their space characterises the organisation they work for, there is a balance to be struck. While Sky Central has been created for comfort, ease, simplicity and choice, it still attempts to capture the essence of the business in order to create a sense of belonging – openness, egalitarianism, and most of all a sense of possibility. On a broad scale it helps create the sense of a psychologically safe environment, a consistently proven key enabler of team success. It is what Kornberger and Clegg



Activity-based working isn't about setting out a smorgasbord of furniture types till it resembles a dealer showroom, it's a considered process of defining work activities, desired outcomes, building blocks and proportions...

(2004) would call a "generative building", in that it is not merely a passive container for events but an active contributor to organisational activity. It's a subtle weave, and hard to achieve.

TIMELESS - and PLAYFUL

How does a scheme extract itself from a scale tipped at one end by the slides and climbing walls of the net generation and at the other by the creak of Italian leather and "don't-touch" art collection of the legal profession? Sky Central aimed to be an adult space, applying natural materials in a modern way, and avoiding the ephemeral rush of gimmickry. Creating a playful spirit in a space is part design, part participation – from adding texture and tactile elements like the "rope house" meeting spaces, to making use of amenities like the 200-seat digital cinema for gatherings, events and film premieres, encouraging good neighbourliness through community events based around features naturally lending themselves to such like the Home Zones, and popping up showcase and promotional opportunities in public spaces like the Street, the east-west spine of the building.

CALCULATED - and INTUITIVE

Counter-intuitively, it takes a complex spreadsheet and calculation to create a space that is as intuitive and accessible as possible. Activity-based working isn't about setting out a smorgasbord of furniture types till it resembles a dealer showroom, it's a considered process of defining work activities, desired outcomes, building blocks and proportions. To accommodate its 3,500 people Sky Central has roughly 5,000 places to sit across all space types, of which 2,500 are "desks", identifiable by virtue of their 27-inch monitor, single-USB docking station and peripherals. The spectrum of space types from the most focussed and quiet to the most interactive is as seamless as possible, and the proportional balance between



...A workspace needs to support work the way it is performed today – and the way it might be performed in future, which - as of today - is unknown...

primary and alternative settings is vital to enable each - and the whole - to function effectively. There are six different forms of desk in a variety of finishes, in a deliberate push away from the serriedwhite desks disappearing into oblivion that have characterised large corporate workspaces for a decade or more. All of this to create an environment that is simple, accessible, and non-prescriptive - soft visual clues hint at intended purpose, but "guerrilla architects" are welcome to re-define usage as suits, all within the spirit of good neighbourliness. The process of working with a "minimum unit of planning" (MUP) for each group in the building of a hundred people - instead of drilling down to the smallest non-divisible team - effectively handed space to the building's occupants to use as they wish, and ensured everyone had access to the widest variety of space types in an area.

TECHNOLOGICAL - and ANALOGUE

Two awkward assertions hold true that still have not entirely sunk in within the world of workplace. Firstly get the technology right before doing anything else. With highly flexible, super-connected tech, a terrible physical space can still work - but with poor tech, investment in an amazing space is likely to be wasted. Investment in tech should be the first, and most protected, item in the budget. It can also be rolled out before the project even begins, its dependency relates only to building infrastructure. Secondly, the more technology a team works with, the more analogue space and features it needs. Agile engineers crave whiteboards for Big Visible Charts (initial caps intended) for regular stand-ups and work tracking, covered in sticky notes. Sky Central has a technical infrastructure comprising Cat 6 flood cabling and wifi, along with a simple plug-and-play desktop previously described, telephony via Skype for Business, follow-me printing, VC and telepresence rooms and viewing stations decked with Sky and competitor products allowing EPG access. It also has a genius lounge, Tech Central, that operates as a drop-in IT helpdesk to avoid the need to make a call and (deep breath) "log a job". Within the physical space, there are "global destinations" such as two atria and two mezzanines with a range of formal and informal meeting

furniture, and alternative settings arranged as organically as possible with the desking for ease of access. The technology is there when you need it, and respite is there when you need it to.

NOW - and THEN

A workspace needs to support work the way it is performed today - and the way it might be performed in future, which as of today is unknown. It therefore on the one hand needs to be based on evidence, where the form of the building follows the function it is intended to support - and on the other hand be able to offer and stimulate opportunity for work to be performed in different ways, as individuals and teams develop and change, where the function of the people follows the form of the building and space. If either is stressed too greatly, either the present or future will suffer. Given the open ended nature of opportunity-based design, the need for tummelers is paramount. The word and idea originates from the German tummeln, which means 'to stir'. That is, people doing things differently and talking about doing things differently. The Change Leads appointed from within the business performed a significant role in this regard - more on this later in the paper. Finally, Sky also avoided the use of a misnomer to try and describe the type of space or reference an intended activity, no "smartworking" here. In the first flexible space on Campus launched in 2014, the Hub, an architecturally striking space for 525 people, the term "Sky Space" was developed on which to hang the new ideas, but after its launch the term, the materials the animated film, were all let go. The space being created spoke for itself.

TOGETHER - and ALONE

The misconception of "open plan" that has perpetrated a sustained journalistic assault is often supported with evidence that the panacea that would drive interaction and productivity is a myth, and that the reverse occurs. The Gensler workplace surveys have consistently reinforced the notion that we spend roughly half our time in focussed activities and half in interactive. With this in mind, an aim of Sky Central was a balance between spaces that would allow both, while maintaining a connection with the space at all times: spaces in which to work together, and spaces in which to work, think, meander and lose oneself, alone. It also works on the premise that when working alone it is less a problem of noise - a background hum can be highly beneficial when focussing - and more about sending a signal to avoid disturbance, the "have you got 30 seconds?" that becomes half an hour. In this way it is supporting the subjective and objective views of productivity.

SUSTAINABLE - and BOLD

It is often held that a sustainable building is "safe" not just in terms of looking after its occupants, but also in offering little to challenge us. Sky Central has been designed to BREEAM Excellent, as would probably be expected, its PV cells generate 10% of its electricity needs, the rainwater it harvests feeds its washrooms, the extensive planting oxygenates the atmosphere and the Live Well food programme helps protect waistlines. Yet the decision to build one large space was bold, counter to market expectations and the conventional wisdom of a series of smaller, vanilla buildings. It has little do with Facebook's 430,000 ft2 floorplate and more to do with how Sky wanted its people to work - openly, transparently. Perhaps without the courage of these decisions I wouldn't be writing about the building at all.

STANDARD - and BESPOKE

Sky didn't do things differently for its own sake. Experimentation and uniqueness was never an aim. Sky partnered with established firms in design and construction, and in its workplace fit out like Herman Miller. It got to know and work with partners whose presence was less established, such as Koleksiyon, whose desking brings a domestic-inspired, relaxed feel. It developed products, the basis of which was there but the exact response not quite what was needed, like Orangebox, Vitra and Ergonom. And it worked with suppliers with no presence in the UK, like Massiv with its Craftwand sustainable timer divides. Joinery was used where the market couldn't meet the needs of the scale of the building. Overall it was a balanced response, and all within responsible cost management that took a third out of the initial cost plan by the time the fit-out was complete.

SUGGESTED - and OWNED

Sky were about to move over 3,000 people assigned their own desk or office to an activity-based workplace. It was a conscious decision to own the change programme itself without any investment in consultants, more specifically to ensure that people moving to the space owned it. Based around the Living Lab - a 300m2 constructed slice of Sky Central created in its old gymnasium in a building now being demolished to make way for a car park - and a web portal, it engaged sixty people from within the business to devote a portion of their time as Change Leads to carry the conversation with their colleagues. Sky's lexicon was grown up, the soft-handed approach was flexible and allowed enough room to weave in messaging as required, based on an open and lucid dialogue. There was no "etiquette training" or prescriptive messaging, rather the conversation was based on simple sense and good neighbourliness. The





project team facilitated, but did not arbitrate. In gifting the workspace to our colleagues, the project team offered suggestions as to how to use it, but left the decisions up to the occupants. It has always been their workspace: by creating as much choice as possible in the use of the space, our colleagues now own the opportunities it presents.

LEARNED - and LEARNING

Learned implies a static position, with enough gathered to begin. Learning is an active process, assuming little and taking on board a lot. Without the experience of the Hub two years earlier, and the learning that resulted, it is unlikely Sky Central would have been anywhere near as successful. It is where we pondered the need for MUP's, where we determined we needed a greater range of desks, a more organic layout, and a deeper conversation. From here, Sky Central presents a highly significant learning opportunity for Sky, and for the Workplace profession. Utilisation studies, system information, focus groups and a post-occupancy survey will provide a rich data set by the end of November that will inform immediate and longer term changes needed, and help steer future Workplace projects. Moreover, the conversation will continue - the change programme lives on, a project footing has been maintained. There are still 3,000 colleagues to move between other Campus buildings by Easter 2017.

THE END - and BEGINNING

As it relates to Sky Central, the research, benchmarking, design, planning, installation and relocation is done. The formal end of a project is often difficult to determine, it often resembles a river delta flowing into the sea. There were times where everyone closely associated with the project wanted to step off the belt - the journey was convoluted, tangents were taken and abandoned, ideas were tested and rejected, the elastic limits of patience exceeded. Yet the collective belief never buckled. At this point, the journey for our colleagues is just beginning. Some have lifted and shifted old ways, some are changing slowly, others have leapt willingly into a new world of work. As a team our learning journey is underway, as we talk, watch, listen, survey and understand. There will be surprises.....all is flux, after all.

Sky Central is not offered as a blueprint, it just happens to be right for the organisation. Neither is the "unity of opposites" model a way in which we should always think about our workplaces, yet it may help. It brings us to the final unity of opposites, the pre-Socratic and postmodern – Heraclitus, sage of change and Deleuze, contemplator of art and philosophy, one living in a world with very little architecture, one in a world saturated by it, yet both with vital thoughts that help us understand it. I hope they would both have approved **W&P**

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I Neil Usher

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Neil Usher is Workplace Director at Sky. He is an internationally experienced senior property, workplace, facilities and change management leader, skilled in all areas of the property lifecycle. He has successfully led property strategy, commercial development, acquisition and disposal, workplace design and delivery (including activity-based environments and remote working programmes), the management of office, technical and industrial facilities and complex change and transformation programmes in over thirty countries in a wide variety of industry sectors.

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The 'how' and 'where' people want to work is being transformed by the rapid digitisation of the workplace

Kate Langan

CORPORATE REAL ESTATE • FLEXIBLE WORKING

Technology, cyber-risk and the future of real estate

...revolutionary and dramatic

change may be some way off, but it is still imperative that institutions and

individuals address the challenges and

opportunities posed in the here and

It's no surprise to say that technology is having a major impact on the workplace and the use of corporate real estate. The fast pace of change has seen technology impact all aspects of business, government and culture, as well as personal life, with a constant flow of new innovations and solutions helping us to do things more quickly and efficiently. Equally, technology also provides a challenge to business and, more specifically, corporate operations, with a whole array of disruptive technologies.Disruption is indeed now running a swathe through a whole spectrum of industries.

CoreNetGlobal's recent report, *The Bigger Picture: The Future* of Corporate Real Estate attempts to capture the impact of

technological change, and a variety of other factors, that will influence, disrupt and transform the corporate real estate (CRE) profession. As business strategy and operations are reshaped and consumer preferences change, we will find that the 'how' and 'where' people want to work will transform.

will transform. Providing an opportunity to take stock of where we are and, importantly, the direction we are heading. The Bigger Picture Report draws on the expertise of many industry professionals. It provides multiple perspectives on the forces that are instituting change. These range from the global economy, people, talent and wellbeing, environment and energy, corporate social responsibility, risk mitigation, and, of course, the impact of technology and subsequent cyber risk.

now...

The impact of rapid technological change was also at the heart of many of the presentations at the recent CoreNet Global 2016 Summit held in Amsterdam. In the visionary keynote from entrepreneur and innovation expert Mark Stevenson,he challenged delegates to rethink how they incorporate technology into their business environments. Stevenson argued that the digital age has now passed (digital was the "cocktail sausage before dinner....it was the trailer.... we're done!" he told delegates). He went on to share insights into a potential future business landscape where the ways in which we work, and the businesses that provide services and products, will be almost unrecognisable due to the fast paced and democratising potential of technology. Such revolutionary and dramatic change may be some way off, but it is still imperative that institutions and individuals address the challenges and opportunities posed in the here and now.

The real world application of emerging technologies is impacting how corporations manage and use their real estate

> and the ways in which people live and work. These changes, in turn, impact the public perception of the corporate enterprise and reflect back on overall efficiency, sustainability and profitability.

The Bigger Picture Report seeks to crystallise the key areas of technology that are

creating new styles of living and working. These include the emergence of intuitive mobile technologies that mimic human behaviours that are becoming increasingly affordable and available across the globe. The proliferation of individual technology devices-of-choice is leading to an increasingly mobile and connected workforce that is changing real estate requirements in terms of how much physical space is required, where facilities are located, and how space is configured, utilized and managed.

The increase of remote and co-working spaces coupled with the societal shift to mobile or flexible work practices is necessitating a greater emphasis on the technology infrastructure within most major corporations. This in turn extends to an increasing awareness among corporates of the vulnerabilities of their technology systems and security protocols, particularly in relation to data protection both in and out of corporate premises. Cyber risk, in addition to physical risk, and the ways in which CRE professionals need to focus on this growing area of concern is a particularly interesting takeaway.

Tech-savvy knowledge workers have the freedom today to choose when and how they work, and employers are wakingup to this. The next generation workplace will see CRE professionals providing technology enabled environments that provide both the employee and the organisation with greater flexibility and agility. Future 'multi-modal' workplace networks will provide an even greater number of workplace choices. People will elect to go to workplaces that provide the right social or professional interaction to help them work most productively. We are seeing CRE teams becoming 'curators' of space, facilitating not only the right level of amenity but also the right operational mix to maximise business outcomes.We are seeing a world where employees are increasingly seeking to dictate a work style that is consistent with their chosen life style, and corporates will need to learn to adapt to these changes in order to ensure that they can continue to attract and crucially retain, talented workers.

The technology enabled mobility of the workforce directly impacts the traditional office model and leads to greater uncertainty of accommodation needs. This in turn demands greater flexibility from corporate leases. Changing space footprints to meet the demands of a more collaborative, less desk-bound workforce will lead to shorter leases that will impact landlords, developers and investors. New development funding models will need to adjust, as will valuations predicated on long-term lease commitments. Real estate financing models will become more global and complex, generated by teams leveraging the technological capabilities

mobility of the workforce directly

impacts the traditional office model

and leads to greater uncertainty of

accommodation needs...

of the spaces they are funding. Competition to lease space will increase with large landlords becoming ever more focused on the services to be provided to their occupiers.

Also of note is the advance of artificial intelligence

and cognitive technologies; disruptive technology that will impact the amount of physical space currently needed to host transactional work. Some industries will see a shrinking human workforce. Up to sixty percent of those currently doing transactional work may be replaced or augmented by AI, automation, smart cognitive-thinking machines, or the next generation of robotics. On the surface this thinking may sound futuristic, but AI and automation are already happening. To make the point, simply make a phone call to your bank or cell phone provider.

As the nature of work changes, the consensus is that those displaced by AI will find other careers that are 'yet to come'; roles working in analytics and data management, digital technicians perhaps, or experience architects. And with these changing work expectations, the ability of the major corporates to attract and retain the right, increasingly mobile talent is being challenged, putting greater reliance on the physical amenity that an employer or work environment can offer.

We are witnessing the creation of truly smart buildings that are using technology to innovate efficient workplaces and enhance the end-user experience.They are becoming automated to maximise both productivity and use of facilities, key drivers for the CRE function. Beacon technologies, for example, which provide real time measurement of space utilisation.This technology not only recognises when an individual enters or exits a room, but can check them in and out of a facility automatically, and even save the user's preferences for future room set-ups (such as lighting or catering).

We are also seeing the steady rise in the use of Virtual Reality (VR) and Augmented Reality (AR)in the real-world settings of real estate. These new tools, currently prevalent in the marketing of residential real estate, are being increasingly used in helping customers to experience and influence the design of retail and entertainment spaces.

In the corporate world, virtual technology already helps link us across remote co-working sites via laptop connections, mobile devices or headsets. These virtual tools are supplanting the physical link between headquarters and regional offices. They are enabling collaboration (for example, in product design), across diverse teams in real time, often across continents and multiple time zones. The rise of VR and AR will prove a clear disruptor to the amount and type of conventional workspace that is needed, potentially within the next decade. This is already changing both consumer behaviour and business models across a number of industries, from healthcare to retail, education to engineering. It's an interesting fact that Goldman Sachs research anticipates an AR/VR market worth up

> Beyond the human interface with technology, the report also highlights machine-tomachine communication, more commonly referred to as the Internet of Things(IoT). This too will institute sweeping changes

to \$80 billion by 2025.

in the way we live and work.There's a growing worldwide infrastructure of connected machines – a universe of connected things that we will no doubt see grow from the 6.4 billion networked devices of today to over twenty billion by the year 2020.Indeed, Gartner Inc. estimates that around 5.5 million devices are currently being connected each and every day.

IoT has almost limitless application, from building management systems, vertical lifting, to smart appliances, connected vehicles, right down to individual wearable devices. Many CRE professionals are leveraging the IoT to generate a data landscape that enables more operational efficiency in the workplace. Mobile apps, for example, are helping inform decision making, ranging from room temperature control to conference room availability. IoT has tremendous potential to produce immense volumes of data that can further enhance

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... The property industry is one of the oldest, most traditional business sectors so it will take a while for it to change. CRE professionals cannot afford to be distracted if they wish to survive...

real estate management. The analytics required to distil the most useful information, however, is still a daunting task. And it is here, perhaps, where AI's potential can be bought to bear to interpret and act on the data, and it may not be long before we find AI embedded into IoT systems as quite commonplace. We need to be mindful, of course, that the rise in IoT will also create a greater risk of exposure to hackers and cyber breaches.

The Internet of Things is not only becoming firmly established in operations, building management systems and the current evolution of smart buildings but is also rapidly evolving in smart cities. Outside of our offices, technology is dramatically changing our urban environment in ways we may not yet fully appreciate. The development of smart cities will certainly have ramifications for decades to come.

By smart cities, I mean specifically those cities that have had direct investment in smart technologies from government or the private sector which afford them the potential to impact the wider population versus a particular block or building. Smart technologies can, for example, enable infrastructure companies to ensure that capacity is available when demand is greatest, whether it is street lighting, tap water or even traffic flow. In some countries, this is becoming more prevalent as we witness re-urbanisation, particularly as the younger generations push back into some of our key cities.

In the future, smart technologies have the potential to drive an even wider range of urban development initiatives using data gathered to influence decision making. This can range from the amount and type of housing that needs to be built to the value of replacing old utility components and infrastructure city wide. Smart city technologies will impact everything from traffic patterns to energy usage and it's ramifications on the environment, to the overall quality of daily life.

The findings of The Bigger Picture Report strongly suggest that most companies and their employees will elect to remain in our cities, which in turn will provide much higher levels of connectivity, energy efficiency, and mobile access. Workers will still go to business locations to interact with colleagues or customers, but crucially only when they need or choose to; a radical shift from the traditional 9 to 5 work practice of yesteryear.

It is clear that the future of CRE management, like many professions, needs to confront the industry shifts emerging in relation to technology. Different countries, and indeed different business sectors, are obviously at different stages of technology adoption, with some certainly more ahead of the pack than others. The property industry is one of the oldest, most traditional business sectors with significant economic impact; it will take a while for it to change. CRE professionals cannot afford to be distracted if they wish to survive.

The impact of technology, the new risks and opportunities being created present a very real and interesting challenge for CRE professionals. The Bigger Picture Report helps provide some insight into what is here and what is to come. I personally embrace the changes, and am hugely excited by them **W&P**

🛚 Kate Langan

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Changing the place people meet changes the conversations they have, so the design and managament of meeting space is now a strategic challenge

James Ware PhD

CORPORATE REAL ESTATE • EMPLOYEE ENGAGEMENT

Finding the place that is just right for that meeting

Every physical setting sends distinct signals to meeting participants – signals that set the tone and provide a context for the conversation, even when they are subtle or not in anyone's conscious awareness.

You understand instinctively that the place where a meeting occurs has an impact on the nature of the conversation. Just imagine the difference between a conversation around a large formal conference table with expensive executive chairs and one that takes place in an informal employee lounge, with the participants seated in a circle on soft bean-bag chairs.

Or consider the classic image of a boss seated behind a large desk, in front of a large window framing her silhouette as she delivers a performance review to a "lowly" subordinate

sitting across the desk in a low, hard-back chair. Now think about that same performance review being conducted on two softer wing chairs of equal height, with a low coffee table between them. Or in a nearby restaurant or coffee shop. Or on a trail in the woods adjacent to the corporate office. Which of

While many of us who are knowledge workers move around frequently from one workplace to another, finding "the place just right" for getting a particular task done is often difficult...

those conversations do you think will evolve in a more caring, respectful, and supportive mode?

Place matters.

However, having choices about place matters even more. While many of us who are knowledge workers move around frequently from one workplace to another, finding "the place just right" for getting a particular task done is often difficult. Sometimes we need a quiet place and sometimes we want to engage with colleagues informally, while at other times we attend meetings with either focused group decision-making or open-ended brainstorming agendas. Each of those activities works best in a different physical setting.

Okay, that makes sense. But how does the design of the workspace affect your mood, your creativity, your ability to concentrate? More importantly, how does place impact the nature and tone of your conversations? And how does a change of place change a conversation?

Change the Place, Change the Conversation

Several years ago one of my business friends inherited a staff of civil servants who were "retired on the job." They were disengaged, bored, putting in their time, and not particularly focused on performing. Gloria Young was at that time the Clerk of the Board of Supervisors of the City and County of San Francisco. That meant she was essentially the Chief of Staff for the Board; all the city employees supporting the Board reported to her.

Young developed a multi-faceted strategy for addressing her

staff's malaise. She prepared formal, written job descriptions that included performance goals and metrics which she did collaboratively with the individual job holders, so the descriptions, goals, and metrics reflected their knowledge of their own responsibilities as well as hers.

Young also developed a "shadowing" activity that quickly became a cross-training and succession-planning program. Selected individual employees would spend a day or so a week actively observing, following, and "shadowing" one of their colleagues at work. This process not only helped the "shadower" learn a new job, but at the same time it helped the "shadowee" understand his or her job more completely.

Often during the shadowing process the shadower would stop the shadowee to ask a question like, "Why did you just do that?" or "Why are you filing that document in that drawer?"

Those conversations not only helped the shadower understand exactly what was happening, but they usually forced the shadowee to reflect on the work task, and the ensuing conversation often led either to deeper understanding of what needed to be done, or to a conscious redesign of the work.



These new conversations created a revolution within Young's team. Her staff learned to think much more actively about their own work as well as what their colleagues were doing. Details about work flows, procedures, and skill requirements were out in the open – there for all to see, to comment on, and to learn from.

But the most significant change that Young introduced – one that quite literally transformed the nature of the conversations in her department – was her purchase of a dozen inexpensive canvas folding chairs.

Why folding chairs?

It had become obvious to Young that her team was mired in a set of routine habits that were relatively unproductive. Staff meetings were often uninteresting, low-energy, and full of issue avoidance. No one was engaged; the meetings felt like a waste of time, especially to her.

The staff meetings had traditionally taken place in the department conference room, which was a classic design: a big wooden table surrounded by uncomfortable chairs in a small, drab room with almost no natural light. There was a white board at one end of the room, and a projector for sharing presentation slides when needed. The side wall had a large but bland painting hanging over a credenza that could hold a pot of coffee and plastic cups, along with some extra pads of paper and a few nondescript ballpoint pens.

That set of blue canvas chairs led to a dramatic shift in the nature of the group's conversations.

When Young wanted to engage her staff in a brainstorming meeting, or one requiring a tough decision, she would tell everyone "It's time for a blue chair meeting." Each staff member would pick up a chair and the group would troop down to the building lobby, or outside onto the plaza (or somewhere else nearby) if the weather was nice.

The team would set up the chairs in a circle, sit down, and start talking to each other as if their ideas mattered (which of course they did). As Young told me, "The change in the setting, in combination with the informal chairs, created a completely new atmosphere that stimulated all kinds of creative conversation."

Apply this insight to your own experience. How different are the conversations that fill your conference rooms from the ones that take place in the employee lounge, in the company cafeteria, around the proverbial water cooler, or in a nearby restaurant over lunch or with an after-work adult beverage?

Traditional conference rooms send all kind of signals about what kind of conversations are appropriate. That conference room I described earlier has a "head end" where the team leader usually sits – the position of power. And the formality of the table and chairs and white board or flip chart tells everyone what the meeting will be like and how it will unfold.

A few years ago SCAN Health Plan, based in Long Beach, California, undertook a major office renovation that was designed both to save space and money, but also to support a corporate initiative to break down silos and encourage much more active collaboration across teams.

Among the new design features were a set of what Diane Coles-Levine, the director of workplace solutions at SCAN at the time, called "collaboration parks." There is now one area on each floor that includes a glass-enclosed conference space filled with soft chairs, low tables, moveable writing tables, and lots of light and bright colors. No large, heavy conference tables!

And outside each of those "conversation pits" is an open area that typically includes three or four small, lightweight tables suitable for small group meetings. Each table has electrical and Ethernet ports built in, and a speaker phone to enable remote staff to participate easily in those meetings.

Finally, just beyond the open table area on each floor is a coffee bar accompanied by several small elevated tables that enable still more informal conversations.

Coles-Levine is convinced that those collaboration parks had a significant positive impact on the culture at SCAN Health, which in turn contributed to a measurable uptick in the organization's productivity and employee satisfaction.

I once consulted with a high-tech medical services company where the CEO believed fervently in the value of having the entire workforce in the corporate office every day. She was so convinced that face-to-face collaboration was critical that



she actively discouraged her staff from working at home or other remote locations. In fact, because gasoline prices were almost \$5 a gallon at that time, she was seriously considering subsidizing the cost of commuting from employees' homes to the corporate office to ensure that everyone came to the office every day.

However, in spite of her well-known opinions about working remotely, when we walked through the office on one occasion we couldn't help but notice how many cubicles and conference rooms were vacant; we estimated that over half of the workstations in the building were empty that day.

Not only that, but later that afternoon several of us accidentally discovered that one of the company's most important product design teams was holding a one-week planning meeting at a nearby (but offsite) co-working facility. Our own team met at that same facility late one afternoon to debrief our work with the CEO, which is how we discovered the offsite product design team.

The product design team leader had opted to spend company money renting an open, informal conference room at the offsite location because he and his team wanted to get away from the stodgy (and relatively unused) corporate conference rooms and the inevitable

Getting out of the box that is your office can have a powerful impact on your productivity, your emotional frame of mind, and even your sense of self-worth...

interruptions to their intense conversations that would have occurred had they stayed onsite.

They changed their place to change their conversation. And it worked.

Can't Think Straight? Take a Hike!

And sometimes it pays to get out of a place altogether. Here are a few more examples.

Diane Coles-Levine, who left SCAN Health in 2014 and is now the head of independent consulting firm, is fond of saying, "It's a lot easier to think outside the box when you're not in one." That's her way of pointing out that cube farms are not the best environment for creativity and collaboration. And as I have observed several times, when individuals make choices about where and when to get their work done they "own" those choices and are generally more committed to their work, more productive, and more engaged with their employers.

About five years ago I was part of an international research project team that was seeking to define the attributes of an effective workplace. Our Swedish lead researcher asked each of us on the project team to take a photograph of our favorite part of our own office and then to post it on the project website.

What do you think those photos showed? Almost three quarters of us took a picture of the view outside the nearest window! We all valued our views of nature. My picture from my home office was of our backyard garden, and the view beyond of San Francisco Bay.

There is also solid evidence that hospital patients whose beds are next to a window with a natural view typically recover more quickly than those whose beds do not have views of nature. Roger Ulrich, the author of "View Through a

> Window May Influence Recovery from Surgery" (Science, 1984), described his research this way:

Twenty-three surgical patients assigned to rooms with windows looking out on a natural scene had shorter postoperative hospital stays, received fewer negative evaluative comments in nurses' notes, and took fewer potent analgesics than

23 matched patients in similar rooms with windows facing a brick wall.

There's something about nature that we all find soothing, refreshing, and inspiring. Getting out of the box that is your office can have a powerful impact on your productivity, your emotional frame of mind, and even your sense of self-worth.

So when you are feeling stressed, or stuck, take a break; get up, get out of the office, and take a walk. Tony Schwartz and Christine Porath, in their May 2014 New York Times article "Why You Hate Work," tell a story about Luke Kissim, the CEO of Albemarle, a multi-billion dollar chemical company. Kissim realized he was personally burning out on the job, so he began taking a break at least every 90 minutes, and he often left the building to take a walk around the block.

creative, high-energy meeting filled with open, authentic conversation, find a place that says "Talk openly, we're all in this together, let's have fun and get something done"...

Kissim then began insisting that all his employees follow suit. He's put over 1,000 of Albemarle's managers through a course that's teaching them how to invest in themselves and in their staff – and a big part of that investment is getting up and taking walks – outside the building.

Finally, another wonderful example of the value of getting back to nature is what's happened at Western Union's corporate headquarters in Englewood, Colorado. The company recently redesigned its facilities and landscaped the surrounding grounds to include walking/hiking trails through the woods.

I was fortunate to hear John Coons, Western Union's Vice President of Corporate Real Estate (since retired), talk about how many of the company's managers and staff are now taking regular outside walks (weather permitting, of course); and, more importantly, many of them have started holding critical one-on-one performance review conversations with their staff out on the trail.

Just think about how much more meaningful those conversations must be than if they were held in an enclosed office with a big desk separating the manager from his/her subordinate. As I have said so often, place matters. To change the conversation, change the place – and be sure to include Mother Nature in your definition of "place."

Pick the Place to Fit Your Purpose

So the next time you want a creative, high-energy meeting filled with open, authentic conversation, find a place that says "Talk openly, we're all in this together, let's have fun and get something done."

What does that kind of place look and feel like? When I want to encourage open, candid, and high-energy conversations, I look for physical settings that include:

- plenty of natural light;
- bright but not overpowering colors;
- simple artwork;

• moveable tables and chairs (so the group can

- reconfigure the arrangement and take ownership of it);
 - white boards and/or flip charts for note-taking; and

• simple refreshments (including fresh fruit and nuts, but not sugar-based products!).

And if you can't do a wholesale office renovation to create

those kinds of spaces, at least think about getting your own set of blue canvas chairs, or getting outside and away from the office.

As Gloria Young discovered with her blue chair meetings, a change of place can be refreshing and re-engaging even if you don't go off to a spa or a beach-side resort. Even though a group meeting may be your best choice for addressing a particular issue, remember that you don't have to hold a traditional meeting in a traditional place (by that I mean one where you reserve a conference room, set a time, and convene the group around a conference table).

If your purpose is simply to make an announcement, or to provide a quick status report (perhaps you do that every Monday morning), consider a brief stand-up meeting in your office, or in a common area. That simple shift in both place and the process can create an entirely different experience for the participants, and usually produces a different outcome too **W&P**

i James Ware

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"'Tis the gift to be simple, 'tis the gift to be free;

'Tis the gift to come down to where we ought to be;

And when we find ourselves in the place just right,

'Twill be in the valley of love and delight."

I find that phrasing both haunting and compelling, and it is such an apt description of the feeling we get when a meeting song includes these or conversation goes well that I enjoy using it in the context of meetings and meeting rooms.

Despite advances in technology, workplace design, HR and management, productivity in the UK has dropped 17 percent in the last decade. But why?

John Blackwell

FLEXIBLE WORKING • HR • PRODUCTIVITY

Making sense of knowledge worker productivity

Just as there was a revolution in the 13th Century when an obscure German blacksmith Johannes Gutenberg created the first printing press which led wide-spread access to the written word and rapid transferred power from the monarchies, ruling political elite and religious authorities to the masses, there has been a similar shifting in workplaces over the last decade. The creativity and inventiveness of Herr Gutenberg permanently altered the structure of society and led to the unrestricted circulation of information.

Prior to this, it took massive dedication and time of monks to handcraft illuminated books written in Latin - a language that was scarcely understood by the masses. Due to Gutenberg's work, it's directly possible to link the sharp increase in literacy of the masses to the overthrow of most of Europe's ruling monarchies, the agriculture and subsequent industrial revolutions and even, with easily reproducible maps, the discovery of America.

A 21st Century workforce parallel

The truth is that we've created a very similar scenario to Gutenberg within our 21st Century workforces. Over the last decade, we have successfully educated the workforces across the Western world that 'work' isn't something only understood by an elite senior ruling executive group.

Work has become vastly demystified.

specialists' talking in obscure impenetrable three-letter acronyms. The widespread consumer adoption of tablet computing, where's there's

demystified. Employees know full well that technology is no longer the the knowledge worker workforce is preserve of a select corporate 'IT challenging. At CEO level, the problem reaches crisis level – just 7 percent of FTSE 100 CEOs are women and a pitiful 4percent of Fortune 500 CEOs are women....

no serviceable parts, it starts at the single push of a button, lacks the frustrating lengthy boot-up (there's a word soon to be confined to history), and is driven by highly effective apps that can be created by a teenager in their bedroom has transformed the understanding of technology and its role.

Similarly, employees are equally aware that work can be undertaken from any location. A Starbucks, hotel, a temporary

office, a regional hub, a co-working space or indeed any other location that offers high-speed connectivity can be equally as effective as a vast corporate HQ.

However, despite all these advances and understandings, productivity across the UK is down by 17% over the last decade and executive leaders commonly exhibit a hazy understanding of the challenge, never mind how to address the problem of why isn't work working?

Could it be that the ruling elite are losing touch with the workforce? If so, what needs to change?

Drawing on a recent substantial research study titled "Creating today's workplace for tomorrow's talent" where circa 3,000 people provided insight intocorrelations between employee engagement, talent retention, workplace design, quality of life and enhancing productivity amongst knowledge workers.

The most notable findings were around gender balance. While there is an overall 62% male to 38% female ratio in the knowledge worker field, by the time people reach 'top management' main board level, the male to female ratio has dwindled to 79% male to 21% female representation. At CEO level, the problem reaches crisis level - just 7% of FTSE 100 CEOs are women and a pitiful 4% of Fortune 500 CEOs are women.

This gender imbalance really presents a major challenge

for all knowledge worker dependent organisations and sends out a massively bleak message about career development.

For the last fourteen years, we have tracked the output (i.e. graduates) of the top 100 universities. Progressively, women have increasingly

dominated this output to the point where today close to 70% of graduates in the UK are now women.

While forecasting the future of work is a fool's errand - there are just far too many variables - one forward factor can be projected with impunity, and that's workforce demographics. Every respectable economy around the world knows exactly how many births and deaths there are in their country.

Google estimates that the business impact of its top performers can be up to 300 times that of the average employee...

This means that projecting future workforce numbers and composition is an extremely precise science.

It's interesting to consider the significant shift workers over the age of 55. In 1990, about 10% of the workforce was over 55. By 2010 that had risen to 26% and by 2030, the proportion of older workers (over 55) will exceed 50%.

Bringing focus onto these talent dynamics, over the next decade the UKs Department for Work & Pensions (DWP) has projected that there will be 13.5 million job vacancies however hard data from the Office for National Statistics (ONS) shows that less than 7 million people will be leaving schools and universities to join the workforce during that time period. This means that potentially half of these job vacancies will go unfilled – presenting a vast gulf must be filled somehow, and quickly.

Clearly, with all these talent dynamics coupled with slump in UK productivity, it demands that organisations across all sectors must act swiftly and decisively to remain competitive in the knowledge worker market.Given lengthening life spans, there must be a substantially increased focus on keeping working past traditional retirement age and crucially, attracting far more women into the workplace.

There are demonstrable advantages for organisations achieving a gender balance – 42% higher return on sales; 66% higher return on invested capital; 53% higher return on equity. However, women are four times more likely than men to think they have fewer opportunities to advance because of their gender – and twice as likely to think their gender will make it harder for them to advance in the future.

Emergence of the knowledge worker

First coined in 1957 by the man dubbed the founder of modern management, Peter Drucker, he submitted that knowledge workers would be"...the most valuable asset of a 21st Century institution, whether business or non-business, will be its knowledge workers and their productivity...". It took until the mid-late 1990s for knowledge workers to proliferating the workforce in significant numbers and putting this into perspective,today the UK's service sector, which represents 77% of the country's overall GDP, is predominantly staffed by knowledge workers. And knowledge work is spreading rapidly across every industry sector. It's widely accepted that 97% of all jobs will require internet access within the next two years.

By implication, knowledge work demands simultaneous divergent and convergent thinking, and most often demands collaboration, creativity and innovation. All of this draws on the single largest muscle in the body – the brain. Like any athlete honing their muscles, this huge muscle needs careful attention to get it to perform consistently at its best. The brain consumes 25-30% of all energy input into the body consequently it demands better understanding of how best to consistently fuel this muscle to ensure it performs at its optimal peak.

Knowledge workers are also more likely to work for organisations that they think are innovative or achievement orientated albeit neither feature seems to overly appeal to them. And the value of a top knowledge worker cannot be underestimated, Google for instance estimates that the business impact of its top performers can be up to 300 times that of the average employee.

Knowledge workers potentially have greater flexibility at work than those in less knowledge intensive jobs, but strikingly the differences are not so overwhelming. In reality, despite being perfectly capable of, and being trusted to work at alternate locationsas long as it has a good Wi-Fi connection, less than 60% of knowledge workers state that they have some flexibility in their work schedule compared to just below 50% of the overall working population.

Understanding productivity

Being blunt, most organisations around the world struggle to understand how to improve the effectiveness of their staff, especially those whose jobs mainly consist of interacting with other people.

Sadly, many executives have a poor understanding of the factors influencing productivity or, worse still, they simply do not truly understand what it takes to boost productivity for knowledge workers.

On returning home at the end of the working day and greeted with the ubiquitous "have you had a good day at work?" every single person intuitively knows how to answer. No one needs to refer to their balanced scorecard to answer, people

Being blunt, most organisations around the world struggle to understand how to improve the effectiveness of their staff, especially those whose jobs mainly consist of interacting with other people...

intuitively know whether they've had another day walking through treacle or a day being productive.

The difficulty is that people are inherently messy, every one of us is individual with our own quirks, sensitivities and preferences, so it's hardly surprising that dictating productivity from the top down is such a nonsense.

Since knowledge workers spend half their time on interactions, research and experience suggest that organisations should first explore the barriers that obstruct these interactions.

Our study indicated that more than half of all interactions are constrained by one of four barriers; physical and technical, social or cultural, contextual, and temporal.

Physical and technical

Do you work with people on a different planet? Ok, so maybe not a different planet but maybe right here on earth, just on a different continent?

If so, you understand the difficulties of working with those in differing time zones and how thiscomes hand in hand with technical issues – usually because of the lack of effective tools for locating the right people. Obviously collaborating becomes even more pronounced when they are far away.

However, one remedy can be to create 'communities of practice' for people who could benefit from one another's advice. By adding electronic tools with videoconferencing and the occasional in-person meeting, communities can bridge physical distances and build meaningful relationships.

Social or cultural

Experiencerepeatedly shows that most companies believe they can do no wrong, they have the best organisation – ever – and have by far the best incentives for their employees. But do employees actually believe that rhetoric? The answer is probably not.

And that's because rigid hierarchy and/or incentives that are totally ineffective, actually discourage employees to engage. In acceptance of that, some organisations have decided to pull their heads out of the sand and have created a series of case studies, drawn from real events in the organisation's past to illuminate its values, processes, and norms. These cases are then discussed with new hired staff in small groups, promoting a broader understanding of how the organisation works and encouraging a broad culture of knowledge sharing and collaborative problem solving.

Contextual

Employees who face contextual barriers struggle to share and translate knowledge obtained from colleagues in different fields. To overcome contextual barriers, organisations can rotate employees across teams and divisions or create forums where specialists in different areas can learn about one another's work. Whether they do or not is a different story altogether.

Temporal

This is basically time, or rather the perceived lack of it. In many cases, organisations need to clarify decision rights and changing roles to reduce the interaction burden on some employees while increasing it on others.

Are we engaging?

It's all about a 'mutual gains' employment relationship when it comes to employee engagement. Creating a win-win for employees and their employers with both parties 'going the extra mile', feeling 'valued' and 'passionate' for their work.

The question is, if this is all we need to do to engage our workforce, why is employee engagement so difficult?

Given the increasing complexity of the work we do and how we work, and the diverse nature of the workforce, organisations must become far, far better at developing their people management skills. All too often, the focus has been on the technical skills, but then not supporting on the 'soft' skills, which actually are the more challenging skills to develop and acquire, and the most important in driving long term engagement and organisational success.

It can be really difficult for organisations to effectively create engagement amongst their knowledge workers.

So you ask, what needs to change with employee engagement?

Well, work is not just about money, but being motivated by such things such as the working environment, the people

Given the increasing complexity of the work we do and how we work, and the diverse nature of the workforce, organisations must become far, far better at developing their people management skills...

within it, the product or service delivered and even the brand. Most importantly, engagement is not something that managers or organisations 'do' to their people – it is a mental, emotional and physical state and something that employees give.

Retaining knowledge worker talent

While talent is clearly a critical factor for business leaders, retaining employees whose knowledge has high competitive value is a challenge.

OK, a certain degree of churn is good for the individual and it can represent a positive dynamic in the broader economy, however higher attrition rates are hugely expensive for organisations.Our research found that 75% of newly hired top talent (degree-level and above) leave within two years, citing two major reasons for moving on;

Knowledge worker retention is best promoted when the organisation's leadership recognises and expressly values the strategic importance of knowledge work, as well as when it cultivates an active learning culture. It is also best promoted when its HR programmes and practices support knowledge management processes.

So what needs to change? Firstly, there needs to be a positive work environment, where people are given the opportunity to grow and develop their careers. Secondly, culture has a huge impact of a person's attitude to their working environment. A positive work environment must have a culture that values interpersonal relationships and collaboration, a team orientation, and respect for people. Other drivers that have been proven are things such as a sense of connection between an employee's job and organisation strategy and the organisation's success, a reputation of integrity, and a culture of innovation.

Quality of life

Just as with the changing nature of work, the dimensions of 'quality of life' are evolving at a rapid pace. Organisations need to be increasingly nimble and responsive to adapt to the rapidly evolving work ecosystem.

Being able to balance physical environments with people, technologies, and cultures is a very fine line, along with the ever-present drive to optimise productivity and control costs, while maintaining the crucial quality of life across the workplace requires a precise analytic understanding of how work works. The impact of design and configuration of office space on productivity and the happiness of employees cannot be underestimated. Our research has shown that 69% of staff state that their workplace design directly affected their effectiveness, with half stating that design is pivotal to maintaining relationships with their colleagues. But only 44% stated that their current workplace design was optimised for productivity and enabled them to network effectively with their colleagues.

Many office buildings and environments are still laid-out within a time-held tradition of business adjacency that relies on predictable notions of 'who needs to be next to whom'. But what they don't realise is that these 'safe' and 'conservative' options deliver safe and conservative outcomes. What would happen if offices were mixed up a little?What would happen if you sat the sales team next to the finance team? Evidence has shown that mixing upoffices enables organisations to tap into a bigger pool of thoughts and is a proven driver of breakthrough thinking.

It is also becoming increasingly evidenced that people feel a greater sense of belonging and part of a community in co-working environments. This break downs barriers and siloes as people begin to mingle and increasingly creates cross pollination.

We must not overlook the importance of being 'human' in the workplace. Who would have thought that we need to teach others how to be human? But we are at a time when we need ever more intuition and judgement yet productivity and innovation does not come from people who are treated like children. We need workplaces that offer autonomy and stimulate adult-to-adult relationships.

Sense and sensors

Returning to my earlier point about people being messy and having a huge spectrum of likes, dislikes, and sensitivities, it is now possible to permanently embed sophisticated sensor technologies into furniture and environments that can directly contribute to a healthier and happier workforce by tracking the

G...Only 44 percent find their current workplace design optimised for productivity and enabling them to network effectively with their colleagues....

way offices are used and adjusting them automatically.

Used properly, this technology can turn offices into places that employees choose to be in for their overall wellbeing.By constantly monitoring environmental conditions, the way space is used and even employee's emotional and physical wellbeing, offices will be able to react automatically. This represents an amazing shift in design thinking. Sensors enable workspaces to continually alter for maximum efficiency, adjusting temperature and lighting levels, and make changes when workers are getting bored or frustrated.

This means the focus of office design will shift from maximising available space to responding to the individual people inside it. The past focus of space and building management has missed the greatest opportunity of all – to directly monitor the needs of the occupants, not just the function of the space.

Light intensity and spectrum, sound amplitude and direction, air quality, odour, and occupant location and activity can be integrated to provide the detailed information necessary for the environmental systems to react to actual user needs. However, with the advent of wearable technologies, biometric sensors can also provide insight into less obvious factors like restlessness, boredom and stress, as well as poor posture or too much screen time. This opens the possibilities for sensors to monitor emotions, and even monitor heart rate, gaze direction, facial temperature, skin moisture, skin temperature, and brain waves to assessin real time if the user is focused on intense work, is recharging, or is frustrated.

Fully integrated into new office furniture, these systems can create workplaces that adjust, both physically and environmentally in response to the conscious and unconscious behaviour of the people inside them. Imagine office environments detecting early risks of Type 2 Diabetes and suggesting lifestyle changes to head off this disease!

Clearly there may be some concern about the idea of being monitored if this technology is used to simply track their performance. However, the conversation needs to be focused on the quality of life and wellbeing of employees rather than any negative connotations.

Fuelling knowledge workers

The value and impact of nutrition in our workplaces is enormous and is all-too-often underestimated by employers. Just consider, if you work full time, at least one-in-four of your meals is going to be consumed during work hours. And knowledge workers are particularly exposed – by implication, their extensive reliance on using technology means a more sedentary work style and, making matter worse, how many of these workers are guilty of eating at their desk?

Unfortunately, employees are increasingly given mixed signals. While many organisations refer to 'being like a family' and say 'that's what makes us such a great place to work', this is far from the truth. Organisations typically set themselves up as mum and dad, which makes it impossible to present ourselves as an adult.

"Employees are our greatest asset" is a mantra that echoes around almost every board room but its plainly perverse. An asset is a building, a table, or a car, it's something that is tangible and typically behaves in the same way over and over again. Whereas as said twice before, people are messy – they are not and can never be classified as 'assets'. Yet, organisations consistently treat employees as children – by example, telling them when to eat, how often to eat, and often where to eat.

21stCentury scientific studies are now pointing to eating frequent small meals as the best way to maintain energy and effectiveness.

Given the huge changes to the nature of work and the cultural shifts in eating habits – and despite many challenges – the workplace offers plentiful opportunities to promote a healthy diet while also earning a substantial return on the investment.

Put simply, when employees feel energised by their work, valued by their organisation, and happy in their environment, they are more productive. Even when companies allocate funds for food, fundamental tensions underlie workplace food provision. In particular, a tension persists between hospitality and health. What employees say they want to eat and actually eat are often quite different, and excessive quantity and portion sizes are of serious concern.

Conclusion

For all those involved with or interested in enhancing productivity and changing work practices, there are six key takeaways from this article;

1. Employee engagement – given the increasing complexity of the work we do, how we work, and the diverse

We must not overlook the importance of being 'human' in the workplace. Who would have thought that we need to teach others how to be human?

nature of workforces, organisations must become far, far better at understanding and developing their people management skills.

2. Talent retention – talent is a critical factor, retaining employees whose knowledge has high competitive value is a vast challenge. Our research found that 75% of newly hired top talent (degree level and above) leave within two years

3. Workplace design – the impact of design and configuration of office space on productivity and the happiness of the 'customers' (the employees forced to use offices) is in dire need of an overhaul. Two-thirds of staff cannot work productively given the way your office is designed and configured.

4. Understanding productivity – most managers at best have a poor understanding of the factors influencing productivity or at worst, they simply do not understand what it takes to boost productivity. The problem is that people are inherently messy, every one of us is individual with our own quirks, sensitives and preferences, so it's hardly surprising that dictating productivity from the top down is such nonsense.

5. Sensing people's needs – new permanently embedded sensor technology can turn offices into places that employees choose to be in for their overall wellbeing. By constantly monitoring environmental conditions, the way space is being used and even employee's emotional and physical wellbeing, offices will be able to react automatically. This represents an amazing shift in design thinking.

6. Fuelling our workers – the provision of nutrition in our workplaces needs to be rethought. Knowledge workers, with their extensive reliance on technology and more sedentary work style means they are vulnerable to the obesity and other health complications such as type 2 Diabetes. They need frequent small portion-controlled nutritious meals to maintain creativity, energy and effectiveness.

The bottom line is that we are all individuals working very differently toour past generations and put simply, when employees feel energised by their work, valued by their organisation, and happy with their environment, they are productive and happier.

John Blackwell

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- Smartworking
- Time for a Gear Change
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These and many more of John's reports can be downloaded from his online library. A Fellow of the Chartered Management Institute and a visiting fellow at three prestige universities, to-date John and his colleagues at Quora have inspired more than 350 organisations to innovate new work practices.Working together, John and Quora provide answers to problems that stifle change, dismantle barriers, and overcome corporate inertia to create effective new work practices.

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The future of work.... is today W&P

The integration of physical and digital workplaces is opening up new opportunities for the way people collaborate

David Woolf

TECHNOLOGY • WORKPLACE DESIGN • PRODUCTIVITY

Designing spaces for virtual collaboration

Working with colleagues across different geographies and time zones has become the norm since an increasing number of organisations now integrate and collaborate at a global level. Interestingly, according to Cisco, 62 percent of workers now regularly collaborate with people in other countries. These globally integrated enterprises (GIE) aim to draw in the best talent from across the world, delivering maximum innovation and efficiency

The rise of global and distributed teams has been further encouraged by the popularity of remote working, with 71 percent of office workers now choosing greater flexibility to work from various locations instead of travelling to the office everyday.

And the trend only looks set to gain pace, with 56 percent of senior leaders in large global companies expecting global teams to increase in the next one to three years.

This new way of working has the potential to revolutionise the workplace, but it's not without its challenges. Organisations need toadapt to new technology, methods of communication and the evolving dynamics of virtual teams. A study by IBM found that while 80% of organisations say they need to foster

more collaboration, 78% are struggling to achieve this in the virtual environment. And if teams can't collaborate effectively in a global structure, any productivity or innovation gains will be quickly lost.

In fact, distributed teams can cause serious roadblocks to collaboration, causing

"presence disparity" to occur. In such instances, those working remotely have a different experience to those working sideby-side. Presence disparity can be anything from your team forgetting that you've joined a meeting by phone, to a video call that cuts out, or being unable to see a whiteboard during an online meeting. These issues can severely impact productivity, communication and understanding between teams, ultimately undermining collaboration.

Video conferencing goes some way towards solving these issues, providing the option of face-to-face communication, even when working at distance. According to a survey by Blue Jeans, almost two thirds (64 percent) of workers believe face-to-face communication helps build relationships, while eye contact has been shown to be central to building understanding and empathy between people. This can be particularly important when different cultures are working together, helping to break down language barriers and aid understanding.

The effectiveness of videoconferencing is reflected in its popularity,with 94 percent of workers saying it increases efficiency and productivity, 88 percent saying it increases the impact of decisions and 87 percent saying it leads to faster decision-making.

However, video communication is by no means perfect and issues of presence disparity will persist if it isn't deployed correctly. For example, 43 percent of workers have had difficulty understanding people over a videoconference, 34 percent

> haven't been able to seean accompanying presentation and 31 percent have experienced bad connections and dropped calls. There are also camera angles and lighting to consider, with many workers distracted by how they look on the screen and others acting much less naturally than they

do in real life, leading to less genuine and more distracting communication.

One of the key issues with videoconferencing is that in many cases the design isn't supporting the technology and the behaviours needed for effective virtual collaboration. For example, conference rooms are the most-used environments



We must not overlook the importance of being 'human' in the workplace. Who would have thought that we need to teach others how to be human?

for videoconferencing (79 percent), according to Polycom. Yet, typical conference rooms with long rectangular tables can be difficult for interactions in person and they are not ideal for video. By locking people into seated postures, these rooms make it impossible to have everyone on camera and, with typically just one monitor, sharing digital content is difficult. Audio pickup is also uneven, depending on where people sit, and, because of the camera angle, anytime someone stands or walks around, it's disruptive.

So, what should we do to prevent these problems?

Organisations need to think more carefully about the design of videoconferencing spaces so that they mimic being collocated, help to breakdown any significant communication barriers between co-workers and ultimately amplify focus and engagement among participants. There are a number of design considerations to help organisations when creating spaces for distributed teams reduce presence disparity.

You should consider camera and microphone placement carefully.Although this may seem simple, it is critical to develop a layout that allows all users to be on camera and clearly audible. This should include multiple screens so participants see each other and their content at the same time, making sure people can move and stay on-camera without disrupting the flow of interaction.

It is also important to create zones that allow people to move fluidly between group work and privacy. People in collaborative teams make quick switches between these modes throughout the day and it is important to provide an engaging environment that caters to various tasks. For example, enclaves immediately adjacent to the team space allow team members to get away and focus individuall, as needed.

These design environments should also encourage movement and a range of postures so participants can stay energized and engaged. Stool-height tables encourage standing up and staying on camera, or make it noticeably easy to transition off and back into the conference.

A lounge setting with video conferencing is another effective way to encourage movement and informality. Of course, it is important to provide similar environments in all locations, equipped with the same level of tools and technology controls.

You should also plan for a range of team sizes and videoconferencing exchanges. One-on-one interactions and small group work are as important as full team sessions. Creating as many choices as possible – smaller videoconferencing kiosks adjacent to the larger team space, nooks within the large space and even mobile videoconferencing technology-will leverage real estate and encourage use of the technology.

Presence disparity is a growing issue for organisations that threatens to stifle innovation at a time when they need it most. But if planned and incorporated effectively, virtual collaboration won't just help overcome issues with presence disparity; it can also be a powerful catalyst for change. It gives organisations the opportunity to fully leverage their scale, scope and talent for maximum innovation and productivity, irrespective of location . **W&P**

David Woolf

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Regular predictions of the office of the future tend to assume it will become a hyper-realised office of the present. But that's unlikely to be the case

Mark Eltringham

WORKPLACE DESIGN • CHANGE MANAGEMENT

The future of work and place in the 21st Century

Predicting the future is a mug's game. However much we know about the forces we expect to come into play in our time and however much we understand the various social, commercial, legislative, cultural and economic parameters we expect to direct them, most predictions of the future tend to come out as refractions or extrapolations of the present. This is a fact tacitly acknowledged by George Orwell's title for 1984, written in 1948, and is always the pinch of salt we can apply to science fiction and most of the predictions we come across.

This is the fundamental reason why a typical report or feature looking to explore the office of the future invariably produces a hyped-up office of the present. This has sufficed to some degree up till now because the major driving force of change - technology - has developed in linear ways. Its major driver since Gordon Moore produced his eponymous law in 1965 has been miniaturisation. If we can expect computing power to double every 18 months, as More predicted, we at least have

a degree of certainty about technological disruption. Of course, this has already had a profound effect on the way we work and the way we use buildings. So too has the driver of the early 21st Century, the digitisation of the **knowing...** past and present.

not only queerer than we suppose, but queerer than we can suppose."

We are no longer faced with an era of linear miniaturisation and digitisation, but one in which a number of technological forces coalesce to create a perfect storm of uncertainty. For each of these, there has yet to emerge a consensus about the nature of the technology itself and its implications for the world, so the idea we can predict with any certainty what will happen in the eye of the hurricane is fanciful at best.

Even if there were a general consensus about the implications of specific new technologies, it would likely be out of date before this journal had a chance to garner even the thinnest layer of dust. But we must be aware of them and gauge their implications for commerce, society, philosophy and the economy. Eternal vigilance is not just the price of freedom but is now the price of living in the 21st Century.

There are a number of specific challenges that this creates

for those who work in the fields of office design, architecture, commercial real estate, facilities management, human resources and what IT and all the myriad disciplines and professions involved in the chimera we now call 'workplace'. The most important is one that has been around for a very long time

and it is how to resolve the tensions created by the different speeds and life cycles we might attribute to the facets of the workplace.In particular, because the way we work changes so quickly, buildings need to have flexibility built into them so that they meet our needs today but anticipate what we will need tomorrow.

In his book How Buildings Learn, Stewart Brand outlines the process whereby buildings evolve over time to meet the changing needs of their occupants. He describes each building as consisting of six layers, each of which functions on a different timescale. These range from the site itself which has

G...Disruptive though the forces for change are, they have developed in ways and within a context that we can readily understand and forecast. secondary prime technological However, that is all about to change and in ways we have no way of

Disruptive though these forces are, they have developed in ways and within a context that we can readily understand and forecast.

However, that is all about to change and in ways we have no way of knowing with any certainty. There's a good chance we cannot imagine what is about to happen with some of the technologies now being developed and which may soon start to feed back into themselves in a positive feedback loop. As the biologist JBS Haldane once remarked; "I have no doubt that in reality the future will be vastly more surprising than anything I can imagine. Now my own suspicion is that the Universe is

G...The principles behind this complex situation have been known to us for a long time, at least since the 1970s when Frank Duffy first introduced the world to his ideas about the physical and temporal layers of the building...

a life cycle measured in centuries, through to the building (decades), interior fit out (years), technology (months), to stuff (days). The effectiveness of a workplace design will depend on how well it resolves the tensions that exist between these layers of the building.

The principles behind this complex situation have been known to us for a long time, at least since the 1970s when Frank Duffy first introduced the world to his ideas about the physical and temporal layers of the building – in his terminology the 'shell, services, scenery and sets'. The balance between these layers may have shifted significantly in recent years, but the tensions between them continue to determine how well we design and manage our workplaces.

Consequently, the ability to respond to change is perhaps the most important facet of an effective design. Creating this level of responsiveness is described in the Facilities Design and Management Handbook by its author Eric Teichholz as 'the basic driver of the facilities management workload.'

While the nature of work has already changed in many ways, the pace of change has increased even more dramatically over recent years and we still ain't seen anything yet. So the challenge is how best to manage change, keep costs down and provide a flexible home for the organisation so that whatever happens in the future, we can at least meet it with a degree of confidence. Successful management of change is a good thing, an agent of growth and commercial success. Change handled badly can hamstring an organisation.

The standard answer to the challenge is to build flexibility into the building. At the property management level, this may mean a change in contractual terms, notably in the length of leases, and the provision of lease breaks. Varying levels of flexibility must also be apparent through the rest of the building in terms of its design and management. If we take an idealised view of the modern office as a flexible, social space



G....This presents a particular challenge for the various workplace disciplines because they're still clinging on to both their own established ideas and the demarcations they think still apply...

for a peripatetic, democratised and technologically literate workforce, the solution lies in an increased use of desk sharing, drop in zones, break out space and other forms of multi-functional workspaces. In many offices individual workspace is already being rapidly replaced by other types of space, quiet rooms and collaborative areas.

Flexibility must be hardwired into the building at a macrolevel. Not only must floorplates be capable of accepting a wide range of work styles and planning models, servicing must be appropriate and anticipate change. That doesn't mean just in terms of technology and telecoms but also basic human needs such as having enough toilets to deal with changing occupational densities. It also means having a HVAC specification that can deal with the changing needs associated with different numbers of people and different types of equipment.

Elements of the interior that were once considered static are also having to offer far larger degrees of flexibility including, furniture, lighting, storage and partitions. This issue of flexibility has become more important within interior design. Interior elements should now define space, portray corporate identity, comply with legislation and act as an aid in wayfinding. They must do all this and be able to adapt as the organisation changes.

Yet all of this is still only scratching the surface of the issue. It's not exactly cosmetic and it will apply to a far larger proportion of the office market than many workplace futurists would lead you to believe, but it is not exactly game changing. That will happen elsewhere and will involve a complete rethink of the way we view work and workplaces.

This presents a particular challenge for the various workplace disciplines because they're still clinging on to both their own established ideas and the demarcations they think still apply. At some level, they're aware that the gig is up, which is why you'll see trade associations toying with allegiances with others who have overlapping interests. It's why commercial property firms are moving into the fit-out market. It's why the major technology firms are moving into new realms in the physical world such as the Internet of Things and driverless vehicles. It's why coworking spaces are coming to dominate the commercial property markets in the world's major cities. It's all a sign of an upcoming great reckoning which will see the creation of a new order for the workplace.

There will be casualties, especially amongst those organisations who can't grasp the enormity of what's about to happen and so will drown in the technological immersion. Trade associations are still hankering for a place at the boardroom table unaware of or unwilling to admit to the fact that their immediate priority should not be status, but survival. They still view Big Data as a way to build their case, not as part of the wave of technology that is about to fall over their heads.

One of the UK's best writers on the potential for this to fall around the ears of the property industry in particular is Antony Slumbers. Writing in August of 2016, he said: "All around us companies are offering us what we want, when we want it. We might pay more for something pro rata, but we don't care as we are only buying what we need. And will property remain aloof from all this? Long leases, upwards only rent reviews, fixed space? Not a chance is the answer. And therein lies the biggest change to the real estate market since the first skyscraper was made possible by the invention of the 'personal elevator'. Tech is all around us has consequences."

We can already see the first signs of how this may play out. The way we work has changed profoundly in a very short space of time. In the UK, more than half of employers now offer some form of flexible working according to The Work Foundation and there are calls for it to become the norm for everybody in employment.

It already is the norm for the 18 percent of the UK population who work in the gig economy, a catch all term that does not do justice to the range of working types it incorporates, ranging from the pickers and packers of the precariat to freelancers and the self-employed, including the rapidly growing number of those who make a good living on their own terms in the creative and digital industries who are almost certainly the main agents of change. The Government appears to have little grasp of the people who work in this world, often confusing them with traditional small business and aggressively wary of their tax arrangements.

This is the group of people who are doing most to drive the uptake of coworking, which is almost certainly the key office

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different mindset in which offices are consumed and experienced, not owned or leased, and we need to get used to it...

phenomenon of this decade. They understand the need to be around other people, but only at certain times and for certain tasks. They have no need of a corporate office, a commute and a routine day. They certainly don't need to pay the huge rates now demanded for the best office locations next to the larger firms with which they would like to work and they don't want or need a lease that will outlive their next business relationship and possibly their business.

This is a fundamentally different mindset in which offices are consumed and experienced, not owned or leased and we need to get used to it, especially because the idea of an experiential office will soon follow in the wake of coworking and cross into mainstream thinking. The office isn't about to die, as we've been hearing for way too long now. But it is going to transform into something else entirely.

What will happen beyond the next few years is anybody's guess and we'd be foolish to predict it. What we can say is that we are set to address some key questions about how we relate to the world and to work and we are going to have to make some very difficult decisions. For example, sometime in the near future we're going to have to address the issue of how we introduce a basic income for people in response to a changing world in which many of the current tasks we do will be carried out by robots, freeing us to do other things and work in new ways. This will happen sooner than you might think. Earlier in 2016, the World Economic Forum said that the so-called Fourth Industrial Revolution would result in 5 million job losses in the 15 countries it surveyed by 2020 and that this was merely a pre-shock for the seismic changes to follow.

Meanwhile the Government still appears to think that the past is a guide to the future. In the Spring of 2016, the newly formed Infrastructure and Projects Authority published its construction strategy paper for the period up to 2020. By definition the department is responsible for planning and creating the UK's infrastructure for decades beyond that time and yet the document only uses the word technology three times and, even then, only with regard to the application of BIM as a way of improving the construction process. Perhaps more worryingly, the very short section at the end of the document on whole life approaches only deals with the issue of sustainability. It makes no mention of creating the physical infrastructure capable of dealing with a rapidly changing world.

What we must also be wary of is an idea that seems to inform the endlessly rolling debate about the 'office of the future'. This supposes that just around the corner there is an idealised end point for office design which will resolve all of the issues we have with work and the workplace. What this fails to account for is that the office is always out of date and always in a state of transition.

We make the same mistake when we consider our own place in the world. We humans assume that we are somehow at the apex of the evolutionary tree when the truth is that we are transitional forms in exactly the same way as all other creatures. We don't need to seek the missing link, because we are it, and always have been.

As for the far future, we can leave the final word on what that holds to the astrophysicist Martin Rees:

Most educated people are aware that we're the outcome of nearly four billion years of Darwinian selection, but many tend to think that humans are somehow the culmination. Our sun, however, is less than halfway through its lifespan. It will not be humans who watch the sun's demise, 6bn years from now. Any creatures that then exist will be as different from us as we are from bacteria or amoebae **W&P**

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Karen Plum and Andrew Mawson

PRODUCTIVITY • WORKPLACE • FACILITIES MANAGEMENT

Evidence base for enhancing knowledge worker performance

Within the facilities management sector there has been a notable dearth of scientific enquiry into the impact of the discipline on workplace performance; with more of a concentration on industry standard practice, than robust evidence-based FM. By contrast the HR profession in Ireland, Britain and elsewhere in Europe, spearheaded by the CIPD (Chartered Institute of Personnel Development) has increasingly focused on science-based knowledge which aligns with masters' level university programmes throughout Europe.

This paper, which looks at the results of a partnership between a workplace consultancy and academic organisation into ways of enhancing knowledge worker performance, could be said to mark the start of a movement towards 'evidencebased FM'.

Within the built environment, the term "evidence-based design" (or EBD) is a familiar phrase for a corporate real estate, FM or workplace professional; and is described as¹: "a process for the conscientious, explicit and judicious use of current Peter Drucker first declared that increasing the productivity of knowledge workers was "the most important contribution management needs to make in the 21st century...

organisations⁴.

Report⁵, revealed that UK companies are jeopardising their ability to compete in the global economy by failing to adapt their workplaces to meet modern demands and that many organisations struggle to cope with the systematic changes that workplace modernisation requires;

best evidence from research and practice in making critical decisions, together with an informed client, about the design of each individual and unique project."

"Evidence-based management", is a logical extension of a practice which started in healthcare, where "evidence" to support decisions is clearly vital, and must be based on science (not just opinion). Most of us will have witnessed management decisions seemingly made on the basis of personal choice, politics, or fad, so, it makes sense to bring in sound evidence to support management decision-making.

The principles of human resource management (HR) were applied in a paper² published in 2011 on 'becoming an evidence-based HR practitioner' with the following definition: "Evidence-based HR (EBHR) is a decision-making process combining critical thinking with use of the best available scientific evidence and business information." This practice particularly large organisations with very ingrained working cultures and organisational structures; which are not doing enough to motivate and engage knowledge workers.

could (and should) be applied to facilities management

(FM). In fact there has been some discussion in recent years

The two leading HR/FM organisations in the UK, the CIPD

workplace share their insights, ideas and comment on the key

The results of this collaboration, The Workplace Conversation

challenges related to creating better workplaces and suggest

and the BIFM launched the Workplace Conversation in 2014,

which was an online conversation which saw employees all

over the world with an active interest in the future of the

about the similarities between HR and FM³, and the need for the two disciplines to work more closely together within

Knowledge-worker productivity

practical solutions to the issues raised.

Peter Drucker first described the rise of 'knowledge work' back in the 1950s and not long before he died in 2005, declared that increasing the productivity of knowledge workers was "the most important contribution management needs to make in the 21st century."⁶

Knowledge Workers are people who 'think for a living' and Knowledge Organisations are those that predominantly depend on knowledge in order to design and deliver their commercial value. All jobs have some element of knowledge needed to deliver their tasks. However in the Knowledge Economy jobs often don't have a tangible output (like a product or service).

...traditional measures of output per unit of production like 'calls per agent per hour' or 'units per week' or 'cost per unit' are inappropriate for knowledge based businesses...

These jobs are at the extreme end of the knowledge work spectrum. In these roles people are being paid to think, fusing their knowledge with that of others to provide new knowledge which ultimately translates into a commercial value.

The difficulty for employers is that many are confused about what exactly is needed to improve the productivity of knowledge workers, simply because knowledge work involves 'more diverse and amorphous tasks than do production or clerical positions, where the relatively clear-cut, predictable activities make jobs easier to automate or streamline'.⁷

However, if one facet is clear it is the workplace which is identified as the keystone to improving worker productivity. In 2014, UK Consultancy, Advanced Workplace Associates (AWA) launched a major research project into the subject with its research partners, the Center for Evidence-Based Management (CEBMa)⁸ a non-profit member organization dedicated to promoting evidence-based practice in the field of management.

Under the auspices of the Research Group within AWA's Workplace Performance Innovation Network (PIN)⁹, CEBMa undertook an extensive study involving a review of over 800 academic research papers to answer two important questions:

1. What is known from the world's academic research about the measurement of knowledge worker productivity?

2. What is known in the world's academic research about the factors associated with knowledge worker productivity?

The data gathered has provided a deep understanding of the needs of the knowledge worker and helped to identify the main factors which can be associated with their productivity.

Together, using this evidence-based management approach, AWA and CEBMa identified "the six factors of knowledge worker productivity."¹⁰ AWA believes that if knowledge-based businesses are appraised of these factors, they could have a profound impact on the design of organisations, culture, leadership competences and workplace infrastructures in the future.

Furthermore, these findings provide new 'design requirements' for everything associated with the organisation.

To carry out the study, reviewers from CEBMa conducted a Rapid Evidence Assessment (REA) to undertake a review of the world's most credible academic databases and AWA used its knowledge and experience to translate the academic findings into practical guidelines. The research was sponsored by a group of eight large UK- and US-based companies wishing to understand what academic research had discovered about the determinants of knowledge worker performance.

In reviewing the research the emphatic conclusion is that Knowledge Work is so varied and its outputs so intangible that it is not possible to come up with a single universal measure for Knowledge Worker Productivity.

The conclusion drawn is that traditional measures of output per unit of production like 'calls per agent per hour' or 'units per week' or 'cost per unit' are inappropriate for knowledge based businesses. In fact, they drive the wrong behaviours and have a potential to destroy the value of organisations.

Whilst recognising that a universal measure of productivity for knowledge workers does not exist, it was concluded that it was possible to identify 'proxy' measures' – i.e. factors that influence the performance and productivity of teams.The research identified a range of factors which were correlated with the performance of teams.

Six factors of knowledge worker productivity

The six factors that had the highest statistical association with knowledge worker productivity were as follows and these are referred to as the six factors of knowledge worker productivity:

- 1. Social cohesion
- 2. Perceived supervisory support
- 3. Information sharing / Transactive Memory System
- 4. Vision / goal clarity
- 5. External communication
- 6.Trust

For those in 'workplace making and managing' professions (Real Estate, Facilities Management, Workplace, Design, Project Management) these 6 factors provide a new 'science' to be used to guide the design and management of the workplace.¹¹

We take a closer look at these below.

Social cohesion:describes a shared liking or team attraction

What this means in workplace terms is that people need places they can use to work closely with colleagues and to get to know them...

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that includes bonds of friendship, caring, closeness and enjoyment of each other's company¹² and researchers have proved that members of strongly cohesive groups are more inclined to participate readily and to stay with the group.¹³

What this means in workplace terms is that people need places they can use to work closely with colleagues and to get to know them. A combination of formal and social spaces are needed to cater for a range of needs and types of activities. Locating a team together may facilitate the development and sustainment of social cohesion, but not by itself alone. Also, locating people together may be to the detriment to the relationships they need to have with other members of the wider team, division or organisation.

Encouraging people to sit in different places, taking part in different conversations and enabling the formation of new friendships, getting to know people better (and finding out more about what they know) and sharing of knowledge are key to social cohesion. This is why a mobile workplace infrastructure (IT, space, services) is key to making this happen.

There are a range of things you can do to help facilitate social cohesion spatially; from making sure each team has a "home" which reinforces the sense of team identity and is meaningful to them – to creating shared community spaces on each floor.

These communal spaces help create a 'heart' for a building, and encourage occupants to come out from their own locations to meet or eat. Designing 'destination' social spaces should be augmented by management initiatives such as running lunches and social events with different themes to bring people together that may not normally meet and help to enhance cross team cohesion, which is often lacking in many of today's silo'd organisations.

Perceived Supervisory Support: describes how employees feel the supervisor helps them in times of need, praises them for a job well done, or recognises them for extra effort.

The role of 'supervisor' is an important one in a knowledge based organisation as the holder of the title has the power and obligation to set the "tone" within the team to help each individual complete their tasks, contribute their own knowledge and ideas and work in harmony with other team members and other teams. From a design perspective the workplace layout should enable leaders to sit among team members on a daily basis, which encourages routine interaction and helping the leader demonstrate support and forge closer interpersonal relationships. However, the design should also incorporate places for one to one conversations.

However, if, due to the nature of the business, private offices form a part of the office landscape, consider fitting them out so they can double as meeting rooms when the occupant isn't in.

Information Sharing: Refers to how teams pool and access their knowledge and expertise – which positively affects decision making and team processes. This leads to the idea of a team 'Transactive Memory System'¹⁴ (TMS) which can be thought of as a 'collective memory in a collective mind' – enabling a team to think and act together.

The office design should incorporate places where teams can work in close proximity, (but without distracting their not-inthe-discussion colleagues), to make quick updates or just-intime problem solving easy.

Collaboration and meeting spaces should feature a range of different designs to lend them a relaxed and creative feel and to help encourage people to feel free to share their knowledge and information. Equip these spaces with IT and social networking tools so that people can ask questions of the network and receive contacts and answers.

Vision and goal clarity: Vision refers to the extent to which team members have a common understanding of organisational and team objectives and display high commitment to team goals; which is why it is also referred to as 'goal clarity.'

What this means is for people to be emotionally engaged with the work they do they need to understand how it fits into their team'sand the wider enterprise's vision and purpose. Essentially this gives meaning to the work undertaken.

Most organisations help to reinforce these shared goals with visual reminders, from the company brand to a list of shared goals in the reception or meeting room areas. Messages can be reinforced by the creation of staff walls which allow teams to pin up images from their latest project - reinforcing their team's vision, purpose and key goals so they are reminded of their contribution to the larger objectives of their department or organization. They also serve as an explanation of the team's role and purpose to those visiting the area.

External Communication: The ability of teams to span boundaries (team and organisational) to seek information and resources from others. Researchers have noted that the more external communication knowledge workers experience with colleagues outside their team or organization, the more likely they are to be innovative¹⁵

By contrast if employees glean all their insights and knowledge from within just one team there is a danger of 'group think' – thinking they know best and rejecting any external ideas (or not even looking for any). A lack of exposure to the outside world through events, reading, social networks or professional institutions can result in the people becoming out of date, devoid of challenge and new thinking. Employees should be encouraged to join networking groups to meet colleagues from other organisations while within the organisation, the facilitation of a 'work anywhere' programme that enables people to work with teams in other parts of the building or on other sites will help increase their exposure to other points of view.

For teams who frequently need to coordinate with members of other teams, the provision of touchdowns within the team's own cluster of desks, will enable those ad hoc members to gain insights as views are exchanged, or problem solving happens.

Trust: The firm belief in the reliability, truth or ability of others is created by the expectation that the actions of other persons will be to ones benefit or at least not detrimental to him or her¹⁶. Trust in colleagues and teammates equates to trust in others and is typically called horizontal trust; while vertical trust refers to trust in authority and in this scenario equates to trust in management.

If a workplace is designed entirely with enclosed spaces with opaque walls so that people can't see what's going inside; this isn't going to support trust. Having some measure of transparency not only helps occupants feel more open to knowing what's happening, it can also facilitate finding a colleague or feeling encouraged to join in on a discussion.

Trust can be supported by making things both physically and behaviourally open and transparent so as to indicate that there's nothing to hide. Trying to break down barriers between teams who need each other (and discouraging silo'd working) is harder when there are physical batteries between them.

Putting the six factors into action

As we've outlined above, one of the greatest challenges for the modern workplace is in measuring the productivity of knowledge workers which is why leaders keep asking us: 'How can we find out how we stack up against the six factors?'

Through the course of our research we have gathered together a fully validated question set with which to enable teams to score themselves on the 6 factors; and we can even allow each team member to score the teams they work with on the 6 factors.

Putting the intra team and inter team views together we can build up a pretty good picture of how an organisation works against the six factors which is proving to be valuable on a number of levels.

Preliminary results from an ongoing case study¹⁷ have already provided us with a useful evidence base that addresses how an organisation can be measured on the factors, and their use of the experience to generate a different language to address relationships within the company. We hope to bring you more details on the outcome of this study on a future date **W&P** **G**....Trust in colleagues and teammates equates to trust in others and is typically called horizontal trust; while vertical trust refers to trust in authority and in this scenario equates to trust in management...

i Karen Plum

Karen Plum is responsible for Research and Development activities undertaken under AWA's Workplace Performance Innovation Network (PIN).A Business studies graduate, Karen spent her earlier career in HR before joining AWA, over 18 years ago.Within AWA's Explorer Groups, Karen has led research into 'Knowledge Worker Productivity', 'Managing the agile workforce' and 'Cognitive Performance'

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