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New Demographics New Workspace

Office design for the
changing workforce

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8 The nature of the challenge

Making the workplace more inclusive of changing needs

Both collaborative and flexible work styles – the two dominant trends of the past decade – contain a range of inherent barriers for older knowledge workers. There is the noise and disruption of open plan. There are the stresses and strains of mobile working and ‘arm’s length’ engagement with the organisation. So why has office design failed to really consider the needs of an ageing workforce? Some employees over 50 clearly do not want to attract attention by making individual demands at work, for fear of alerting age-discriminatory bosses or colleagues to their prolonged presence. But, more broadly than that, it has been difficult to categorise older people as economically important within modern working culture. The ageing process has been associated with deficit, decline and incompetence, all of which argue against paid employment.

Inclusive design movement

Over the past 30 years, a powerful international movement has successfully aligned industrial design, architecture and social activism to campaign for better homes, transport and public access for older and disabled people. This has been given different names – inclusive design in the UK and Europe, design for all in Scandinavia, universal design in the US and Japan. However a common feature has been to define older people as having consumer and civil rights – they have not been positioned as active economic contributors, other than in exercising their rights as purchasers. As a result, there has been relatively little debate about their workplace needs.

The first frontiers to be pushed back by the inclusive design movement have necessarily been domestic and public ones, to make homes and access to the built environment more age-friendly so that there is more independence and choice for older and disabled people. Access to the workplace has been less of a priority, although that is changing now given the state of government finances around the world and the rising cost of social welfare for the ageing population.

When, in 2000, the UK Government advanced a formal definition of inclusive design as a process whereby ‘designers ensure that their products and services address the needs of the widest possible audience’, it was talking mainly about such things as easy-to-open packaging, safer bathrooms and low-access buses – office design was not on the radar. But by the time a British Standard for managing inclusive design was written in 2005, advocating that products and services should be ‘usable by people with the widest range of abilities within the widest range of situations without the need for special adaptation or design’, extended working lives had come into the picture.

Reacting against one-size-fits-all

Historically, in the developed world, inclusive design can be seen as a response to the context of design for mass production in the second half of the twentieth century. In that era of rapid economic and bureaucratic expansion, professional designers working on product development treated people as ‘universal types’. An important text of the period for designers, *The Measure of Man* (1960) by the American industrial designer Henry Dreyfuss, established the study of anthropometrics – the dimensions of ‘human scale’, including arm and leg reach – as an essential tool for designers. This work by Dreyfuss, who measured hundreds of men, women and children and calculated mean averages, supported the mass production doctrine ‘one-size-fits-all’. Those on the margins of society who did not conform in terms of height, weight, mental capacity or physical strength were forced to fit in with assumptions about what is ‘average’ or ‘normal’.

The impact of *The Measure of Man* was profound: its thinking influenced the design of everything from packaging, homes and public buildings to furniture, appliances and transport. Its doctrine was especially influential in the low segmentation-low choice workplace as a template for management efficiency. Older and disabled people who clearly did not fit these carefully calculated norms were treated as special cases or groups falling outside the mainstream and requiring special design solutions. A whole activity arose around the development of special needs design for these special needs. This area of design grew outside the mainstream design discourse about lifestyle, aesthetics, needs and desires.

With its limited markets and small production runs, special needs design was blighted by an approach more akin to hospital aids and appliances than consumer-based design. Many products and environments for older and disabled people stigmatised their users through ugly and inappropriate design. Gradually, however, there was a powerful reaction against this stigmatising approach in the design profession. It began slowly at first – catalysed by a few charismatic individuals – but built up into a vocal movement

to integrate more people into the mainstream of everyday life through a more inclusive approach to the design of products and services based on desire and aspiration and not just special need.

An onus on the employer

Significantly, there was also a shift towards a more enlightened view that people are not disabled by their own impairments, irrespective of the shortcomings of design, but included or excluded by the quality of design, irrespective of their capabilities. With the emergence of inclusive design came a transfer of responsibility from the user of design to the design process itself. If designers – and the organisations that commissioned them – didn't accept responsibility for what happens when people tried to use their designs, then the net outcome would be exclusion by design.

In the context of the workplace, this was destined to become a highly significant shift. It meant that older workers, like older consumers, would no longer feel it was their own fault when products and environments excluded them or did not meet their needs. Responsibility shifted to the employer who was encouraged, in no small part by age and disability discrimination, to do as much as possible to avoid excluding any workers from the office environment.

Physical requirements

For an ageing workforce, there are a number of physical requirements that form a baseline for thinking about a more inclusively designed workplace. Take eyesight, for example. Adult vision declines with age in a number of ways. The eye of a 20-year-old can admit up to three times more light than someone of 65. Changes occur in visual acuity, depth perception and peripheral vision. As a result many older workers may find glare from windows on a computer terminal affecting their sight.

Research also suggests that older workers often cannot read as well as they once did from certain distances and with lower levels of illumination. Personal preferences regarding lighting conditions become more important with age and people adapt less well to poor lighting. However where good quality lighting is provided, vision changes generally have little impact on most older knowledge workers.

Hearing generally begins to decline from the mid-40s onwards. Older people may struggle to hear well at higher frequencies, for example, being unable to listen to a specific voice or sound in a noisy environment. Workers may find it increasingly difficult to filter a particular voice from background noise. The means to address hearing difficulties will vary depending on the particular office setting, but consideration should always be given to how sound transmission can be controlled.



Consideration should also be given to physical ergonomics as signs of ageing and the beginning of loss of functional ability emerge between 40 and 50. This includes a loss of muscular strength, which on average is reduced by 15–20 per cent between the ages of 20 to 60. Ageing causes some loss of range of joint movement and flexibility. Highly repetitive motions can cause physical problems at any age, but as we age we are likely to become more vulnerable to physical wear and tear. In general, ageing may make it harder to maintain good posture and balance and therefore increase the risk of accidents.

Changes in mental capacity also occur with age. Vocabulary and verbal ability remain constant or improve, but some mental processes decline. Speed of thinking, selective attention and information processing tend to be reduced. In addition, spatial skills generally decline. Research has demonstrated that older people are less efficient at navigating three-dimensional environments and need more time and guidance in finding their way. However cognitive problems appear to have a much lower impact on older knowledge workers, who will tend to compensate for any reduction in cognitive functions by drawing on their experience. Similarly, people who have had a lot of education or training over their lifetime are generally able to learn new skills with relative ease.

How to sustain well-being

With an ageing workforce, it is important to consider how the office environment can help to sustain the health and well-being of staff. This encompasses not only the physical dimension of the workplace but also the social aspects of health. In relation

to this, dignity and respect are often as important to well-being and productivity as physical ergonomics. This effectively means that all facilities within the workplace should be designed with older workers in mind, irrespective of who uses them. The drive for greater levels of physical and mental well-being is one of the most persuasive factors in promoting an inclusive design approach. Better office design that meets the needs of older workers is very often better design that meets the needs of everyone. As the gerontologist Bernard Isaacs once remarked: ‘Design for the young and you exclude the old. Design for the old and you include everyone.’ Being aware of the context for inclusive design is therefore very important.

Why user context matters

Although his influential book *The Measure of Man* eventually became a touch-point against which the inclusive design movement rallied, there is a true story told about Henry Dreyfuss that demonstrates his early acknowledgement of user needs and the importance of human factors in design. As a young man in the early 1930s, Dreyfuss was sent from New York to Iowa to discover why a brand new, beautifully decorated RKO movie palace was not drawing the punters, while the local, unventilated fleapit down the road was full to the rafters every night.

Dreyfuss was mystified. He lowered the prices, ran triple features and gave away free food from the cafeteria but still nobody would come. For three days he stood outside the movie house watching the reactions of people wandering by. Then he removed the expensive deep-pile scarlet carpet from the lobby and replaced it with a simple rubber mat. Immediately, like a miracle, the RKO movie palace was full. The problem, as Dreyfuss rightly identified, was that the good Iowa farming folk didn’t want to mess up that gorgeous carpet with their muddy boots.

The moral of the story is clear. The RKO movie palace was sumptuously designed with no expense spared. But it just wasn’t right for its context. It was inappropriate to its users. More than 70 years later the same holds true for today’s offices. The materials, space-plans, equipment and environmental controls that make up the complex picture of workplace design need to be tuned to the needs of changing workforce. The environment must match what the people within the organisation are trying to achieve.

In this first section of the book, we have spent time reviewing the changing contexts in which both knowledge workers and older employees operate. In the following sections, we go on to use the results of our own global research project, *Welcoming Workplace*, to discuss ways to rethink the culture and redesign the environment in the light of these developments, so that the challenge of a changing workforce can be successfully met.