



An ISG Report, with Unisys

90 DAYS LATER - From “help me” to Engaged Productivity

Boosting Human Mindfulness
and Engagement while
increasing Digital Connectedness
and Productivity

Welcome to the New Future

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EXECUTIVE SUMMARY

In the last 12 months, we have seen the largest population movement ever in the history of the world. Through a historical drive for efficiency, hundreds of millions of new offices have been created almost overnight, leading to workers sitting at home creating a near 1,000 percent increase in demand for video conferencing and collaboration tools with little improvement in technology. Suddenly, we realized that organizations have historically overlooked resiliency, leading to a rush in shoring up corporate security and business continuity. This has created both benefits and issues that employers need to address as we move into a new way of working in 2021. It has also created new paradoxes where previously perceived benefits such as work/life balance when working at home have been severely tested and, in many cases, where implemented poorly, dramatic shifts in the wrong direction. Understanding how people work is as important as understanding what they do. **Employee sentiment will be vital in the new future.**

When designing the future of work, organizations need to consider three areas: physical, digital and human workplaces. The physical workspace that workers used to know and love has become dust ridden and only now is being opened up a gain subject to COVID-19 safety protocols. Organizations will need to make plans to adapt these environments into safe and collaborative workspaces for segments of workers to come back to. These workspaces also will need to be integrated into the digital remote workplace in which workers can seamlessly choose where they want to work but participate in processes or teams in the same way they would in person. Organizations also will need to take into account the needs and wishes of employees.

The majority of office workers have seen the light and now want to remain working at home for at least 50 percent of their time. For this digital workplace, however, it has become clear that organizations that successfully moved all their workers home and onto mobile technology seem to believe that the problems are solved, relying on employees and teams to solve their own issues. This is not the case, and indeed it is not the end of the transformation. It is not even the beginning of the end. It is the end of the beginning, and employers need to look hard at the cultural and personal shift that the pandemic has caused. There is much more work to be done.

For the people working from home, the way of working has forever been changed by the virus. As a result, corporations have had to adapt how they enable, manage and support their employees. Home-based employees are working up to 40 percent longer with no correlated increase in productivity. This in itself has created negative effects after the initial work-at-home honeymoon period abruptly ended. The reason for this is that the technology deployed is reported to be unsatisfactory, and issues take longer to solve. People are becoming more stressed out, and their personal time has taken a hit. Previously, when ad hoc at-home work happened, it seems it was easier to delineate work and personal time. Now, this line has been blurred.

These issues faced by the human workforce can result in a positive or negative productivity spiral that businesses need to understand and be aware of. Management has conflicting and contrasting demands, which have resulted in some interesting practices impacting how they deploy remote performance management, ensure staff feel part of the team and deploy new people-management cultures. On top of this, the technology of the pre-pandemic world has only advanced slightly, which has resulted in many people working harder to bridge the organizational shortfalls, provision technology tools, resolve IT problems and measure KPIs.

Employees want to work and be able to manage their time flexibly. They just want their lives and work to work for them. If anything, the pandemic has shown that the future we thought we were moving toward has caused employees and employers to realize there are new work models that enable a wholesale change of operations, customer experience and human interaction. This will be achieved through the seamless connection of physical space redesign with end-to-end digital operations that are managed and operated by smart human-digital cognitive technologies that can sense the needs of the customer, employee and operations.

ISG has used its independent status to assess the future-of-work marketplace. Companies must rethink how they manage productivity and connectivity in the future workplace. The use of automation and proactive technology to boost health and happiness is something that jumped out in the provider market resulting in this third chapter of ISG's 90 days eBook series. As the title says, welcome to the new future.

WHO COULD HAVE PREDICTED THAT THERE WOULD BE HUNDREDS OF MILLIONS OF NEW OFFICES IN 2020?

Prior to the outbreak of coronavirus in early 2020, over 85 percent of office managers saw working from home as a perk. Even though 51 percent of the office working population worked from their homes at least part of one day a week, only a tiny percentage were required to work from home full time. This is because many organizations' internal and management processes were not geared to manage working from home for even short periods of time. This resulted in the mainly office-driven operations we saw pre-pandemic.

To put this in context, if you've ever seen the cult classic 1999 movie, "Office Space," it demonstrates in a fanciful way how the most unusual of circumstances can change the way employees want to work to improve productivity and happiness. In this case, a hypnotherapy session forever changes how a frustrated and unmotivated U.S. software employee named Peter views his desk job and life. He transforms from a desk-bound tamed man always fearful of his matrix of bosses complaining about his TPS reports to a corporate rebel who finds better ways of doing things, refuses to work overtime, plays games on his desk and leaves the office whenever he desires. As the company is undergoing a period of cost pressure, two external consultants, both named "Bob," arrive to assess the company's employees, including Peter.

In the classic scene, the two Bobs ask how Peter spends his typical day, who explains to them in blunt terms how bored he is. He describes how bad the TPS reports are and says, "The thing is, Bob, it's not that I am lazy, it's that I just don't care. It is a problem of motivation, if I work my ass off and we ship a few more units, what do I get out of it? And another thing, I have eight different bosses right now, so if I make a mistake, I have eight different people coming by my desk to tell me about it. So, my only real motivation is to not have them come by and hassle me about it, that, and the fear of losing my job. But you know what Bob, that will make someone work just hard enough not to get fired."

In a final brutal twist, he shows the two Bobs exactly

how internal process and management oversight are limiting creativity and innovation, which they then report to the management.

Next comes my favorite part and one of the all-time classic scenes from any movie. After the Bobs recommend to put him on the management fast-track while firing a number of employees who have worked in the same way for years, management disagrees and a classic consultant, management tête-à-tête occurs. This shows that desk-based, ill-thought-out classic processes can be done from anywhere.

One of the Bobs takes charge, with a laser focus on Bill Lumbergh, the film's infamous and pointless manager. "So let me ask you, we feel that you just haven't challenged the workers enough, he says, and when the management disagree, the Bobs bring home the argument with data. "And how much time would you say you spend each week in the office dealing with these TPS reports?" The scene ends with the two staring at each other with daggered eyes and management realizing they need to change. Lumbergh, simply utters the now famous line, "yeh-ahhh," and sips his coffee. Peter gets promoted and his work life balance and life in general improves. The movie shows exactly how frustrated employees feel and how company bureaucracy can influence motivation and morale, told in a hilarious modern workplace classic.

And this is the problem: Before the coronavirus, the workplace was seen as an office with physical desks, meeting rooms and some break out areas to meet and collaborate. The "future of work" was described, and a future aspirational world was promoted by keynote speakers and well-known entrepreneurs. These global aspirations of a more remote workforce and the benefits it brings to work-life balance and productivity were and are (but, oh boy, how it has changed) the topic of conferences around the world where digital providers demonstrated the art of the possible through technology and communication platforms enabling employees to work at home.

At one of these conferences, founder and chairman of Virgin Richard Branson said, "We like to give people the freedom to work where they want, safe in the knowledge that they have the drive and expertise to perform excellently, whether they are at their desk or in their kitchen. Yours truly has never worked out of an office, and never will." And this is great, for the

insightful few, where they literally can work anywhere. People who think like Branson have made investments to challenge the status quo and enable people to flourish to deliver saleable services and commodities from anywhere, removing barriers to success as they go.

In the mainstream business community, though, it was a different story. Through digital workplace initiatives, some organization made changes to mobile technology and elements of collaboration. These happened slowly, mainly due to traditional ways of delivering change and, in some instances, due to cost benefit. These managers never thought about the future because their futures had not been challenged. Then, just like what happened to Peter in Office Space, something happened that changed everything. For us in the real world, the pandemic hit.

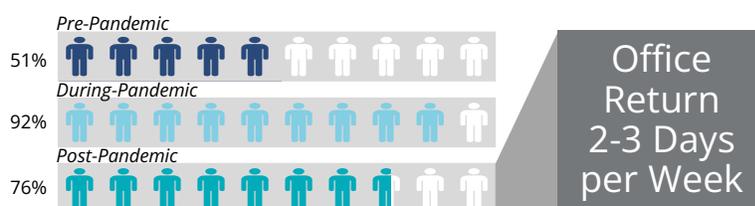
The International Labor Organization (ILO) estimatesⁱⁱ that pre-pandemic approximately 7.9 percent of the world's workforce, or about 260 million people, worked from home on a permanent basis and that while some were teleworkers, most were not. The number of these people who worked at home exclusively on a permanent basis was 2.9 percent, or an estimated 7.5 million people. The other 5 percentage points was made up of the people who may have been based at home but worked part time and elsewhere, on the road perhaps.

This data is further backed up by the EUⁱⁱⁱ, which shows that between 2009 and 2019 approximately 5.4 percent of the workforce worked from home most of the time, and that the share of employed workers working at home at least part time increased from 5.2 percent in 2009 to 9 percent in 2019. Working from home was considerably more common among the self-employed than dependent employees, but the overall figure remained at a roughly constant 5.4 percent in that time period. This shows that across the globe, employees using their home as a place of work was a nice to have rather than a mainstream way of working.

And in the period of less than a month, approximately 92 percent of the world's population was ordered to stay at home. This includes hundreds of millions of office-based workers who suddenly needed security, technology, process, and support to work from home. Not all succeeded, and the world of work changed forever. It is worth noting here that there are two definitions to explain. At-home work is defined

by the ILO as those who can or will work at home permanently as described above. From home or teleworkers are those who can work from home some or all of the time without it being a permanent base. Not all organizations and sectors can work from home due to non-digitized processes or the industry they work in. In manufacturing or service industries for example, a physical workforce is needed.

It is estimated that approximately 25-30 percent^{iv} of the global workforce will be working from home multiple days a week. When translated into the industries that can work from home, we^v expect that approximately 76 percent of the office-based workforce will remain working from home at least half the time. This means that between 643 and 772 million of the 3.4 billion workforce^{vi} will work from home on a regular basis. So the way we set up organizations to deliver customer value will need to change forever.



We saw this in the [the first chapter of our 90 days Later e-book](#) focusing on how to ensure that people work at home did so securely using zero-trust multi-device stealth security. The second chapter, 90 Days from Firefighting to Fighting Fit, explained how organizations needed to fund that change and ensure financial stability in the long term driven by a focus on their hierarchy of needs and cube of value.

This is where we pick up, because it is clear from history that organizations focused on a centralized, cheaper delivery model designed for efficiency rather than resiliency suffered the most due to supply chain or third-party failures, as well as issues with how to ensure people could work at home using office-based systems and processes. And it is this lack of resilience that has left us in the world we are in and has changed the world of work forever. Here, we explore the changes that have happened physically and culturally in the future of work, where employees now work seamlessly at home, or wherever they need to, and how technology enables a brighter and healthier future for the aspirations predicted in 2019 that are now a stark reality.

The opportunities for future employee and human capital models to incorporate digital tools – not all employees will be human – are vast and exciting.

FROM DESIGN FOR EFFICIENCY TO DESIGN FOR RESILIENCE

As the Organization for Economic Cooperation and Development (OECD) explained in its April 2020^{vii} coronavirus briefing note on the economic challenges of the virus, the world needs to adopt a systematic resilience approach to dealing with the virus and any potential future shocks. Since the late 20th century, the commercial world has focused on delivering maximum value for minimum costs. This put an emphasis on lean operations, just-in-time delivery and through the concept of human buffering, operating at the minimum levels of human capital needed to deliver in that particular location. This emphasis on efficiency in the operation, management and outcomes of various economic and social systems meant that much of the world relies on complex, nested and interconnected supply chains to deliver goods and services.

While this has provided considerable opportunities, it means that like in all complex systems, tensions exist between efficiency and resiliency, including the ability to anticipate, absorb, recover, and adapt to unexpected threats. In the modern world, resiliency is thought of in terms of disaster recovery and fundamental infrastructure that must operate in times of crisis such as a country's military and health systems. In the corporate world, that translates to ensuring services are delivered on time and at cost through the careful management of risk. That risk was managed through contractual relationships with suppliers of services and technology to deliver services to your end customer. Those suppliers accepted the risk and were responsible for risk management. Bear in mind that this refers to known risk – risks that people are aware of or acknowledge may happen and plan for. Technically, COVID-19 was unanticipated risk, a risk that is known but so highly unlikely that it doesn't need mitigation. Despite the fact that a pandemic was high among the OECD countries, and global risk factors, perhaps business should have put that unanticipated risk into the known column

instead which requires mitigation and planning to occur. It is why ISG is so successful in one of the key areas in sourcing and vendor management with its third-party risk management (TPRM) capabilities like GovernX^{viii}, deployed across vendor management teams worldwide. In the case of something like this, no local organizational solution can mitigate risk that decimates entire value and supply chains, and because the human capital needed to deliver those supply chains is also badly affected, they collapse.

Indeed, the OECD's New Approaches to Economic Challenges (NAEC) Group Conference in September 2019 on Averting Systemic Collapse^{ix} identified how growing complexity and interdependence has made various global systems such as economic, public health, and cyberspace susceptible to cascading failure. It is clear now that from years of the commercial world trying to optimize all that it can, system resilience has foundered, leaving governments, the public, and the environment in a weakened state. The OECD concludes that short-term, highly lucrative, yet fragile supply chains and economic exchanges are fragile. When disrupted, these systems may have significant effects in unexpected areas. This was in 2019, and these types of scenarios have been discussed since the financial crashes of 2007-08 and before as shown in the diagram on the next page. Then, the coronavirus arrived and, as we saw in the first eBook chapters, took a significant toll on the physical, financial, and human landscape.

Now that the pandemic has raged for several months, we know that organizations can adapt and learn. Organizations that have a diversified product offering or were able to adapt quickly to digital models delivered through multiple channels have a much better chance of survival. Those that were able to adapt their workforce and delivery engines to a remote delivery model most seamlessly not only survived but grew.

Who benefited and why?

Recently the European Union published its "Telework in the EU before and after the COVID-19: Where We Were, Where We Head To" science policy brief^x. It shows that before the pandemic, people who most often worked from home on an occasional basis were in IT and other communications services, knowledge

How the S&P 500 performed during MAJOR CRASHES

The COVID-19 disruption to stock markets caused a shock the world over. But how does the present market crash compare to previous crises we're familiar with?

Here, we examine how long major market crashes have lasted, and the percentage losses in the S&P 500.

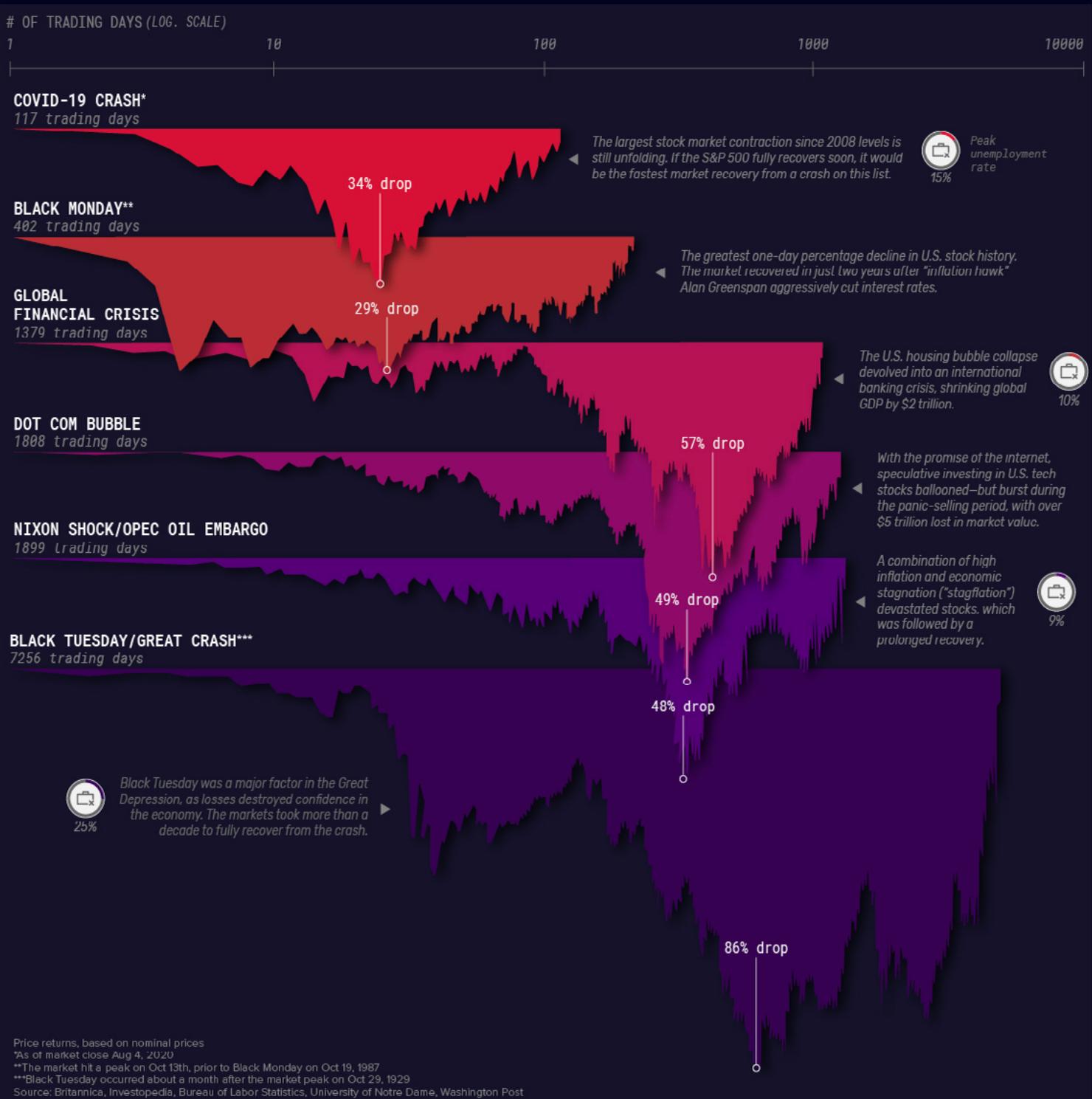
Methodology



High/Low closing prices used to calculate % drop in the Index.



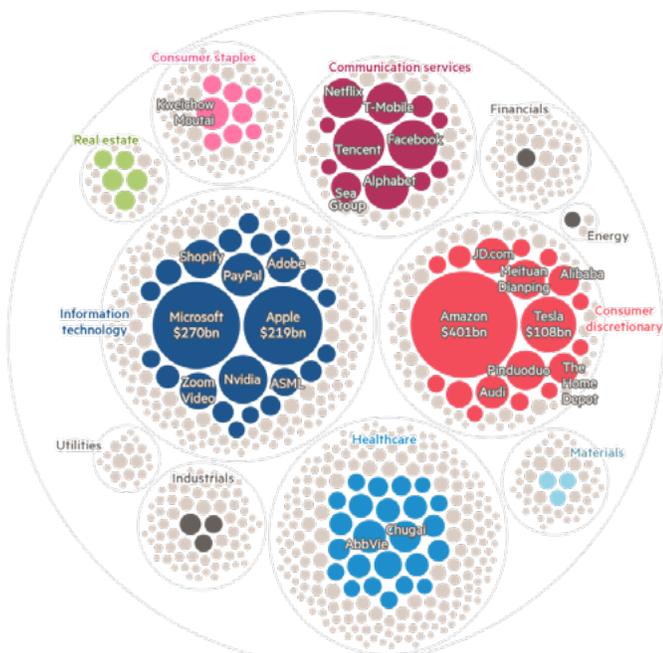
Duration covers the peak-to-peak recovery, from start to end.



COLLABORATORS RESEARCH + WRITING + EDITING Dorothy Neufeld, Jenna Ross, Anupa (Iman) Ghosh | DESIGN Rosey Eason | ART DIRECTION Melissa Haavisto

Source: Visual Capitalist

intensive business services, education services sectors, plus those who provided publishing, audio/visual and broadcasting capabilities. Consequently, after the pandemic hit, the Financial Times^{xi} identified the organizations that saw their stock rise the most in terms of revenue growth, and these increases were due to new product delivery and adapted channels being created. From the diagram below, it is clear that the winners in each sector mirror those that had the highest proportion of people who worked remotely and could therefore adapt to the new conditions. Also, those organizations that had products or services to enable the remote working of employees benefited hugely. [In the previous chapter](#), we explored the financial winners and losers in terms of growth across the sectors.



Source: <https://www.ft.com/content/844ed28c-8074-4856-bde0-20f3bf4cd8f0>

Why did they benefit?

The organizations listed above typically work in digital and Agile ways – it doesn't mean that they responded in agile ways, but their delivery models, with a highly collaborative workforce working in agile ways, existed behind the customer product or service. Companies such as Microsoft, Amazon, Zoom, Apple, Facebook, and others have workforces that can essentially work anywhere. Even pre-pandemic, the likes of Facebook had employees able to collaborate on features and capabilities from their bedrooms or corporate offices. The deployment of collaboration technology plus an

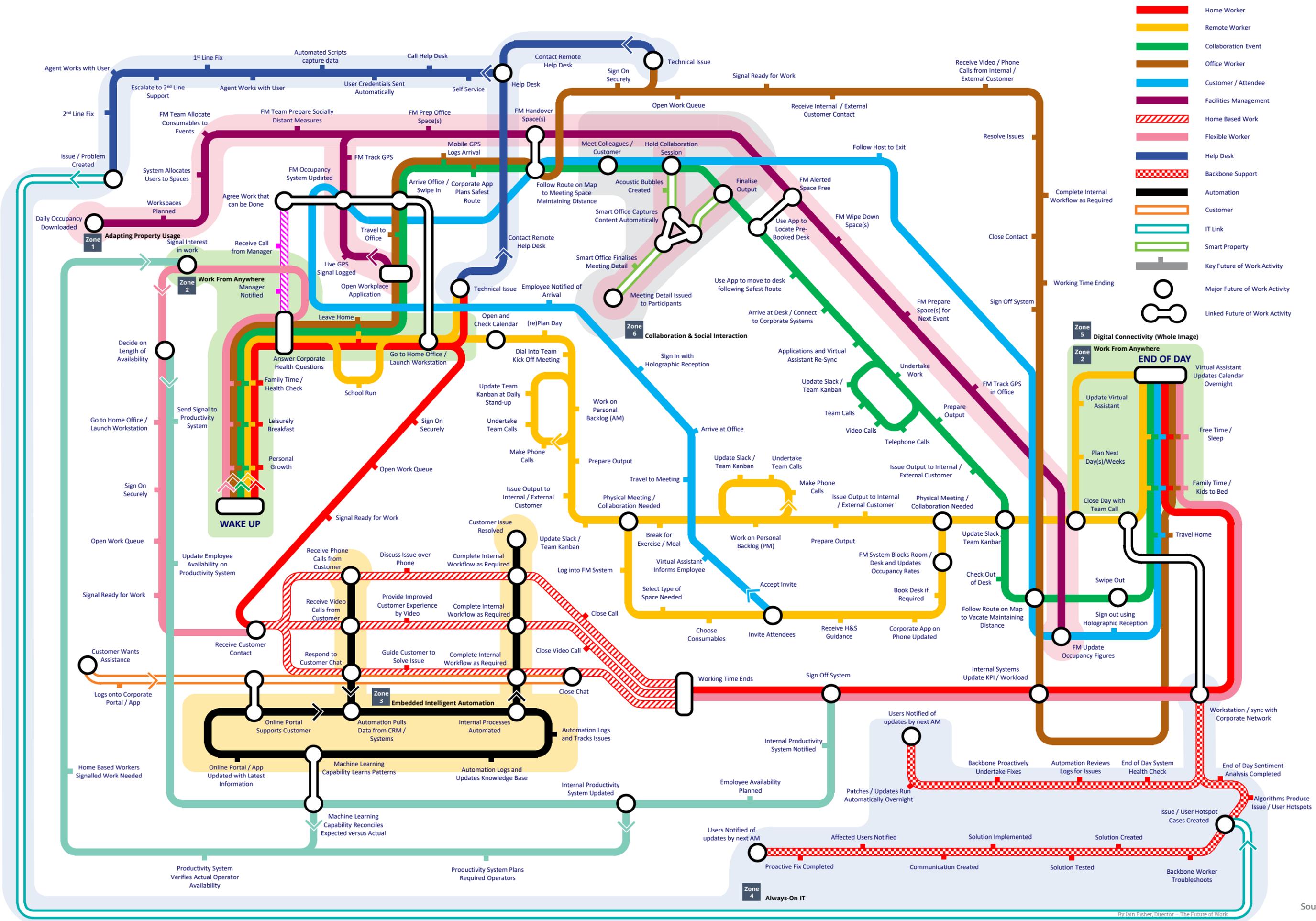
empowered workforce are essential to delivery. And this is the core theme of this chapter, understanding what employees need both physically and technically to do that work and empowering them to do it through removal of problems and thus, making them more productive and enriched. Only by having technology that “just works” and happy, healthy employees are companies like those mentioned above thriving due to the products and services they create. And to top it all off, [as we discussed in chapter 2](#), their value proposition is highly digital, scalable and agile, making their services and offerings easy to consume. The areas of technical and human freedom and empowerment through enabled digital delivery and agility in the workplace is the theme of this chapter.

UNDERSTANDING THE CHANGES BROUGHT ON BY COVID-19

As we explored in [chapter one](#) of this series, the world saw a mass movement of people back to their homes, perhaps not seen since times described in the Bible, when everyone had to go back to their place of birth to be registered. Hundreds of millions of people of all ages, races, sex, and nationality had to stay at home and work, or be placed on the equivalent of furlough, as we saw in the U.K., or worse. This single largest mass movement of the workforce has changed the way we work, where we work and how we work most likely forever.

As part of its work in understanding the shift to a new model of working, ISG mapped out every possible “day in the life of” (DILO) for each worker type in the future. The resulting “future worker tube map” (the tube map) that follows clearly shows the “office” of the future will include the home, remote locations, the physical office and a hybrid of the above.

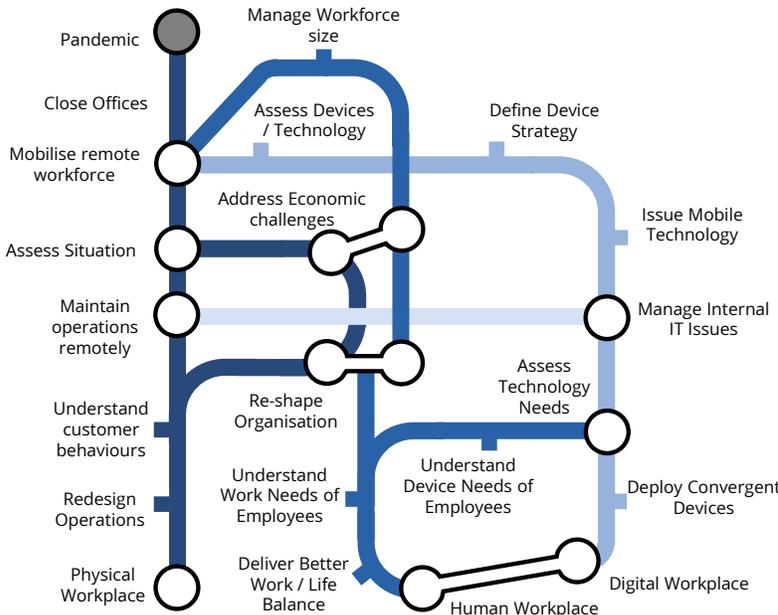
The tube map serves as a master plan in terms of all the key elements that organizations need to think about. The “day in the life of” (DILO) approach to its construction shows the common areas, where tube lines run together or join up such that actions need to be taken for multiple workers. In the drive to serve the customer, a clear understanding of how work will be delivered is needed and this tube map reveals key processes and technologies to consider.



- █ Home Worker
- █ Remote Worker
- █ Collaboration Event
- █ Office Worker
- █ Customer / Attendee
- █ Facilities Management
- █ Home Based Work
- █ Flexible Worker
- █ Help Desk
- █ Backbone Support
- █ Automation
- █ Customer
- █ IT Link
- █ Smart Property
- █ Key Future of Work Activity
- Major Future of Work Activity
- Linked Future of Work Activity

A brief history of COVID-19

The diagram below shows how the pandemic played out in these three areas of the physical, digital and human workplaces, again in a tube map style.



Source: ISG

As we all know, the pandemic caused a mass exodus of the working population as offices were shut and the center of urban cities became uninhabitable for workers, creating scenes not unfamiliar to what a disaster movie might project. This mobilization then meant that the physical, digital, and human aspects needed to be considered, which is where chapter one kicks off. We sent all the workers home, and hoped that we did it securely. Now we have a remote workforce using various forms of technology. The challenge has been to simultaneously keep the lights on financially and deliver services digitally – all while enabling and supporting a remote workforce. This is where the digital workplace comes in. [Chapter two](#) focuses on the cost optimization and identification of opportunity to adapt the financial, operating, and technical models of the business. This cost optimization impacted the people and the technology.

Through a reduction in people availability and the need for reduced operations, the organization was reshaped to reduce costs. Likewise, the technical landscape was rapidly shifted into a digital delivery model with collaboration tech and mobile devices

procured and delivered to where they needed to be. Job done, right? No.

“This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.”

When Winston Churchill famously said the quote above, the U.K. was just coming out of the Battle of Britain, the decisive air battle in World War II. And like that period, the U.K. has run up large debts, both financially and physically. Currently, the U.K. has spent over £210 billion tackling the pandemic, and the Office of Budget Responsibility (OBR) estimates that this will reach £370 billion this financial year alone. Britain are on track to hit a higher level of debt as a share of national income since the second World War^{xii}. Like World War II, the pandemic has impacted nearly every nation on the planet.

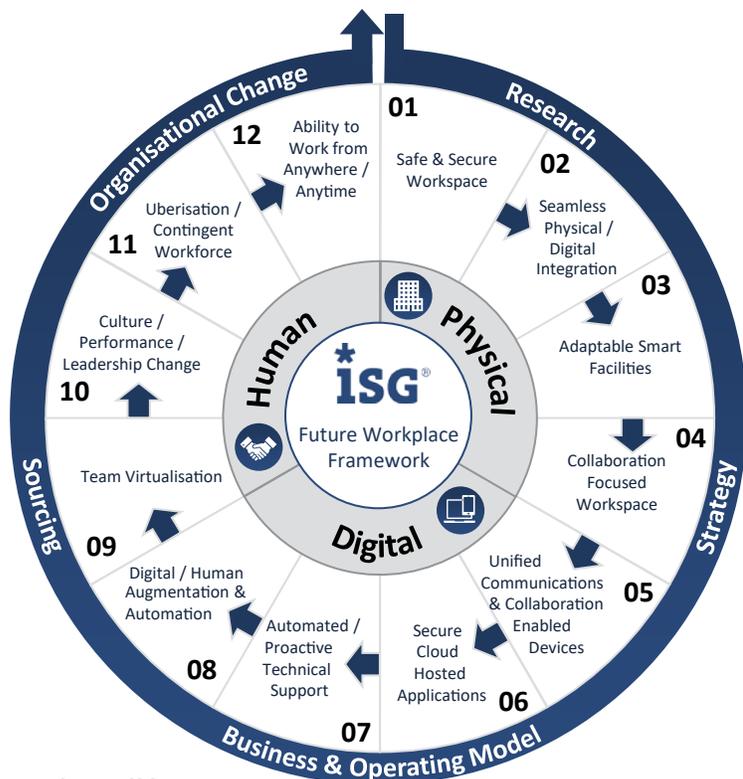
With vaccination wins being declared in the U.K., the U.S. and Russia, the actions taken to date only represent the beginning of the end. It is conceivable and indeed highly likely that the world will still be in some form of restrictions until the third or fourth quarter of 2021, simply because the vaccine needs time to be rolled out and the population needs time to build immunity.

And this is the main issue. Most organizations think they have fought back the blaze, and now they can continue operating in this interim way of working without any further change – thinking that this is the new normal. This is not true. Areas such as office usage and its associated costs are becoming more apparent as workers shift to home. Offices will still be needed but their usage has and will change. But now is the time to understand the needs of the employees and what technical requirements they have so that business can once again grow in a period unprecedented downturn. This is true not just because of the pandemic but any potential future impact that may still come to challenge us. It is for these reasons that we need to fully understand how the population WILL work from home a significant period time during the week whether they want to return to the office or not.

ISG has put the required needs into a simple wheel, called the ISG Future Workplace Framework, which is shown below and describes the issues on returning to work and how a fully collaborative environment must

be provided. The pandemic has delivered the opportunity to show how we can succeed. We were able to get a large portion of some organizations working from home in a week or less – something that seemed impossible prior to the pandemic. Well, now we need that spirit once again to transform the office and how we work.

in the office to provide touchless integration with the work being done will add to this. As most office spaces are leased, and for a significant period of time, companies cannot just vacate office space at will. They will need to rethink how they use these spaces, and with a part time workforce can either rotate their space to ensure thorough cleaning or can adapt the less used areas into collaboration zones that are fully integrated with collaboration and communication technology. These concepts will provide the basic approaches needed to address the physical workspace components depicted in the future workplace framework here.



Source: ISG

A digital workplace is where the physical meets the human. Through the provision of unified communications and collaboration-enabled devices and technologies, we can start to integrate the remote workforce into the physical workforce. This is where we started before the pandemic by driving mobile tech to remote users to ensure they can connect to colleagues and deliver work. But we haven't had a chance to rethink the return to post pandemic working, hence the Churchill quote. Now we will need to have connected employees. Check! Now we need to get more of the applications and tools used onto the cloud to ensure resiliency as already discussed. The ability to work from anywhere and do it securely is one of the key advantages of cloud provisioning.

Organizations that think they have weathered the storm and are finished in their transformation of the workplace will fall behind. Legislation and protections will likely be put in place which will dictate how the workforce can interact with physical office spaces and organizations will need to build these compliance requirements into their thinking.

Connecting employees to the digital workplace while maintaining smart and touch-free inputs can be achieved through integration of cognitive capabilities, which brings us to the part of the book where we touch on making sure that the employees can work, mainly because the tools we gave them to work on do, in fact, work and don't continually break down or prove unreliable. This means we need to consider automation, which enables us to think about taking away waste from an employee's life and boosting available time. We further boost available time by embedding digital augmentation into their work lives through the use of cognitive AI and natural language processing. By using simple digital assistants, we can ask for tasks to be done and, by having automation built in, it just gets done. This saves time for employees and rounds off the digital requirements of the employee of the future.

As an example, and to explain the future workplace framework radial above, provisions need to be made for a safe and secure workspace for the workforce to return to and work from. This includes the home as well! There needs to be a seamless physical integration with digital technologies, which will reduce contact with surfaces, and the need to undertake manual processes where digitization will help. The use of smart facilities such as a well-lit workspace, air quality monitoring (as COVID-19 is airborne) showing safe areas in offices or the use of IoT installed devices

The human workplace is where we will focus the main part of this chapter of the book. This is where it is assumed that we have sent everyone home and removed a commute, so they must be more productive, right? No. Data shows that in fact organizations that implemented this part quickly and without a thorough strategy like the tube map and wheel we have shown, **employees actually feel more pressured as their productivity gets worse**, they get stressed and it gets worse still. This needs attention. To do it correctly, organizations need to implement proper management of virtual teams which is different to that of physical teams. They need to be structured properly with a shift in working culture and performance management. The harshness of some organizations to monitor employees remotely, leads to the negative productivity cycle above and can actually be illegal in some areas like the EU where GDPR comes in, regardless of it being a work situation. More on that later. This shift in working patterns and the fact that organizations in the UK have a total of nearly eight million people furloughed opens up the opportunity when redesigning operating and business models to use a contingent workforce. The uberization of the workforce managed through new contingent workforce platforms – places where worker supply and demand is managed – means that they can pick and choose when they want to work, and organizations will need to provide capacity, systems and processes to enable this to happen. This shift is beneficial to both employer and employee. All this enables employees to work when they want, where they want and in a more happy, healthy way.

The shift in ways of working

We have already seen the physical shift in the workforce to a widespread working-from-home model. Data^{xiii} shows that it is highly likely we will not see this return to pre-pandemic levels where almost half the working population will remain at home at least half the week in a post pandemic world. This opens up a number of opportunities and issues in the physical, digital and human workplaces.

Working at home has made individuals re-think their relationship with work and how they want to continue working. For most, there is no decision or change,

they need to work, and it would cause them significant hardship should that job be lost. They have limited say in how they will work in the future but do still have a voice. Typically, they fall into several categories, one being physical work that requires hands-on, in-person interaction with a product or service. Manufacturing, logistics hospitality and retail typically fall into this category. For these workers, it is unlikely that much will change in terms of process or interaction. However, the way they interact with services, and the services they provide most certainly will.

Through a move to digital supply and consumption models for services, these workers will still go through changes in physical, digital and human workplaces. As this chapter is being written, 25,000 people have now been put at risk through the collapse of Arcadia Group^{xiv} and Debenhams^{xv}. About 12,000 jobs have been eliminated at two^{xvi} major^{xvii} U.K. airlines, and 9,000 have disappeared at major U.K. hotel chains such as Hilton^{xviii}, Marriott^{xix} and Premier Inn^{xx}.

The main reason is that these organizations offer products that are typically consumed in a physical way, but those like Debenhams and other retailers failed to shift quickly enough to a digital delivery model, instead requiring staff to operate from physical brick-and-mortar stores, which had high rental costs and reduced customer traffic. That equation was unsustainable even before coronavirus hit. This should be a strong signal that the role of retail needs a strong digital presence and supply chain, which allows retailers to adapt and pivot in what they offer and provide. To do that, we will need to see a shift in people who would normally have been behind a counter to working from home providing services in new ways.

Like those who already work at home due to the pandemic, retail employees have seen a change in the way they work and how they deliver to the end customer. Currys, a large U.K. electronics retailer has weathered the financial storm better than most despite having large supercenters from where they sell goods. A significant move online and now the presence of web-based customer service agents who you can see and speak to live about the products has brought the in-store customer experience online and enables customers to consume Currys' services safely, quickly and at their leisure. This is a great example of how an organization has used digital to adapt its physical workplace to include the digital customer

experience through digital workplace change. Fundamental to that change is having the employees working at home through changes to the human workplace.

What work needs done

As described in chapter one, some organizations adapted quickly to enable employees to work at home while boiling the issue down to its fundamental components. As a result, in many cases, organizations simply moved the base of operations to a remote location to enable important processes to continue where possible. In some cases, this was clearly not possible, and problems became clear when existing processes and service delivery were attempted from home.

Imagine if over the last nine months employers had worked to identify the fundamental processes and services across each department, geography or business entity and worked with employees, through the use of data, to design what work is actually needed in the new business model. Previously, we looked at understanding how customer habits had changed over the pandemic, and this helps organizations re-design for the future while bringing the employees with them. The world has changed and so should the ways organizations deliver work, services or products.

How work is done

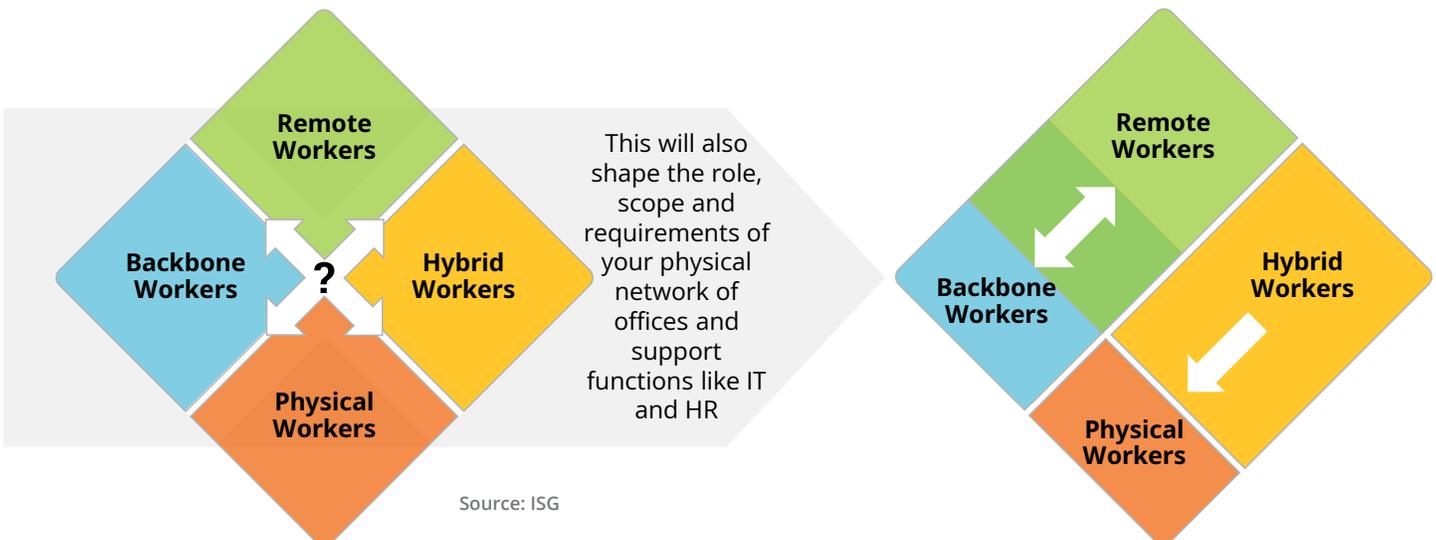
In chapter one, we discussed the types of employees that will be needed in the future operations of post pandemic organizations. These types, shown below,

have different needs and requirements and it is only through understanding what those are, will organizations be successful in determining the next steps.

Some workers are now used to remote work but will need new technology to remain working remotely. Hybrid workers who now want flexibility will need to fit into new processes and ways of working, which also needs to take their wishes into account. These two categories of people will need training and upskilling to successfully move to that mode of operation as the workforce becomes more skill-dependant rather than hierarchical or process driven. The workforce of the future is diverse demographically and geographically.

Where people work

The concept of an office has changed and may need to be entirely rethought and transformed for a post COVID-19 world. As we have already seen in ISG's Future Workplace framework earlier in this eBook, organizations will need to assess their use of central physical properties and have a strategy for its use given it is likely that it will be leased for a considerable time. Organizations will need to adapt workspaces to enable a safe and trackable workspace for those who do want to return to the office and also for facilities to support the kinds of interactions that cannot happen remotely. If the primary purpose of an organization's space is to accommodate specific moments of collaboration rather than individual work, then this needs to be designed in with careful consideration to employee needs and requirements all designed around the new future customer experience. In the new future, customers will consume products and



services in different ways, and employees will need to deliver in new ways, which in turn drives the human workplace and physical workplace.

The outcome of this thinking might mean that employee types are moved into the remote worker bucket as they no longer need to work in a central location full time or even at all. An organization's talent can now effectively live anywhere they want if the right physical and digital workplaces are provided. This means they have the power to enhance the business and their personal health through a rethink in the way they work.

One possible future, which is backed up by the data, suggests that many employees will work from home for at least two to three days per week and make infrequent trips to the office or a collaboration location to meet colleagues. Organizations will need to develop new cultures of people management to ensure that this approach is a winning proposition for both employers and employees. This will create profound effects on the quality of work for the business and the quality of life for the employee as well as opening up potential future cost models for how organizations pay for talent. This thinking is why the ISG future workplace is a cycle, with one discussion leading to another regardless of where someone starts on the wheel.

Uberization of the workforce, the rise of the gig economy

The pandemic has created the ultimate surge in the contingent workforce. The uberization of the workforce (meaning employees work when they want to) has come about because work is no longer tied to a central location. As we have heard, hundreds of millions of workers were displaced during the pandemic, and this has meant that it makes almost no difference whether someone in India, Israel or Ireland provides the work an organization needs. Mobile and collaboration technology has driven the location out of the delivery equation. It means that we now have a globalized talent pool from which to choose. If you have ever boarded a plane and seen the cabin crew saying hello to each other and discussing their different routes, this is because they are a temporary crew for that leg of the trip, not a permanent team.

They need to build trust and teamwork for your safety. And, like a cabin crew, trust between gig employees with no common history or access to knowledge repositories will be critical to delivering in the new normal successfully.

It is estimated that there are currently 78 million freelancers^{xxi} worldwide, and this number is expected to grow. Added to this, we can now increase the workforce through a more inclusive set of requirements this pool will expand significantly. These workers will become outcome based rather than salaried and we have seen a doubling of the number of gig workers in the U.K. just prior to the pandemic^{xxii}. The CIPD, an HR professional organization, estimates that four in 10 furloughed workers^{xxiii} will likely lose their jobs in the next 12 months and that many on the furlough scheme have indeed re-evaluated the way they want to work in the future, now focusing on gig-type work, which provides a better work life/balance and the ability to work from anywhere. This is only possible, however, through the rapid expansion of collaboration technology, part of the digital workplace becoming embedded into the human and physical workplaces. The digital technology augments the human and is embedded into physical infrastructure to ensure connectivity thus ensuring both resiliency and flexibility, providing opportunities for creativity, rather than just efficiency.

Technology Integration

Advances in technology will continue to push the future of work agenda and make it even simpler and faster to work from anywhere at any time. The CEO of Vodafone was interviewed^{xxiv} on this subject, and the company's thinking mirrors that of ISG. The CEO is quoted as saying that telecommunications industry sees a more virtual and automated work environment in the future through the integration of 5G networks and connected machines that enable a true virtualized and instant virtual workplace. ISG calls this the digital workplace.

Employees afforded the ability to interact with AI-powered assistants can do many things, from preparing smart facilities and prepping whiteboard presentations to incorporating virtual reality headsets that put them at the table of a morning meeting with

co-workers around the world. Indeed, at the time of writing this, the author became aware of Disguise XR^{xxv}, which uses augmented reality to insert a 3D version of an employee into a collaborative workspace or meeting. This technology enables the collaborative experience to be further enhanced and will improve the issues employees face working at home that we discuss later in this e-book.

Generational expectations and differences

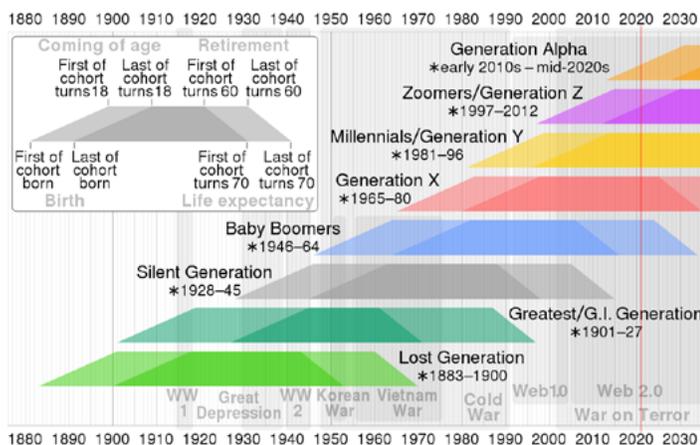
This is a key issue that most organizations have yet to take account of. The Society for Human Resource Management^{xxvi} suggests that there are five generations, from Silent to Gen Z, working in organizations today, and they all have different needs. However, a thorough analysis^{xxvii} of 20 independent studies on generational groups of over 20,000 people cited by HBR shows that there are inconsistent differences in job attitudes when comparing generational groups. This is fine when looking at the end-to-end career of each group, but over the short term, there are indeed differences in the grouped generations. The generations shown below are classed as:

- **Generation X** – people born between 1965 to 1980
- **Millennial** – people born between 1981 to 1996
- **Generation Z** – people born between 1997 to 2012

Within the workplace, there are trends within each group that need to be taken into account in a post COVID-19 world. Most of the Millennials and Gen Z people coming into the workplace have been sold a dream. For many, a number of years at a university or college has led to a desire to enter a particular field or industry. However, most industries are changing and changing rapidly. Considering the recruiting processes of large corporates, a focus is on collaboration, white boards, digital tech, and the ability to create, which is brought to the fore on almost all occasions. But how are they going to achieve this when everyone must work at home?

Therefore, organizations that employ multi-generational staff need to provide a future workplace with work modalities that offer alternatives while the employees can still have common ground to collaborate. For instance, let us look at the use of email, a staple of the world of work. Research has found that there are large differences in the way Millennials and Gen Z (just to compare two groups) use email. Gen Z does use email and about 50 percent look at it once a day at least. But only 14.4 percent^{xxviii} of them use it as a primary tool for work, while 64.9 percent use it for personal communication. They are not abandoning email, just using it in other ways. Therefore, despite their preference for social and immediate communication tools, there will need to be a culture change in the organization to deploy and use new technologies in a way that is useful for all and not just one group, or we will lose the inclusiveness of the workplace whether remote or in person.

Global surveys have been undertaken during and after the pandemic by several research companies. In one industry-leading survey of nearly 3,000 people globally^{xxix}, it was clear that there are differences between the generations in how successfully each group is working from home. The data showed that while approximately 70 percent of Silent, Baby Boomer and Gen Xers were working from home, this tailed off to approximately 60 percent for Millennials and 45 percent for Gen Z.

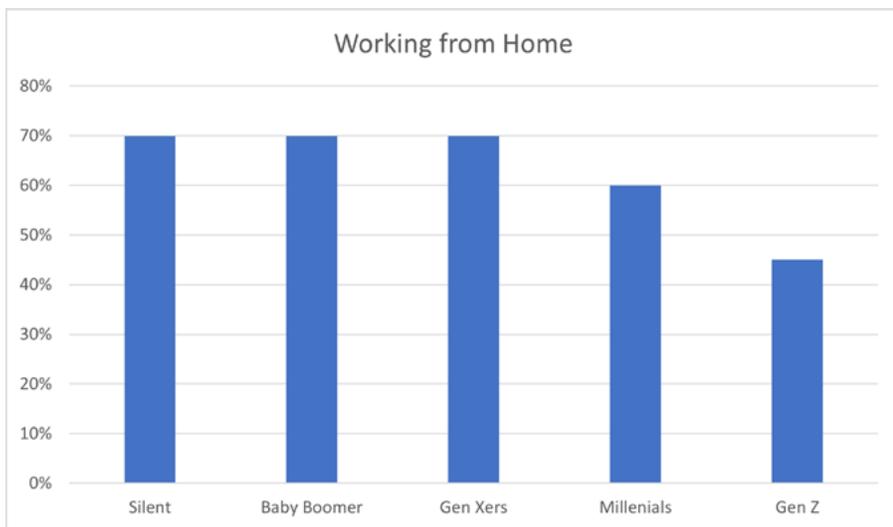


Source: https://en.wikipedia.org/wiki/Generation_Z

- **Silent Generation** – people born between 1928 to 1945
- **Baby Boomers** – people born after World War 2, between 1946 to 1964

This same pattern continued when workers were asked if they had access to everything they needed to be successful at home. This is an interesting perspective in that **the younger generation is less successful at home**. Indeed, the survey continued to ask how many days they would wish to continue working from home and the same tail off pattern occurred only this time with a

reduced number of days at home. Boomers, Gen X and Millennials wanted to work from home two to three days a week, but Gen Z resoundingly were closer to one. A separate global survey revealed an interesting difference between the generations as they worked during the pandemic: Millennials were almost twice as likely as Boomers to feel positive about their employer based on the technology and support that the employer provided to enable working from home^{xxx}.

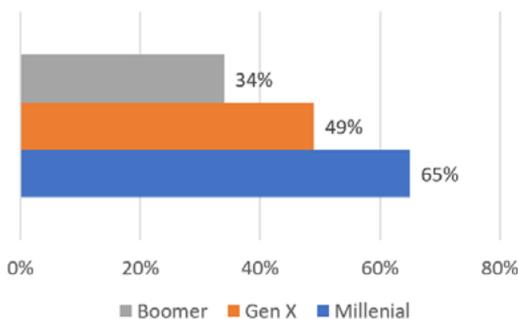


This shows the nature of Generation Zers to work and thrive when working in collaborative environments, and organizations must take this information into account when planning. It could be due to the social side of the different generations or it could be a training issue when considering that younger workers felt less successful and had limited access to work items remotely. Their view of working from home will improve only through an improvement in technology deployed at home to bridge these gaps and improve the “feeling of connectedness” at home.

Source: Unisys Future of Work Survey, IDC, November 2020, Employee Respondents, N=558

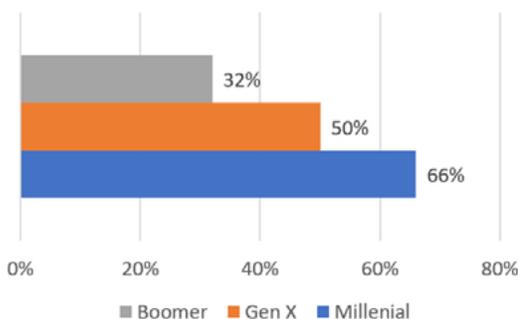
How does the technology support you get at work make you feel about your employer?

It makes me feel positive about my job and/or feel proud to be working for my employer



How does the technology you use at work make you feel about your employer?

It makes me feel positive about my job and/or feel proud to be working for my employer



Source: Unisys Future of Work Survey, IDC, November 2020, Employee Respondents, N=558

Trends in how work might change

By 2028, 73 percent of all departments at organizations will have remote workers^{xxxix}. Today, millennials and Gen Z workers make up only 38 percent of the workforce, but in 2028, they will amount to 58 percent^{xxxix}. Because of that, it is no wonder that almost three-quarters of companies will employ some remote workers, while 33 percent of workers will be fully remote by 2028. At the current time, 16 percent of companies like Appen, a technology services company headquartered in Australia, exclusively hire remote workers. This is why Appen ranks first on the Forbes^{xxxiii} list of global top 100 companies with remote working. Others on the list include UnitedHealth Group at number 11, Humana at number 15, Dell at number 19, SAP at number 23, Amazon at number 24 and the list^{xxxiv} goes on with Philips, Hilton, Salesforce, GitLab, Gartner, Wells Fargo, etc. According to Owl Labs^{xxxv}, 44 percent of global companies still do not allow remote work, but 16 percent of them are actually 100 percent remote companies.

Given the experience we have had working from home, it is clear it is here to stay. A survey by CBRE^{xxxvi} shows that 69 percent of millennials would give up other work benefits for a more flexible working space. This is one of several critical statistics as this impacts the employee value proposition, which means human resources departments need to think about the offers companies make to new employees. This is an important point we will cover shortly. **Health and safety at the home office will still be office issues!**

The coronavirus pandemic reshaped tech priorities for 95 percent^{xxxvii} of companies, but such is the speed of change. Nearly half (47 percent) have frozen their IT budgets to steady the ship and plan to spend based on required changes. Yet, four in ten (41 percent) admit their remote working systems may be in breach of data privacy regulations^{xxxviii}. Almost half of IT leaders said they were increasing spending on managing remote network operations and increasing investments in the use of cloud-based management platforms. Also, almost four in five are looking at accelerating automation in response to coronavirus^{xxxix}.

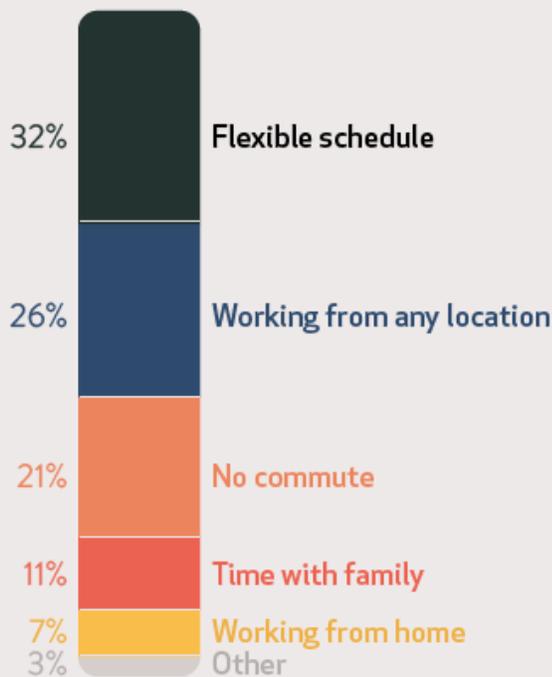
So overall key trends when properly planned and implemented will be:

1. A much more mobile and remote workforce with the proper tools and infrastructure at home. Employees in the U.S. respondents say they have personally spent an average of US \$348 to upgrade or improve technology while working at home due to COVID-19 –\$75 more than the global average (\$273), and the second highest among 10 markets surveyed^{xl}.
2. The ability to collaborate effectively – while most are able to work in a collaborative way, according to the world economic forum, almost one in five cite the ability to collaborate as one of their issues with working remotely^{xli}.
3. Technology that works seamlessly – more than 50 percent of employees surveyed said their employer needs to invest in better technology that enables them to be more effective^{xlii}.
4. Automation that assists daily life – as we have heard, more than 80 percent of companies are accelerating automation in response to COVID-19 but this has to include cognitive, AI and NLP-based automation^{xliii}.
5. The ability to become more flexible and look after health – a significant number of people identified by Forbes state that they place flexibility of work and their hours top of mind and over 40 percent said that their mental health has declined since the pandemic started^{xliv}. The pre-pandemic norm of standardization has given way to post pandemic flexibility and agility.

BENEFITS AND ISSUES WITH A REMOTE WORKFORCE

The benefits of having a remote workforce are fairly easy to ascertain, when properly managed. Buffer's state of remote work report, shown below, highlights what we have already described and many already know. The perception of having a flexible schedule that can be managed from anywhere due to not having to commute allows employees to have better work life balance from the comfort of their own homes, which basically covers 97 percent of the graphic below. This is the panacea, and for many, is the dream scenario. But for many, including managers and workers, there are issues that come from working at home.

TOP BENEFITS OF REMOTE WORKING



98%
would like to work remotely at least some of the time for the rest of their careers.

Source: Buffer – State of Remote Report



Source: Buffer - State of Remote Report

The same report highlights several challenges of remote work, including the inability to switch off and remain undistracted when working at home. The report identifies the key elements many workers report as having issues with when working at home over the long term. Issues that would never have cropped up in the traditional workplace now appear on action lists for employers to address. Some may appear minor but can have a significant effect. Isn't it odd that in a world of mass digital connectivity that almost **one in five at home workers struggle to communicate with others or, worse, feel lonely?**

It goes to show that as social animals, employees believe the human workplace is as important as the physical and digital workplaces that we showed in ISG's future workplace framework at the start of this book. We will delve into these issues shortly, but to

summarise, for many workers, the traditional working day was made of six segments where distinct things happened. These can be represented as:

1. Start of day personal time – get ready
2. Commute – prepare
3. Work – produce
4. Commute – down time
5. Family time – connect
6. Personal time – relax

For many, this was the ability to compartmentalize their daily lives and their work/life balance was easy to measure because work was separated. The infographic below shows nicely this summary in terms of what people like the most and least in working remotely.

Remote Work: The Good & the Bad

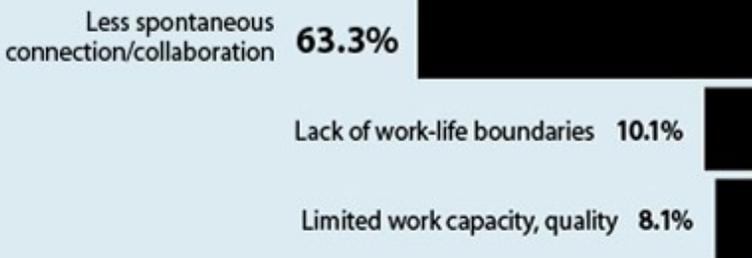
From what's missing to what's working—startup leaders and their teams reveal the best and worst parts of remote working, especially the work-from-home (WFH) life during lockdown.



The worst part of remote work?

The best part of remote work?

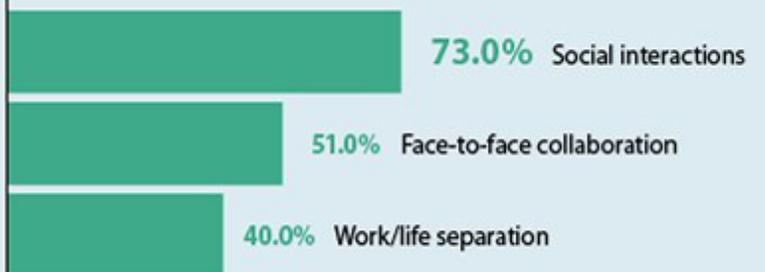
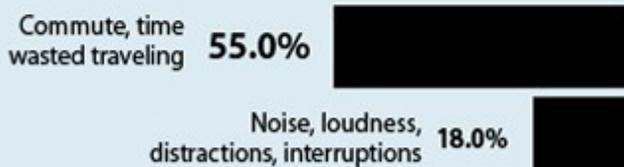
“Hard to focus in an environment that is also my ‘chilled out’ space.”



“Freedom and trust to do the job in a way that works better for my family life.”

What don't you miss about the office?

What do you miss about the office?



Note: Percentages do not add up to 100% as survey participants selected multiple options. Source: Founders Forum aggregated survey data, 400+ responses

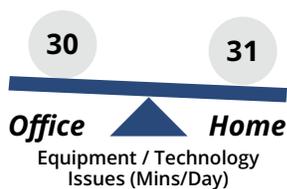


Now, the commute time has gone away, and collaboration technology has become back-to-back Microsoft Teams or Zoom meetings with little time to switch the employee's mindset between one call and another. Plus, when time zones are thrown into the mix now that we operate remotely in a global environment, the length of the day stretches, which can negatively impact family life.

Technology

One key point related to the benefits of remote work is that technology has enabled the workforce to work at home. Gone are the days where a mobile, internet connection and a laptop meant working from home. Now, working from home includes at a minimum, collaboration technology like Teams and cloud-based platforms, where multiple users can co-create documents, and workflow tools, plus the advent of the integration of automation into the remote workplace. Interestingly though, over 50 percent^{xiv} of employees who work remotely say their employer needs to invest in better technology because the current setup is not optimal. Also, when made to work at home 37 percent^{xvi} of IT leaders surveyed agree that employees did not have the right tools to enable the full ability to work at home when the transition was first made. This resulted in nearly 40 percent of employees having to partially or fully fund their own technology upgrades^{xvii}. This is an important point that we will cover later in this chapter because there are legal issues that need to be addressed.

On top of this, the efficiency of the technology tools didn't change. Global Workplace Analytics, in its survey of almost 3,000 people^{xviii} highlights that while the number of minutes per day lost to distractions fell from 78 to 43, the number of minutes on average per day dealing with IT issues remained pretty constant at roughly half an hour. Indeed, almost four in 10^{xix} IT support teams saw an increase in the number of support tickets from employees during the lockdown period of 2020. Issues still exist but they have changed and require multiple smaller help contacts due to the removal of quick, over-the-desk conversations. Now the only route is the help desk.



Employees have still had to endure IT failure and delay. Data shows that they have become self healing leading way to more proactive models of tech support

Source: <https://globalworkplaceanalytics.com/work-at-home-after-covid-19-our-forecast>

The issue of technology issues making working at home worse also surfaces in a number of surveys. As we saw in the infographic above, many employees, where cultures have not changed to take advantage of this new more flexible model have said that they are attending more meetings during the pandemic than when working in the office. The technology has also blurred the lines between the digital workplace and the human workplace with almost 60 percentⁱ of employees saying that they find it difficult to balance household and family demands while working from home, due to lack of cultural shift and a change in expectations of managers. Eighty-six percentⁱⁱ said that they felt like they needed to prove to management that they were actually working, resulting in blurred lines between work and personal time. Further on in this chapter we show how these lines have blurred.

The Employee

For employees, the shift to working at home began as an awakening for some and a nice shift in pace for others. Over the longer term, 80 percentⁱⁱⁱ of remote workers felt healthier, less tired, or more connected to their family since transitioning to remote work, and 85 percent, found advantages in remote work that make for a better work/life balance. This is borne out when one looks at the use of fitness applications and smart wearable devices. The diagram on the next page highlights some really interesting data, that in less than six months of the pandemic, the growth of their use across the globe was a nearly 50 percent increase.



Source: Visual Capitalist

Health and wellbeing are highly important to a positive productivity cycle.

The myths and reality

As we have already described in this chapter, there are a number of myths and realities to a post-pandemic workforce and its ability to deliver in the new future. The graphic on the following page offers an interesting view and brings out a number of key discussion points. It represents a significant number of jobs in lots of industries, cross referenced by risk to COVID-19 vs. average pay in U.S. dollars. The colors represent a split of healthcare and non-healthcare roles. On the right of the chart are all the medical professions that are typically most at risk. But also scattered in there are the non-medical roles that require physical contact to use a service or product. We discussed this earlier in the worker types of the future and noted that there will be people, most likely in the physical category, who will be unable to fundamentally shift their way of working in terms of services delivered, but may through digital tech. These are also shown here, and industry leaders need to think about how their industries will adapt to ensure, first, their survival, but, secondly, how they will bounce back and work in a much more digital, remote and clinical world.

The other area of interest is that the office, IT, management, and service delivery roles all typically fall on the left side of the graphic, which is shown as low to medium risk. This clearly shows that these operations can and must adapt and adapt quickly.

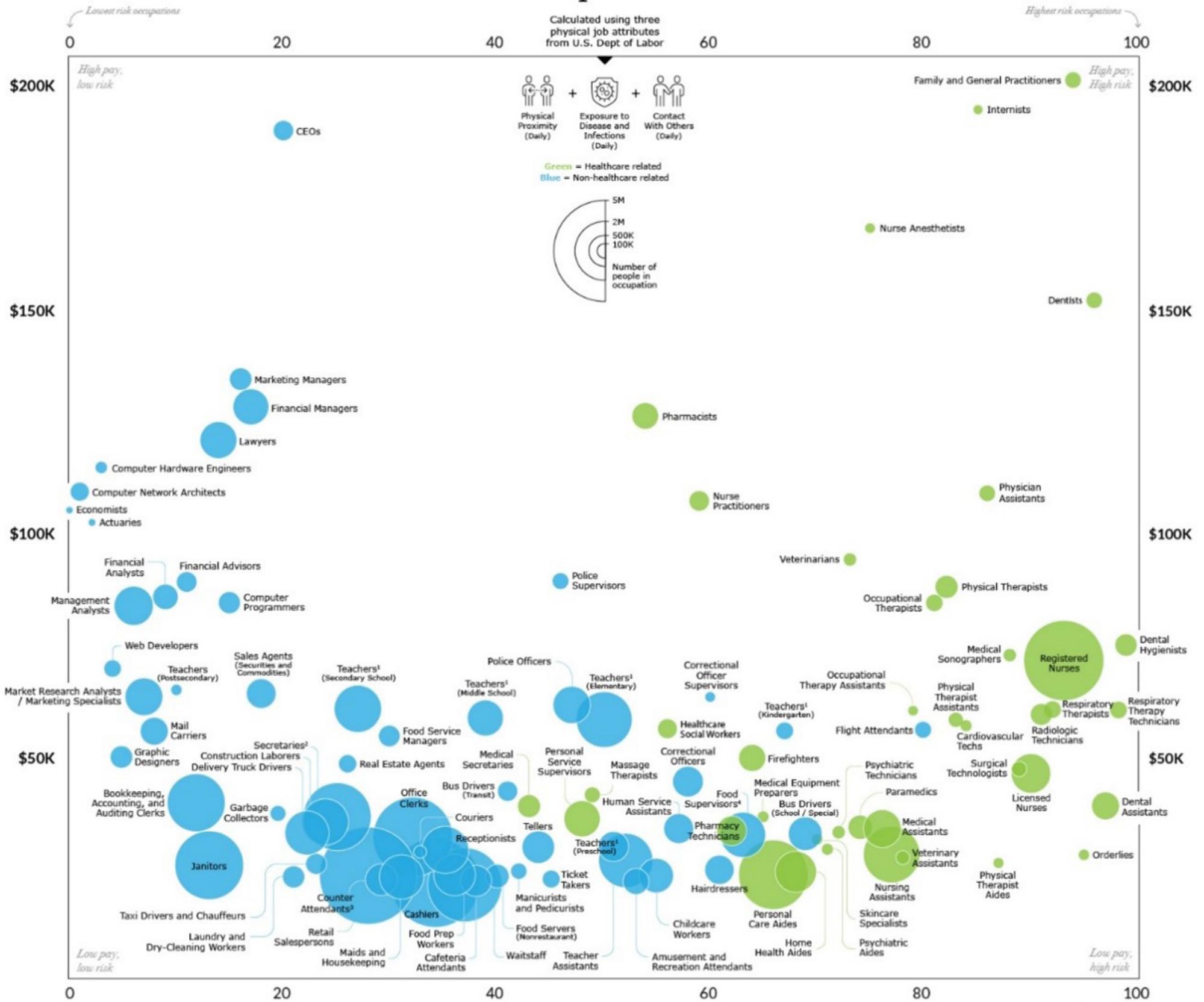
Given the ongoing risk posed by COVID-19, there is no reason that these industries shouldn't move to a more mobile workforce in the main, which will reduce the contact risk and will enable a safe and secure physical workplace. ISG highlights this as a key to our future workplace framework shown previously.

Productivity

Productivity is a frequently discussed topic related to remote work, and to the uninformed, it simply goes like this: We send you home, and you do not need to travel, so you have more time and can fill that time with more work. Therefore, we get more done in the same effective net time, which equals a more productive workforce. This may be true for the most part, **but productivity is better measured in terms of the ability to produce the same amount of work in less time because wasteful activity has been removed.** Then the remaining time can be analyzed and filled with other work. The infographic below from Founders Forum, shows that while working from home may result in fewer distractions, as we mentioned already, the ability to balance time is becoming harder. We say may result in fewer distractions, because it comes down to personal situation with many employees working side by side or even with their children causing distractions. It comes down to emotional input and physical stress.

Later, we briefly discuss the psychology of how humans work in shorter, sharper bursts and that the new constant way of working has taken a toll on productivity and physical and mental wellbeing. The graphic clearly shows that while 56 percent of workers found that they were more productive, almost three quarters of them also found that their hours had either stayed the same or increased with more than 55 percent saying they had increased. There is further evidence of this from Microsoft's Office 365 and Teams divisions, which highlight that weekend work is growing exponentially with the number of Teams chats on Saturday and Sundays increasing over 200 percentⁱⁱⁱⁱ in recent months. This is not a sign of productivity, rather a reduction in capacity, which will likely be brought on through poor health and wellbeing management. We explore this concept and show why in the next section.

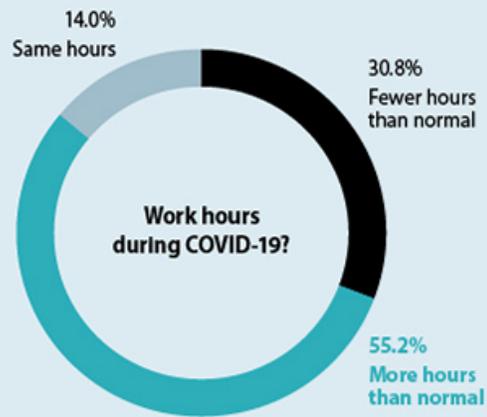
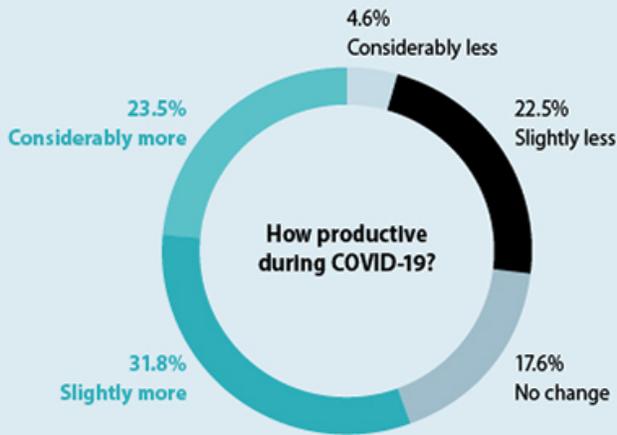
COVID-19 Occupational Risk Score



Source: Visual Capitalist

How Productive is Remote Work?

While many find working from home more productive, it's also harder to balance that time.



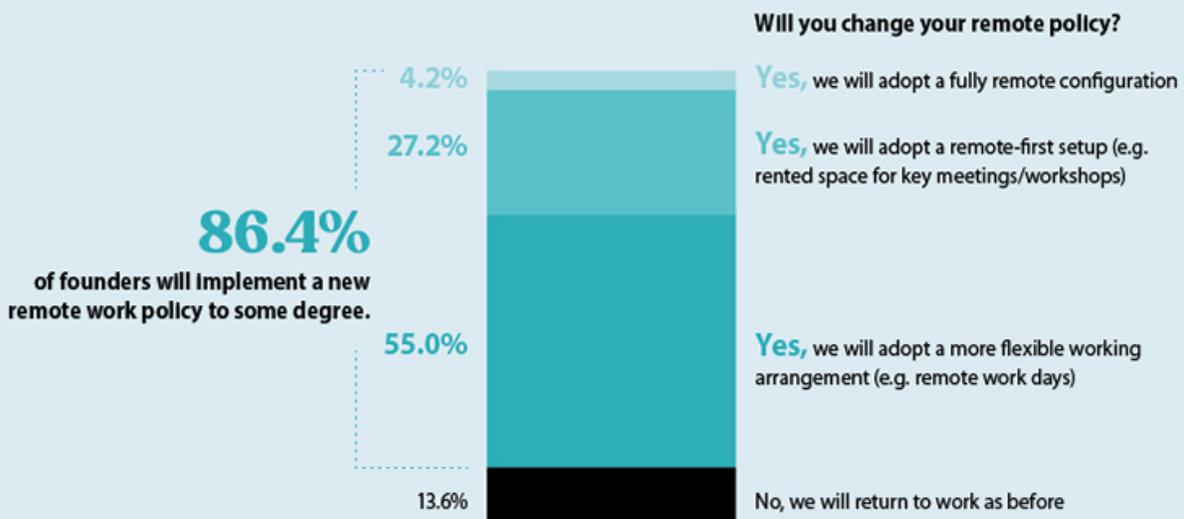
How effectively do people feel they can do the following activities remotely?

Scale of 0-5 (Average score per job role)

A majority of those surveyed rely on digital tools as their 'secret productivity weapons', such as Zoom and Slack.



	Board/C-Suite/SVP	Founder/CEO	Jr team member	Management below C-Suite	PA/EA
Work I do remotely is equally trusted and respected	4.3	4.4	4.4	4.2	4.5
Individual focus work	4.7	4.5	4.5	4.5	4.7
Small group collaboration	3.5	3.7	4.0	3.9	4.3
Large group collaboration	2.7	2.8	2.9	2.9	3.8
Informal Interactions	3.3	2.8	3.3	3.3	4.2
Client/customer interactions	3.9	3.7	3.7	3.9	3.7
Train/onboard others	3.3	2.7	3.3	3.3	2.8
Learn from colleagues	3.4	3.0	3.5	3.2	3.3
Mentor colleagues	3.6	3.1	3.2	3.2	3.7
Doesn't hinder new career and advancement opportunities	3.3	3.3	2.9	3.0	3.8
Conduct video calls with sufficient internet	4.2	4.0	4.1	4.1	4.8
Good ergonomic setup	3.2	3.0	3.1	2.6	3.3



Source: Founders Forum aggregated survey data, 400+ responses



Trends in time

As we have already seen in this chapter, there has been concern over a shift in the management of time. This flows from the apparent expectations from management that cause employees to feel concerned for their roles or to show output rather than just doing a good job. This has resulted in the merging of work and personal time across what we call **the grey commute** that existed before. ISG has modelled this in terms of a typical day to explain the issues, and it is clear to see that as per survey data already cited, the commute time has completely been replaced by in-work time. We can also see that non-productive time has been reduced thanks to the use of automation tools and a reduction in disturbances when at home.

Time spent on health has increased, which is a positive indicator, however this positive increase along with a significant increase in work time (remember this doesn't mean it is productive) has resulted in a net decrease in family or down time. When one sees these effects joined together, the story of the future of work and the issues being highlighted by surveyed employees becomes clear. For this new future to succeed, organizations must install a clear change in culture, respect for time and health in the shift to remote working. We will later touch on the use of cognitive assistants, which remove some non-productive time, but this is only a start. Only through the overall view of what time is made up of, can an organization truly improve the work-at-home experience.

A positive spiral is one in which workers use freed up time to grow and become healthier because happier, healthier employees work better, faster and more productively. When improperly implemented, this becomes a negative spiral where time is encroached upon, driving choices and stress, which reduces quality of work and quality of life. It's important for organizations correctly address cultural change, rethink the way people are managed, manage performance along with providing remote work capabilities.

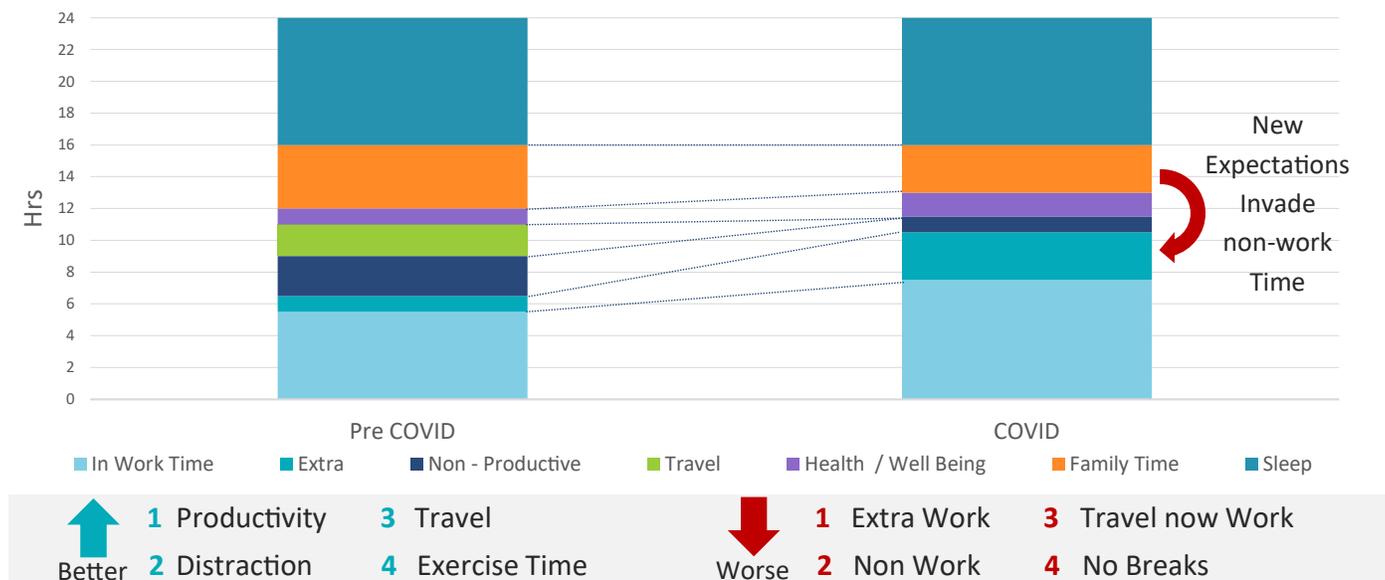
Non-IT Benefits

There are a number of non-IT focused benefits that need to be considered when employees work at home. ISG has worked up a benchmarking calculator that helps organizations understand what this can produce and is broken down into a number of areas:

Non-cashable productivity through health and wellbeing

When employees are given time to be healthy in mind as well as body, research and psychology shows us that they are more focused and more productive. A study cited already by [Global Workplace Analytics](#) tells us that employees who have reduced stress, better flexibility, eat healthier and have time to increase exercise are approximately one fifth more productive^{liv} than others. When ISG calculated this using the OECD's benchmarks for human capital, as can be seen in the diagram above,

Changes in Daily Life



Source: ISG

Flexibility in Balancing Work / Non-Work



Reduction in Stress



Healthier Employees typically show increase in Productivity



Well-Being

Well-Being drives Productivity



Able to Eat Healthier



Increase Exercise

Increase in Productivity

Opportunity \$1.5m Per 100 Employees

Av OECD Employee Cost - \$70k Working Day - 8hrs for 260 Days Av Cost per hr. - \$33.65/hr. Av improvement - 1.7hrs Av cost opportunity - \$14,875/yr.

Source: ISG and Global Workplace Analytics

there is approximately \$1.5 million of human capital that can be repurposed per 100 employees in the organization. This is significant.

Environmental

With a reduction in travel, the planet sees a near one-ton reduction in carbon dioxide emissions per year per employee when using the European Union's Eurostat data for cars and commuting. We discussed in chapter one that during the pandemic China and Northern Italy saw near 100 percent reductions in nitrogen dioxide emissions through reduced traffic - with nitrogen dioxide being one of the major factors in respiratory disease. Now that we have a remote workforce, corporate sustainability targets can be ratcheted up through reduced travel.



Average Reduction in CO2 emissions through travel assuming 122.1g/km of CO2 and 58km daily in Europe

And this goes even further when we move from desktop and office-based computing is taken into account. The average reduction in power consumption when moving from desktops to mobile devices is 80 percent, which for most organizations is a significant operating expense cost savings.

Financial

Both employer and employee see financial benefits from a work-at-home model. Employees typically save through a reduced cost of travel, a reduction in

spending on during office days on lunches and ad hoc coffees (remember those?), which amounts to an average of \$3,500 per year.



Possible saving to employee from working at home through reduced travel (inc. power increase etc to work at home)

Likewise, employers see financial benefits. It is estimated that an employer would save approximately \$10,000 per employee per year for those who work at home part time. This is through a reduction on facilities costs, absences (remember, employees are healthier from more exercise and social distancing), turnover costs through attrition, plus the costs of things like furniture and corporate real estate (CRE) management costs.



Typical saving from moving an employee to home working 50% of their time

Equality and access to a wider all-inclusive workforce

COVID-19 has an impact on two key areas where there has been both an issue and a benefit. In one sense, the pandemic has exacerbated inequality, and in another it has opened up opportunity for employers to be much more inclusive. Care must be taken when designing new human workplace-centric operating models to make sure that limitations and opportunities are taken into account in equal measure. Embedding new hires

and those who are new to working at home into a remote culture as part of an onboarding process will increase the feeling of inclusion. Those employers that do this well will see their popularity among prospective employees go up and will likely be the ones who have implemented everything in this chapter!

Gender

Gender inequality is an issue that existed before the pandemic, and certain industries were tackling the issues of pay equality and parity in recruitment. Research^{iv} shows that women make up 39 percent of global employment but account for 54 percent of overall job losses due to the pandemic. One reason for this greater effect on women is that due to people working at home and having to juggle work and home life, the virus has significantly increased the burden of unpaid childcare, which is disproportionately carried by women. This, among other factors, means that women's employment is dropping faster than average, even accounting for the fact that women and men work in different sectors. An organization's future-of-work plan needs to take into account the fact that this inequality exists, and to be fair, the plan needs to be gender agnostic and ensure that organizations meet the needs of their employees to do the work they need to do. This can be through flexible working time, provision of technical solutions to remove waste or through digital support and collaboration using remote teams.

Ability

This heading has been left deliberately vague because it covers a multitude of areas. Everything from physical ability to professional ability is covered in this section.

This is a huge upside for businesses globally. Linked to the uberization of employees, the entire world's workforce is now considered here. No longer does physical ability hamper one's ability to work at a physical location or for a particular firm. No longer will we care where people are based, only that they are skilled and available. Therefore, people who may have felt inhibited from certain types of work now have the opportunity to further knock down those barriers and provide work remotely. While this may seem to make the world of work "faceless", to some extent, the future of work is a production-based environment where the best are employed to produce, rather than the best who area able to work where we need them. This means that regardless of physical ability, the talent pool has expanded enormously and when we discussed the contingent workforce or uberization of employees, this is where the benefit comes in.

Now in areas of competency, again, we have upside. The digitization of the workforce has enabled non-productive time in areas like training to be reduced. For example, Walmart^{vi} has introduced virtual reality training using VR headsets to train employees in standard procedures. The company has seen a reduction in training time and travel to centers by over 85 percent with a significant uptick in quality of employee performance because all attendees are trained to the same level by the same digital trainer. In manufacturing, for example, this approach when combined with AR, would be a massive help to design human muscle memory into a system so new recruits in an assembly line or manual job can see, do and learn using connected technology. When they hit the real thing, it becomes second nature!



Source: Global Workplace Analytics

Work-at-home legal issues and liabilities

Before we move on to the technology that is needed to help ensure a happier healthier workforce that can collaborate, there are a couple of areas that are causing confusion among a number of employers or have not been thought through completely yet.

Industrial accidents and provision of a safe environment

According to recent research^{lvii} more than half of employers worldwide do not realize that through having employees based from home, they have created home offices that they are liable for. The beginning of this ebook began by noting the creation of millions of new offices. Employers are now liable for these and need to ensure that employee health and safety is managed. One single industrial accident – yes that’s what it’s called – for worker compensation could instead provide at-home office chairs for 350 employees, so this needs to be taken seriously.

If we refer back to some of the benefits and issues, we discussed the fact that workers are typically spending their own money to provide at home equipment, which often lacks ergonomic design and therefore more likely prone to causing repetitive motion injuries. On the flip side, employers have reduced physical workspace needs and this includes things like office furniture. For those who have not already joined the dots, one option is to move the existing ergonomic furniture to the home office. Data shows that organizations will continue to amortise the capital cost of this furniture and write it off over time, so there is no liability to the employee or employer. Other employers are reducing capacity so they don’t own the furniture and are offering stipends for at-home furniture, typically between \$500 and \$1,000. These stipends are intended to allow employees to buy items of a certain standard but gives them choice. No longer is the kitchen table going to be used when it can create back strain, eye strain and other physical issues through poor setup. This is one of the main issues being looked at by facilities organizations

with new commercial-grade packages being offered. As calculated in the research, the business case is straightforward. Using the calculated productivity improvement above, if 34 seconds a day are saved, the average employer would break even in less than two and a half hours of use!

Employee data collection and monitoring

With workers now delivering from home, management continues to worry about future delivery of work products and taking that major step in many cases. The diagram on the next page shows the key concerns of managers.

This has led to an increase in the use of workplace monitoring and surveillance technologies. Monitoring and surveillance in the workplace involve any form of observation or supervision of workers. In recent years, software that monitors internet use, calendar use, and keyboard strokes has become more commonplace. Spot checks or active monitoring (for example, randomly scanning emails for keywords or phrases) can now be carried out using modern software. Used in the right way along with sentiment analysis, which we will discuss later, can help organizations monitor employee activity.

However, and it is a big however, monitoring in the home is considered to be highly invasive. Legal viewpoints as quoted in the CIPD^{lviii} state that software that records videos or monitors audio is likely to cross the line of privacy that employees expect when working from home. Other technologies such as screen capture and keyboard tracking are also likely to be considered overly intrusive. Organizations should not use technology to scan or access personal files of employees, nor should security (for example, anti-virus software) actively access these files. This again is highly inappropriate.



COVID-19 has accelerated the monitoring of remote workers and the collection of employee health and safety data

TOP CONCERNS OF MANAGERS OF REMOTE TEAMS

Managers' biggest concerns with remote work are reduced focus and productivity in their teams.



Source: OWL Labs

The likely outcome is that employers rushing into adopting new monitoring practices may risk breaching employees' fundamental rights to privacy. Of concern is the legal ramifications resulting from any breach of the growing list of data protection laws appearing in multiple countries and states, such as Europe's General Data Protection Regulation, Brazil's General Data Protection Law, or California's Consumer Privacy Act). In addition to the legal concerns, employee trust, wellbeing and morale can also be severely affected. Earlier this year, a high-profile case at Barclays^{lix} highlighted the risks associated with employee monitoring. This hit the headlines and corporate review sites like Glassdoor, which can result in negative brand among potential employees. New technologies, while promising greater management and insights, can have a serious impact on trust, employee relations, and employee morale.

HOW HUMANS ACTUALLY WORK

Historically, humans had a simple but hard job: hunt and gather enough food to survive. These acts of survival, which were once part of daily life for hundreds of thousands of years, have, in evolutionary terms, just recently been replaced. Since food is in high abundance, daily survival isn't a concern in the developed world – or wasn't until COVID-19 hit. Our daily lives have a slightly different focus in the world of work. Modern work is divided into outputs, projects, products, productivity goals, achieving KPIs, etc., across industries and companies, with hundreds of departments that employ unlimited types of roles.

New challenges now faced

The human is wired^{ix} to be part of a team ever since the time of cavemen when they hunted together. Humans are innately social creatures who thrive on collaboration and connection. Therefore, remote working and the challenges it brings needs to address the in-built craving that humans have to explore, connect and socialize. In the modern work world, we call this collaboration and teamwork, so the concept of teams is challenged with remote work. How will teamwork and human to human connection be maintained, and how will we deal with the continual assault of required input without breaks over a longer day? What do we mean by that? As we have seen in this chapter, the workday seems to have got longer despite the activities like commuting reducing. This means that work volume and not necessarily productivity has increased.

Zoom fatigue

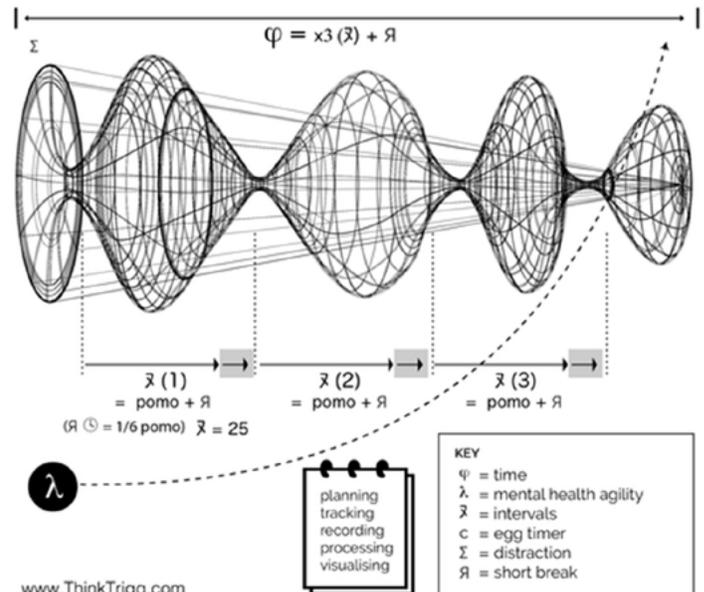
Zoom fatigue – caused by back-to-back meetings and no-rest days is how remote users have complained about a remote working situation. Also, time-zone work has increased zoom fatigue to the point where employees even need to ask for bathroom breaks– a practice that previously disappeared from high-pressure shop floor environments! Due to high levels of sustained concentration, fatigue begins to set in 30 to 40 minutes into a video meeting. Looking at days filled with video meetings, stress begins to set in at about two hours into the day^{xi}. Data^{xii} shows that employees working from home were logging extra hours every single day, ranging from two hours in the UK three hours in the U.S. This represents between 25 percent and 38 percent increases in the volume of daily time spent working with no correlation as to whether it is productive or not. This is a negative productivity cycle, a topic we cover later.

Human behavior and the psychology of continual work

Humans work best in short, sharp bursts. The Pomodoro Technique^{xiii} is as old as the rest of the productivity movement put together. The psychology

says that the most effective way for driving productive work is to set a timer for at least 20 mins, remove all distractions and work through a set body of work until the signal. There is even a formula behind it!

Figure 6: The Pomodoro Technique



Source: ThinkTrigg

In reality, this isn't possible in the modern world, but neither are constant calls and delivery. Therefore, psychologists suggest that hour meetings should become 45 minutes with a 15-minute break to prepare and re-energize and 30-minute meetings should be 20 to 30 minutes. This way, we all become more productive. This is a fundamental shift for workforces and will require new culture, governance and performance management procedures.

HOW TECHNOLOGY HAS SUPPORTED THE MOVE

Technology is critical in the success of a move to remote working. Without it, there would be no remote working. ISG created the Future Workplace mosaic, which identifies 36 technology types that are needed in the new future workplace. Supporting the physical, digital, and human workplace transformation, each of the 36 technologies has one focal support point.



Source: ISG

Broken down into six digestible sections, the mosaic identifies how each of the technologies will support the future of work whether remotely or integrating remote workers into physical environments. These areas are:

1. Location flexibility - Employees will be able to work at multiple locations. This means that through the organization embracing a digitally elastic operating model and the acceptance of new behaviors, businesses can deliver more productively while providing an improved customer experience. The use of data and analytics tools will assist the hybrid workforce which can be flexed at short notice to address peaks in demand.
2. Integrated autonomy – This means the ability to assist the workforce. Embedding robotic process automation, AI and machine learning algorithms across the enterprise, including in the back office, will keep productivity high and ensure employees are at their most effective. When embedded end to end, it will provide further insight into customer behavior and enable further “shift left” activity to drive customers to self-service in new hybrid models.
3. Always On IT – Always on IT will be just that. Having capabilities in the cloud will ensure that employees can always access their work and deliver to the customer. Having digital channels hosted on cloud-based platforms ensures that revenue

streams remain unhindered. In the back office, through the use of new automation tools such as sentiment analysis and just in time principles, IT departments can ensure that a seamless service is offered while proactively delivering problem solving capabilities.

4. Digitally Connected – This covers digital connectivity with colleagues and customers. Making work and interactions easier for employees and customers drives up adoption and provides a more seamless customer experience. Offering new innovative and simple interactions with customers like video support, messaging and chat support in more cost-effective environments – such as the employee’s home – ensures a win-win for customer and company.
5. Collaboration and social – This is key. The provision of a collaborative environment means higher productivity in shorter sharper bursts. When based in employee-friendly locations, this also improves work life balance. Delivering these tools to employees provides a better and a stickier customer experience resulting in higher satisfaction.
6. Adaptable workspaces – With the experience based on COVID-19, no longer will office space be packed with rows of desks when cost analysis shows that operating from home with the right technology and employee support will be cheaper and more cost effective. Expensive office space will become much more adaptable and used for true collaboration. In the front office, organizations may see significant reduction in contact center size and shape, but overall a more open and collaborative space, which is adaptable to the business needs, will emerge.

Technology that underpins all of the above is needed to ensure **the three Cs – connect, communicate and collaborate**. When executed poorly, remote work can harm a company’s productivity, effectiveness, and culture. With one of the most cited issues with working from home being the inability for spontaneous collaboration among colleagues, the danger of an ineffective workforce could lead to significant consequences in terms of operational inefficiencies, lost revenue, and even reputational damage.

Tech issues have not gone away

As we have already discussed in this chapter, on average, employees still spend the same time on tech issues but number of tickets has increased – 43 percent^{xiv} of organizations saw an increase in the number of support tickets from employees during the period of forced remote work and the same number experienced issues with multi-factor authentication, while 29 percent noted issues with an insecure, undersized virtual private network (VPN)^{xv}. In chapter one of this series, we already identified that VPN is not the way to go and that IT organizations need to move to much more secure micro-segmented and zero-trust solutions.

Trends in remote support

Later in this chapter, ISG identifies 36 technology areas that are needed to provide the ultimate future workplace. But these all need to ensure that users are supported.

Remote support

Organizations that had support models built around a physical location suddenly have exponential increase in demand for support due to there being no onsite help from colleagues. They must now follow a process, so support organisations will now need to provide support from their own employees’ home offices to user home offices, where they may lack tools, policy, and procedure to be effective. These problems are not new, but they quickly became a lot more relevant and there was a significant increase in support tickets through remote working for those organizations that adapted traditional managed services support models. Companies need to rethink how support is provided and how the technologies that ISG shows in its future workplace framework are embedded.

Booths and lockers

The provision of Amazon-style lockers to store office equipment means that support can be expanded with the addition of logistics. By using remote lockers and tech booths – closed-off areas where support can be given in a COVID-19 compliant way – support can

still be one to one. The lockers provide an enhanced service when moving back to the model of resilience that we described earlier in this chapter. The locker approach also offers a simpler option when the right support technology is in place. In theory, if an employee has a problem, proactive tech will have mirrored his or her current applications through cloud back up and the employee will simply receive a location where a new device can be located. The employee deposits the asset with the problem and receives a new one. This reduces down time and keeps the operation regularly serviced and refreshed.

AI assistants

The world of AI assistants is not new. Nearly all of us have at least one IoT AI device in our homes, which we control by voice alone. Two things come to mind here. First, they are open and not secure, as we discussed in chapter one of the series. And secondly, they are not frequently integrated into corporate operations, so they remain consumer tech. A bridge needs to be and is being built where AI augmentation will integrate into day-to-day corporate operations so that employees can simply interact with an AI, using back-end automation, to complete mundane tasks. Through increased efficiencies, the small savings soon add up.

Proactive tech support

Now, we start to come full circle. Referring back to the tube map at the beginning of this chapter, which is the blueprint for deploying a remote workforce, note in the bottom right corner that proactive tech support will become the way forward. Offered by many providers now in what is called self-healing modes, support teams scan machine logs and settings to ensure that worker environments are optimal. This can require patches and fixes, which have a negative impact on the experience. Unisys' data shows that 51 percent^{lxvi} of people who have a problem don't call the help desk, suffering in silence instead. Proactive tech detects and reports these problems. When automation and AI are added, the problem can even be fixed automatically. This is even more important for people working from home, who were used to getting help from their friendly IT expert in the office. Wouldn't it be great if this could be fully automated and cover so much more?

Problems you never knew you had

This is where the next generation of proactive tech support comes in. Not only does it self-heal, but through the use of sentiment analysis on Microsoft Teams, Yammer and corporate chat systems, employers can see the personal state of each employee and their tech. For instance, the next generation of conversational AI, will pick up employees' pitch and tone to determine how annoyed or happy they are. This can then be used to cross reference health surveys that will become the norm in companies to provide personalized occupational support as well as fully automated technical support. These tools will mean that person and machine are less likely to suffer problems.

Sentiment analysis

Sentiment analysis is where the new workplace thrives. As we just described in the section above, if organizations were able to track employee mood during various work activities, they can determine the best outcome or change needed to enhance that mood – and thus improve productivity. The work activities can include daily work tasks, HR tasks, IT tasks, or help desk interactions.



Since COVID-19, 16% of employers are using technologies more frequently to monitor their employees such as sentiment analysis

This trend of using sentiment analysis in the help desk area is not new, but its expansion across the workplace is predicted and indeed is happening. Organizations just need to be careful though how it's used given privacy laws such as the EU GDPR.

ISG LEADING THE WAY

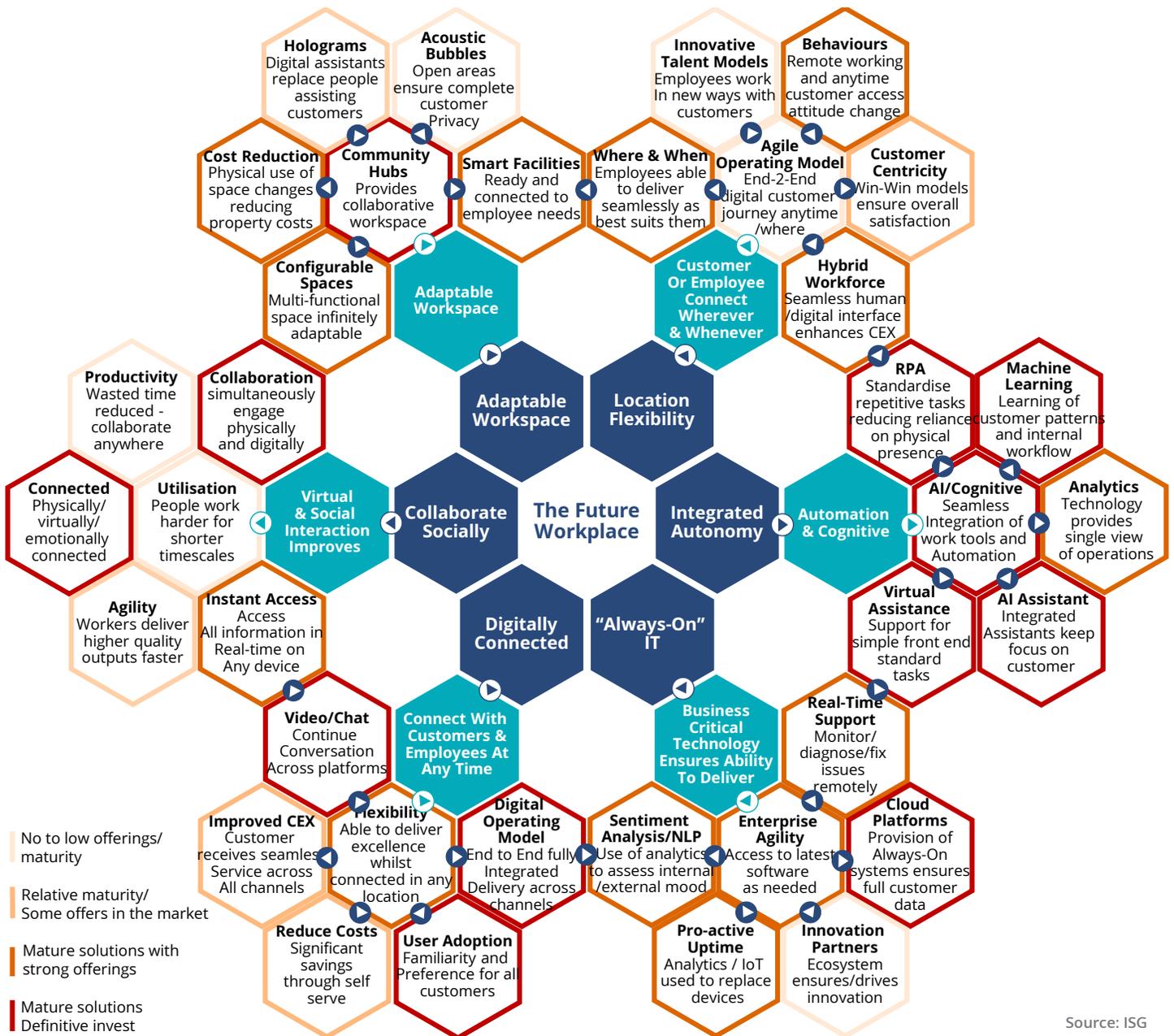
ISG is an independent advisor and is therefore able to provide advice that helps clients decide on the best technology solutions to deploy and helps providers position themselves in the marketplace. As part of the Future of Work market updates, ISG met with the top providers identified in the [ISG Provider Lens™^{lxvii} reports](#). Having identified the multiple key elements shown in the future workplace mosaic needed to successfully deliver the ideal client solution for the future of work, ISG discussed this with each provider.

Through these discussions a picture of commonalities and unique approaches became apparent.

ISG identifies possible solutions - not all future workplace solutions are created equal

As with many things in life, providers had taken a number of approaches to solve the same type of issues. ISG created the heat map below showing a summary of the provider capabilities in the market, and as with the other chapters of this eBook series, identified some areas of uniqueness and opportunities

to improve. Each area was assessed against all the providers that offered a solution in this area of the mosaic, and ISG then created a maturity heatmap. As can be seen, there are areas of "heat" around specific hexagons but this reflects only the maturity of provider offers. There are offerings out there that span several areas that may include generally low maturity hexagons, the sum of which enhances the overall offering. The purpose of this e-book series is to highlight genuine uniqueness and market leading offers which organizations reading this can benefit from to accelerate their journeys. And this chapter identifies one such capability.



Source: ISG

Finding the unique in a sea of change

As we move to a post-pandemic world, providers have been quick to offer services around remote support, integration of collaboration tooling such as Teams, Zoom or other similar products and have provided cloud-based platforms to ensure connectivity and collaboration. Support is one area where providers have always had to be strong. After all, this is usually one of the main contractual key performance indicators showing how well providers are able to keep the lights on while maintaining operability of the workplace. This was typically much easier in the office-based environment and used offshore help desk and L2 support mechanisms to fulfil help desk tickets and manage applications or infrastructure health. In the new future workplace however, this has become a challenge. Some supply chains were interrupted, with captive operations – and therefore support – being impacted.

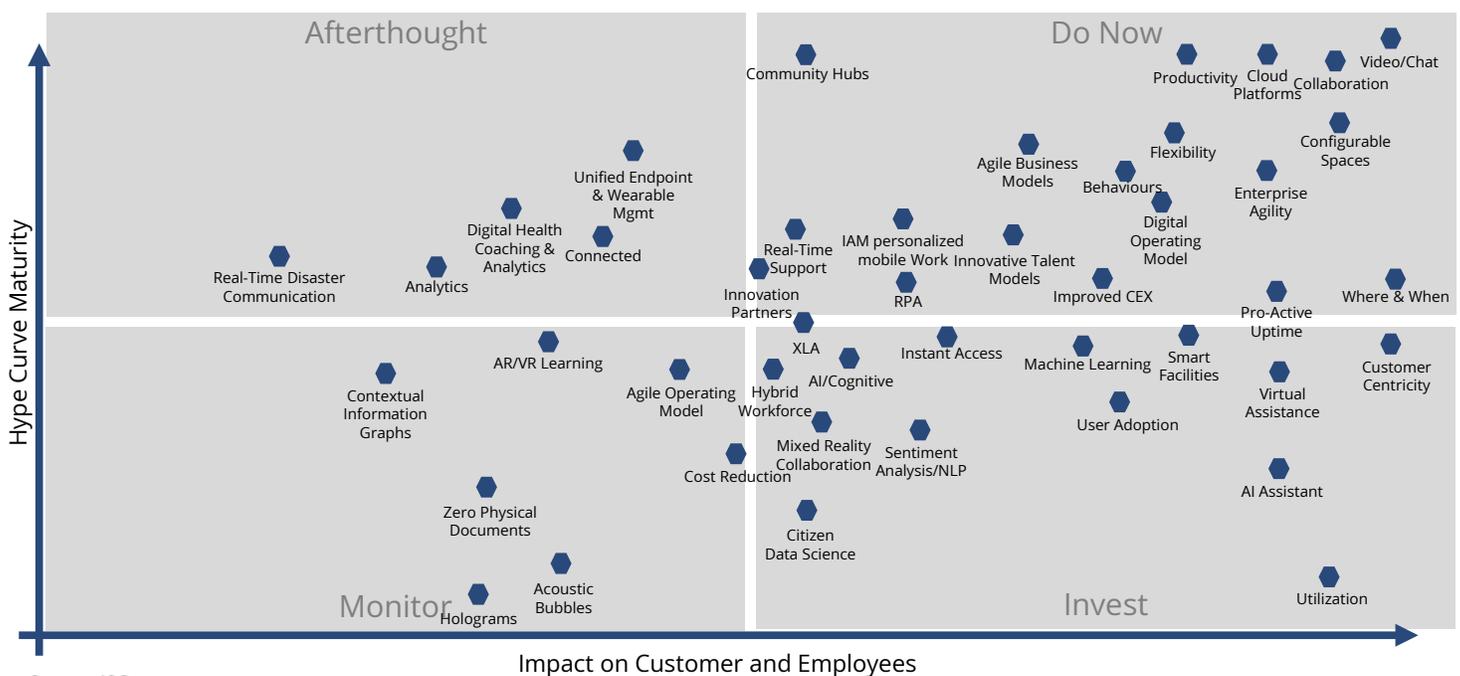
With that in mind, many providers moved into areas such as proactive support and the use of sentiment analysis, the bottom right of the mosaic. This is shows that the capability is common and relatively mature as shown by the heat-mapped mosaic. What the heat map does not show is the grouped capabilities to make up an offering that is greater than the sum of its parts.

For example, when ISG mapped out the maturity of all the components and cross referenced them with provider offerings, it was clear where areas of similarity were, as well as those future-of-work offerings that included aspects of the “invest” quadrant where innovation exists. As you will see from the matrix below, we’ve already discussed a large number of the in this chapter.

With that in mind, in the area of digital and human workplace, one offering stood out above the rest. In a world where we need our digital and human workplaces to “just work,” there does indeed exist a multitude of workplace solutions. Be sure not to make your final choice until you have read this!

TECHNICAL SUPPORT HAS GOT HARDER, EXPECTATION SAYS IT GETS CHEAPER.

As we have seen in this book so far, one of the biggest issues working at home is the need for technology to just work. Most organizations provide managed service desks and indeed, as we see from the mosaic, that almost all providers offer some form of service desk option. These range from the traditional offering through to smarter options that embed what is termed as pro-active or self-healing support. However, most of help desk services still revolve around the need for users to call the help desk and log a ticket.



Source: ISG

The majority are still measured by SLAs, which is just a way of saying how close the provider came to achieve the outcomes outlined in the contract. There needs to be a move into XLAs, or experience level agreements, where the user of the future no longer needs to worry about contact, they just want it done. Indeed, currently it is estimated that only 2 percent of SLAs^{lxviii} speak to actually providing an enhanced user experience. A move to XLAs will remove the non-productive elements we discussed earlier that so far have not improved when people are working at home and, in some cases, have slightly deteriorated. Organizations expect a new level of technical support at cheaper costs in an environment where they users have now spread out and diversified the support landscape.

Adding intelligence

Unisys, meanwhile, took its managed service desk offering and improved it. It launched IntelliServe™, which is an integrated service desk accessed through one point of contact. IntelliServe makes use of a significant number of the ISG mosaic elements to achieve seamless operations.

Powered by artificial intelligence, machine learning, and identity authentication, it has four main components that drive a less intrusive approach for remote workers:

- Experience management – Knowledge engines select the most appropriate response to keep dialogue progressing fluidly. Customers do not have to repeat relevant information as it is passed automatically to agents.
- Conversational intelligence – The system understands words and intended meaning, detects employee moods, so that it can adapt responses, and has the intelligence to understand context switching in multiple languages.
- Advanced analytics – IntelliServe analyses interaction data to generate business intelligence by using machine learning to assess data and acts on new insights to make real-time decisions.
- Automated learning – An ever-expanding inventory of self-learning tools extracts data from documents and constantly improves performance and updates its knowledge by learning from human colleagues.

Intelligence, intelligently added

Summarized above, Unisys integrated artificial intelligence into its traditional support system. They have partnered with IPsoft to use Amelia. If you're like me, when first reading or hearing the name, your immediate thought was of the famous song "Cecilia" by Simon and Garfunkel – you are probably humming it now. Well despite the AI assistant having a similar name, the lyrics are apt. First of all, Amelia won't break your heart or shake your confidence. In fact, it's the complete opposite. Amelia makes AI a personal solution that users readily accept as she gains their confidence with real-time fixes.

Embedded conversational AI

Amelia is the cognitive AI assistant from IPsoft that Unisys^{lxix} has fully integrated into its IntelliServe^{lxx} offering. Some people may say, "automation in the back office is not new." No, it is not, but the way Unisys has adapted it and integrated it into the human workplace is! Let me explain.

Just deploying Amelia out in the cloud won't help unless it is exposed to the end users. So where others haven't done so well is designing a user interface that works on any device. How Unisys did that was to expand beyond chat and focus on voice. Integrated into the cloud contact center, Amelia stores information spoken to her, and that data is replicated into the contact center through any device supported across all channels connected to it so that she learns. That way when someone needs help, Amelia and the contact center know what the employee did before.

Integrated AI

Through integration with an incident management system, Amelia logs every ticket. Through a smart interface and just by saying, "hey Amelia, what's the status of my ticket?" employees can get Amelia to look up that information and respond. It's like Amazon Alexa for the office. The same goes for problems where users can access knowledge articles and pass that information along.

Unisys also integrates configuration management database (CMDB) assets (all the devices you use) so that when an issue occurs and users need help, when

they ask Amelia, she will know what assets they have and are using and converse with them about the assets they're referring to. This way, natural language processing and conversational AI drives a human interface, which creates a more seamless process in the support system.

The integration of automation into this process automates mundane tasks such as scripts or updates that need to happen, so a quick request to Amelia to check for updates, reset a password, or request an app install can be done through voice.

Automated analytics

Analytics and data analysis in real time is built into IntelliServe™. Through automated tracking of asset and system health, Amelia can be used to track in real time using a number of tools.

1. Embedded triage bots send incidents to the resolver group directly. No manual routing or escalations is needed, instead they go straight to the right team.
2. IntelliServe also has causation correlation function where it looks for patterns and data over time to see a correlation between problem A and problem B so that Unisys' platform can proactively resolve problem B when problem A is detected.
3. IntelliServe also can drive first-time fixes when it identifies tickets that historically have been fixed by L1 agents without escalating to L2.
4. Sentiment analysis tracks user sentiment based on chat and transcribed voice interactions with the service desk. This reveals "people happiness." This is coupled with real-time performance data from every laptop to reveal "PC happiness." When a change in sentiment is detected, IT is alerted to make changes that keep workers at peak productivity and satisfaction.

Analysing sentiment

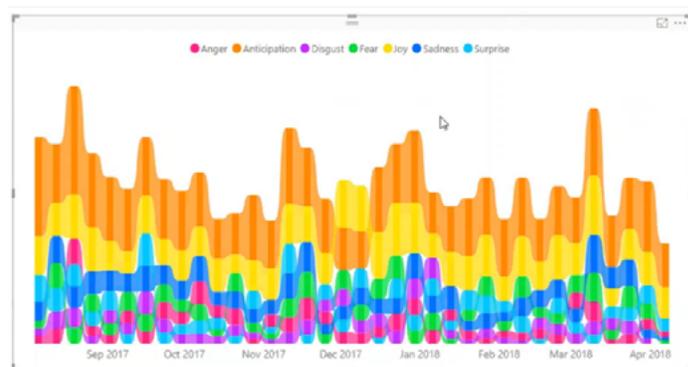
Unisys uses embedded AI and analytics technology to repeatedly ask three simple service desk questions: what, why and how? The company uses sentiment analysis to figure out what is happening and then

analytics dig into why it happened. Finally, appropriate support teams determine how to resolve the problem.

And this is all done through the use natural language processing to extract sentiment from thousands of chat logs and transcripts of service desk interactions and CSATs to identify how happy users are with the service. Up to seven different emotions including anger, anticipation, disgust, fear, joy, sadness and surprise can be tracked.



Source: Unisys



Solving Issues in the digital workplace – improving productivity

The peaks of negative sentiment show areas of employee displeasure in the service, and then the employer can take corrective action. When predicted patterns are expected, like updates that happen overnight and slow IT down, Amelia can be trained to proactively inform users that this is happening. Further data analysis of user trends into areas like security, passwords and predicted failures can be mined to invest in training of Amelia to reduce time and improve user productivity.

Reducing costs

One of the reasons that this capability stood out is that it bucks a trend that some clients are speaking to ISG about where service provision of remote support has been increasing. Unisys reverses that trend by deploying IT lockers and other scalable capabilities, which drive the real cost (labor) out of the solution delivery. There is a cost for new infrastructure and services to deliver the new features, but the reduction of field visits or wasted time directly offsets any infrastructure or equipment investment. Therefore, be careful when current providers say that service costs will increase in the new future workplace delivered remotely. This is not necessarily the case!

Improving speed and quality of service

We wrote this chapter, given it is looking at unique areas, because Unisys took a managed service, made it intelligent – OK, so do many providers – but the company then added real-time cognitive AI and expanded that service into the human workplace and customer space. In the customer space, it has helped.

ENHANCING THE HUMAN WORKPLACE

Why is it important to deal with the technology before the human workplace? Because it is important to understand how technology can be brought to bear to enhance the human workplace. We need to know and measure how people feel and capture that data to analyse it in near real time. Why? Because surveys take too long and are anecdotal in parts. The use of real-time analysis of sentiment, pitch, tone, feeling and health is core to making faster smaller adjustments so that the health and productivity of the employee is maximised.

A real example here is how IntelliServe's low-code intelligent bots were deployed for two state agencies

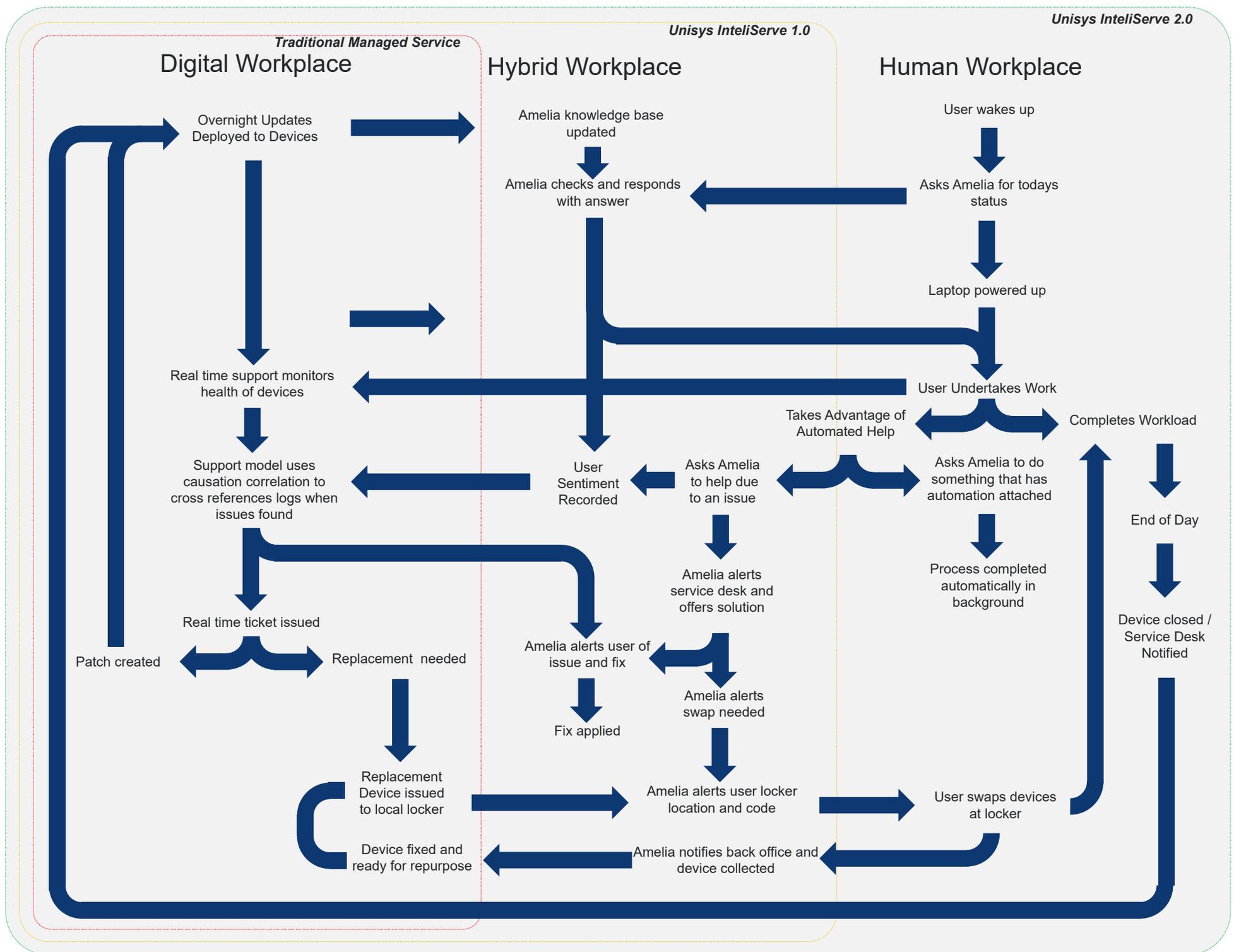
in the U.S. The pandemic was stressing out the service desks for both the Public Health Agency and the Unemployment Benefits Agency. It was impossible for the human-based service desk to keep up with the incoming calls from citizens. Unisys quickly deployed low-code intelligent bots for both of these state agencies. The bots were trained to handle a growing list of incoming citizen queries, such as, "Where can I get tested for COVID-19?" and "How do I submit a request for unemployment benefits?" The success of this AI was overwhelming, responding to 16 million citizen queries in just the first two months of operation.

The new future is now

Translate the examples given so far in this chapter and add in the technologies ISG that recommends are needed for the future workplace to be a success, and you can see why Unisys provide something unique. Quite simply, Unisys has blended the digital and human workplaces into one seamless operation that currently provides the best opportunity for organizations to maximise productivity at reduced cost while boosting internal knowledge and combining people, processes and technology.

THE KEY STEPS TO DELIVER THE FUTURE BUSINESS MODEL

Bringing all the elements discussed in this chapter and mapping out Unisys' IntelliServe solution, it is clear that the company has moved from managed service to intelligent service desk through the use of AI and sentiment. In addition, the company has expanded its offering to enable the AI to deploy and improve productivity by training the AI to work in the background and run process automatically. The diagram below shows how Unisys has successfully bridged the digital and human workplaces.



Source: ISG / Unisys

How has Unisys achieved this? The company has automated the process of training Amelia in understanding new worker "intents." (An intent may be the desire to reset a password, install an app, get status of a previous ticket, schedule a conference room, etc.) For natural language processing to be effective within Amelia, she must be trained on 150 different ways that someone may request that intent (for example, "Please reset my password," "I am locked out of my PC," and "I forgot how to login" may all be valid ways

of expressing the intent to reset a password). In addition, Amelia must be trained with 150 additional statements, each of which sounds like password reset, but are in fact unrelated. For example, "How long before my password resets?" is not a request to reset a password. But simple keyword matching would be tricked into thinking that is what the user wants to do. Unisys has automated much of this natural language processing training using its IntelliMiner bot to find various candidate phrases.

The correlation allows Amelia to pick up and process natural language input. When Unisys combines it with bots in the back office this make users' lives much more seamless and finally does improve productivity. As can be seen from the mapping above Unisys has joined together the back office, the help desk, the logistics of device management using lockers, the automatic fixes and patches finally adding the human integration on top to provide a seamless user experience. This then delivers a measurable XLA, which is quantified through the sentiment analysis to improve it yet further. This technology will change the way organizations do business while improving the end user and customer experience.

CONCLUSIONS

The nine steps to success

Organizations should commence the following nine activities immediately if not already doing so:

1. Map out your employee needs. Understand what they need to be successful.
2. Complete an end-to-end operational impact assessment to understand the hotspots that need attention within your organization and supply chains. Then design the employee delivery on top of these assessments. This will enhance the experience and ensure sufficient capacity.
3. Design your employee value proposition so that it provides more time for employees to manage their mental health.
4. Embed digital technology into remote working. Provide the right tools and technologies to allow employees to work successfully.
5. Undertake and provide the right at-home equipment to prevent industrial accidents or worker compensation claims.
6. Check that you have not deployed monitoring software that will likely breach GDPR in the EU. Like Barclays, you may land you in hot water!
7. Begin an automation journey to support technology and conversational AI. This automation of process should have a natural language input.
8. Investigate sentiment analysis and what that can tell you about your application estate and infrastructure.
9. Plan for change in work and culture, otherwise, what is the point?

THINGS YOU CAN DO NOW

If you only do three things after reading this, do the following to ensure you are continually pushing the business in terms of linking your physical, digital, and human workplaces together. In order to thrive, you will need happy healthy employees and highly effective and resilient IT so that you are read to survive the next challenge.

1. Seek out and identify key trends in the future of work including the ability to design these and where the best technologies are to deliver them to ensure your organization is future proofed. Connect with ISG who can help assess your employee's needs and translate that into actionable programmes to improve work life balance and identify the required technology through independent market advice to improve your organizational productivity.
2. Undertake a thorough employee assessment to identify worker types, the technologies they need and how they need to be supported. Link this into an end-to-end process and technical assessment so when the overlay is complete, a clear road map of who needs what and why is clear. This will be vital because it is now impossible to base decisions off the pre-pandemic data which is now invalid. The change to remote working was sudden and most likely permanent and will use different technologies more often to support it.
3. Seek professional advice on understanding the sentiment of your organization. Like Unisys, understand where your limited budgets need to be directed to enhance workforce delivery and productivity while also driving up technical resilience at reduced cost. Until you have seen this solution, you won't know the art of the possible.

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ABOUT UNISYS



Unisys is a global information technology company that builds high-performance, security-centric solutions for the most demanding businesses and governments. Unisys offerings include security software and services; digital transformation and workplace services; industry applications and services; and innovative software operating environments for high-intensity enterprise computing. For more information on how Unisys builds better outcomes securely for its clients across the government, financial services and commercial markets, visit

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ENDNOTES

- i <https://www.businessinsider.com/richard-branson-says-that-marissa-mayer-got-it-wrong-about-remote-employees-2013-2?r=US&IR=T>
- ii https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/briefingnote/wcms_743447.pdf
- iii https://ec.europa.eu/jrc/sites/jrcsh/files/jrc120945_policy_brief_-_covid_and_telework_final.pdf
- iv <https://globalworkplaceanalytics.com/work-at-home-after-covid-19-our-forecast>
- v Globalworkplaceanalytics
- vi <https://data.worldbank.org/indicator/SL.TLF.TOTL.IN>
- vii <https://www.oecd.org/naec/>
- viii <https://isg-one.com/third-party-management/isg-governx>
- ix <http://www.oecd.org/naec/averting-systemic-collapse>
- x https://ec.europa.eu/jrc/sites/jrcsh/files/jrc120945_policy_brief_-_covid_and_telework_final.pdf
- xi <https://www.ft.com/content/844ed28c-8074-4856-bde0-20f3bf4cd8f0>
- xii <https://www.ft.com/content/45163e43-1b21-4353-9a0e-ba03ee886075>
- xiii <https://globalworkplaceanalytics.com/global-work-from-home-experience-survey>
- xiv <https://www.theguardian.com/business/live/2020/nov/30/arcadia-collapse-administration-philip-green-record-month-stock-markets-ftse-100-business-live>
- xv <https://news.sky.com/story/debenhams-on-the-brink-as-jd-exits-rescue-talks-after-arcadias-collapse-12147753>
- xvi <https://www.bbc.co.uk/news/business-54027229>
- xvii <https://www.thetimes.co.uk/article/cost-of-job-cuts-lands-ba-with-record-losses-nd3f3hk2w>
- xviii <https://www.hospitalityandcateringnews.com/2020/06/hilton-cut-jobs-worldwide/>
- xix <https://www.thisismoney.co.uk/money/markets/article-8775499/Hospitality-businesses-ditch-plea-layoffs-begin.html>
- xx <https://www.bbc.com/news/health-54246403>
- xxi <https://business-reporter.co.uk/2020/11/11/five-ways-the-contingent-workforce-has-evolved-post-covid/>
- xxii <https://www.theguardian.com/business/2019/jun/28/gig-economy-in-britain-doubles-accounting-for-47-million-workers>
- xxiii <https://www.cipd.co.uk/news-views/changing-work-views/future-work/thought-pieces/covid-19-change-work>
- xxiv <https://www.bbc.com/worklife/article/20201023-coronavirus-how-will-the-pandemic-change-the-way-we-work>
- xxv <https://www.disguise.one/en/products/>
- xxvi <https://hbr.org/2019/08/generational-differences-at-work-are-small-thinking-theyre-big-affects-our-behavior>
- xxvii <https://link.springer.com/article/10.1007/s10869-012-9259-4>
- xxviii <https://www.campaignmonitor.com/resources/guides/guide-to-gen-z-marketing-2019/>
- xxix <https://globalworkplaceanalytics.com/global-work-from-home-experience-survey>
- xxx Unisys Future of Work Survey, IDC, November 2020, Employee Respondents, N=558
- xxxi <https://www.upwork.com/press/releases/third-annual-future-workforce-report>
- xxxii <https://www.smallbizgenius.net/by-the-numbers/remote-work-statistics/#gref>
- xxxiii <https://www.forbes.com/sites/alexandrataly/2020/01/14/work-from-home-2020-the-top-100-companies-for-remote-jobs/>
- xxxiv <https://www.forbes.com/sites/alexandrataly/2020/01/14/work-from-home-2020-the-top-100-companies-for-remote-jobs/?sh=2083e0944196>
- xxxv <https://www.owllabs.com/state-of-remote-work>

ENDNOTES

- xxxvi <https://www.cbre.co.uk/services/business-lines/building-consultancy/build-insight/articles/whats-that-coming-over-the-hill-its-a-millennial>
- xxxvii <https://www.ciodive.com/news/tech-priorities-post-pandemic-digital-transformation/578605/>
- xxxviii <https://dailybusinessgroup.co.uk/2020/05/firms-slash-it-staff-despite-rise-in-remote-working/>
- xxxix <https://www.bain.com/insights/the-new-normal-is-a-myth-the-future-wont-be-normal-at-all/>
- xl <https://uk.finance.yahoo.com/news/lenovo-research-people-working-more-120000076.html>
- xli <https://www.weforum.org/agenda/2020/06/coronavirus-covid19-remote-working-office-employees-employers/>
- xlii <https://www.computerweekly.com/news/252485414/Remote-working-set-to-remain-but-so-do-management-challenges>
- xliii <https://www.bain.com/insights/the-new-normal-is-a-myth-the-future-wont-be-normal-at-all/>
- xliv <https://www.forbes.com/sites/bryanrobinson/2020/06/19/is-working-remote-a-blessing-or-burden-weighing-the-pros-and-cons/#1d15f7f740a9>
- xlv <https://www.computerweekly.com/news/252485414/Remote-working-set-to-remain-but-so-do-management-challenges>
- xlvi <https://bdaily.co.uk/articles/2020/07/01/research-remote-working-and-the-impact-on-it-effectiveness>
- xlvii <https://uk.finance.yahoo.com/news/lenovo-research-people-working-more-120000076.html>
- xlviii <https://globalworkplaceanalytics.com/work-at-home-after-covid-19-our-forecast>
- xlix <https://bdaily.co.uk/articles/2020/07/01/research-remote-working-and-the-impact-on-it-effectiveness>
- l <https://www.microsoft.com/en-us/microsoft-365/blog/2020/07/08/future-work-good-challenging-unknown/>
- li <https://www.cityam.com/remote-working-is-causing-employees-to-feel-overworked/>
- lii <https://www.computerweekly.com/news/252485202/UK-US-workers-report-overwhelmingly-positive-experiences-of-remote-working>
- liii <https://www.microsoft.com/en-us/microsoft-365/blog/2020/07/08/future-work-good-challenging-unknown/>
- liv <https://globalworkplaceanalytics.com/global-work-from-home-experience-survey>
- lv <https://www.mckinsey.com/featured-insights/future-of-work/covid-19-and-gender-equality-counteracting-the-regressive-effects>
- lvi <https://hbr.org/2020/09/is-vr-the-future-of-corporate-training>
- lvii <https://globalworkplaceanalytics.com/work-at-home-after-covid-19-our-forecast>
- lviii <https://www.cipd.co.uk/news-views/changing-work-views/future-work/thought-pieces/coronavirus-workforce-surveillance>
- lix <https://www.cityam.com/exclusive-barclays-installs-big-brother-style-spyware-on-employees-computers/>
- lx <https://www.psychologytoday.com/gb/blog/the-gen-y-guide/201705/the-work-humans-are-wired-do>
- lxi <https://www.microsoft.com/en-us/microsoft-365/blog/2020/07/08/future-work-good-challenging-unknown/>
- lxii <https://www.futureofworkhub.info/comment/2020/7/6/9-ways-covid-19-is-changing-the-workplace>
- lxiii <https://www.thinktrigg.com/blogs/wisdom/147913607-the-wonder-of-working-in-short-bursts>
- lxiv <https://bdaily.co.uk/articles/2020/07/01/research-remote-working-and-the-impact-on-it-effectiveness>
- lxv <https://www.computerweekly.com/news/252485267/95-of-North-American-CIOs-report-remote-work-issues-during-lockdown>
- lxvi Unisys data
- lxvii <https://isg-one.com/research/isg-provider-lens>
- lxviii Unisys data
- lxix <https://amelia.com/2019/06/20/dws-2019-video-evolution-of-the-contact-center-with-weston-morris-of-unisys/>
- lxx <https://www.unisys.com/offerings/digital-workplace-services/inteliserive>

An ISG Report, with Unisys From “help me” to Engaged Productivity

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